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44	'Q'	Adjacent lap turn by wheeling (36)... ...	1401I
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46	'T'	Turn to re-sweep the same lap (37)... ...	1402C
47	'T'	Adjacent lap turn, turning away from direction of new lap (38)	1402D
48	'T'	Adjacent lap turn by wheeling (39)... ...	1402E
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50	'S'	Turn to re-sweep the same lap, center ship holding on before turning (40)	1403C
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CHAPTER 1

General

101. The *Minesweeping Signal Pamphlet* consists of extracts (not necessarily complete or verbatim) from the *Allied Naval Signal Book* (ACP 175), together with the necessary amplifying instructions, special tables and signals required for the conduct of Minesweeping Operations.

The contents are governed, where applicable, by the instructions contained in the superior publications *Allied Naval Maneuvering Instructions* (ATP 1) and *Allied Naval Signal Book* (ACP 175). Arrangements must therefore be made that those Minesweepers and Danlayers which do not hold these books have ready access to them at their Base.

The symbol '**(R.N.)**' alongside a chapter, section, article, heading or signal means that the instructions contained therein are only effective intra-R.N. and N.A.T.O. Naval Holders of the *Minesweeping Signal Pamphlet.*

102. GOVERNING PENNANTS AND GROUPS

(*a*) Table of meanings: PENNANTS.

PRECEDING THE SIGNAL	PENNANT	FOLLOWING THE SIGNAL
Prepare to	PREPARATIVE	My present intention is to.....
Questions or Inquiries	INTERROGATIVE	Request permission to.....
Cease, do not, or gives a negative sense to an otherwise affirmative (informatory) statement.	NEGATIVE	Action is not being carried out.....

(*b*) Position in the hoist; the governing pennants immediately precede or follow the basic group. When they follow the basic group, any suffix or amplifying data follow the governing pennant.

(*c*) Use with several signals: when one governing pennant is used with several signal groups the following rules shall apply:—

(i) The governing pennant shall govern all groups when—

(*a*) Separated from the group by TACK.

(*b*) Hoisted on an adjacent halyard in a superior or inferior position as appropriate.

(ii) If the governing pennant is required to govern only one of several groups, it must either immediately precede or follow the group to be governed; other groups must be separated from the governed group by TACK.

(*d*) Table of meanings: GROUPS.

AA	Action is being carried out.
AB	Action completed (or I have).
AC	If you desire.
AD	When you desire.
AE	Report when ready (to.....).
AF	Am ready (to.....).

(*e*) The governing groups, followd by a tackline, precede the basic group and govern that group only.

103. TIME SIGNALS

When desiring to signal a time in conjunction with a signal group, the time indicator will be used as follows :—

(*a*) The time indicator ' T ' preceding numerals signifies that action is to (or will) commence *AT* that time.

(*b*) The time indicator ' T ' following numerals signifies that action is to be (or will be) completed *BY* that time.

(*c*) A Numeral group preceding and following the time indicator ' T ' will indicate time by which action is to be completed and time at which action is to commence respectively.

104. DEFINITIONS

Officer in tactical command (OTC). The Senior Officer present, or the officer to whom he has delegated the tactical command.

Division. A type organisation consisting of two or more ships which may be further divided into sub-divisions for tactical purposes.

Squadron. An administrative or tactical organisation consisting of two or more divisions of ships plus such additional ships as may be assigned as flagships or tenders.

Flotilla. An administrative or tactical organisation consisting of two or more squadrons of destroyers or small types, together with such additional ships as may be assigned as flagships and tenders.

Unit. A single ship or an ordered arrangement of a small number of ships.

Line. A unit consisting of two or more ships formed in a straight line in any direction from the line guide. A line can be formed in :—

(*a*) *Column.* A line in which ships are formed directly ahead or astern of the line guide.

(*b*) *Line abreast.* A line in which ships are formed directly abeam of the line guide.

(*c*) *Line of bearing.* Ships formed in a line with a relative direction from the line guide other than directly ahead, astern or abeam.

Formation. An ordered arrangement of ships. It consists of two or more ships or units.

Guide

(*a*) The *Guide* is that ship on which units take or keep station when forming or when formed up.

(*b*) When ships are formed in more than one line, the *Line Guide* is that ship which occupies the station in his own line corresponding to that occupied by the Guide in the Guide's line. When appropriate the words ' *Squadron,*' ' *Division* ' may be used unstead of ' *Line.*'

Sequence numbers. Each ship is allocated a number, called its sequence number, to indicate its position in the line. The allocation is made by the unit commander after taking into consideration such various factors as the relative seniority of Commanding Officers, differences in ships' characteristics, and other matters. The sequence number is not normally changed unless operational requirements make a change necessary. (*See* also Article 402A *re* ' numbered stations.')

Standard distance. The distance between adjacent ships is measured between their foremasts, or between the navigation bridges of ships without foremasts. For the sake of uniformity, the distance between adjacent ships of similar type when forming a line will be as follows, unless otherwise ordered.

TYPE	STANDARD DISTANCE
Cruisers and larger	1,000 yd.
Destroyers, frigates, submarines and landing ships	500 yd.
Other small ships	300 yd.

The distance between adjacent ships of dissimilar types is to be the distance laid down for the larger of the two types.

Maneuvering interval. The distance between lines (interval) is the distance between their respective guides. *Maneuvering Interval* is the sum of the standard distances in the longest line, plus *one* standard distance. When a formation contains ships of dissimilar types, maneuvering interval is the sum of the standard distances in the longest line, plus the longest standard distance existing in any line.

Operational speed. The highest speed at which ships will be required to proceed during a particular operation or stated period.

Stationing speed. A speed specified for reasons of fuel economy, slower than operational speed, for use when manœuvring or changing station. When not specified, as will be usual for minesweeping, operational speed to be used.

Zigzag. A series of relatively short straight line variations from the base course in accordance with a preconceived plan.

Sinuate. To steer a series of constantly curving variations from the base course by the use of continuous rudder, in accordance with a preconceived plan.

Weave. A random short-legged zigzag.

CHAPTER 2

Single Flag and Pennant Indicators—Emergency

SECTION I—SINGLE INDICATORS

201. SINGLE ALPHABETICAL FLAGS

FLAG.	INDICATION.	WHERE NORMALLY DISPLAYED.	AT DIP.	CLOSE UP.	HAULED DOWN.
A	**Affirmative**	Where best seen	(*a*) 'A' in reply to a signal—'YES, or permission granted.' (*b*) 'A' preceding 4 or 6 numerals—'With reference to message indicated, 'YES or permission granted.' (*c*) 'A' TACK signal—'YES, or permission granted to carry out the purport of the signal.'		
B	Also used with meaning 'Gunnery Practices.'				
	Fuelling or transferring explosives.	Where best seen in delivering vessel.	Have temporarily stopped supplying.	Fuel or explosives being transferred.	Delivery completed.
		Where best seen in receiving vessel.	Have temporarily ceased to receive.	Fuel or explosives being transferred.	Delivery completed.
	Transporting explosives or fuel.	Bow of boat or where best seen.	—	Am transporting explosives or fuel.	—
C	**Land aircraft**	—	—	—	—
D	**Delay execution of signal.**	Where best seen (The call sign of the unit for which the delaying signal is intended is to be hoisted if any confusion can arise).	—	(*a*) While this flag is flying, execute signal(s) from higher authority on my execute.	Execute signal from higher authority.
				(*b*) 'D' TACK signal—'SIGNAL(s) indicated from higher authority will be *executed* on my execute.'	—
(*Note.*—The signal from higher authority is to remain close up while D is flying and is hauled down simultaneously with D.)					
(For meaning when minesweeping (*see* Article 906 **(R.N.)**.)					
E	**Meal break**	Yardarm (at sea).	—	Flag and Commanding Officers will have time for next meal.	
	—	Yardarm (in port). (*Note.*—In abeyance in R.N.)	—	Crew at meal.	—

FLAG.	INDICATION.	WHERE NORMALLY DISPLAYED.	AT DIP.	CLOSE UP.	HAULED DOWN.
F	**Flight Operations**	Where best seen	Am ready to operate aircraft when wind conditions are suitable. Dipped after being close up indicates flight operations have been delayed temporarily (about 10 minutes).	Am operating aircraft.	Have completed operating aircraft.
G	**Guide Flag**	(*a*) G (Singly at the foretruck) (*b*) G TACK (call sign) . . . . . . (*c*) {Call sign} G TACK {Call sign} (*d*) G (dipped)		This ship is the guide. Ship indicated is to be guide. Guide of unit addressed is to be ship indicated. Guide temporarily out of station.	
I	**Going alongside (in port).**	By receiving ship. At yardarm on side rigged.	*At dip*—Am preparing to receive you alongside. *Close up*—Am ready to receive you alongside. *Hauled down*—First line is secured.		
		By ship going alongside. At yardarm on side rigged.	*At dip*—Preparing to come alongside you. *Close up*—Am ready to come alongside you. *Hauled down*—First line is secured.		
J	**Semaphore**	Where best seen		I am going to send a signal by semaphore.	—
K	**Helicopter operations**	Where best seen	*At dip*—Am ready to operate helicopters when wind conditions are suitable. *Note.*—Dipped after being close up indicates my flight operations have been delayed temporarily (about 10 minutes). *Close up*—Am operating helicopters. *Hauled down*—Have completed operating helicopters.		
L	**Taut wire measuring gear.**	—	T.W. streamed not measuring.	T.W. measuring	Run completed. T.W. cut.
M	**Medical duty ship**	Foretruck or where best seen (in port).	—	Have medical guard duties.	—
	Stretcher patient embarked.	Bow of boat	—	Stretcher patient embarked.	—
	Movements	Foretruck or when best seen (at sea).	—	Disregard my movements.	—
	Minelaying	Where best seen	*At dip*—16 mines left to lay. *Close up*—8 mines left to lay. *Hauled down*—4 mines left to lay.		
N	**Your movements not understood.**	Where best seen	—	—	—

FLAG.	INDICATION.	WHERE NORMALLY DISPLAYED.	AT DIP.	CLOSE UP.	HAULED DOWN.
O	**Man overboard**	Foretruck or where best seen.	—	Man overboard	—
	Visitors	Where best seen (in port).	—	Ship is open to visitors.	—
P	**General recall**	Foretruck or where best seen (in port).	—	All personnel belonging to this ship, return to ship immediately.	—
	Position indicator	—	—	ACP 175. Art. 137.	—
Q	**Boat recall**	Where best seen	All boats belonging to this ship (or boats addressed) return to this ship immediately.		
R	**Minesweeping**	—	—	—	—
	Streaming	Where best seen	I am streaming gear.	This vessel and those for which responsible are ready to proceed.	—
	Recovering	Where best seen	I am recovering gear.		
	Ready duty ship	Foretruck or where best seen.	Am ready duty ship.	—	—
	Replenishing or transferring — alongside method.	By delivering vessel. On side rigged.	*At dip*—Am steady on course and speed and am preparing to receive you on side on which this flag is hoisted. *Close up*—Am ready for your approach. *Hauled down*—First line is secured.		
		By receiving vessel. On side rigged.	*At dip*—Am ready to come alongside. *Close up*—Am commencing approach. *Hauled down*—First line is secured.		
S	**Air raid warning white** (*).	Where best seen	—	All clear. No unidentified or hostile aircraft are in air defense area.	
T	**Time indicator**	Fore yardarm	—	Article 105.	—
U	Use when anchoring, mooring and weighing ACP 175, pages 2–5.				
V	**Drill signal**	Where best seen	Signals now flying are for flag hoist drill only.		
X	**Exercise (*) TACK—— (Signal)**	Fore yardarm	Evolution or exercise completed. Carry out *for exercise* the meaning of signal flying.		

See also Article 905 **(R.N.).**

(*) Signal to be repeated by all ships.

FLAG.	INDICATION.	WHERE NORMALLY DISPLAYED.	AT DIP.	CLOSE UP.	HAULED DOWN.
Y	**Visual communication duty ship.**	Foretruck or where best seen (in port).	—	Have visual communication duty.	—
	Acknowledge	Yardarm	Signal TACK YOKE means 'A' separate acknowledgment required.' YOKE TACK signal means 'Signal following is acknowledged.'		
	Location of O.T.C.	Foretruck	Hoisted by the O.T.C. to indicate the location of his ship to an approaching friendly patrol plane.		
	Transferring mail or other material.	Yardarm	—	'Trolly Line' or 'Jackstay' desired. Y1 if heaving line will suffice.	When line is passed.
Z	**Gun control (*)**	Yardarm	Guns free (*or*.....) (on bearing.....*or* between bearings..... *and* .....). 1. Guns tight. 2. Hold fire. 3. Release.		
202 ..	**SINGLE NUMERAL FLAGS**				
1	**Boat signal**	—	1—steer straight *away from* ship. 1 port/starboard. Steer to left/right of line looking from boat to ship.		
2	**Boat signal**	—	Steer straight *towards* ships.		
3	**Atomic Warning Purple Two (*).**	Where best seen	—	Attack by atomic weapons is imminent. (*See* HW for Purple One and Three.)	—
4	**Air raid warning red** (A large RED FLAG may be used in lieu, if one is carried (*).	Where best seen	—	Air attack imminent.	—
5	**Breakdown**	Foretruck or where best seen	—	Breakdown or not under control. ('Not under command' signals, except the night signals in wartime, are to be displayed in addition.)	Repairs effected.
6	**Act at your discretion**	Yardarm	—	Optional to follow Senior Officer's movements.	—
7	**Divers or friendly under water demolition personnel down.**	Where best seen or near diver.	—	—	—

(*) Signal to be repeated by all ships.

FLAG.	INDICATION.	WHERE NORMALLY DISPLAYED.	AT DIP.	CLOSE UP.	HAULED DOWN.
8	**Air raid warning yellow (*).**	Where best seen	—	Air attack probable.	—
0	**Guard military**	Foretruck or where best seen (in port).	—	Have guard duty.	—
	Guard mail	Bow of boat	—	Have guard mail aboard.	—
203 ..	**SINGLE SPECIAL FLAGS AND PENNANTS**				
ANS ..	**Acknowledgment**	Fore Yardarm	(*a*) By the O.T.C. or small ship. Answers a signal.	Acknowledges a signal.	—
			(*b*) When hoisted by the O.T.C. all ships make appropriate routine reports.	By the O.T.C. to receipt for a routine report.	By the O.T.C. when all routine reports have been received.
			(*c*) Addressee not ready to receive semaphore message.	Ready to receive semaphore message.	Receipts for semaphore message just transmitted.
Note.—DIV. ANS, SQUAD ANS, etc., may be used by the appropriate Commanders to obtain routine reports.					
BLACK PENNANT	**Enemy submarine contact.**	Fore Yardarm	Am investigating sonar contact.	Have sonar contact.	Contact lost.
CORPEN ..	**Stop the turn (*)**	Where best seen	—	Ships are to steady on a course 20 degrees beyond the direction the ship is heading at the moment the signal is understood.	—
	Flying boats and seaplanes (*).	Fore Yardarm (in port).	Flying boats or seaplanes are about to land or take off. Boats are to keep clear.		
DESIG ..	**Plain text Acknowledging D.S.L.**	— —	ACP 175, Article 114. —	—	—
EMERG ..	**Signal(s) flying are to be obeyed as soon as understood.**	—	—	—	—
FORM ..	**Refuse boat required**	Foreyard in port.	—	—	—
INT ..	**Signal not understood**	Where best seen	(*a*) INT—'Signal now flying not understood.' (*b*) INT 1 TACK signal—'Signal indicated not understood.' (*c*) INT 2—'Signal not distinguishable.' (*d*) INT 3—'You are repeating signal incorrectly.' (*e*) INT preceding or following a signal..... *see* Article 102.		

(*) Signal to be repeated by all ships.

FLAG.	INDICATION.	WHERE NORMALLY DISPLAYED.	AT DIP.	CLOSE UP.	HAULED DOWN.
NEGAT ..	**Negative**	Where best seen	(*a*) NEGAT—All signals flying are cancelled. (—— (call) NEGAT—All signals under this call are cancelled.) (*b*) NEGAT in reply to a signal—' NO, or PERMISSION NOT GRANTED.' (*c*) NEGAT four or six numerals—' Reference to message indicated, NO, or PERMISSION NOT GRANTED.' (*d*) NEGAT TACK Signal—' NO, or PERMISSION NOT GRANTED to carry out the purport of the signal.' (*e*) NEGAT preceding or following a signal—(*see* Article 102).		
PORT ..	**Indefinite turn to Port(*)**	Fore Yardarm	*See* TURN (Chapter 3, TURNING AN INDEFINITE NUMBER OF DEGREES).		
STARBOARD.	**Indefinite turn to Starboard (*).**	Fore Yardarm	*See* TURN (Chapter 3, TURNING AN INDEFINITE NUMBER OF DEGREES).		
PREP ..	**Fuelling or replenishing.** (Receiving vessel only).	Outboard Yardarm.	Expect to disengage in 15 min.	Fuelling or replenishing completed ; am disengaging at final station.	Clear of delivering vessel.
	Morning and evening colors (as appropriate).	Yardarm	—	Hoisted 5 min. before colors.	Time at which ceremony is to commence.
	Minelaying	Where best seen	(*a*) PREP—' Laying is to commence or cease, on the hauling down of this signal.' (*b*) PREP numerals—' Laying is to commence or cease, in a number of minutes indicated.'		
PREPARATIVE	Preceding or following a signal, *see* Article 102.				
STATION	**Take proper or assigned station.**	—	—	—	—
TURN ..	**Water barge required**	Foreyard in port.			
UNION ..	**Court martial (R.N.)**	At peak, or yardarm in ships where there is no Gaff.	A Court Martial is sitting, or is about to sit, on board.		
CHURCH (R.N.).	—	—	' Ship's company is at prayer.'		
RED FLAG (or FLAG 4.)*	**Air raid warning RED.**	—	Air attack is imminent.		
	See also Articles 902 and 903 **(R.N.)** for meaning when minesweeping.				
BLACK BALL.	**Minesweeping**	At the masthead and yardarm when minesweeping.	(*a*) A black ball, 2 to 4 ft. in diameter, is to be hoisted at the fore masthead before passing or streaming sweeps. (*b*) A black ball, 2 to 4 ft. in diameter, is to be hoisted at the yardarm on the side or sides on which it is dangerous for ships to pass. (*c*) By night the black balls are to be replaced by green lights. *See* Article 901.		
BLACK FLAG.	*See* Articles 904 **(R.N.)** and 908 for meaning when minesweeping.				

(*) Signal to be repeated by all ships.

SECTION II—EMERGENCY

204. INSTRUCTIONS

(*a*) Any signal PRECEDED by EMERGENCY is to be acted upon AS SOON AS UNDERSTOOD, and six short blasts are to be made on the whistle by the originator. (Signals from the Single Flag Table are not to be preceded by EMERGENCY.) When EMERGENCY is used with several signal groups, it will govern all groups when either separated from the group by TACK or hoisted in a superior position on an adjacent halyard. If EMERGENCY is required to govern only one of several groups, it must immediately precede the group to be governed.

(*b*) An EMERGENCY ALARM signal made by flags is to be repeated by all ships, with the call sign of the originator, if other than the OTC, below FIRST SUBSTITUTE hoisted on an adjacent halyard.

(*c*) Naval vessels should also be ready at any time to supplement these signals by signals from the Single Flag Emergency Table from the International Code of Signals Vol. 1, particularly if there is any merchant shipping in the vicinity.

205. EMERGENCY ALARM SIGNALS

EMERG .. .. **Execute** all signals flying under a similar call when they are understood. (**Emerg** without a call executes all signals without a call.)

EMERG { **000** / **to** / **359** } .. .. .. **Attention** is called to **danger** or **emergency** on bearing ——— from this ship (*or* ship indicated).

EMERG { **PORT** / *or* / **STBD.** } { **0** / **to** / **18** } .. **Attention** is called to **danger** or **emergency** on **relative** bearing indicated in tens of degrees from this ship (*or* ship indicated).

EMERG A .. .. **Aircraft** to be presumed hostile sighted bearing ———.

EMERG B .. .. **Unidentified aircraft detected** bearing ——— (distance ——— miles).

EMERG C .. .. **Collision.** This ship (*or* ship indicated) has been (is) in collision.

EMERG E .. .. **Enemy** (*or* unidentified) **surface craft** in sight bearing ——— (distance ——— miles) from this ship (*or* unit or position indicated).

EMERG F .. .. Aircraft **emergency.** Have aircraft landing in an **emergency.**

At the dip .. Am preparing to receive aircraft in **emergency.**

Close up .. .. Have emergency landing in progress.

Returned to dip .. Emergency landing operation has been delayed temporarily (about 10 mins.).

Hauled down .. Emergency landing operation completed.

EMERG G .. .. **Guided missiles.** Prepare for attack by self-propelled or guided missiles.

EMERG H .. .. **Hydrophones** detect enemy bearing ———.

EMERG I .. .. **Suspicious radio emissions** have been intercepted believed to have originated in the vicinity of the force bearing ———.

EMERG J .. .. **Surface craft** detected bearing ——— (distance ——— miles).

EMERG K .. .. **Enemy underwater demolition personnel** (or ———) are believed to be operating in the vicinity.

1. Small Battle Units.
2. Saboteurs.
3. E.-Boats.
4. Miniature Submarines.

EMERG L .. .. **Gas alarm.**

EMERG M .. .. **Mine sighted** bearing ——— (range ——— hundreds of yards).

EMERG N .. .. **Mine detected** ahead (*or* bearing ———) (range ——— hundreds of yards).

EMERG O .. .. **Detection** (of ——— type) has been obtained which may be due to a submarine or Small Battle Unit approaching harbour.

1. Loop crossing.
2. Radar.
3. Sighting.
4. Sonar.
5. Sonobuoy.

EMERG P .. .. **Fire.** This ship or ship indicated has a fire on-board (and needs ———).

1. Fire and rescue parties.
2. Fire tug.
3. No assistance.

EMERG Q .. .. **Investigating.** Am investigating a sonar contact (*or* ———) of a possible submarine bearing ——— (range ——— hundreds of yards).

1. Possible sighting.
2. Radar contact.
3. Sonobuoy contact.

EMERG R .. .. **Submarine contact.** Have definite submarine contact (following NEGAT, ' Have lost contact ').

EMERG S .. .. **Submarine** (*or* snort *or* periscope) **sighted** bearing ——— (range ——— hundreds of yards).

EMERG T .. .. **Torpedo detected** or sighted bearing ——— (range ——— hundreds of yards).

EMERG U .. .. **Danger.** You are standing into danger.

EMERG V .. .. **Crashed.** Friendly aircraft crashed bearing ——— (distance ——— miles).

EMERG W .. .. **Damaged.** Ship making this signal (*or* ship indicated) has been damaged (hit) (by ———)

1. Bomb or other aerial missile.
2. Mine.
3. Torpedo (side as indicated).
4. Underwater explosion.

EMERG X .. .. **Friendly aircraft** detected bearing ——— (distance ——— miles).

EMERG Y .. .. **Friendly surface** craft detected bearing ——— (distance ——— miles).

EMERG Z .. .. **Friendly submarine** bearing ——— (distance ——— miles).

206. EMERGENCY ACTION SIGNALS

EMERG 1 .. .. **Avoiding action.** Take individual avoiding action.

EMERG 2 .. .. **Line of fire.** Clear 1. of f. from this unit (*or* unit indicated) (on bearing indicated).

EMERG 3 .. .. **Open fire.**

EMERG 4 .. .. **Cease fire.** Do not fire.

EMERG 6 .. .. **Clear all sides,** using emergency breakaway procedure (for use during replenishment operations, *etc.*).

EMERG 7 .. .. **Fire umbrella barrage** (over unit indicated). (Height ——— thousands of feet.)

EMERG 8 .. .. **Screen close**—to 1,000 yd. (*or* ——— thousands of yards) from nearest ship being screened on present bearings.

EMERG 9 .. .. **Screen open**—to 6,000 yd. (*or* ——— thousands of yards) from nearest ship being screened on present bearings.

EMERG 0 .. .. **Depth charges**—drop depth charges.

CHAPTER 3

Forming, Altering Course and Speed

SECTION I — FORM

301.

FORM 1 ... ... **Form column in order** of sequence numbers (OR CALLSIGNS FOLLOWING)

FORM 2 ... ... **Form column in reverse order** of sequence numbers.

FORM 3 ... ... **Form line abreast to Starboard** in order of sequence numbers (OR CALLSIGNS FOLLOWING

FORM 4 ... ... **Form line abreast to Port** in order of sequence numbers (OR CALL SIGNS FOLLOWING)

FORM 5 ... ... **Form divisions in column,** division guides bearing abeam to STARBOARD.

FORM 6 ... ... **Form divisions in column,** division guides bearing abeam to PORT.

FORM 7 ... ... **Form sub-divisions in column,** sub-division guides bearing abeam to STARBOARD.

FORM 8 ... ... **Form sub-divisions in column,** sub-division guides bearing abeam to PORT.

FORM 9 ... ... **Form divisions in line abreast** to **Starboard,** division guides bearing astern.

FORM 10... ... **Form divisions in line abreast** to **Port,** division guides bearing astern.

FORM 11... ... **Form sub-divisions in line abreast** to **Starboard,** sub-division guides bearing astern.

FORM 12... ... **Form sub-divisions in line abreast** to **Port,** sub-division guides bearing astern.

302.

FORM { **000** / **to** / **359** } ... ... Ships are to form on **true bearing** ——— from their guide (*or* ship indicated).

FORM { **PORT** / *or* / **STBD.** } { **0** / **to** / **18** } ... Ships are to form on **relative bearing** ——— from their guide (*or* ship indicated).

303.

FORM A ... **Form column** in the **quickest** sequence on the most advanced ship (*or* ship indicated).

FORM B ... **Form single line abreast in quickest** sequence on the guide (*or* ship indicated).

FORM D ... **Form diamond** (*or* diamond formation ————)

FORM E ... **Form column open order.**

FORM F { **PORT/** / **STBD.** } ... REVERSE THE ORDER of ships in column in succession from the rear. Port or Starboard indicates the side on which rear ships are to sheer out. One or two numerals may be added to indicate speed of all ships except the rearship.

FORM G { **SUB** / **DIV** / **SQUAD** / **FLOT** } { **000** / **to** / **359** } **Line guides** (*or* guides of units indicated) are to bear ——— from the guide (*or* ship indicated).

FORM G { **SUB** / **DIV** / **SQUAD** / **FLOT** } { **PORT** / *or* / **STBD.** } { **0** / **to** / **18** } **Line guides** (or guides of units indicated) are to form on relative bearing ——— from the guide (*or* ship indicated).

(*a*) Line guides are to form on the relative bearing indicated from the guide or ship indicated.

(*b*) If the guide is not in an end column, lines are to form on the relative bearing indicated, or its reciprocal, whichever is the nearer.

FORM H ... **Circle.** Form on circle ———, ships to retain the same bearings as those now in use.

FORM J ... ... **Ship** indicated is to take **station** ——— and when in station is to take guide.

FORM K ... ... **Ship** indicated is to take **disposition** guide.

FORM L ... ... **Ship** indicated is to take **formation** guide.

FORM N ... ... **Form type formation number** ———. Type may be indicated by the appropriate type indicator.

FORM U ... ... **Ships** are to **resume** their previous relative bearings and distances from their guides. Ships move independently.

FORM V ... ... **Line guides resume** previous relative bearings and distances from guide. Commanders of lines move their lines by signal to take up new station.

FORM W ... ... **Resume previous formation.** Line guides resume previous relative bearings and distances from guide. Ships in line resume previous relative bearings and distances from line guides. Line Commanders direct movements.

FORM Z ... ... **Remain** in **present formation** (*or* disposition) (until ———).

B FORM ... ... **Force** is in formation number ——— (am occupying station ———).

F FORM ... ... **Disposition guide** is ——— (in station ———).

G FORM ... ... **Formation guide** is ——— (in station ———).

H FORM ... ... **Guide** of this unit (*or* unit indicated) is ——— (in station ———).

J FORM ... ... Guide of this unit (*or* unit indicated) is ——— and bears ——— distance ——— miles from me (*or* ———).

S FORM ... ... **Sequence numbers** are in order of call signs following.

T FORM ... ... **Sequence number.** Your sequence number is ———.

SECTION II — STATION

304. TAKING STATION

STATION ... Take proper or assigned station.

STATION { **PORT** / *or* / **STBD.** } { **0** / **to** / **18** } Take station on **relative** bearing ——— from guide (*or* unit indicated) at standard distance (*or* at distance ——— miles).

STATION { **000** / **to** / **359** } Take station on **true** bearing ——— from guide (*or* unit indicated) at standard distance (*or* at distance ——— miles).

Example

Station 045—NABC—5
Take station bearing 045 degrees from NABC distance 5 miles.

STATION { **ONE TO** / **TWO** / **NUMERALS** } *or* { **DESIG.** / **LETTERS** } Take station ———. Ships while proceeding to a station will hoist station number or letter preceded by DESIG.

STATION A ... Take station **ahead** at standard distance (*or* at distance ——— miles).

STATION B ... Take station **astern** at standard distance (*or* at distance ——— miles).

STATION C ... **Van.** Take station in the van ~~(Distance ——— miles)~~

STATION D ... Take station in the **rear** (*or* Distance approximately ——— miles.)

STATION E ... **Resume** station.

STATION F ... **Sequence.** Assume sequence number ——— and take station accordingly.

STATION G ... **Adjust** station to facilitate signalling (*with* this *or* unit indicated).

STATION H ... **Circle.** Take station on circle ———.

STATION I ... Adjust station to admit ———.

STATION J ... **Exchange.** Ships indicated exchange stations.

(*a*) BOTH SHIPS IN THE SAME COLUMN—The advanced ship is to haul out to port, and the ship in the rear to starboard ; both ships are then to proceed to their new stations.

(*b*) BOTH SHIPS IN THE SAME LINE-ABREAST OR LINE OF BEARING—Both ships are to drop out of the line. When in line-abreast the ship to port, or, when in line of bearing the after of the two ships, is to move over to a position astern of the other ship. Both ships are then to proceed to their new stations.

(*c*) EACH SHIP IN A DIFFERENT LINE—If the lines are formed with line guides bearing abeam, the ship in the port line is to pass astern of the ship in the starboard line ; if line guides are bearing astern or are in a line of bearing, the ship in the rear line is to leave the other on the port hand. If the ship in the rear line is to port of the ship with which she is exchanging, she is to pass astern of the ship in the leading line.

(*d*) SHIPS NOT IN A LINE—Both ships, relative to each other, are to act in accordance with the International Regulations for Preventing Collisions at sea.

STATION U ... **Remain** in your present station.

STATION V ... Hoist your sequence number.

INTERROGATION STATION ... What is your station (*or* that of ———).

305. INFORMATION SIGNALS

A STATION ... This unit (*or* unit indicated) is in station.

B STATION ... **Unable to keep station.** This unit (*or* unit indicated), is unable to keep station or carry out movements directed. (Due to—1. Breakdown. 2. Weather.)

D STATION ... **Report** when you (*or* ———) are in station.

G STATION ... **Guide** is in station ——— (and is ship ———).

K STATION ... **Numerical sequence** of units is ——— (*or* is to be ———).

M STATION ... **My** station is ———.

SECTION III — TURN

*306. INSTRUCTIONS

TURN {1 to 36} *or* {000 to 359} ... Turn together the number of tens of degrees indicated *or* to to the course indicated, ships turning to **starboard.**

Example

TURN 3 ANS.—Ships turn together 35 degrees to **starboard.**

*{1 to 36.} *or* {000 to 359} **TURN** ... Turn together the number of tens of degrees indicated, *or* to the course indicated, ships turning to **port.**

*It is advisable that consecutive turns by this method should not be made ; after one such turn the next turn should be ordered for a specified direction with three numerals.

307. RESUMING COURSE AND EVASIVE STEERING

TURN D ... ... **Resume previous course** together or alter course together as necessary to carry out maneuver previously ordered.

TURN E ... ... **Resume base course** (*or* course ———) together.

TURN G ... ... **Screen zigzag** in conformance with the main body.

TURN H ... ... **Screening** vessels carry out an independent zigzag. (Base course—)

TURN K ... ... **Steer sinuous** course in accordance with plan ——— (Base course—)

TURN L ... ... **Cease sinuating.** Resume base course (*or* course ———).

TURN M ... ... **Resume sinuating** (in accordance with plan ———) (Base course—)

TURN R ... ... **Resume previous** zigzag (Base course—)

TURN S ... ... **Cease zigzagging** and **remain on course** being steered when this signal is executed.

TURN T .. .. **Resume base course. Commence zigzag** previously in force ten minutes after execution of this signal.

TURN U .. .. **Resume base course** (*or* course ———) and **signaled speed** (*or* speed ———) together.

TURN W .. .. **Weave.** Carry out ——— type weave. Base Course ———.
1. Narrow.
2. Broad.

If a zigzag is also being carried out, the weave is to be superimposed on it.

TURN X .. .. **Cease zigzagging** and **resume base course** (*or* course ———). Resume zigzagging (in ——— minutes).

TURN Z .. .. **Zigzag** in accordance with plan number ———. (Base course ———.) On receipt of the executive signal to start zigzagging, or at the time when zigzag is due to start or be resumed, ships are to turn together to the course shown on the diagram for that particular time.

308. INFORMATION SIGNALS

S TURN .. .. **Sinuating** plan ——— is in effect.

W TURN .. .. **Zigzag** plan ——— is in effect.

Z TURN .. .. **Force** is carrying out zigzag plan ———.

309. TURNING AN INDEFINITE NUMBER OF DEGREES

BY FLAGS

TURN {**PORT** / *or* / **STBD.**} **Stand by or turn together** to port or starboard as indicated using **reduced tactical diameter.**

Dipped .. .. **Turn together** in the direction indicated.

Rehoisted close up **Stand by** to stop turning.

Hauled down .. **Stop** the turn. Steady on course 20 degrees beyond that on which the ship is heading when the signal is hauled down.

BY RADIO

TURN {**PORT** / *or* / **STBD.**} **Stand by to turn together** to port or starboard as indicated using **reduced tactical diameter.**

Example : IX BT TURN PORT BT AR.

EXECUTIVE SIGNAL .. **Turn together** to port or starboard as indicated.

Example : IX 5 sec. dash AR.

CORPEN C .. .. **Stop** the turn. Steady on course ———.

Example : IX BT CORPEN CHARLIE ONE ONE ZERO IMI CORPEN CHARLIE ONE ONE ZERO BT IX 5 sec. dash AR.

NOTES :

(*a*) When used by flags, at the prior direction of the OTC the *TURN* pennant may be omitted.

(*b*) Whenever these signals are used, ships are to use *REDUCED TACTICAL DIAMETER.*

(*c*) The originator should subsequently indicate the course to be steered by '*CORPEN A* ———,' meaning steer course ———.

(*d*) Whistle Signals. Each ship is to sound one (*or* two) short blast(s) when starting to turn and one prolonged blast when reversing her rudder to stop the turn.

SECTION IV—CORPEN

310. WHEELING

CORPEN {**Singly** / **while** / **turning**} .. .. Stop the turn and steady on a course which is 20 degrees beyond the direction in which the ship is heading at the moment the signal is understood.

CORPEN {**1** / **to** / **18**} *or* {**000** / **to** / **359**} .. Alter course by wheeling the number of tens of degrees indicated or to the course indicated; ships wheeling to starboard, and preserving relative bearings and distances.
Example: CORPEN 2 ANS.—Alter course by wheeling 25 degrees to starboard.

{**1** / **to** / **18**} {**000** / **to** / **359**} **CORPEN** .. Alter course by wheeling the number of tens of degrees indicated or to the course indicated; ships wheeling to port, and preserving relative bearings and distances.
Example: 270 CORPEN.—Alter course to 270 degrees by wheeling to port.

311. ALTERATIONS OF COURSE

CORPEN A .. .. **Steer course** ———.

CORPEN B .. .. **Base course.** Adjust base course to ———. Not to be used for adjustments over 10 degrees. Change of course is to be absorbed and relative stations regained without stopping evasive steering.

CORPEN C .. **Stop the turn.** Steady on course ———.

CORPEN D .. .. **Wheel simultaneously.** Each line (*or* unit indicated) wheel simultaneously to course ———.

CORPEN F .. .. **Alter course** to ——— (at ———). Units are to maintain true bearings and distances from the Guide (or ———.)

CORPEN G .. .. **Alter course** to ——— (at ———) and **rotate** the formation axis the **same number of degrees** and in the same direction as the alteration of course. The guide is to alter to the new course. Single ship units are to alter course and speed individually, remaining units by order of their commanders, to regain their previous relative bearings and distances from the guide on the new course. (Restricted to 60 degrees rotation of axis.)

CORPEN H .. .. **Alter course** to ——— (at ———) and **rotate** formation axis to the **same true direction.**
The guide is to alter to the new course. Single ships units are to alter course and speed individually, remaining units by order of their unit commanders, and regain their stations relative to the new formation axis on the new course. (Restricted to 60 degrees rotation of axis.)

CORPEN J .. .. **Alter course** to ——— (at ———). Units are to maintain relative bearings and distances from the guide.
The guide is to turn to the new course. Remaining units are to regain their relative bearings and distances from the guide. Single ship units are to turn independently, remaining units by order of their unit commanders.

CORPEN K .. **Alter course.** The guide is to alter course to ——— (at ———) (on arrival in position ———). Remaining units are to conform.
Units whose station are on the guide's line of advance, whether ahead or astern, are to alter course on passing through the position where the guide alters course. Those units not on the guide's line of advance, on arrival abeam of the point where the guide alters course, are to proceed to their stations relative to the new course. Single ship units are to proceed independently, remaining units by order of their unit commanders.

CORPEN L .. .. **CSW.** Make course ——— (and speed ———) good through the water.

CORPEN Q .. .. **Guide** steer course ——— during the maneuver (*or* at ———).

CORPEN R .. .. **CSG.** Make course ——— (and speed ———) good over the ground.

CORPEN T .. .. **Disengage** on course ———.

CORPEN U .. .. **Maintain** present course (*or* course ———) (until ———).

CORPEN V .. .. **Alter course** by wheeling to ——— (at ———) (time) without further signal and resume zigzag. The screen is to proceed in accordance with the instructions for the re-orientation of the screen by Method Rum 5 minutes before the time at which the alteration is due to be carried out.
The main body is to wheel to the course ordered at the time ordered. If zigzagging, all ships are to turn together to the base course **5** minutes before the time of alteration, and the same zigzag is to be resumed 10 minutes after the time of execution of the signal.

312. MISCELLANEOUS

A CORPEN .. .. Action course will be ——— (at ———).

B CORPEN .. .. **Base course** is ———.

C CORPEN .. .. Course ——— will clear mines.

D CORPEN .. .. **Datum course** is ———.

E CORPEN .. .. **Enemy's** course is ——— (speed ———). Two courses will indicate the limits within which the enemy is expected to steer.

F CORPEN .. .. **Aircraft.** Estimated course for impending aircraft operations is ——— (speed ———).

G CORPEN .. .. **Guide's** course is ——— (*or* is altering to ———). (Guide's speed is ———.) See also article 1101.

H CORPEN .. .. **Intend** to alter course to ——— at ———. A further signal to carry out the alteration of course will be made.

I CORPEN .. .. **Intend** to continue on this course (*or* on course ———) during the night (*or* until ———).

J CORPEN .. .. **Base course** will be ——— (when the guide passes the point indicated).

K CORPEN .. .. **Course** is ———.

L CORPEN .. .. **Course** for **impending** operation or scheduled exercise is ———. (Speed ———.) See also article 1101.

M CORPEN .. .. **My** (*or* unit indicated) **course** is ——— (my speed is ———).

N CORPEN .. .. **COG.** Course made good over the ground is ——— (**SOG** ———).

O CORPEN .. .. **Search** course is ——— (speed ———).

P CORPEN .. .. Am adjusting my course to ———.

Q CORPEN .. .. **Scouting** course is ——— (speed ———).

R CORPEN .. .. **Replenishment** course is ——— (speed ———).

S CORPEN .. .. **Smoke** laying course and speed are ——— and ———.

W CORPEN .. .. **Maneuver** ordered to be carried out at ——— is to be executed at that time without further signalling. Unit commanders are to issue necessary instructions in advance.

X CORPEN .. .. **Am about to alter** course ——— tens of degrees to port or starboard as indicated (*or* to course ———).

Z CORPEN .. .. **Convoy** course is ——— (speed ———).

SECTION V—SPEED

313. ACTION SIGNALS

INTERROGATIVE SPEED. What is your speed?

SPEED numerals .. **Guide proceed at** speed ———. Other ships proceed as necessary to maintain station.

SPEED Ø .. .. **Guide** is to stop engines. Other ships proceed as necessary to maintain station.

SPEED A .. .. **Stop** ship **by reversing** engines.

SPEED B .. .. **Gather sternway.**

SPEED C .. .. Go ahead. (Proceed.)

SPEED D .. .. **Anti-homing speed.** Proceed at **high** anti-homing torpedo speed.

SPEED F .. .. **Anti-homing speed.** Proceed at **low** anti-homing torpedo speed.

SPEED G .. .. **Guide.** Guide proceed at speed ——— upon passing point indicated.

SPEED H .. .. **Proceed** at speed ———.

SPEED K .. .. **Flags.** Show speed flags.

SPEED L .. .. **Night** speeds. Continue at the same speed (*or* at ———) during the night or until time indicated.

SPEED M .. .. **Maximum** speed. Proceed at maximum speed.

SPEED N .. .. **Normal** speed. Proceed at normal speed (which is ———).

SPEED Q .. .. **Maximum** speed. Proceed at maximum speed with present boiler power.

SPEED R .. .. **Reduce speed.** If necessary to avoid damage reduce speed (to ———).

SPEED S .. .. **Stop engines.**

SPEED U .. .. **Safe** speed. Follow at safe speed.

SPEED V .. .. **Steerageway** speed. Proceed at steerageway speed.

SPEED W .. .. **Stationing speed.** Proceed at stationing speed.

SPEED X .. .. **Operational** speed. Proceed at operational speed.

SPEED Y .. .. **SOG.** Make speed ——— good over the ground.

314. INFORMATION SIGNALS

B SPEED .. .. **Base** speed is ———.

C SPEED .. .. **Convoy.** Speed of convoy is ———.

G SPEED .. .. **Guide's** speed is ——.

I SPEED .. .. Operational speed will be required at ———.

J SPEED .. .. **Fuel.** At present speed (*or* ———) fuel will last ——— hours.

L SPEED .. .. Speed for impending operation or scheduled exercise is ———.

M SPEED .. .. **My** speed is ———.

N SPEED .. .. **Normal** speed is ———.

P SPEED .. .. **Maximum** speed for effective Sonar operations is ———.

Q SPEED .. .. **Maximum** speed of this or indicated ship is ———.

R SPEED .. .. **Maximum** speed which can be maintained is ———.

S SPEED .. .. **Stationing** speed is ———.

T SPEED .. .. **Maximum** speed of ——— can be maintained on present course (*or* on course ———) without risk of damage.

U SPEED .. .. **Maximum** speeds. Speeds in EXCESS of ——— will not be required during the night or until time indicated.

V SPEED .. .. **Replenishment** speed is ———.

W SPEED .. .. **Maximum** speed which can be maintained with **present boiler power** is ———.

X SPEED .. .. **Operational** speed is ——— *or* will be required at time indicated.

Y SPEED .. .. **SOG.** Speed made over the ground is ———.

CHAPTER 4

(R.N.) Conduct of Minesweeping

401. TYPES OF MINESWEEPING FORMATIONS

Minesweeping formations can be divided into three types; those for use with the 'A' sweep, those for use with the 'O' sweeps and those for use with Magnetic sweeps. 'A' and 'O' sweeping formations can be further divided into searching formations, clearing formations and formations for sweeping ahead of convoys as follows :—

Searching formations :

'B,' using the 'A' sweep.
'H,' 'I' and 'K,' using the 'O' sweep.

Clearing formations :

'D,' 'F' and 'J,' using the 'A' sweep.
'G,' using the 'O' sweep.

Sweeping ahead of Convoys :

'C,' using the 'A' sweep.
'K,' and 'I,' using the 'O' sweep.

Magnetic sweeping formations :

'P,' 'Q,' 'R,' 'S' and 'T.'

402. In the formations which follow :—

(*a*) Each ship is numbered so that a ship may follow clearly the action required of her according to the numbered station in the formation which she occupies. This numbered station does not always coincide with the Sequence Number, so sequence numbers should be disregarded in a minesweeping formation.

(*b*) Stations for danlayers are included in the diagrams where applicable.

(*c*) All distances, bearings, speed and amounts of sweep rope veered given apply to 'Algerine' class ocean minesweepers. Senior Officers of squadrons of other types of ship are to issue alternative figures for use in their squadrons.

403. TAKING UP FORMATION

'Standard Procedures' are used for taking up formation and passing sweeps. Alternatively, these manœuvers may be carried out step by step using the appropriate signals from the Flag 6 or 7 tables when conditions are suitable.

404. ALTERATIONS OF COURSE

(*a*) If in an emergency an immediate alteration of course is required, it is advisable to sound the siren and alter course accordingly while a visual or voice signal is being made.

(*b*) 'Standard Methods' are laid down for altering course to a new lap (or re-sweeping a lap) when in formation. The method employed for turns of 180 degrees in any formation cannot be rigidly laid down as much depends on the local conditions such as tide, wind and available room in which to turn. The methods given are designed to cover normal conditions, but do not take wind or tide into account, and must be modified by the O.T.C., or guide, as required. When sweeping against the tide, for instance, he must bear in mind that, after the turn, the tide will be setting the formation on to the limits of the area and allowance for this factor must, therefore, be made by steaming well up tide before starting the turn.

Para 402(c)

Add at end "E.g. The speed for shortening in Oropesa sweeps, given as 8 knots in Standard Lap Turn Methods, may have to be reduced according to capability of winches. Six knots is recommended when American A.M.S. are in the formation. A slower speed also has the advantage of requiring less sea room and time on the turns but this may not be acceptable in shallow water owing to the extra sag."

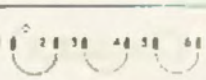
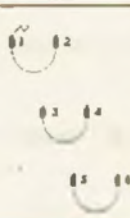
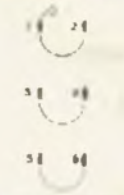
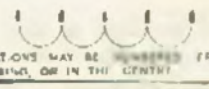
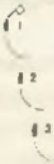
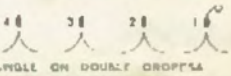
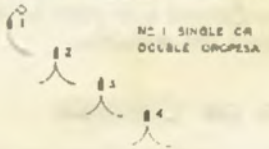
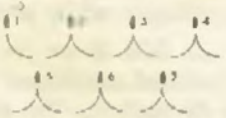
TYPE OF FORMATION	SWEEP	FORMATION	DIAGRAM	STANDARD PROCEDURE	STANDARD METHOD OF LAID TURNS
SEARCH	'A'	B		1	1
CONVOY	'A'	C		2.	-
CLEARING	'A'	D		3	2
CLEARING	'A'	F		4	3
CLEARING	'A'	J	 STATIONS MAY BE NUMBERED FROM 1 ON A WING, OR IN THE CENTRE	5, 6, 7	4, 5
CLEARING	CROPESA	G		11	11, 12 13, 14 & 15
SEARCH	CROPESA	H	 SINGLE OR DOUBLE CROPESA	12	16
SEARCH OR CONVOY.	CROPESA	I	 NO 1 SINGLE OR DOUBLE CROPESA	13	17, 18, 19 & 20
SEARCH OR CONVOY	CROPESA	K		14	21, 22, 23 & 24

Diagram 1. Summary of formations
(i) Wire Sweeping.

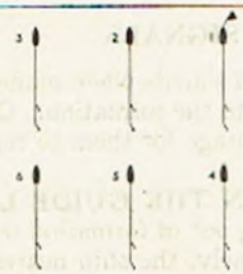
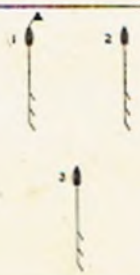
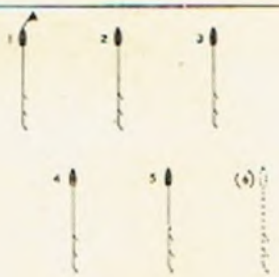
TYPE OF SWEEP	FORMATION	DIAGRAM.	STANDARD PROCEDURE	STANDARD METHOD OF LAP TURNS
MAGNETIC	P		20	30, 31.
MAGNETIC	Q		20	32, 33, 34, 35, 36.
MAGNETIC	T		21	37, 38, 39.
MAGNETIC MODIFIED M.E.	R		22	–
MAGNETIC MODIFIED M.E.	S		22	40, 41, 42, 43, 44.

Diagram 1. Summary of formations
(*ii*) Influence Sweeping.

(*c*) Maneuvering signals in standard methods and procedures are to be executed by the ship acting as guide.

(*d*) 'Standard Methods' for altering course (and 'Standard Procedures' for assuming formations) are numbered for reference purposes. A short form of signal is given as the executive order for starting the operation which can be used without supplement under practically all circumstances, but, in case of doubt arising in newly formed flotillas, the Senior Officer may make a 'Next Lap Policy' signal prior to the maneuvering signal. The 'Next Lap Policy' signals may also be used by the Senior Officer if he is not the guide and the next lap to be carried out has not been laid down in, or is different from, the Operational Orders. In certain maneuvers the information given in a 'Next Lap Policy' signal may render unnecessary the making of a maneuvering signal.

405. REPEATING OF VISUAL SIGNALS

In order to expedite the passing of signals when maneuvering by VS, Senior Officers should detail VS repeating ships appropriate to the formation. Other ships should only answer signals, unless it is clearly to the general advantage for them to repeat.

406. ACTION TO BE TAKEN ON THE GUIDE LEAVING THE FORMATION

In the event of the guide dropping out of formation owing to a sweep failure or parting, the ship in the best position to do so, namely, the ship nearest to the line of dans, is to take over as guide. (*See* also Article 806.)

407. COURSE SIGNALS TO BE MADE DURING THE LAP

In order that the correct station may be maintained in all types of minesweeping, the guide must signal the true course to be made good (*e.g.* between each dan) together with the allowance for tide and wind (G CORPEN, Flag 6 or 7 'E' and 'F' signals). (*See* Article 1101.)

Para 405e
)e) In all types of sweeping when ships are close together turning flags should be used. These are small red and green flags each fitted on a stave. The Red or Green flag is held up as soon as the wheel is put over when turning to Port or Starboard respectively, kept up while the ship is swinging, waved when the wheel is put amidships or opposite wheel applied, and taken down when the ship is steady

CHAPTER 5

(R.N.) Conduct of Danlayers

501. STANDARD NOMENCLATURE FOR DAN BUOYS

(*a*) For convenience of reference a standard nomenclature is used for dan buoys and lines of dan buoys marking an area being swept. The methods employed are detailed below.

(*b*) Looking at the area in the direction in which the first lap will be made, lines on the port side will be indicated by letters early in the alphabet, and lines on the starboard side by letters late in the alphabet, thus :—

(*i*) If the sweep is to start along the port limit of the area this line will be ' A ' line.

(*ii*) If the sweep is to start along the starboard limit the line will be lettered ' Z.'

(*iii*) If the sweep is to start in the centre of the area the first line adjacent to the guide will be ' N.'

(*iv*) Subsequent lines are lettered in succession from the starting lines, so that :—
From ' A ' line, successive lines towards the centre will be ' B,' ' C,' ' D,' *etc.*
From ' Z ' line, successive lines towards the centre will be ' Y,' ' X,' ' W,' *etc.*
From ' N ' line, successive lines to port will be ' M,' ' L,' ' K,' *etc.*, and successive lines to starboard will be ' O,' ' P,' ' Q,' *etc.*

(*c*) Port and starboard are to be determined by the direction in which the first lap is made.

(*d*) Buoys in each line are numbered in succession from the end at which the area was first entered, thus a ship steaming along ' A ' line would encounter buoys ' A1,' ' A2,' ' A3,' *etc.*, and returning by ' B ' line would encounter ' B3,' ' B2,' ' B1.'

502. DANLAYING OPERATIONS

(*a*) Dan buoys in one lettered line should be fitted with the same distinctive flags. It is desirable, therefore, that each danlayer should be provided with sets of parti-coloured flags, a combination of yellow and blue or black being most suitable. During an operation it may occur that danlayers lift and relay dans not fitted with their own distinctive flag, but since lines of dans are lifted in succession no two lines being lifted will be marked by the same distinctive flags.

(*b*) Tables are included in the *Minesweeping Manual*, Volume 1, Part 3, giving sequence of duties of danlayers in typical operations. These show the minimum number of vessels required for laying and lifting dans and mine disposal concurrently. When weather conditions or high concentration of mines encountered make it necessary, the danlaying force or mine disposal ships must be augmented. It is essential that sweeping shall not be delayed by the absence of the vessel responsible for pointing the appropriate dan buoy.

CHAPTER 6

(R.N.) Maneuvering in 'A' Sweep Formations

601. GENERAL INSTRUCTIONS

(*a*) The winch ship provides the sweep rope and should usually have the duty of opening out from the slip ship after passing the sweep.

(*b*) The distance apart of ships connected together in formation is normally $2\frac{1}{2}$ cables for ocean sweepers and 2 cables for paddle minesweepers and trawlers.

(*c*) The distance apart (interval) of sub-divisions or units is given in the diagrams of the various formations.

(*d*) The overlap to be maintained depends on the type of the sweeper, Mark of sweep and the formation. The guide of the sub-division is responsible for maintaining the correct overlap. The overlap shown in the diagrams is for a Mark 1 sweep.

(*e*) The following are the limitations imposed on turning when 'A' sweeping :—

(*i*) Ships must always raise kites and close in to $\frac{3}{4}$ of a cable apart before turning more than 30 degrees.

(*ii*) When more than two ships are connected together it is not advisable to wheel more than 90 degrees at a time.

(*iii*) If mines are being cut, sweeps must be sighted at the end of each lap to ensure that [illegible] commencing the turn.

(*f*) Slip ships and centre ships veer grass as soon as preliminary formation has been taken up.

602. USE OF RED AND GREEN FLAGS

All ships must have a small red and a small green flag each fitted on a staff. The red or green flag is held up as soon as the wheel is put over when turning to port or starboard respectively, kept up while the ship is swinging and waved and taken down when the ship is steady.

603. METHODS OF OPENING AND CLOSING IN 'A' SWEEP FORMATIONS

(Squadron Orders should state which of the two methods described are normally to be used.)

(*a*) **Opening. Method 'A.'** The wing ship and all others, other than the ship next to the guide, open out 50 degrees from the guides course and increase speed by 2½ kt. The ship next to the guide opens out 25 degrees and increases speed by 1½ kt. All endeavour to remain on a steady compass bearing from the guide while opening out. Wheel for the turn is applied when it is seen that the ship next outboard has a red or green flag held aloft. (*See* Article 602.)

When ships are sweeping in pairs, 'B,' 'C,' 'D' and 'F' formations, the opening out ship may open out on a 50 degree diverging course and 2½ kt. increase in speed over the guide. This is the maximum advised.

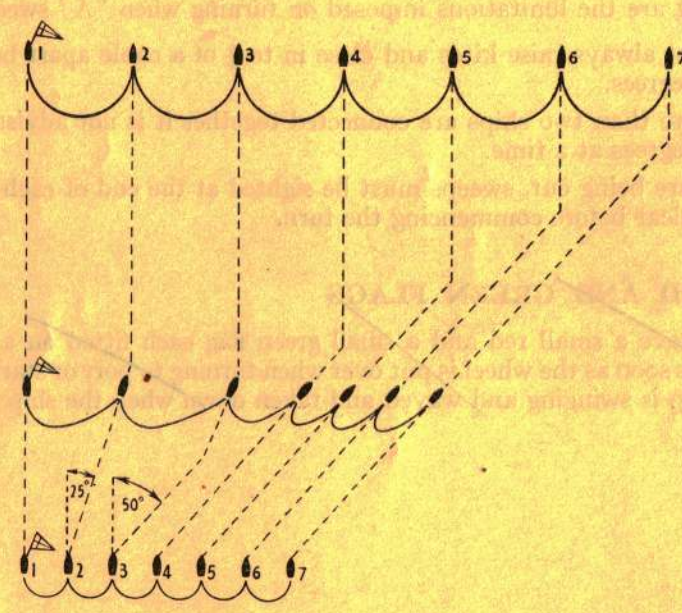


Diagram 2. 'J' Formation. Opening out, method A.

(*b*) **Opening. Method 'B.'** Three or more ships. (For two ships *see* 'A' above.) All ships veering sweep wires together. The wing ship alters course 65 degrees outward from the guide, remainder on divergent courses. (*See tables below.*) Wheel for the turn is applied when it is seen that the ship next outboard has her red or green flag held aloft. (*See* Article 602.) It is essential that hand flags are again shown on turning back to the guide course.

THREE SHIPS

Ship	Guide	2	3
Speed	6	9	14
Alteration of Course ...	—	48	65

FOUR SHIPS

Ship	Guide	2	3	4
Speed	6	8	11½	14
Alteration of Course ...	—	41	58	65

FIVE SHIPS

Ship	Guide	2	3	4	5
Speed	6	7½	10	12	14
Alteration of Course ...	—	36	53	60	65

SIX SHIPS

Ship	Guide	2	3	4	5	6
Speed	6	7	9	11	12½	14
Alteration of Course ...	—	30	48	56	61	65

SEVEN SHIPS

Ship	Guide	2	3	4	5	6	7
Speed	6	6½	7½	9	11	12½	14
Alteration of Course ...	—	22	38	48	56	61	65

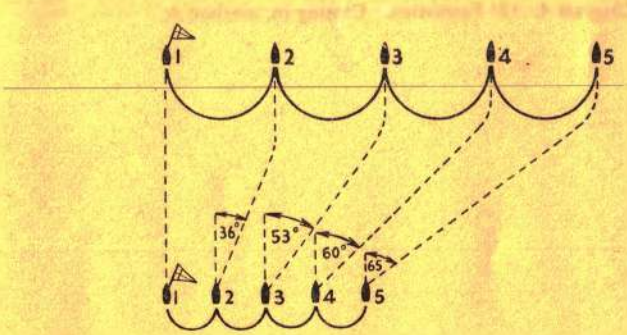


Diagram 3. 'J' Formation. Opening out, method B.

(*c*) **Closing. Method 'A.'** One ship at a time heaving in. Ships close on guide on parallel courses, the amount of alteration of course and speed depending on winch heaving-in speeds (and laid down in Squadron Orders). If not laid down 35 degrees and 7½ kt. is to be used (Guide at 6 kt.). Each ship is to wait for the ship outside her to turn in before herself doing so. Hand flags are to be used. (*See* Article 602.)

Where ships are sweeping in pairs, 'B,' 'C,' 'D' and 'F' formations the ship closing in may use the maximum converging course and speed allowed by winch heaving-in speed and bearing in mind the necessity of not allowing more sag in the sweep wire than the depth of water permits. In water under 25 fm. in depth, a converging course not exceeding 25–30 degrees is advised.

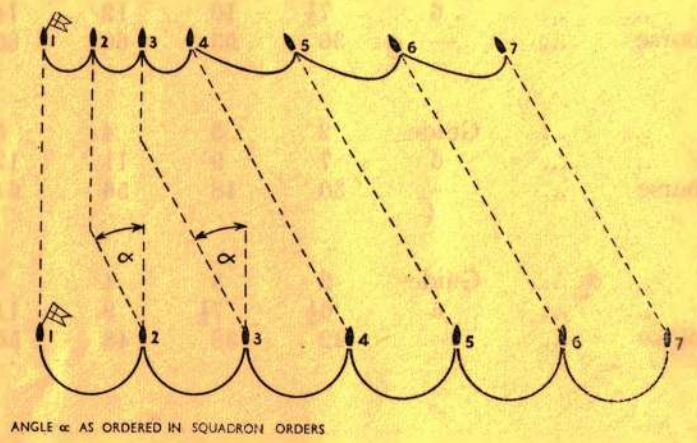


Diagram 4. 'J' Formation. Closing in, method A.

(*d*) **Closing. Method 'B.'** All ships heaving in sweep wires together. Ships close on converging courses as in table below. Each ship is to wait for the ship outside her to turn in before herself doing so. Hand flags are to be used. (*See* Article 602.)

SHIP	Guide	2	3	4	5
SPEED	6	7	8	9	10
ALTERATION OF COURSE	—	30	42	48	53

(If there are more than five ships in 'J' formation, Nos. 6, 7, etc., must steam initially on a course parallel to No. 5.)

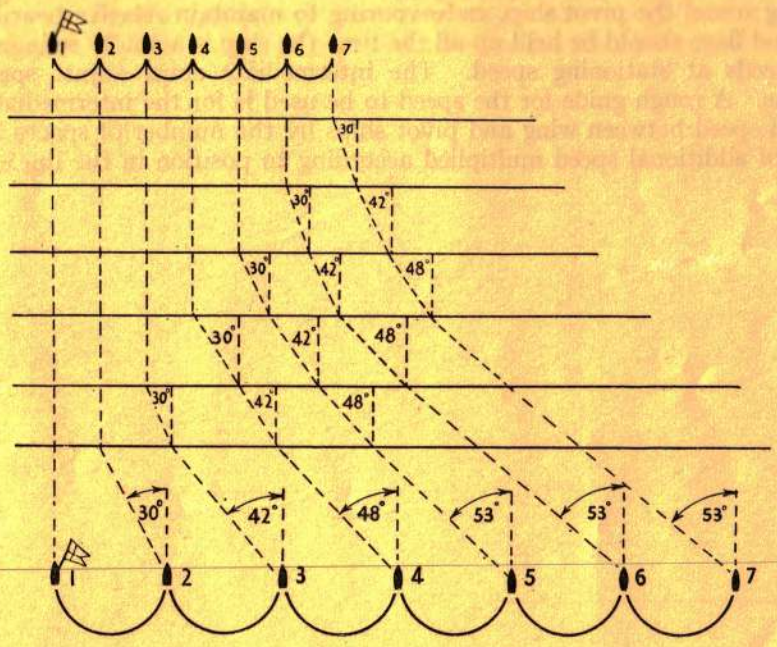


Diagram 5. 'J' Formation. Closing in, method B.

604. ALTERATION OF COURSE 180 DEGREES BY WHEELING IN 'A' SWEEP FORMATIONS

(*a*) After closing in, the turn is carried out in two 90 degree steps. When the signal for the turn is executed, the wing ship increases speed to stationing speed. In 'J' formation intermediate ships also increase speed proportionately according to their station. The pivot ship puts her wheel over when the rest of the formation have gained about 10 degrees of bearing, and then turns as necessary to maintain these ships near her beam, until 90 degrees from the previous course. Red or green hand flags are to be used as Article 602. Remaining ships turn to maintain distance and regain relative bearing, working their hand flags.

(*b*) In unworked up squadrons this turn may be carried out step by step as follows. When the signal for the turn is executed the wing ship (and other ships outside the pivot ship in 'J' formation) increases speed to gain relative bearing. The pivot ship does not start to turn until the wing ships have gained about 10 degrees of bearing. The pivot ship puts her wheel over and shows the red or green hand flag (*see* Article 602). The pivot ship alters course in steps of 10 degrees at a time, indicating her ship's head to other ships of the formation as she does so. Ships in succession from the pivot ships apply wheel and work their hand flags in the same manner, steering round the pivot ship, endeavouring to maintain relative bearing and distance. Appropriate hand flags should be held up all the time the ship is actually swinging. The outside wing ship proceeds at stationing speed. The intermediate ships adjust speed to keep the formation in line. A rough guide for the speed to be used is for the intermediate ship to divide the difference in speed between wing and pivot ships by the number of spaces in line, applying this increment of additional speed multiplied according to position in the line.

CHAPTER 7

(R.N.) Maneuvering in 'O' Sweep Formations

701. GENERAL INSTRUCTIONS

(*a*) The amount of sweep rope to be veered on all occasions is to be laid down in Squadron Orders. Figures quoted in the ' O ' sweeping sections are for ' *ALGERINE* ' class ocean minesweepers.

(*b*) On all occasions when sweeps have to be shortened in prior to altering course they are to be shortened in to 100 fm.

(*c*) The limitations imposed on turning with sweeps streamed are as follows :—

30 degrees or less ...	...	No restrictions.
More than 30 degrees	...	Inner sweep must be shortened in to 100 fm. before commencing the turn. Outer float must be kept outside ship's wake by adjusting the amount of wheel used.

702. STATIONING OF SWEEPERS AND DANLAYERS

(*a*) The normal stationing of sweepers and danlayers in the various formations is shown in the diagrams.

(*b*) It is recommended that the Senior Officer of the squadron should normally take guide in all formations, and that, in ' G,' ' I ' and ' H ' formations, the 2nd Senior Officer should take the rear or opposite wing station.

(*c*) The stationing of the 2nd Senior Officer in ' K ' formation is detailed in Article 705.

703. ALTERATION OF COURSE IN ' G ' FORMATION

The methods of altering course at the end of a lap are numbered and summarised as follows :—

11 Adjacent lap turn, changing the side of the sweep and the side of the bearing of the guide. It is used when clearing an area from one side in long laps, when a cross-tidal stream is expected.

12 Adjacent laps, turning away from the sweeps in succession. It is used when starting to clear an area from the center outwards. The sweep and side of formation are not changed.

13 Non-adjacent laps, turning away from the sweeps in succession. It is used when clearing an area from the center outwards, the second lap having been cleared as in 12 above.

14 360 degrees turn, ships turning away from the sweeps in succession and sweeping in one direction only. It is used when clearing an area from one side in short laps, when a cross-tidal stream and thickly laid mines are expected.

15 Non-adjacent laps, turning towards the sweeps in succession. It is used when clearing a narrow area commencing from the outside and sweeping alternate sides of the area.

NOTES :

(*a*) In all types of turn in ' G ' formation, ships must use the signal 6L, as described in the Moored Minesweeping (Wire Sweeping) Table, to indicate to their next ahead when the latter's float is clear of the area.

(*b*) In narrow channels where it is important that ships when maneuvering at the end of the laps should keep strictly to the center line of the area to be swept, Method 11 above may be used except that ships will maintain the original course until ' Tail End Charlie ' has recovered his sweep, ' Tail End Charlie ' then leading the formation into the new lap and becoming guide.

(*c*) Turns *together* can be ordered so as to take the Squadron into the next lap with the last ship in the line leading the formation. If required, each maneuver is to be signaled by the appropriate signal group.

(*d*) Station keeping in ' G ' formation must always be on the float of the next ahead. Whenever course is altered during the lap by ' M ' or ' G ' Corpen signals ships maintain their station on the float of the next ahead. (*See* also Article 1101.)

704. ALTERATION OF COURSE IN 'I' FORMATION

(*a*) Alterations of course at the end of laps can be made in several ways. By combining the following factors, a suitable turn can be selected from the examples given for any method of either searching or check sweeping an area.

(*i*) Altering course towards *or* away from the former line of bearing.

(*ii*) Altering course by wheeling *or* by turning together.

(*iii*) Maintaining *or* changing the formation.

(*iv*) Sweeping adjacent *or* non-adjacent laps.

(*b*) **Methods of altering course.** The methods of altering course at the end of a lap are numbered and summarised as follows :—

17 Adjacent laps, altering course by wheeling towards the former line of bearing changing the side of the line of bearing on the next lap. It is used chiefly to sweep adjacent laps when commencing from one edge of an area and working across.

18 Non-adjacent laps, altering course by wheeling towards the former line of bearing, maintaining the same formation on the next lap. It is used chiefly when sweeping an area from the sides towards the center.

19 Adjacent laps, altering course by wheeling away from the former line of bearing, maintaining the same formation on the next lap. It is used chiefly to turn at the end of the first lap when sweeping an area from the center outwards, and to turn at the end of a channel buoyed along the center line.

20 Non-adjacent laps, altering course by wheeling away from the former line of bearing maintaining the same formation on the next lap. It is used chiefly when sweeping an area from the center outwards.

NOTES :

(*a*) Turns together can be ordered so as to take the squadron into the next lap with the last ship in the line leading the formation. If required, each maneuver is to be signaled by the appropriate signal groups.

(*b*) Station keeping in ' I ' formation must always be on the float of the next ahead. Whenever course is altered during the lap by ' M ' or ' G ' Corpen signals ships maintain their station on the float of the next ahead.

705. ALTERATION OF COURSE IN 'K' FORMATION

(*a*) **Odd Number of Ships in the Formation.** Retention of the same ship as guide every lap. If the Senior Officer wishes to retain his function as guide throughout a searching operation in ' K ' formation, it can be done with the following restrictions :—

(*i*) The formation must consist of an odd number of ships.

(*ii*) The search must commence from one edge of the area and be followed by adjacent laps. (Turns will be to port and starboard alternately or vice-versa.)

(*iii*) The guide must change his sweep and division every lap.

(*b*) When sweeping either side of a center line with subsequent non-adjacent laps, working from the center towards the sides of an area, or non-adjacent laps from both sides of an area towards the center, it is desirable for expeditions maneuvering on the first lap to have the Senior Officer on one wing of the leading division and the 2nd Senior Officer on the opposite wing of the rear division. The Senior Officer or 2nd Senior Officer will then run the line of dans alternately on each lap. The Senior Officer will need to change his division as shown in the diagrams of the maneuvering. Non-adjacent lap turns are not shown as they differ only in the length of run across the area after the first 90 degree turn.

(*c*) **Even Number of Ships.** The Senior Officer cannot retain his function as guide with an even number of ships in ' K ' formation.

(*i*) When adjacent laps are being swept the 2nd Senior Officer should be stationed in the rear division and on the same wing as the Senior Officer.

(*ii*) When sweeping either side of a center line with subsequent non-adjacent laps, working from the center towards the outsides of an area, or non-adjacent laps from both sides of an area towards the center, the 2nd Senior Officer should be stationed in the rear division and on the opposite wing from the Senior Officer.

(*d*) **Adaptation of ' K ' Formation**—for searching both sides of a channel simultaneously. The formation shown in the diagram can be used for this purpose. If the search is to be continued in a part of the channel not marked by buoys along the center line, all ships can join up to form one unit.

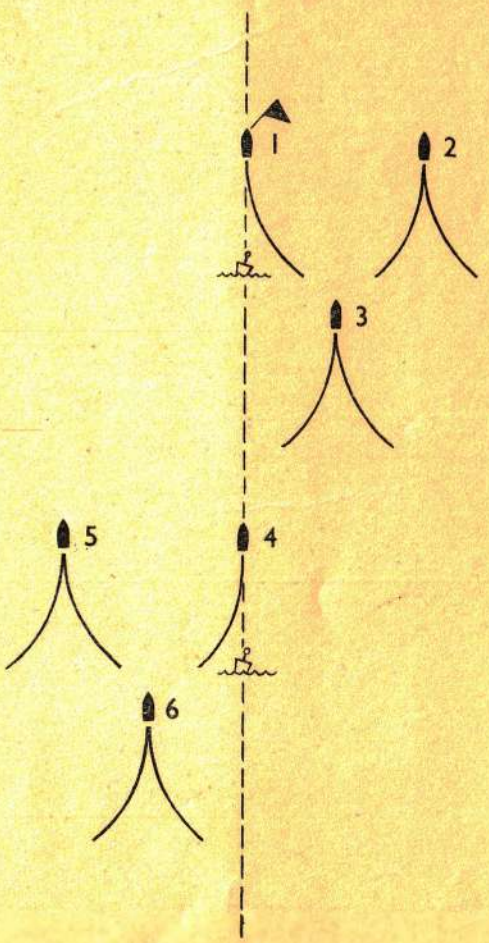


Diagram 6. 'K' Formation. Searching both sides of a channel center line.

CHAPTER 8

(R.N.) Maneuvering in Influence Sweep Formations

801. GENERAL INSTRUCTIONS

The formations used for magnetic and acoustic sweeping are as follows :—

(*a*) Using the M.E. Marks 3, 6 and 8 sweep, ' P,' ' Q ' and ' T ' formations.

(*b*) Using the M.E. Marks 103 and 106 sweep, ' R ' and ' S ' formations.

Acoustic sweeps are used by ships in the above formations as required for the particular minesweeping operation in progress.

802. STATION KEEPING.

The distance apart of ships in the various formations is as follows :—

(*a*) M.E. MARKS 3, 6 AND 8 SWEEP, ' P,' ' Q ' AND ' T ' FORMATIONS.

Coarse sweep	... ...	All depths of water. 300 yd. (not applicable to ' T ').
Intermediate sweep	...	Depths of 12 fm. to 15 fm. 400 yd.
Sensitive sweep	... ...	Depths of 15 fm. or more. 500 yd.

(*b*) M.E. MARKS 103 AND 106 SWEEP, ' R ' AND ' S ' FORMATIONS.

' R ' formation	... ...	If three ships, as shown in Diagram 49. If only two ships one should be in each division.
' S ' formation	... ...	As shown in Diagram 49.

803. LIMITATIONS IMPOSED WHEN STREAMING, TOWING OR RECOVERING SWEEPS

(*a*) Ships should act independently when streaming or recovering sweeps, and proceed at slow speed.

(*b*) A speed of 6 kt. should not be exceeded when streaming M.E. Marks 3, 6 and 8 and M.E. Marks 103 and 106 sweeps, and 5 kt. when streaming acoustic sweeps. When recovering any of the above sweeps speed should not exceed 4 kt.

(*c*) Speed over the ground must be regulated to the pulse cycle in use. *See Minesweeping Manual.*

804. LIMITATIONS IMPOSED WHEN ALTERING COURSE WHILE TOWING SWEEPS

(*a*) When turning with magnetic sweeps streamed, a speed of 15 kt. through the water must not be exceeded due to strain in the cables, and the method of tow must be as in the *Minesweeping Manual.*

(*b*) When altering course more than 30 degrees, magnetic sweeps must be de-energised.

(*c*) Alterations of course to counteract a crosstide are made by *wheeling* (but the guide does not change).

(*d*) Alterations of course at the end of laps are made by wheeling or turns together.

(*e*) For turns together the tactical diameter should not exceed $1\frac{3}{4}$ cables.

(*f*) Ocean sweepers using M.E. Mark 106, or Mark 6 in coarse sweeps must open out to 2 cables before carrying out turns together.

(*g*) If using the M.E. Mark 6 in coarse sweeps ocean sweepers should not close in to 1½ cables until the guide is on the course for the next lap.

805. GENERAL NOTES

(*a*) Unless otherwise stated, the above remarks and the ensuing paragraphs refer to ocean sweepers. Senior Officers of squadrons of other types of ships are to issue alternative orders for use in their squadrons.

(*b*) Danlayers are stationed as shown in the diagrams. When sweeping in a cross-tide, danlayers should be stationed as shown in Volume II, Part 5 of the Minesweeping Manual, or when clearing a field with the next lap on the down tide side of the formation, a guide to the stationing of the danlayer is to position her on a bearing which is the reciprocal of the course made good from the wing ship.

(*c*) All turns at the end of laps should be made in an uptide direction. In the formation which follow each ship is numbered so that a ship may follow clearly the action required of her according to the numbered station in the formation which she occupies ; these stations should be detailed before the operation. This numbered station does not always coincide with the Sequence Number, and Sequence Numbers should be disregarded during M/S operations. In the event of ships changing station owing to breakdowns these numbered stations are changed also. (*See* Article 806.)

806. SPARE SHIPS

In ' P,' ' Q,' ' R ' and ' S ' formations, if a spare ship is available she should be stationed on the beam of the wing ship of the leading division and be prepared to use her sweep at immediate notice. When a ship reports a defect in the sweep the spare should take up the position of wing ship of the division in which the broken down ship was stationed, on the side of the formation on which she herself was acting as spare, other ships moving over to the station of the broken down ship. But should the guide break down and leave the formation, in ' S ' formation the spare will take station in the rear or van division according to whether there is an odd or even number of ships in the formation, respectively, the guide of the rear division taking over guide and running the dans.

807. REPORTING OF BREAKDOWNS

When breakdowns in sweep gear occur the fact is to be reported to the O.T.C. immediately, stating the position at which this occurred. The ship with the defect is to haul out of the formation if this can be done without causing other ships to stop sweeping. The spare ship is to act as in Article 806 above, reporting the time at which he is in station and sweeping. The O.T.C. is responsible for plotting the position of the holiday in the lap. The O.T.C. will then be responsible for the plan for clearing holidays.

CHAPTER 9

Signals Displayed When Minesweeping

901. BLACK BALL

(*a*) (*i*) A black ball, two to four feet in diameter, is to be hoisted at the fore masthead before passing or streaming sweeps.

(*ii*) A black ball, two to four feet in diameter, is to be hoisted at the yardarm on the side or sides on which it is dangerous for ships to pass.

(*iii*) By night the black balls are to be replaced by green lights.

(*b*) **'A' Sweeps—two or more ship sweep—working of Yardarm Ball**

(*i*) PASSING SWEEPS

At the dip : When grass line has been secured to sweep on the forecastle.
Close up : When sweep wire has been passed and secured to slip.

(R.N.) (*ii*) WHILE SWEEPS ARE RUNNING

At the dip : Immediately the sweep is seen to be running incorrectly.

(*iii*) SLIPPING SWEEPS

Hauled down : When sweep wire has been slipped in SLIP ship.
At the dip : When sweep wire has been slipped in WINCH ship.
Hauled down : When the end of the wire is inboard in the WINCH ship.

(*c*) **Oropesa sweeps—working of Yardarm Ball**

(*i*) STREAMING SWEEPS

At the dip : When float is slipped.
Close up : When sweep is seen to be running correctly at short stay.

(R.N.) (*ii*) WHEN SWEEPS ARE RUNNING

At the dip : Immediately the sweep is seen to be running incorrectly.

(*iii*) RECOVERING SWEEPS

At the dip : When sweep is at short stay.
Hauled down : When float is clear of the water.

(*d*) **Influence sweeps—working of Yardarm Balls**

NOTE : Yardarm balls are to be hoisted on both sides, whenever sweep is streamed.

(*i*) STREAMING SWEEPS

At the dip : When sweep is being streamed.
Close up : When sweep is streamed and connected.

(*ii*) RECOVERING SWEEPS

At the dip : When hauling in sweeps.
Hauled down : When sweep is clear of water.

902. RED FLAG (or FLAG B) IN CONJUNCTION WITH BLACK BALLS

The Red Flag is to be used in conjunction with the Black Balls when using magnetic sweeps as follows :—

Close up : When sweep is energised.
At the dip : When sweep is temporarily de-energised.
Hauled down : When sweep is not energised.

NOTES :

(*a*) Vessels or formations showing these signals are not to be approached nearer than 500 yd. on either beam, and ships are not cross ahead or astern at less distance than 1,000 yd. In no circumstances is a ship to pass through a formation of minesweepers.

(*b*) Minesweepers must be prepared to warn merchant vessels who persist in approaching too close, by means of any appropriate signals from the '*International Code of Signals.*'

(R.N.) 903. RED FLAG IN CONJUNCTION WITH BLACK BALLS

The Red Flag is to be used in conjunction with the Black Balls when using magnetic sweeps as follows :—

At the dip : Sweep streamed and ready to sweep.
Close up : Sweep energised. (By guide, synchronise and energise sweeps.)
At the dip : Sweep temporarily de-energised or while recovering sweep. (By guide at the end of a lap—stop pulsing.)
Hauled down : Sweep recovered.

NOTE : The O.T.C. may authorise operation of Red Flag in accordance with Article 903 in place of Article 902.

(R.N.) 904. BLACK FLAG [redacted]

(*a*) The Black Flag is to be used [redacted] when using towed acoustic sweeps as follows :—

At the dip : Sweep streamed and ready to operate.
Close up : Operating sweep. (By guide, energise sweep.)
At the dip : Sweep temporarily discontinued or while recovering sweep. (By guide, at the end of a lap stop pulsing.)
Hauled down : Sweep recovered.

(*b*) The Black Flag is to be close up when operating Explosive Sweep.

(R.N.) 905. WORKING OF FLAG R

(*a*) Flag R is hoisted on completion of the purport of those signals in the Moored (Wire) and Influence Sweeping Tables which are marked with an asterisk. It is also used as the executive signal to go from one stage of the 'Standard Methods' or 'Procedures' to another. When used in this manner, in certain 'Standard Methods' and 'Procedures' the appropriate numeral flag may be hoisted inferior to indicate the stage which has just been completed.

(*b*) As it may be difficult for the O.T.C. or guide to see Flag R hoisted in some of the ships when in formation, ships are to remain 'at the dip' until they see their next outer ship 'close up,' when they are to go 'close up' in succession towards the guide's ship. The guide will go 'close up' last of all and when the guide hauls down Flag R all ships will follow suit.

(*c*) **In 'G' and 'I' formation when changing the side of the sweep or shortening in sweeps before turning.**

(*i*) One Flag R is used to indicate when the sweep has been veered to 300 fm. It is hoisted on the side of the sweep. A second Flag R is used to indicate the working of the kite and increases of speed.

(*ii*) The guide hoists Flag R close up without waiting for ships in rear, as in sub Art. 905B. Remaining ships conform with Art. 905B.

NOTE : The details of the working of Flag R are contained in each 'Standard Procedure' and 'Method.'

CHAPTER 10

Minesweeping Signal Tables

1001. Two flag Table

MINE LIST

1. Acoustic (active)
2. Acoustic (passive)
3. Acoustic (sub sonic)
4. Acoustic (sonic)
5. Acoustic (super sonic)
6. Antennae
7. Combination
8. Contact
9. Drifting
10. Dummy
11. Equipped with delayed arming
12. Equipped with delayed rising.
13. Equipped with ship counter
14. Magnetic
15. Magnetic induction
16. Magnetic needle
17. Moored
18. Obstructors
19. Oscillating
20. Pressure
21. Remoored
22. Snagline
23. Thermal delay
24. Unknown.

RJ ... **Area** is dangerous on account of mines (of ..... type from *MINE LIST*) and is enclosed in a circle of ..... miles radius with center in position .....

RK ... **Buoy** .....

1. Location of ships' anchors
2. Position of mine
3. Safe channel
4. Swept channel

RL ... **(T.S.D.S.)**—*See* A.C.P.175.

RM ... **Channel.** Conduct (TABLE A) ..... sweep through channel or area (TABLE B) .....

TABLE A

1. Channel.
2. Check.
3. Clearing.
4. Exploratory.
5. Screening.

TABLE B

10. Approach channel.
11. Bombardment area.
12. Boat lane.
13. Fire support area.
14. Transport area.
15. Area indicated.

RN ... **Channel.** Center of the channel through minefield is indicated by line joining points indicated by Position Signals.

RO ... **Channel.** Report when area or channel is clear of mines.

RP ... **Channel.** Width of swept channel is ..... hundreds of yards.

RQ ... **Channel** is clear of mines (*or* .....). NEGAT preceding means 'Channel is not clear of mines.'

1. Channel has been searched.
2. Channel is swept.

RS ... **Cut.** Have cut a (.....) mine adrift (in position .....).

RT ... **Degaussing.** Use degaussing equipment (.....).

1. Full reversed current.

RU ... **Destroy** mines located in position .....

RV ... **Disposal.** Send mine disposal team to this ship or ship indicated.

RX ... **Field.** Enemy minefield is bounded by lines joining positions.

RY ... **Guide** this unit or unit indicated through swept channel.

SA ... **Laying mines.** Enemy is laying mines (.....).
1. Ahead of this unit or unit indicated.
2. Astern of this unit or unit indicated.
3. In position.

SB ... **Mine** is .....
1. Drifting (in position .....).
2. Exploded (in position .....).
3. Just awash (in position .....).
4. Of ..... type.
5. Sinking slowly (in position .....).

SC ... **Mines** of ..... type from MINE LIST have been found in position ..... Number of mines may be indicated.

SD ... **Mines** of ..... type from MINE LIST have been reported in position ..... Number of mines may be indicated.

SE ... **Minefields.** All controlled minefields are set to .....
1. Active.
2. Automatic, and are dangerous to friendly ships.
3. Safe.

SF ... **Minefields.** Controlled minefield number ..... is about to be fired (*or* was fired at .....).

SJ ... Carry out ..... sweep (in area indicated).
1. Acoustic.
2. Antennae.
3. Bottom.
4. Check.
5. Clearance.
6. Magnetic.
7. Moored.
8. Net.
9. Of type indicated.
10. Pressure.
11. Searching.
12. To depth of ..... fathoms.
13. Towed.

SK ... **Sweep** ahead of this unit or unit indicated.

SL ... **Swept channel.** Remain in swept channel.

SM ... **Watch.** Set Mine Watch.

DAMAGE

1002. 'L' Table

L1–L19 Damage.

L20–L69 Dan laying.

L70–L79 Minesweeping material.

L80–L99 Taut wire measuring gear.

L1 ... **Cable** has parted *or* ..... is defective.
- **A.** Lashings.
- **B.** Splice covering.
- **C.** Stockings.
- **D.** Tear.

L2 ... **Defect** ..... influence sweeping gear is defective.
- **A.** Acoustic gear.
- **B.** Auxiliary controller.
- **C.** Magnetic tail.
- **D.** Pressure Sweep.
- **E.** Slave gear.
- **F.** Special service generator.

L3 ... **Float wire** on the side indicated has parted (bearing and distance of float when last seen were .....).

L4 ... **Gear** damaged is .....
- **A.** Float.
- **B.** Kite/depressor.
- **C.** Otter.

L5 ... **Gear** lost is ..... Numeral(*s*) following DESIG indicates amount of wire lost in fathoms.
- **A.** Acoustic gear.
- **B.** Kite/depressor.
- **C.** Float.
- **D.** Magnetic tail
- **E.** Otter.
- **F.** Port paravane (TSDS).
- **G.** Pressure sweep (gear).
- **H.** Starboard paravane (TSDS)
- **I.** Sweep wire.

L6 ... **Parted** ..... wire has parted.
- **A.** Depressor.
- **B.** Float.
- **C.** Kite/depressor.
- **D.** Sweeps.
- **E.** Taut.

L7 ... **Parting.** Report reason for parting sweep.

L8 ... **Repair** gear and report when ready for sweeping.

L9 ... **Sweep** is defective.

L10 ... **Sweep** has been cut by an obstructor.

L11 ... **Sweep** is foul.

L12 ... **Sweep** (*or* .....) is foul of bottom.
- **A.** Kite/depressor.

L13 ... **Sweep** (*or* .....) has parted.
- **A.** Float wire.
- **B.** Kite/depressor.

L14 ... **Timing gear/Auxiliary controller** is defective.

L15 ... **Turn** wire end for end.

L16 ...

L17 ...

L18 ...

L19 ...

DAN ~~LAYER~~ LAYING

L20 ... **Anchors** are to be used when laying next lap.

L21 ... **Anchor.** Proceed and anchor at dan indicated.

L22 ... **Bearing.** Dans are to be laid on line of bearing..... from previous line.

L23 ... **Dan astern** of ship indicated.

L24 ... **Dan buoy** laid in position ordered (*or* position .....).

L25 ... **Dan** indicated is/has .....
A. Broken stave.
B. Lying flat.
C. Out of position.
D. Sunk.
E. Without a flag.

L26 ... **Dan** indicated is to remain down.

L27 ... **Datum.** Lay a datum Dan.

L28 ... **Deep Dans** are to be used in this lap.

L29 ... **Distance apart.** Dans are to be laid at a distance apart of ..... thousands of yards.

L30 ... **Escort danlayers.**

L31 ... **Fix dan** indicated.

L32 ... **Flags.** Danbuoys are to be laid with flags and lights.

L33 ... **Flags.** Dan flags as indicated by flags following TACK are to be used (on line indicated).

L34 ... **Flag.** Lay double flag dan.

L35 ... **Flags.** Radar dan flags are to be used.

L36 ... **Gear.** Amount of danbuoy ..... remaining on board is .....
A. Anchors.
B. Cans and staves.
C. Complete dans.
D. Danbuoy lights.
E. Deep dans.
F. Flags.
G. Mooring wire.
H. Pellets/auxiliary floats.
I. Radar flags.
J. Radar reflector screens.
K. Sinkers.

L37 ... **Kink.** Lay extra dan to mark kink in the Line being swept.

L38 ... **Lay** the next lap.

L39 ... **Lay** danbuoys from sweeping formation.

L40 ... **Lay** first dan.

L41 ... **Let go** danbuoy. NEGAT preceding means—' Lift Danbuoy.'

L42 .. .. .. **Lift** all dans (*or* ———) after sweepers have passed last line.
A. All dans except end dans.
B. All dans except datum dans.

L43 .. .. .. **Lift** all dans (*or* ———).
A. Lift dans already laid on this line.
B. Lift the last line.

L44 .. .. .. **Lights, colour** of danbuoy lights is to be
A. Green.
B. Red.
C. White.

L45 .. .. .. **Lights.** Use danbuoy lights.

L46 .. .. .. **Line.** Leave line indicated down.

L47 .. .. .. **Line.** Straighten the line (*or* ———).
A. Straighten the line next lap.

L48 .. .. .. **Line.** This line will be lettered as indicated.

L49 .. .. .. **Line.** This line will remain down all night.

L50 .. .. .. **Mooring wire** of ——— fathoms is to be used.

L51 .. .. .. **Number of dans** ——— is ———.
A. Laid.
B. Last lap laid.
C. Lifted.
D. Lifted last lap.
E. Remaining.

L52 .. .. .. **Pellets.** Use ——— pellets/auxiliary floats.

L53 .. .. .. **Point dans** ahead of me.

L54 .. .. .. **Point** the dan more closely.

L55 .. .. .. **Point.** Proceed and point dan indicated.

L56 .. .. .. **Proceed** into harbour when all dans (*or* ———) have been lifted.
A. All except end dans.
B. All dans except datum dans.

L57 .. .. .. **Return** and **point** last danbuoy laid. Do not lay danbuoy indicated.

L58 .. .. .. **Sinkers** indicated are to be used when laying next lap.

L59 .. .. .. **Stop** danning (*or* ———).
A. Stop danning and follow sweepers.

L60 .. .. .. **Take station astern** and be prepared to lay dans if mines are cut.

L61 .. .. .. **Tide.** Direction and rate of tidal stream at danbuoy are ———.

L62 .. .. .. **Transfer** ——— dans to ———.

L63 .. .. .. **Watch dan** is to be laid in position ———.

L64 .. .. ..

L65 .. .. ..

L66 .. .. ..

L67 .. .. ..

L68 .. .. ..

L69 .. .. ..

MINESWEEPING MATERIAL

L70 .. .. .. **Arm** sweeps (with ———). Numeral(s) following **Desig** indicates the number of cutters (excluding the end cutter) to be used.
- **A.** Static cutters (Mark).
- **B.** Explosive cutters (Mark).

L71 .. .. .. **Calibrate.** Proceed and calibrate/adjust (———).
- **A.** Kite /depressor.
- **B.** Otters for deep sweeping.
- **C.** Otters for normal sweeping.

L72 .. .. .. **Gear** remaining is ———. Numeral(s) following **Desig** indicates the number or amount of each item remaining in usable condition.
- **A.** Float.
- **B.** Kite/depressor.
- **C.** Kite wire.
- **D.** Otter.
- **E.** Port sweep wire.
- **F.** Starboard sweep wire.

L73 .. .. .. **Gear.** Transfer ——— gear to unit indicated.
- **A.** Float.
- **B.** Acoustic gear (Mark ———).
- **C.** Kite/depressor.
- **D.** Magnetic tail (Mark ———).
- **E.** Otter.
- **F.** Pressure gear (Mark ———).
- **G.** Sweep wire.

L74 .. .. .. **Otters** calibrated/adjusted ——— are to be used.
- **A.** Deep.
- **B.** Normal.

L75 .. .. .. **Sweeping gear is** to be got outboard.
NEGAT preceding means—Sweeping gear is to be got inboard.

L76 .. .. .. **Wire.** Sweep remaining on drum is ——— fathoms.

L77 .. .. ..

L78 .. .. ..

L79 .. .. ..

TAUT WIRE MEASURING GEAR

L .. .. .. *At the dip* : Taut wire streamed but not measuring.
Close up : Taut wire measuring.
Hauled down : Run completed. Taut wire cut.

L80 .. .. .. **Amount of** taut wire remaining on drum is ——— miles.

L81 .. .. .. **Check distance** between dans indicated by taut wire.

L82 .. .. .. **Cut** taut wire.

L83 .. .. .. **Distance** run by taut wire is ——— miles from the first reading (taken at ———).

L84 .. .. .. **Distance** run by taut wire is ——— miles (from ———).

L85 .. .. .. **Measure** area swept with taut wire.

L86 .. .. .. **Navigational mark** will be established by taut wire in position ———.

L87 .. .. .. **Reading.** Take first reading of taut wire and report time at which the reading was taken.

L88 .. .. .. **Readings.** Take reading of taut wire at ——— miles interval.

L89 .. .. .. **Run** taut wire between positions ———.

L90 .. .. .. **Stream** taut wire.

L91 .. .. .. **Time** at which first reading of taut wire was taken is ———.

L92 .. .. ..

L93 .. .. ..

L94 .. .. ..

L96 .. .. ..

L97 .. .. ..

L98 .. .. ..

L99 .. .. ..

1003. 'M' Table

M1–M85 MINESWEEPING OPERATIONS

M1 .. .. .. **Abandon** sweep. Weather unsuitable.

M2 .. .. .. **Anchor** independently as soon as sweeps are recovered.

M3 .. .. .. **Area.** Extend area to be swept in direction ——— from position ——— (for ——— miles).

M4 .. .. .. **Commence.** Commence sweeping (at ———). Plan may be added.

M5 .. .. .. **Cut** sweep and dan position.

M6 .. .. .. **Cut** next dan or dans indicated.

M7 .. .. .. **Dan fouled by mine.**

M8 .. .. .. **Dan** in the sweep.

M9 .. .. .. **Deck.** All men are to remain on deck.

M10 .. .. .. **Depth of sweep.** Adjust depth of kites (———) individually to ——— fathoms.
A. Above the sea bottom.

M11 .. .. .. **Distance.** Sweeping distance is ——— hundreds of yards.

M12 .. .. .. **Drift angle** is ——— degrees.
Port *or* **Starboard** indicates the direction from which the set is experienced.

M13 .. .. .. **Drifting.** Mine (*or* ———) is drifting into unswept water.
A. Float. **B. Dan.**

M14 .. .. .. **Float lights** will be used.

M15 .. .. .. **Float.** My float (*or* that of ———) is submerged.

M16 .. .. .. **Floats.** Stream ——— number of floats.

M17 .. .. .. **Fill in gap.**

M18 .. .. .. **Follow** in wake of sweepers.

M19 .. .. .. **Ground mines.** Suspect ground mines are present in this area (or area ———).

M20 .. .. .. **Haul out** of formation and clear sweep.

M21 .. .. .. **Interval.** Sweeping interval is ——— hundreds of yards.

M22 .. .. .. **Keep clear** of mine sinking slowly in position ———.

M23 .. .. .. **Kite** *or* depressor is surfacing.

M24 .. .. .. **Last lap** today. Anchor on completion.

M25 .. .. .. **Lifebelts** are to be worn.

M26 .. .. .. **Messes.** Use upper deck messes.

M27 ... **Method.** Make pass (run) using method .....
A. Alternative end.
B. Enlarged channel.
C. Return through swept water.
D. Reverse pass.

M28 ... **Mine disposal.** Act as mine disposal ship.

M29 ... **Night sweeping.** Carry out night sweeping.

M30 ... **Number** of mines cut by sweep wire is ..... (Number detonated in sweep is .....)

M31 ... **Obstruction.** Alter course as necessary to avoid obstruction (in position .....)

M32 ... **Obstruction.** Strain indicates obstruction being dragged on sweep

M33 ... **Obstructor** cut in position.

M34 ... **Obstructor** is .....
A. Chain mooring. **B.** Explosive cutter. **C.** Static cutter.

M35 ... **Offset** (use offset of ..... tens of yards between ships of the minesweeping formation).

M36 ... **Overlap** has been maintained.

M37 ... **Overlap.** True overlap of ..... tens of yards is to be maintained on this lap.

M38 ... **Overlap.** Apparent overlap being maintained at present ..... tens of yards.

M39 ... **Overlap.** Preserve true overlap of ..... tens of yards.

M40 ... **Proceed** on your sweep. This ship or ship indicated will destroy mine.

M41 ... **Ready** to sweep ahead of you or unit indicated next lap.

M42 ... **Recover** sweep in position

M43 ... **Recover** (.....) sweep gear.
A. Acoustic.
B. All.
C. Bottom.
D. Magnetic.
E. Moored—both sides.
F. Moored—Port.
G. Moored—Starboard.
H. Net.
I. Pressure.

M44 ... **Recover** sweep gear.

M45 ... **Re-pass sweep wire.**

M46 ... **Report** number of mines in line.

M47 ... **Report** position and direction of line of mines.

M48 ... **Reduce** speed to 6 knots. Heave up kites/depressors. Ships close to ..... hundreds of yards apart on the guide (*or* .....) heaving in sweeps as necessary.

M49 ... **Re-sweep** this lap.

M50 ... **Sawing motion.** Carry out sawing motion (two ship moored sweep gear). (' A ' Sweep.)

M51 ... **Sight** sweep gear on completion of present lap and slip independently.

M52 ... **Slip.** Take slip ship.

M53 ... **Smoke floats.** Drop smoke floats at limits of lines of mines.

M54 ... **Sound** sequence numbers when sweep gear is recovered.

M55 ... **Soundings.** Take soundings.

M56 ... **Spare.** Act as spare ship next lap (and .....).

A. Keep sweep gear at short stay.

B. Keep sweep gear streamed but not energised.

M57 ... **Spread** on last lap appears excessive (*or* .....).

A. Insufficient.

M58 ... **Spread.** Rear sweeper or ship indicated report spread (*or* .....).

A. Spread on last lap.

M59 ... **Stand** on and allow approaching ships to pass between sweepers.

M60 ... **Station.** Adjust station keeping distance to ..... hundreds of yards.

M61 ... **Station keeping lights.** Show minesweeping station keeping lights ..... intensity.

A. Bright.

B. Dim.

C. Medium.

M62 ... **Rear ship.** Take rear ship (*or* station indicated) next lap.

M63 ... **Station.** Keep station ..... hundreds of yards astern of the float of the next ahead.

M64 ... **Stream** ..... type of sweeping gear.

A. Acoustic.

B. Antennae.

C. Bottom.

D. Magnetic.

E. Moored gear—both sides.

F. Moored gear—Port.

G. Moored gear—Starboard.

H. Net.

I. Pressure.

J. Skim.

M65 ... **Sonar.** Operate short transmission unit (mine detection).

M66 ... **Sweep,** ahead of me next lap.

M67 ... **Sweep.** Carry out ..... sweep. Letter following indicates formation to be used.

A. Check.

B. Clearance.

C. Searching/exploratory.

M68 ... **Sweep** over position where sweep parted (*or* position .....).

M69 ... **Sweep** around buoy indicated.

M70 ... **Sweep** with ship indicated.

M71 ... **Sweepers** are approaching entrance to swept channel.

M72 ... **Touch.** Report when you are in touch with ship, ahead and astern of you.

M73 ... **Turned**. Am being turned by sweep wire.

M74 ... **Unswept water.** Do not enter unswept water.

M75 ... **Watching.** Mine in position ..... is watching.

M76 ... **Weather** unsuitable for mine spotting.

M77 ... **Winch.** Take winch ship (two ship moored sweep).
("A" Sweep.)

M78 ... **Wire.** Number of fathoms of wire to be used with ..... is .....

A. Bottom Board.
B. Float pendant.
C. Center kite wire (more than two ship sweep).
D. Kite/depressor.
E. Sweep wire.

M79 ...

M80 ...

M81 ...

M82 ...

M83 ...

M84 ...

M85 ...

1004. 'S' Table

S1–S20 Acoustic sweeps.

S21–S40 Influence sweeps.

S41–S64 Magnetic sweeps.

S65–S87 Moored sweeps (Wire sweeps).

ACOUSTIC SWEEPS

S1 ... **Acoustic gear** (*or* ..... is defective).
A. Type P.D./P.D.E.
B. Explosive.

S2 ... **Acoustic gear** is to be .....
A. Pulsed.
B. Warbled/moderated.

S3 ... **Bearing** and distance of acoustic mine detonated .....

S4 ... **Diaphragm.** Have cracked diaphragm.

S5 ... Total number of hours run on diaphragm is .....

S6 ... **Diaphragm.** Use diaphragm of ..... inches diameter.

S7 ... **Estimated** diaphragm life is ..... hours.

S8 ... **Grenades expended.**

S9 ... **Grenades.** Number of grenades ..... is .....
A. Carried **B.** Primed **C.** Remaining.

S10 ... **Grenades.** Transfer ..... grenades to .....

S11 ... **Resonance.** Am on resonance.

S12 ... **Sonar.** Gear is to be run at depth of ..... feet.

S13 ... **Sonar.** Gear was operating when mine detonated.

S14 ... **Stand-by-ship.** Act as stand-by-ship for explosive sweep.

S15 ... **Warbled. P.D./P.D.E.** gear is to be warbled/modulated.

S16 ...

S17 ...

S18 ...

S19 ...

S20 ...

INFLUENCE SWEEPS

S21 ... **Amperes.** Use ..... hundreds of amperes.

S22 ... **Distance** apart of ships is to be ..... tens of yards.

S23 ... **Energise** ..... sweeps.
A. Acoustic. **B.** Magnetic.

S24 ... **Fire** explosive sweep salvo at ..... minute intervals.

S25 ... **Master.** This ship or ship indicated will be master ship. Remainder synchronise with the master.

S26 ... **Pulse.** Polarity lights use ..... intensity.
A. Bright. **B.** Dim. **C.** Medium.

S27 ... **Pulse** magnetic sweep with this ship or ship indicated as master using :—
A. Hand. **B.** Slave gear. **C.** Synchronised times.

S28 ... **Pulse length.** Use pulse length of ..... seconds.

S29 ... **Pulsing.** Carry out static pulsing at ..... minute intervals.

S30 ... **Stream** ..... sweep gear.
A. Acoustic. **B.** Magnetic. **C.** Pressure.

S31 ... **Synchronise** acoustic and magnetic sweeps.

S32 ... **Synchronise.** You are not synchronised.

S33 ... **Use** cycle of ..... seconds.

S34 ...

S35 ...

S36 ...

S37 ...

S38 ...

S39 ...

S40 ...

MAGNETIC SWEEPS

S41 ... **Actuations.** Intend to do actuations for each lap.

S42 ... **Current.** Current of magnetic sweep is hundreds of amperes.

S43 ... **Diverters/otters** running correctly.

S44 ... **Electrode.** Have lost (.....) electrode.
A. Main. **B.** Third.

S45 ... **Electrode.** Renew electrode.

S46 ... **Generator test.** Carry out generator test by means of pulsing plates.

S47 ... **Polarity.** Polarity of mine is .....
A. Red. **B.** Blue.

S48 ... **Polarity.** Reverse polarity of magnetic sweep.

S49 ... **Pulse current** of ..... is ..... hundreds of amperes.
A. Main electrode. **B.** Third electrode.

S50 ... **Safe depth.** Safe depth of the ship ..... feet.

S51 ... **Slave gear.** Am unable to pick up on slave gear.

S52 ... **Static sweeping.** Anchor in position ..... and carry out static sweeping.

S53 ... **Static sweeping.** Carry out static sweeping for ..... minutes.

S54 ... **Sweep** with magnetic sweep for ..... color of mine.
A. Red. **B.** Blue.

S55 ... **Swell conditions** suitable for sweeping.

S56 ... **Wave form.** Use ..... wave form.
A. Double.
B. Saw tooth.
C. Sine.
D. Single, all forward.
E. Single, all reverse.
F. Special.
G. Square.

S57 ...

S58 ...

S59 ...

S60 ...

S61 ...

S62 ...

S63 ...

S64 ...

MOORED SWEEPS (WIRE SWEEPS)

S65 ... **'A' sweeps.** Use 'A' Sweep (two *or* more ships) both wires (*or* port or starboard as indicated).

S66 ... **Cut sweeps.** To be obeyed as soon as understood.

S67 ... **Down** kite or depressor.
A numeral group following indicates the number of feet of kite wire to be used. A second and third numeral group following indicates the number of feet of wire to be used for wing and center kite respectively.
Negat preceding means: 'Up kite or depressor.'

S68 ... **End.** Approaching end of lap.
To be hoisted close up by all ships when approaching end of lap.
To be dipped when float of next ahead is ahead of area.
To be hauled down when next ahead's float crosses own ship's bow.

S69 ... **Float** wire. Use ..... feet of float wire.

S70 ... **Gear** indicated is running correctly.
A. Kite/depressor. **B.** Otter.

S71 ... **In succession.** Following a signal from this table and separated by TACK indicates that the purport of that signal be carried out in succession.

NOTE: When passing or streaming sweeps, slipping or getting in sweeps, veering or shortening in kites, the purport of the signal is to be carried out in each subdivision or ship on arrival at the same position relative to the limit of the area as that of the guide when the signal was executed.

S72 ... **Mine** is foul of ..... **Negat** preceding indicates mine is clear.

A. Dan.
B. Float.
C. Kite/depressor.
D. Paravane (T.S.D.S.).
E. Sweep wire.

S73 ... **Mooring cut.** Sweep wire has cut mooring of mine. A numeral group following indicates the number of mine moorings cut.

S74 ... **Oropesa sweeps.** Use Oropesa sweeps.

S75 ... **Pass sweeps.** Take up station.

Yardarm sweeping ball is to be hoisted at the dip when the grass line is across and close up when the slip is on.

Flag R is to be hoisted on the completion of the whole purport of the signal.

S76 ... **Ships** are to close to ..... hundreds of yards apart on their guide (*or* ship indicated) heaving in sweep as necessary.

S77 ... **Ships** are to open out from the guide (*or* sub-divisional guides) and take up station.

S78 ... **Sight depressors** (*or* .....). Heave in sweep wire until whole shows clear on the surface. Then slip or veer as ordered by the signal.

A. Sweep wire.

S79 ... **Slip sweep.**

S80 ... **Stream kites/depressors.**

S81 ... **Sweep** is running correctly.

S82 ... **Veer** sweeps both sides (*or* sweep as indicated) (to ..... fathoms of wire).

Negat preceding means: ' Heave in sweeps (to ..... fathoms of wire.')

S83 ...

S84 ...

S85 ...

S86 ...

S87 ...

CHAPTER 11

(R.N.) Special Minesweeping Signal Tables

1101. COURSE TABLE

L. Corpen ... Course for impending operation is ———.
(In M/S Operations. The lap course to be made good is ———.)
NOTE : Preliminary formation is to be taken up in relation to the lap course indicated.

G. Corpen ... Guide Course is ———.
(In M/S Operations. The Course to be made good between dans is———.)
NOTE : The above signal may be followed by a group indicating the number of the dan from which the course is to be effective.

6.E. ... The angle to be allowed for crosstide is ——— degrees to port or starboard as indicated.

7.E. ... The angle to be allowed for crosstide is ——— degrees to port or starboard as indicated.

6.F. ... Am steering ——— degrees to port or starboard as indicated to make good the signaled course (*i.e.* wind and tide).

7.F. ... Am steering ——— degrees to port or starboard as indicated to make good the signaled course (*i.e.* wind and tide).

1102. MOORED MINESWEEPING TABLE (WIRE SWEEPING) (*Flag* 6 *Superior*)

NOTES :

(*a*) On completion of the execution of signals marked **x** Flag R is to be worked.
(*b*) More than one letter may be signaled in the same hoist but letters must be separated by a tackline.

6.A. x ... *Superior* to an alphabetical (*DESIG*) Signal : Take up preliminary ' A ' sweep formation indicated.
Inferior to PREP : Prepare to use ' A ' sweeps.

6.B. x ... Pass sweeps, take up station at ¾ cable.
Inferior to NEGAT : Sight sweeps and slip.

6.C. x ... Ships are to open out from the guide (*or* sub-divisional guide) (*or* ship indicated) to 2½ cables apart and take up station.
Inferior to NEGAT : Close in to ¾ cable apart on guide (*or* sub-divisional guide) (*or* ship indicated). Sight sweeps and veer to 125 fm.

6.D. x ... Close in to ¾ cable apart on guide(s), sight sweep(s) and slip.

6.E. ... The angle to be allowed for crosstide is ——— degrees to port or starboard as indicated.
Buoy at which allowance is to be made may be indicated by an alphabetical/numerical signal inferior.

6.F. ... Am steering ——— degrees to port or starboard to make good the signaled course (*i.e.* wind and tide).
Buoy at which allowance is being made may be indicated by an alphabetical/numerical signal inferior.

6.G. ... Slip sweeps. (To be obeyed as soon as understood.)

6.H. ... Slip my sweep. (To be obeyed as soon as understood.)

6.I. x ... Down kite (*or* depressor) to the same depth as in previous lap, or to fathoms.
The amount of wire veered is to be that required for normal sweeping speed of the Squadron (which is to be laid down in Squadron Orders).
Inferior to NEGAT : Up Kite (*or* depressor).

6.J. ... Attention is drawn to Operation Orders, *para.* ———.
Inferior to a minesweeping signal. This maneuver or action is to be carried out in accordance with the current Operational Orders or order indicated.

6.K. ... Attention is drawn to Squadron Minesweeping Orders, *para.*———.
Inferior to a minsweeping signal. This maneuver or action is to be carried out in accordance with Minesweeping Orders or order indicated.

6.L. ... Approaching end of lap.
When in quarterly or line ahead formation worked by each ship as follows.
Hoisted: When approaching the end of the lap.
Dipped: When float of the next ahead is clear of the area.
Hauled down: When float of the next ahead has crossed own bow.

6.M. ... Sweeps are to be adjusted to give ——— fathoms swept depth for the normal sweeping speed of the squadron (which is to be laid down in Squadron Orders).

6.N. x ... Bring (*i.e.* heave or veer) the sweep to the shortened in condition, *or* to a shortened in condition with ——— tens of fathoms of sweep rope veered.

6.O. x ... Superior to an alphabetical (*DESIG*) signal :—
Take up preliminary Oropesa sweeping formation indicated, *e.g.* take up preliminary ' G ' formation to starboard, 6O DESIG G STBD.
Singly: Out sweep(s) to full length.
Inferior to PREP: Prepare to use ' O ' sweeps.
Inferior to NEGAT: In sweep(s).

6.P. ... Sweep foul or not running correctly. Expect to take ——— minutes clearing defect.

6.Q. ... Cut sweeps. To be obeyed as soon as understood. The kite rope is not to be cut unless ordered.

6.R. ... Bearing of last dan laid (*or* dan indicated) is ——— from the previously laid dan (*or* dan indicated).

6.S. ... In succession.

6.T. ... Same standard method for lap turns will be used until further orders.

1103. INFLUENCE SWEEPING TABLE (*Flag 7 Superior*)

NOTES:

(*a*) On completion of the execution of the signals marked **x** Flag R is worked.

(*b*) More than one letter may be signaled in the same hoist but letters must be separated by a tackline.

7.A. x ... Superior to an alphabetical (*DESIG*) signal: Take up preliminary Influence sweeping formation indicated.
Inferior to PREP: Prepare to use Influence sweeps.

7.B. x ... Take up Influence sweeping formation previously indicated.

7.C. x ... Stream. Influence sweeps, or type of sweep indicated.
1. Magnetic sweep (Electrode) Mk. 103, 106, or 108.
2. Magnetic sweep (Electrode) Mk. 3, 6 or 8.
3. Magnetic sweep (Loop) Mk. 1, 2 or 3.
4.
5. Acoustic sweep (Hammer).
6. Acoustic sweep (Oscillator).
7. Acoustic sweep (Pipe).
8. Acoustic sweep (Displacer).
Inferior to NEGAT: Recover Influence sweeps, *or* type of sweep indicated.

7.D. ... Distance apart of ships is to be ——— tens of yards.

7.E. ... The angle to be allowed for crosstides is ——— degrees to port or starboard as indicated.
Buoy at which allowance is to be made may be indicated by an alphabetical/numerical signal inferior.

7.F. ... Am steering ——— degrees to port or starboard to make good the signaled course (*i.e.* wind and tide).
Buoy at which allowance is being made may be indicated by an alphabetical/numerical signal inferior.

7.G. ... Slip sweeps. To be obeyed as soon as understood.

7.H. ... Energise sweeps, or type of sweep indicated.
1. Magnetic sweeps.
2. Acoustic sweeps.

7.I. ... Ship indicated use Explosive sweep.

7.J. ... Attention is drawn to Operational Orders, *para.* ———.
Inferior to a minesweeping signal. This maneuver or action is to be carried out in accordance with the current Operational Orders or order indicated.

7.K. ... Attention is drawn to Squadron Minesweeping Orders, *para.* ———.
Inferior to a minesweeping signal. This maneuver or action is to be carried out in accordance with Squadron Minesweeping Orders or order indicated.

7.L. ... I (*or* ship indicated) will be master ship.
Remainder synchronise by slave gear on master.

7.M. ... Synchronise sweeps with me (*or* ship indicated).
Inferior to NEGAT: You are not synchronised.

7.N. ... Am synchronised on master ship (*or* ship indicated).

7.O. ... Use cycle of ——— seconds.

7.P. ... Sweep defective (*or* foul). Repairs (*or* clearance) expected to take ——— minutes.

7.Q. ... Use pulse length of ——— seconds.

7.R. ... Bearing of last dan laid (*or* dan indicated) is ——— from the previously laid dan (*or* dan indicated).

7.S. ... In succession.

7.T. ... Same standard method for lap turns will be used until further orders.

7.Z. ... Ready to sweep.

1104. SPECIAL MINESWEEPING BREVITY CODE

The use of a Brevity Code such as the following, which has no security, may be authorised by the O.T.C. for transmission of personal messages by voice between the Senior Officer and his staff and Commanding Officers and O.O.W's of ships in a squadron. Such messages need not be logged and no date time group is necessary.

OFFICER	SHIP	CODE NAME
Senior Officer	H.M.S. *	... The Bishop
Squadron T.A.S. Officer		The Seraphim
Squadron (ND) Officer		The Chaplain
The Communications Officer		The Herald
Squadron Electrical Officer		The Voltage.
2nd Senior Officer	H.M.S. *	... The Dean.
Commanding Officer	H.M.S. *	... The Canon.
,, ,,	H.M.S. *	... The Rector.
,, ,,	H.M.S. *	... The Curate.
,, ,,	H.M.S. *	... The Deacon.
,, ,,	H.M.S. *	... The Angel.
,, ,,	H.M.S. *	... The Cherub.
,, ,,	H.M.S. *	... The Choirboy.
The Whole Squadron		The Congregation.

DANLAYERS

Commanding Officer	H.M.S. *	... The Verger.
,, ,,	H.M.S. *	... The Sexton.
,, ,,	H.M.S. *	... The Gravedigger.
The Whole M/S Force		The Diocese.

* Names of ships to be inserted locally.

Method of Use

When O.O.W's are speaking 'The' is omitted. When the prefix 'The' is used, this indicates that the Senior Officer, Commanding Officer or Staff Officer is speaking, or is spoken to, *e.g.*, 'Rector, Rector, this is Curate, your float has dipped.' (O.O.W. to O.O.W.) 'Bishop, Bishop, this is the Angel, my sweep has parted, am hauling out to Starboard.' (Commanding Officer to O.O.W.) 'Canon, Canon, this is the Bishop, I wish to speak to the Canon.' (Senior Officer wishes to speak to a Commanding Officer.)

1105. NEXT LAP POLICY TABLES

Used by Senior Officers as an information signal during the course of a lap when it is desired to change the order of sweeping laps from that laid down in operational orders.

(A Next lap signal *must* consist of a three flag group.)

TABLE 1—Meaning of 1st Alphabetical Flag.

The next lap will be :—

A. On the starboard hand, adjacent to the present one and will be swept in the opposite direction.
B. On the port hand, adjacent to the present one and will be swept in the opposite direction.
C. On the starboard hand, adjacent to the present one and will be swept in the same direction.
D. On the port hand, adjacent to the present one and will be swept in the same direction.
E. On the far side of the swept water, to be swept in the opposite direction.
F. On the far side of the unswept water, to be swept in the opposite direction.
G. Now being swept and will be swept again in the opposite direction.
H. Now being swept and will be swept again in the same direction.
I. Laid down as the next in the operational orders.
J. The first of the next serial in the operational orders.
Z. No meaning.

TABLE 2—Meaning of 2nd Alphabetical Flag

Ships carry out turn at end of lap using the appropriate method in the Minesweeping Signal Pamphlet.

A. Leave sweep(s) fully veered and unchanged.
B. Shorten in sweep(s) veer shortly before next lap.
C. Recover sweep(s). Stream and veer same sweep(s) shortly before next lap.
D. Recover sweep(s). Stream and veer starboard sweep shortly before next lap.
E. Recover sweep(s). Stream and veer port sweep shortly before next lap.
F. Recover sweep(s). Stream and veer both sweeps shortly before next lap.
G. Recover sweep(s).

Ships will be taken to the next lap by maneuvering signals made by the S.O. or Guide.

H. Leave sweep(s) fully veered and unchanged.
I. Shorten in sweep(s) veer shortly before next lap.
J. Recover sweep(s). Stream and veer same sweep(s) shortly before next lap.
K. Recover sweep(s). Stream and veer starboard shortly before next lap.
L. Recover sweep(s). Stream and veer port sweep before next lap.
M. Recover sweep(s). Stream and veer both shortly before next lap.
N. Recover sweep(s).
O. Recover wire sweeps and stream magnetic sweeps.
Z. No meaning.

TABLE 3—Meaning of 3rd Alphabetical Flag

A. Acoustic sweeps are to be unchanged.

B. Acoustic sweeps are to be changed in accordance with the operation orders.

C. Acoustic sweep (Hammers) with 19 in. diaphragm is to be used.

D. Acoustic sweep (Hammer) with 27 in. diaphragm is to be used.

E. Acoustic sweep (Hammer) with 19 in. diaphragm and Acoustic sweep (Displacer) warbled are to be used.

F. Acoustic sweep (Hammer) with 27 in. diaphragm and Acoustic sweep (Displacer) warbled are to be used.

G. Acoustic sweep (Oscillator) is to be used.

H. Acoustic sweep (Oscillator) is to be used. Ship(s) detailed also use Explosive sweeps.

I. Explosive sweep is to be used by ship(s) detailed.

J. No acoustic sweep will be energised, but acoustic sweeps already streamed are to be left streamed.

K. No acoustic sweep will be used. Acoustic sweeps are to be recovered when other sweeps are changed.

L. No acoustic sweeps will be used. Acoustic sweeps are to be recovered independently at the end of the present lap.

M. Depth adjustment as present lap.

N. Depth adjustment ——— number of fathoms indicated.

O. Sweeps not to be armed.

P. Sweeps to be armed as present lap.

Q. Sweeps to be armed with explosive cutters.

R. Sweeps to be armed with static cutters.

Z. No meaning.

CHAPTER 12

(R.N.) 'A' Sweep—Signals For Taking Up Formation and Lap Turns

1201. 'B' FORMATION

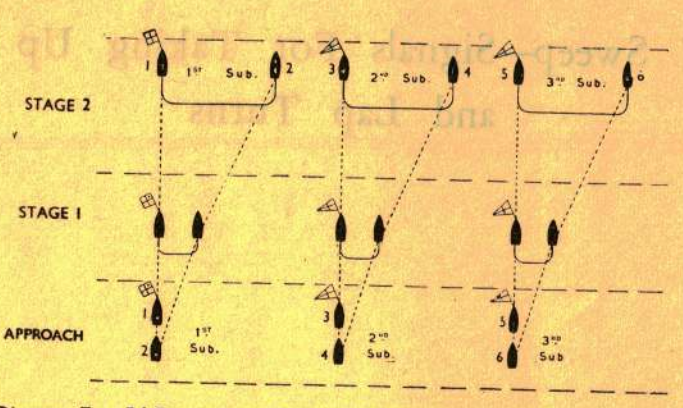


Diagram 7. 'B' Formation. Taking up formation, standard procedure 1.

A. To take up 'B' formation

Signals made by O.T.C.

B. Starboard or Port. Close up. Prepare sweeps for 'B' formation.

B. Starboard or Port. Dipped. Take up preliminary 'B' formation to starboard (*or* port). Guide proceed at 6 kt. Guides of sub-divisions take station to starboard (*or* port) of the guide at the interval ordered. Remaining ships form ¾ cable astern of their sub-divisional guides. (*See Note* (*c*).)

B. Standard procedure No. 1

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
B Starboard *or* **Port hauled down**	Guide proceed at 6 kt. (*or* speed ordered). (*See Note* (*c*).) Pass sweeps, take up station at ¾ cable even numbered ships going to starboard (*or* port) as indicated	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion.
FLAG R hauled down	Open out from sub-divisional guides to 2½ cables apart. Veer sweeps to 450 fm. (*See Note* (*d*) *and Art.* 603.)	2	*Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous laps unless otherwise indicated.	3	Show speed flags. *Flag R* when kite is down.
FLAG R hauled down	Guide proceed at 10 kt.	4	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	5	Show speed flags.

NOTES :

(*a*) The percentage of search varies with the distance apart of individual ships and interval between sub-divisional guides. A formula is provided in the *Minesweeping Manual* for this to be worked out.

(*b*) Sub-divisions are led to their correct station by sub-divisional guides.

(*c*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for passing sweeps and opening out in order that sweeps may be kept above the bottom.

(*d*) In water of less than 25 fm. depth sweeps should be veered to 400 fm. in the first place, veering the remaining 50 fm. (plus allowances for kite wire) when kites are veered.

C. Standard method of altering course No. 1

'B' formation. Adjacent lap turn

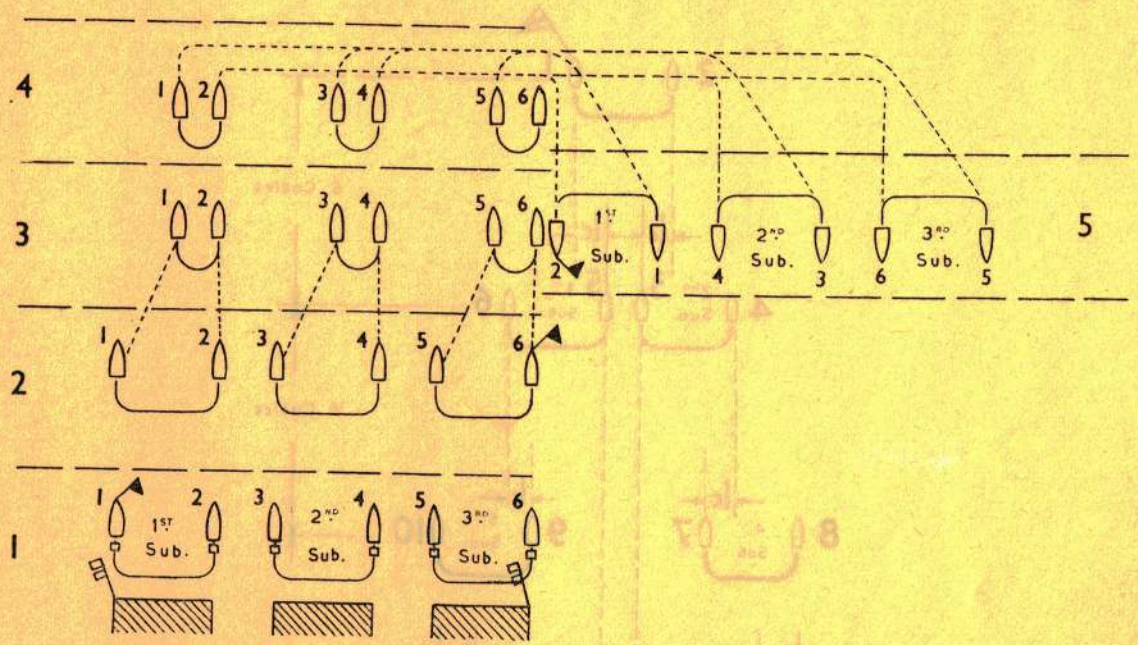


Diagram 8. 'B' Formation. Adjacent lap turn (I).

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
D Starboard *or* **Port hauled down**	Guide proceed at 6 kt. (*See Note* (*d*).) Up kites ...	1	Show speed flags. *Flag R* on completion.
FLAG R hauled down	No. 6 (*or* ship indicated) take guide. Ships close in to ¾ cable on their sub-divisional guides, sight sweeps and veer to 125 fm. (*See Art.* 603.)	2	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Sub-divisions separately wheel 90° in direction previously indicated. (*See Art.* 604.) No. 2 (*or* ship indicated) take guide.	3	*Flag R* when wheel completed and in station.
FLAG R hauled down	Sub-divisions separately wheel 90° towards the lap. Ships open to 2½ cables from their sub-divisional guides, veer sweeps to 450 fm. (*See Art.* 603.)	4	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Down kite to the same depth as used in previous laps unless otherwise ordered.	5	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Guide proceed at 10 kt.	6	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	7	Show speed flags.

NOTES:

(*a*) The guide when leaving the lap is to be the wing ship towards which the turn is to be made.

(*b*) The guide after the first wheel is to be the ship which will run the next lap danbuoys.

(*c*) Ships show Red or Green Flag on stave above bridge while ship's head is swinging to port or starboard respectively. (*See Article* 602.)

(*d*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for shortening in, sighting sweeps and opening out again, to keep sweeps above the bottom. The *turn itself* must be carried out with guide proceeding at 6 *kt.*

1202. 'C' FORMATION

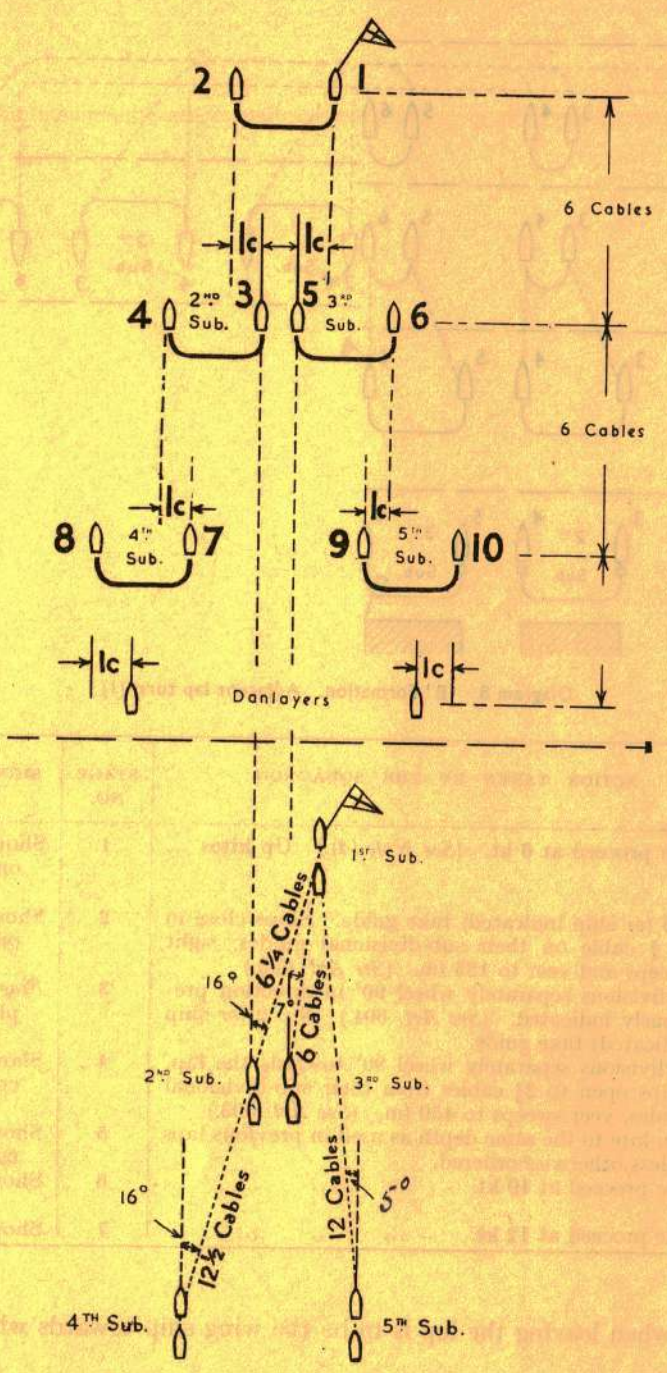


Diagram 9. 'C' Formation. Taking up formation, standard procedure 2.

A. To take up ' C ' formation

Signals made by O.T.C.

C. Close up. Prepare sweeps for ' C ' formation.

C. Dipped. Take up preliminary ' C ' formation. Guide proceed at 6 kt. Guides of even number sub-divisions take station with the guide of the Squadron 16 degrees on the starboard bow, $6\frac{1}{4}$ cables interval between guides. Guides of the 3rd and 5th sub-divisions take station with the guides of the Squadron 7 degrees on the starboard bow 6 cables, and 5 degrees on the port bow 12 cables, respectively. Remaining ships form $\frac{3}{4}$ cable astern of their sub-divisional guides. (*See Note* (*b*).)

B. Standard procedure No. 2

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
C. hauled down	Guide proceed at 6 kt. (*or* speed ordered). (*See Note* (*c*).) Pass sweeps, take up station at $\frac{3}{4}$ cable on sub-divisional guides. Even numbered ships take station outboard of their odd numbered consort; No. 2 going to port of the Senior Officer.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion.
FLAG R hauled down	Open out from sub-divisional guides to $2\frac{1}{2}$ cables apart. Veer sweeps to 450 fm. (*See Note* (*c*) *and Art.* 603.)	2	*Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous laps unless otherwise indicated.	3	Show speed flags. *Flag R* when kite is down.
FLAG R hauled down	Guide proceed at 10 kt.	4	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	5	Show speed flags.

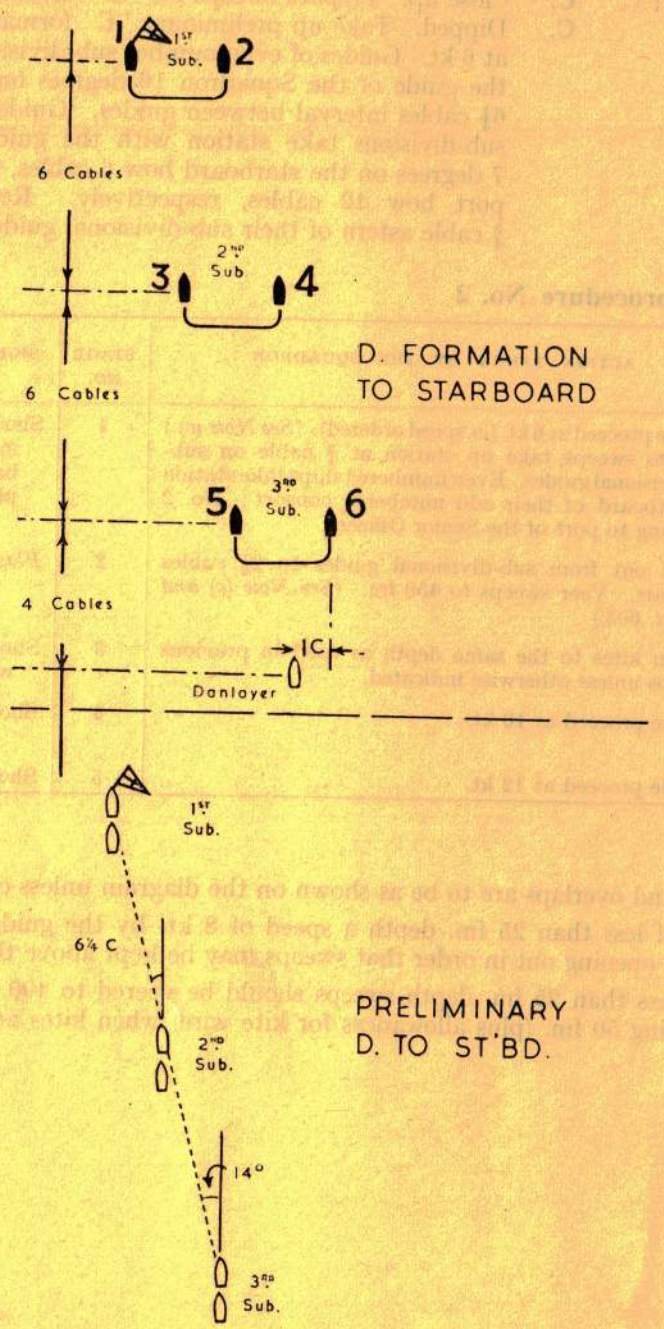
NOTES:

(*a*) Intervals and overlaps are to be as shown on the diagram unless otherwise ordered.

(*b*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for passing sweeps and opening out in order that sweeps may be kept above the bottom.

(*c*) In water less than 25 fm. depth sweeps should be veered to 400 fm. in the first place, veering the remaining 50 fm. (plus allowances for kite wire) when kites are veered.

1203. 'D' FORMATION



D. FORMATION
TO STARBOARD

PRELIMINARY
D. TO ST'BD.

Diagram 10.

TAKING UP FORMATION, STANDARD PROCEDURE 3.

A. To take up 'D' formation

Signals made by O.T.C.	**D.** Starboard *or* Port.	Close up. Prepare sweeps for 'D' formation.
	D. Starboard *or* Port.	Dipped. Take up preliminary 'D' formation to starboard (*or* port). Guide of the Squadron proceeds at 6 kt. Guides of sub-divisions take station with the guide of the Squadron 14 degrees on the port (*or* starboard) bow 6¼ cables interval between guides. Remaining ships form ¾ cable astern of their sub-divisional guides. (*See Note* (*d*).)

B. Standard procedure No. 3.

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
D Starboard *or* **Port hauled down**	Guide proceed at 6 kt. (*or* speed ordered). (*See Note* (*d*).) Pass sweeps, take up station at ¾ cable. Even numbered ships take station on side indicated of their odd numbered consort.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion.
FLAG R hauled down	Open out from sub-divisional guides to 2½ cables apart. Veer sweeps to 450 fm. (*See Note* (*e*) *and Art.* 603.)	2	*Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous laps unless otherwise indicated.	3	Show speed flags. *Flag R* when kite is down.
FLAG R hauled down	Guide proceed at 10 kt.	4	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	5	Show speed flags.

NOTES:

(*a*) Intervals are to be as shown on the diagram and overlap between sub-divisions (*and* the danlayer) is to be 1 cable unless otherwise ordered.

(*b*) If there is an odd number of ships the rear division is to be made up of three ships. This will cause no change in the preliminary formation.

(*c*) 'D' formation can be used with three ships in each sub-division if required.

(*d*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for passing sweeps and opening out in order that they may be kept above the bottom.

(*e*) In water less than 25 fm. depth sweeps should be veered to 400 fm. in the first place, veering the remaining 50 fm. (plus allowances for kite wire) when kites are veered.

C. Standard method of altering course No. 2
'D' formation. Adjacent lap turn

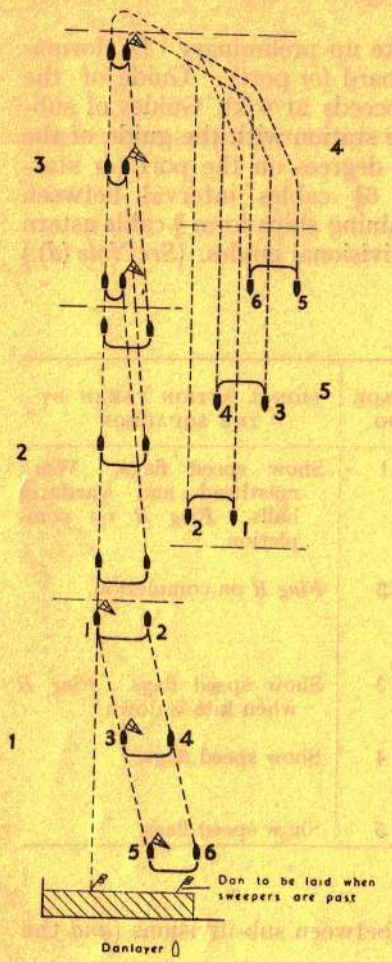


Diagram 11.

NOTES:

(*a*) Ships show Red or Green Flag on stave above bridge while ship's head is swinging to port or starboard respectively. (*See Article* 602.)

(*b*) When wheeling, the pivot ship of each sub-division assumes guide.

(*c*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for shortening in, sighting sweeps and opening out again, to keep sweeps above the bottom. The *turn itself* must be carried out with guide proceeding at 6 *kt.*

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
D Starboard *or* **Port hauled down**	Guide proceed at 6 kt. (*See Note* (*c*).) Up kites. ...	1	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Ships close in to $\frac{3}{4}$ cable on their sub-divisional guides, sight sweeps and veer to 125 fm. Sub-divisional guides steer in 20° during this maneuver so as to get into the wake of the leading division. Work own turning signals. (*See Art.* 603.)	2	Show speed flags. *Flag R* on completion of the whole maneuver.
FLAG R hauled down	Sub-divisions separately alter course 120° in the direction previously indicated. (*See Art.* 604.) Guide changes as *Note* (*b*).	3	*Flag R* when wheel completed and in station.
FLAG R hauled down	Guides of sub-divisions alter as necessary guide of the Squadron for the end dan, guides of sub-divisions so as to form 'D' formation on the new lap course. Ships open out to $2\frac{1}{2}$ cables from their sub-divisional guides and veer sweeps to 450 fm. (*See Art.* 603.)	4	Sub-divisional guides indicate course being steered. *Flag R* on completion.
FLAG R hauled down	Down kite to the same depth as used in previous lap unless otherwise ordered.	5	*Flag R* on completion. Show speed flags.
FLAG R hauled down	Guide proceed at 10 kt.	6	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	7	Show speed flags.

C. Standard method of altering course No. 3

'F' formation. Adjacent lap turn

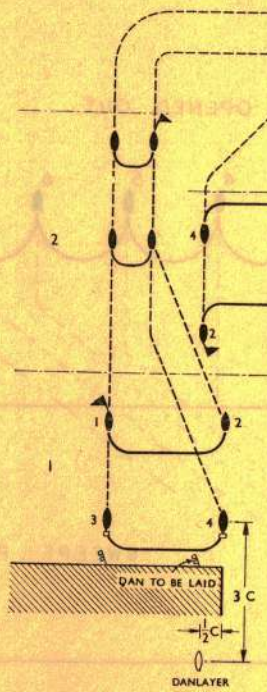


Diagram 13.

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
'D' Starboard *or* **Port hauled down**	Guide proceed at 6 kt. (*See Note* (*d*).) ... ... Up kites.	1	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Ships on the side to which turn is to be made close in to ¾ cable on their sub-divisional guides, sight sweeps and veer to 125 fm. (*See Art.* 603.) (*No.* 2 (*or ship indicated*) assumes guide.)	2	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Sub-divisions separately wheel 90° in the direction previously indicated. (*See Art.* 604.)	3	*Flag R* when wheel completed and in station.
FLAG R hauled down	Sub-divisions separately wheel 120° in the direction previously ordered. Wing ships open from their sub-divisional guides by altering only 90°. Veer sweeps to 450 fm. Sub-divisional guides alter back 30° to the new lap course as requisite.	4	*Flag R* on completion. Sub-divisional guides work turning signal for turning back to lap course.
FLAG R hauled down	Down kite to the same depth as used in previous lap unless otherwise ordered.	5	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Guide proceed at 10 kt.	6	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	7	Show speed flags.

NOTES:

(*a*) The ship of each sub-division away from the direction of the turn assumes guide while closing in before the turn.

(*b*) When wheeling, the pivot ship of each sub-division assumes guide.

(*c*) Ships show Red or Green Flag on stave above bridge while ship's head is swinging to starboard or port. (*See Article* 602.)

(*d*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for shortening in, sighting sweeps and opening out again, to keep sweeps above the bottom. The *turn itself* must be carried out with guide proceeding at 6 *kt.*

1205. 'J' FORMATION

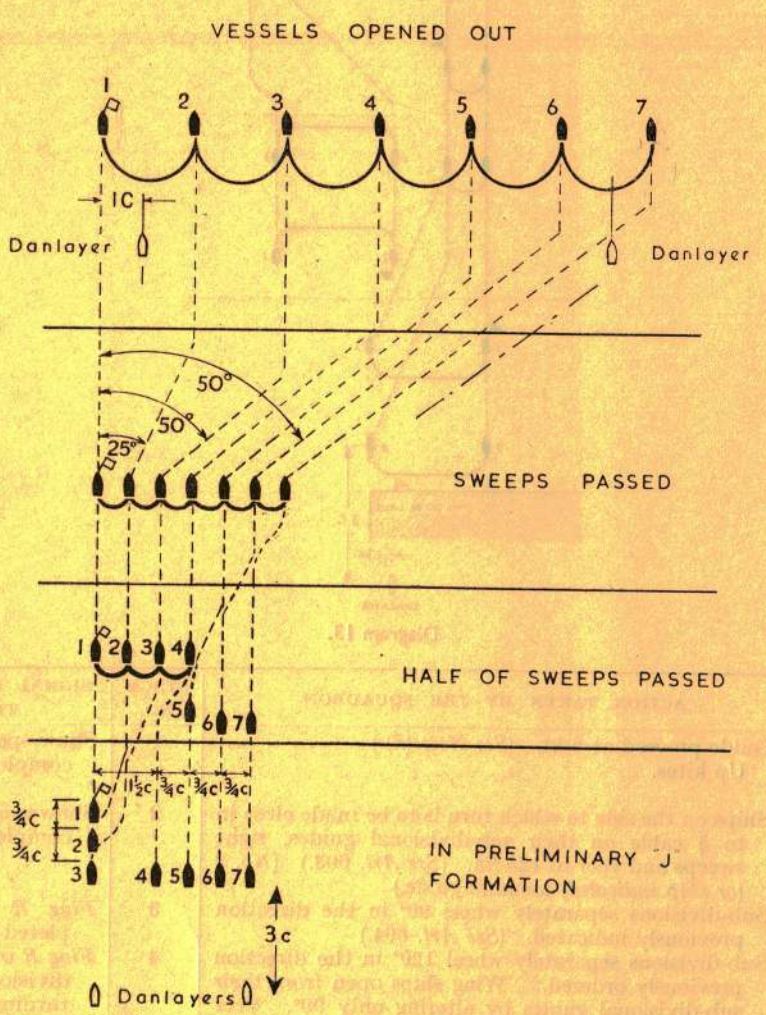


Diagram 14.

TAKING UP FORMATION, STANDARD PROCEDURE 5

1204. 'F' FORMATION

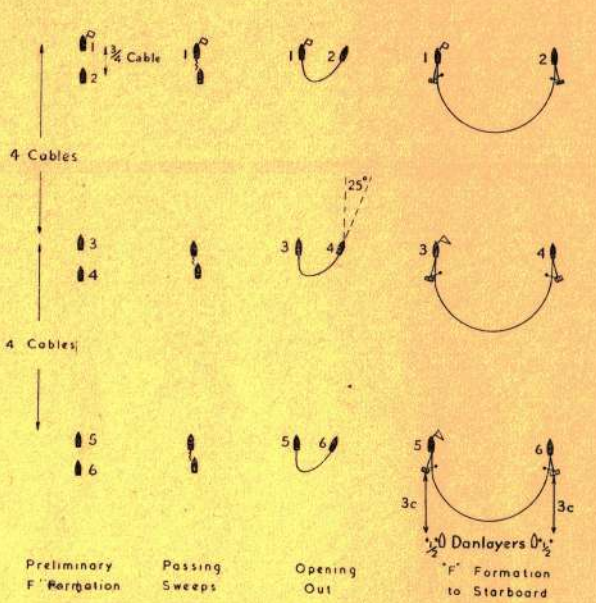


Diagram 12. 'F' Formation. Taking up formation, standard procedure 4.

A. To take up 'F' formation

Signals made by O.T.C.

F. Starboard *or* Port. Close up. Prepare sweeps for 'F' formation.

F. Starboard *or* Port. Dipped. Take up preliminary 'F' formation. Guide of the Flotilla proceed at 6 kt. Guides of sub-divisions open to 4 cables apart astern of the guide of flotilla. Remaining ships form ¾ cable astern of their sub-divisional guides. (*See Note* (*b*).)

B. Standard procedure No. 4

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
F Starboard *or* **Port hauled down**	Guide proceed at 6 kt. (*or* speed ordered). (*See Note* (*b*). Pass sweeps, take up station at ¾ cable on sub-divisional guides, to starboard (*or* port) as indicated.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion.
FLAG R hauled down	Open out from sub-divisional guides to 2½ cables apart. Veer sweeps to 450 fm. (*See Note* (*c*) *and Art.* 603.)	2	*Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous laps unless otherwise indicated.	3	Show speed flags. *Flag R* when kite is down.
FLAG R hauled down	Guide proceed at 10 kt.	4	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	5	Show speed flags.

NOTES:

(*a*) Intervals and overlaps to be as shown on the diagram unless otherwise ordered.

(*b*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for passing sweeps and opening out in order that sweeps may be kept above the bottom.

(*c*) In water less than 25 fm. depth sweeps should be veered to 400 fm. in the first place, veering the remaining 50 fm. (plus allowances for kite wire) when kites are veered.

A. To take up 'J' formation

Signals made by O.T.C.	**J.** Starboard *or* Port.	Close up. Prepare sweeps for 'J' formation.
	J. Starboard *or* Port.	Dipped. Take up preliminary 'J' formation to starboard (*or* port). Guide proceeds at 6 kt. Nos. 2 and 3 close to $\frac{3}{4}$ cable apart on their next ahead. Remainder form single line abreast to starboard (*or* port) $\frac{3}{4}$ cable apart on No. 4 who takes station $1\frac{1}{2}$ cables starboard (*or* port) beam of No. 3. (*See Note* (*c*).)

B. Standard procedure No. 5

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
J Starboard *or* **Port hauled down**	Guide proceed at 6 kt. (*or* speed ordered). (*See Note* (*c*).) Pass sweeps, take up station at $\frac{3}{4}$ cable to port or starboard as indicated.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion.
FLAG R hauled down	Open out from guide to $2\frac{1}{2}$ cables apart. Veer sweeps to 450 fm. (*See Note* (*d*) *and Art.* 603.)	2	*Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous laps unless otherwise indicated.	3	Show speed flags. *Flag R* when kite is down.
FLAG R hauled down	Guide proceed at 10 kt.	4	Show speed flags.
SPEED 12.	Guide proceed at 12 kt.	5	Show speed flags.

NOTES:

(*a*) The danlayers are to be stationed as shown in the diagram unless otherwise ordered.

(*b*) It is customary for the Senior Officer to be *on one wing* and the 2nd Senior Officer *on the other* in this formation so that they can run the line of danbuoys alternately if required.

(*c*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for passing sweeps and opening out in order that sweeps may be kept above the bottom.

(*d*) In water less than 25 fm. depth sweeps should be veered to 400 fm. in the first place, veering the remaining 50 fm. (plus allowances for kite wire) when kites are veered.

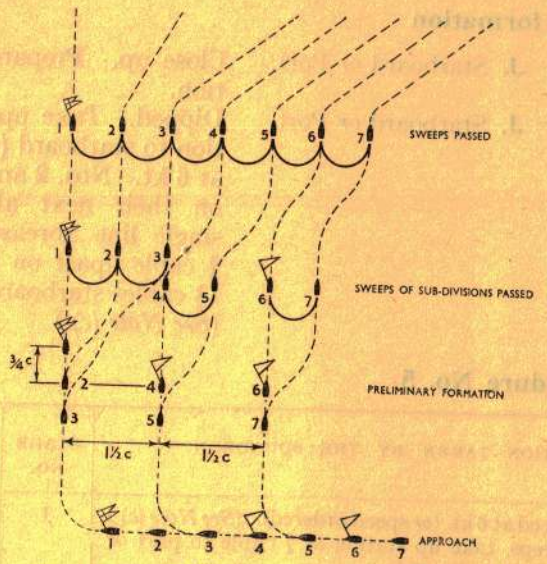


Diagram 15. 'J' Formation. Taking up formation, standard procedure 6.

C. To take up 'J' formation (Method 2)

Signals made by O.T.C.	**J.6** Starboard *or* Port.	Close up. Prepare sweeps for 'J' formation.
	J.6 Starboard *or* Port.	Dipped. Take up preliminary formation. Guide proceed at 6 kt. Two and three follow one, five follows four who takes station on beam of two, seven follows six who takes station on beam of four. Distances as in diagram. (*See Note* (*c*).)

D. Standard procedure No. 6

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
J.6 Starboard *or* **Port hauled down**	Guide proceed at 6 kt. (*or* speed ordered). (*See Note* (*c*).) Pass sweeps, take up station at ¾ cable to port or starboard as indicated.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion.
FLAG R hauled down	Open out from guide to 2½ cables apart. Veer sweeps to 450 fm. (*See Note* (*d*) *and Art.* 603.)	2	*Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous laps unless otherwise indicated.	3	Show speed flags. *Flag R* when kite is down.
FLAG R hauled down	Guide proceed at 10 kt.	4	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Guide proceed at 12 kt.	5	Show speed flags.

NOTES :

(*a*) The danlayers are to be stationed as shown in the diagram unless otherwise ordered.

(*b*) It is customary for the Senior Officer to be *on one wing* and the 2nd Senior Officer *on the other* in this formation so that they can run the line of danbuoys alternately if required.

(*c*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for passing sweeps and opening out in order that sweeps may be kept above the bottom.

(*d*) In water less than 25 fm. depth sweeps should be veered to 400 fm. in the first place, veering the remaining 50 fm. (plus allowances for kite wire) when kites are veered.

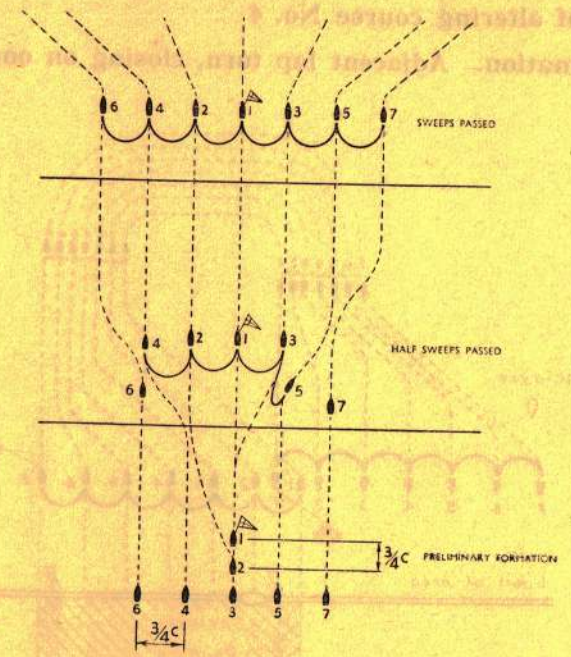


Diagram 16. 'J' Formation. Taking up formation, standard procedure 7.

E. To take up 'J' formation (Method 3)

(*Senior Officer as Guide running Center Line of Channel which will be completed in one Lap*)

Signals made by O.T.C. **J.7** *Close up.* Prepare sweeps for 'J' formation.

J.7 *Dipped.* Take up preliminary 'J' formation. Guide proceed at 6 kt. Nos. 2 and 3 close to ¾ cable apart on their next ahead. Of the remainder, even numbered ships take station on the port beam of No. 3 and odd numbered ships on the starboard beam of No. 3, ¾ cable apart. (*See Note* (*b*).)

F. Standard procedure No. 7

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
J.7 hauled down.	Guide proceed at 6 kt. (*or* speed ordered). (*See Note* (*c*).) Pass sweeps, take up station at ¾ cable apart, opening from the center.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion.
FLAG R hauled down	Open out from the guide to 2½ cables apart. Veer sweeps to 450 fm. (*See Note* (*c*) *and Art.* 603.)	2	*Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous laps unless otherwise indicated.	3	Show speed flags. *Flag R* when kite is down.
FLAG R hauled down	Guide proceed at 10 kt.	4	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	5	Show speed flags.

NOTES:

(*a*) If this method of joining up is used, opening and closing must be from the center, as the guide has no control over his wires, he being a double slip ship.

(*b*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for passing sweeps and opening out in order that sweeps may be kept above the bottom.

(*c*) In water less than 25 fm. depth sweeps should be veered to 400 fm. in the first place, veering the remaining 50 fm. (plus allowances for kite wire) when kites are veered

G. Standard method of altering course No. 4

'J' formation. Adjacent lap turn, closing on one wing

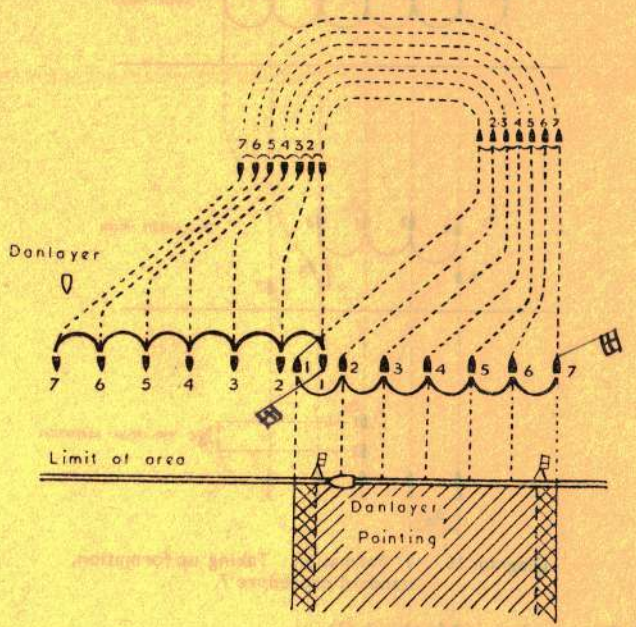


Diagram 17.

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
FLAG D Port *or* **Starboard hauled down**	Guide proceed at 6 kt. Up kites. (*See Note* (*a*).) ...	1	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Ships close on the wing away from the direction of the turn indicated to ¾ cable apart. Ship being closed on assume guide. Sight sweeps and veer to 125 fm. (*See Art.* 603.)	2	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Pivot ship assumes guide. Alter course by wheeling 90° in the direction previously indicated. (*See Art.* 604.)	3	*Flag R* on completion of wheel and when in station.
FLAG R hauled down	Alter course 90° by wheeling, ships open from the pivot ship to 2½ cables apart, veer sweeps to 450 fm. (*See Art.* 603.)	4	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous lap unless otherwise ordered.	5	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Guide proceed at 10 kt.	6	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	7	Show speed flags.

NOTES:

(*a*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for shortening in, sighting sweeps and opening out again to keep the sweeps above the bottom. The turn itself must be carried out with the guide proceeding at 6 kt.

(*b*) Ships show a Red or Green flag on a stave above the bridge while ship's head is swinging to port or starboard respectively. (*See Article* 602.)

H. Standard method of altering course No. 5

'J' formation. Adjacent lap turn, closing on the center

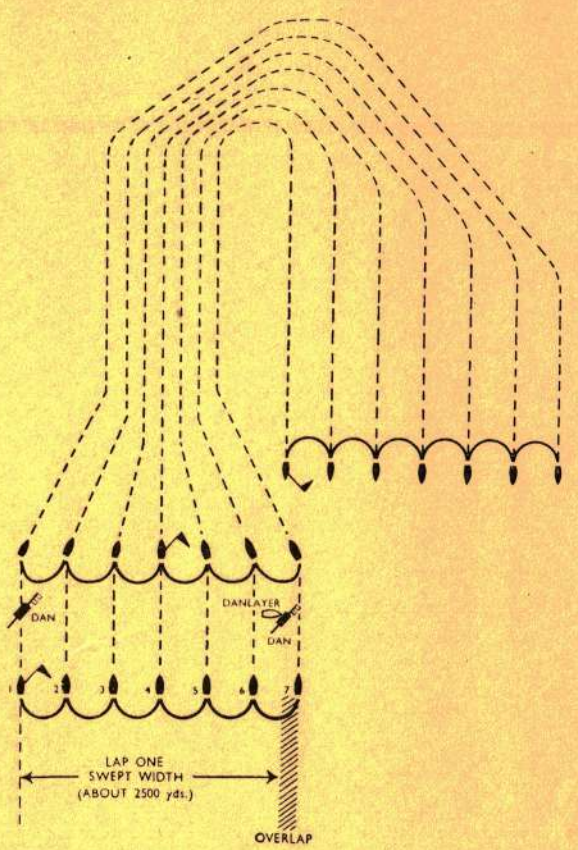


Diagram 18

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
FLAG D.5 Starboard *or* **Port hauled down. (Guide 4)**	Guide proceed at 6 kt. (*See Note* (*a*).) Up kites. ...	1	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Station No. 4 (*or* ship indicated) take guide. Ships close on guide to ¾ cable apart. Sight sweeps and veer to 125 fm. (*See Art.* 603.)	2	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Pivot ship take guide. Alter course by wheeling 90° in the direction previously indicated. (*See Art.* 604.)	3	Show speed flags. *Flag R* on completion of wheel and when in station.
FLAG R hauled down	Alter course 90° by wheeling, ships open from the pivot ship to 2½ cables apart, veer sweeps to 450 fm. (*See Art.* 603.)	4	*Flag R* on completion and when in station. Show speed flags.
FLAG R hauled down	Down kites to the same depth as in previous laps unless otherwise ordered.		*Flag R* on completion. Show speed flags.
FLAG R hauled down	Guide proceed at 10 kt.	6	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	7	Show speed flags.

NOTES:

(*a*) In water of less than 25 fm. depth a speed of 8 kt. by the guide is recommended for shortening in, sighting sweeps and opening out again to keep the sweeps above the bottom. The turn itself must be carried out with the guide proceeding at 6 kt.

(*b*) Ships show Red or Green Flag on stave above bridge while ship's head is swinging to port or starboard respectively. (*See Article* 602.)

CHAPTER 13

(R.N.) 'O' Sweep—Signals For Taking Up Formation and Lap Turns

1301. 'G' FORMATION

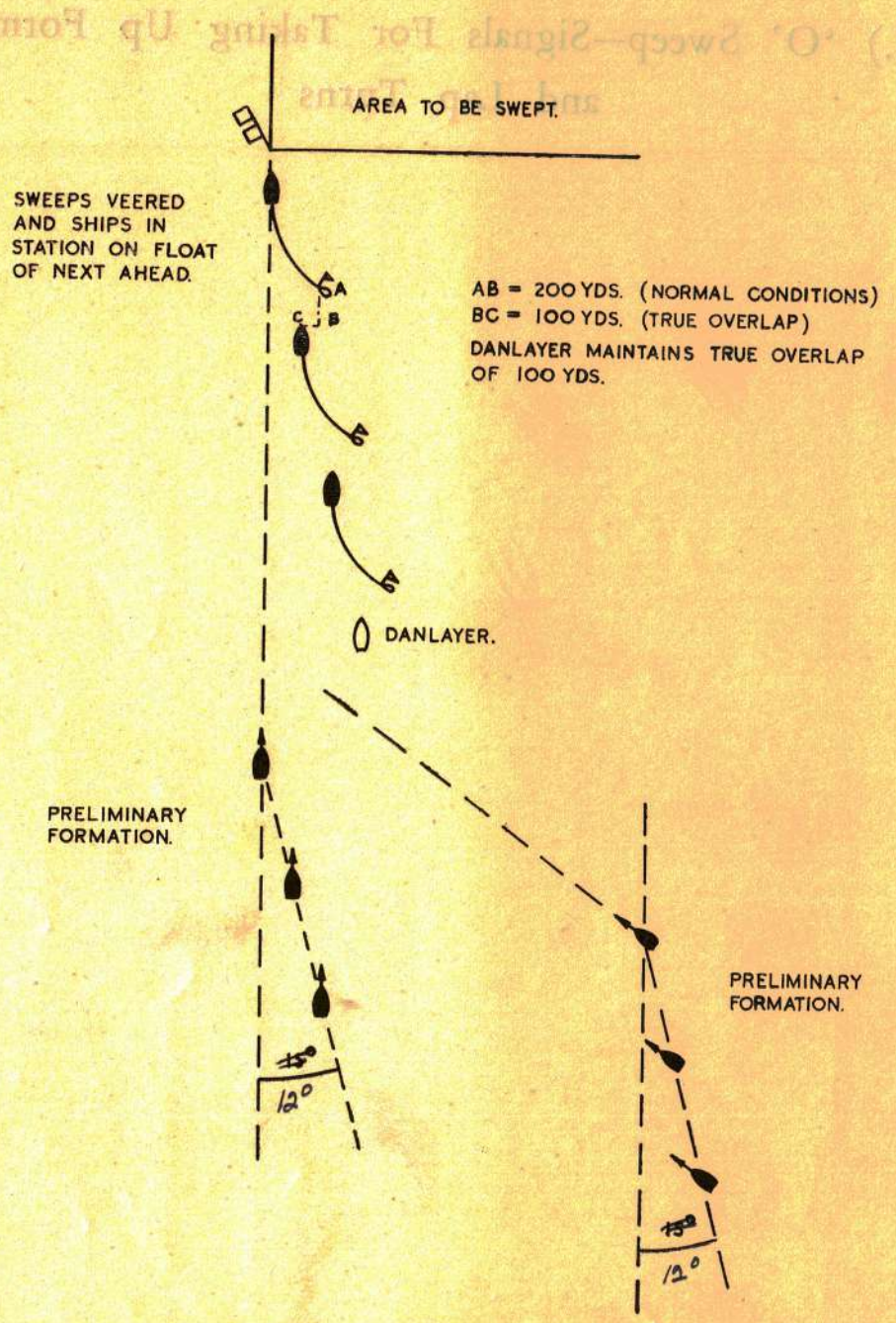


Diagram 19

TAKING UP FORMATION, STANDARD PROCEDURE II

A. To take up 'G' formation

Signals made by O.T.C.	**G.** Starboard *or* Port.	Close up. Prepare sweeps for 'G' formation.
	G. Starboard *or* Port.	Dipped. Take up preliminary 'G' formation to starboard or port, distance 3½ cables.

B. Standard procedure No. 11

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
'G' Starboard *or* **Port hauled down**	Ships stream sweeps to 300 fm. Guide proceeds at 6 kt. on execution of signal. 7 kt. when otter is running correctly. 8 kt. when sweep is at 100 fm.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* when veered to 300 fm.
FLAG R hauled down	Down kites to same depth as previous lap or depth ordered.	2	*Flag R* when kite is down.
FLAG R hauled down	Guide proceed at 10 kt.	3	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	4	Show speed flags.

C. Standard method of altering course No. 11

'G' formation, adjacent lap turn, changing the side of the sweep and of the formation

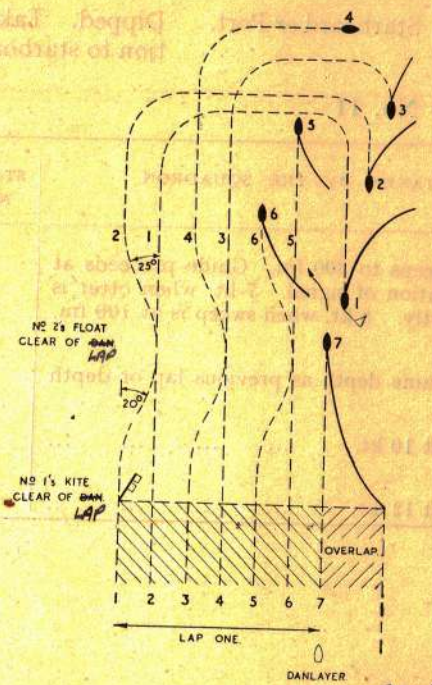


Diagram 20.

D. Starboard (*or* **Port**). Alter course 180 degrees to ~~starboard (or port)~~ Port (or Starboard) in accordance with Standard Method 11.

1. When executed, guide alters 20 degrees towards the sweep and increases speed by 1 kt. When ahead of the next astern guide turns back to the sweeping course. All odd numbered ships to conform in succession when kite is clear of the lap.

2. Number 2, when float is clear of the lap, alters 25 degrees away from the sweep and increases speed by 1 kt. When clear of next ahead, number 2 turns back to the sweeping course. All even numbered ships conform in succession when float is clear of lap.

3. On altering back to the sweeping course, guide reduces to 8 kt., gets up kite and recovers the sweep. Remaining ships conform in succession.

4. When the guide has recovered sweep and at about 10 cables clear of the lap he increases speed and alters course 180 degrees as necessary for the next lap. Remaining ships conform in succession. (*See Note* (*b*).)

5. When steady on the new lap course, the guide reduces speed and veers the opposite sweep and works *Flag R* as in Article 905C. Remaining ships conform in succession and work *Flag R* as in Article 905B.

6. The guide puts the kite down and increases to 10 kt. on hoisting 2nd *Flag R* close up. (*See Article* 905C.) Remaining ships conform in succession, working 2nd *Flag R* as in Article 905B.

7. Speed is increased to 12 kt. on hauling down both *Flags R* when all ships are in station with kites down. (*See Note* (*c*).)

NOTES:

(*a*) This maneuver entails ships working in pairs, *i.e.* one and two, three and four, etc. The effect of odd numbered ships altering towards the sweep and even numbered ships away from the sweep is to put even numbered ships on the opposite quarter of their next ahead on the lap.

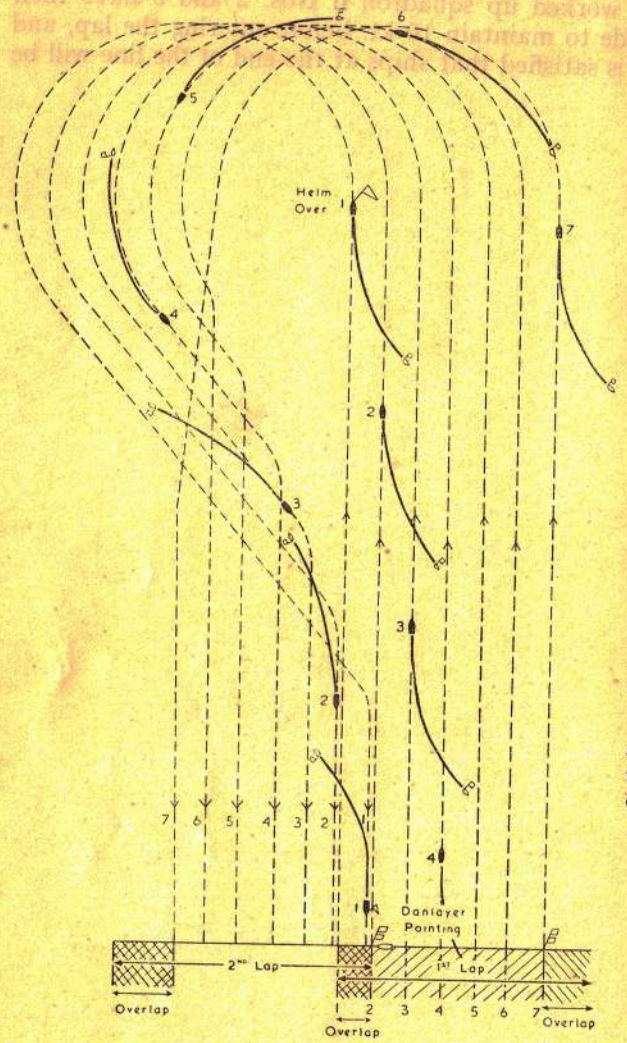
...neuvre so

(*b*) When ships are coming round to the new lap it is important that they should adjust course and speed so as to get to a position inside station before streaming the opposite sweep. This will enable the guide to go on to 10 kt., and later 12 kt., at the earliest possible moment.

(*c*) The guide need not then wait for the second *Flag R* to be hoisted at the dip in all ships before himself entering the new lap ; the working of the *Flag R* is useful in enabling the guide to judge when he may do so, *e.g.* in a well worked up squadron if Nos. 2 and 3 have their *Flags R* at the dip, this should enable the guide to maintain 10 kt. before entering the lap, and 12 kt. soon after entering it, that is, when he is satisfied that ships at the end of the line will be in station.

D. Standard method of altering course No. 12

'G' formation, adjacent laps, turning away from the sweeps



NOTES:

(*a*) The turn should be executed when the guide is 15 cables beyond the end of the lap. This can be judged by the dipping of 6 L in the fourth ship in the formation.

(*b*) Kites are normally left down for this turn in which case speed through the water during the turn is not to exceed 8½ kt.

(*c*) Succeeding ships can estimate the position of putting the wheel over by time from the preceding ship. A practical hint is to put the wheel over when the float of next ahead is crossing the bow.

(*d*) It is essential for ships to keep closed up during this turn. If ships fall astern the guide may have to reduce speed to enable ships to get into station before starting the new lap.

(*e*) The rear ships must get into station as quickly as possible and avoid large alterations of course so that the rear danlayer has every chance of laying the first dan of the next line of dans in the correct position.

Diagram 21.

D. Starboard (*or* **Port**). Alter course 180 degrees to starboard (*or* port) in accordance with Standard Method 12.

1. When executed, ships alter course by turning in succession as follows :—
   Nos. 1 to 5 alter 220 degrees.
   No. 6 alters 200 degrees.
   Nos. 7 and 8 alter 175 degrees.

2. The guide of the squadron alters to the new lap course as requisite. Remaining ships alter so as to take up their correct station for the new lap.

E. **Standard method of altering course No. 13**

'G' formation, non-adjacent laps, turning away from the sweeps

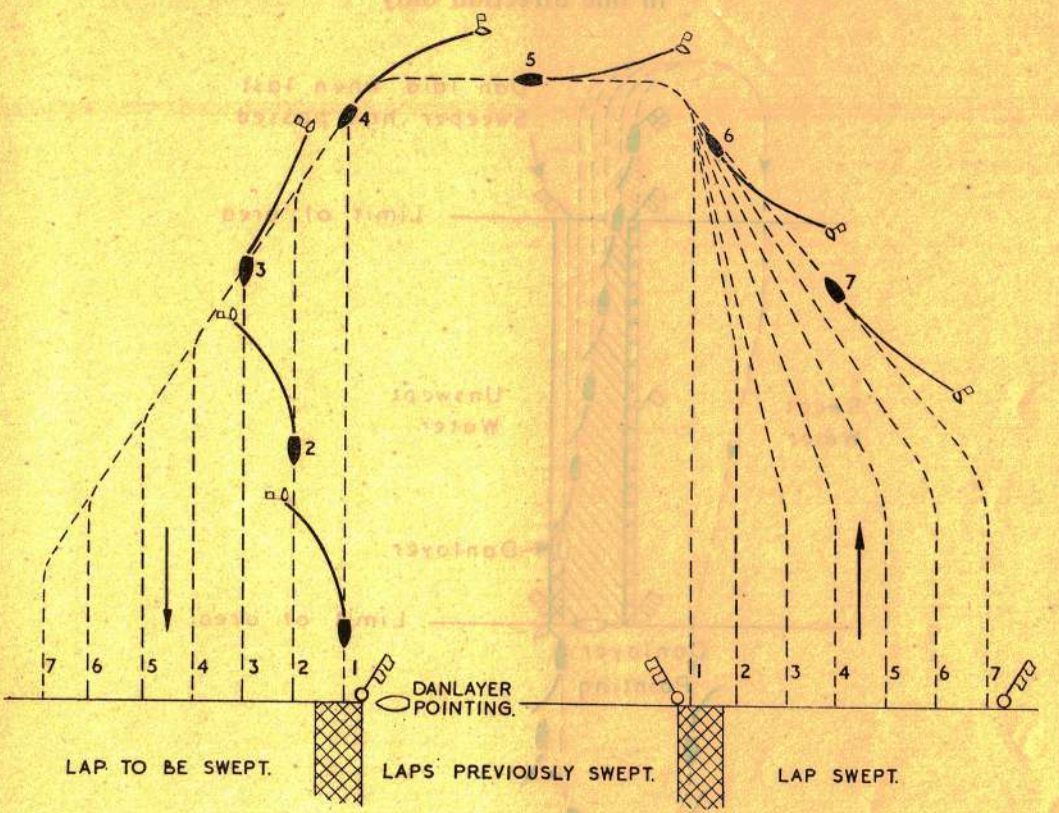


Diagram 22.

D. Port (*or* **Starboard**). Alter course 180 degrees to port (*or* starboard) in accordance with Standard Method 13.

1. When executed, the guide alters course 90 degrees in the direction indicated. Remaining ships alter course as necessary when clear of the lap so as to steer for the turning point of the guide.

2. The guide alters course a further 90 degrees to the new lap course as required. Remaining ships on reaching the guide's turning point alter course 60 degrees and take up their correct station for the new lap.

NOTES:

(*a*) The turn should be executed when the guide is 15 cables beyond the end of the lap. This can be judged by the dipping of 6 L in the fourth ship in the formation.

(*b*) Kites are left down for this turn if non-adjacent laps are reasonably close together. Speed through the water is not to exceed 8½ kt. on the turns with kites down.

F. **Standard method of altering course No. 14**

'G' formation, 360 degree turn. Ships turning away from the sweep and sweeping in one direction only

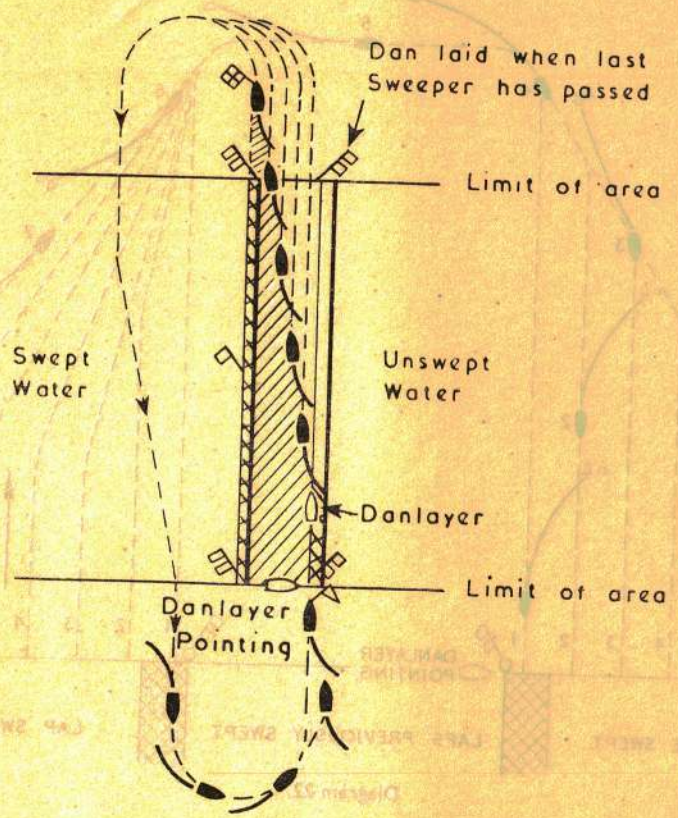


Diagram 23. 'G' Formation. Lap turn away from the sweep, sweeping in one direction only (14)

D.4. Port (*or* **Starboard**). Alter course 360 degrees to port (*or* starboard) in accordance with Standard Method 14.

1. When executed, guide alters 180 degrees away from the sweep.

2. Remaining ships conform in succession when float is clear of the lap, turning so as to be in line ahead on completion of the turn.

3. Guide turns 180 degrees away from the sweep as necessary to enter the new lap.

4. Remaining ships conform in succession, turning so as to get into station for the new lap.

NOTE :

Kites can be raised if required. If left down, a speed of $8\frac{1}{2}$ kt. through the water is not to be exceeded.

G. Standard method of altering course No. 15
'G' formation, non-adjacent lap, turning towards the sweep

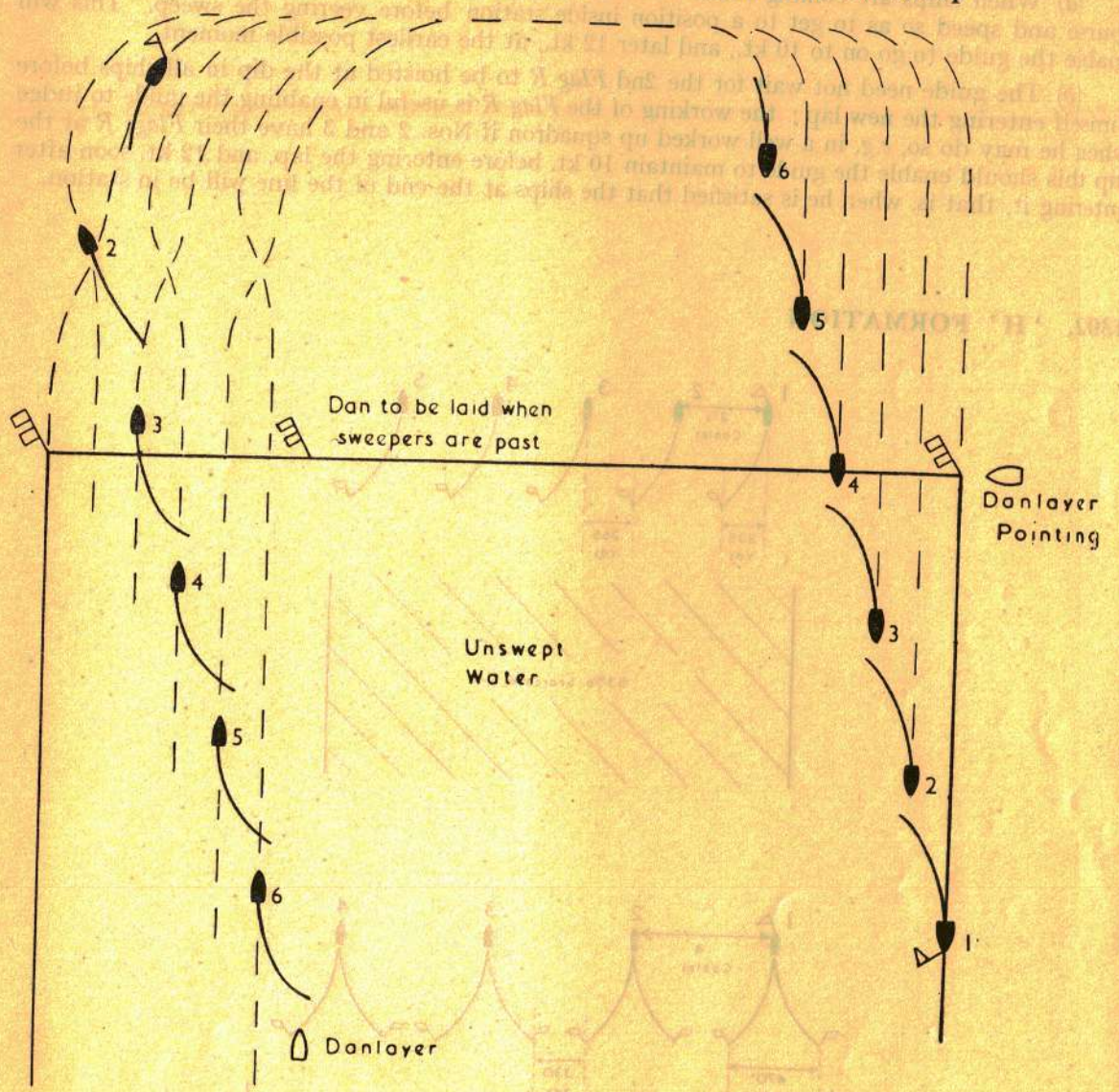


Diagram 24. 'G' Formation. Non-adjacent lap turn, turning towards sweep (15)

D.5. Starboard (*or* **Port**). Alter course 180 degrees to a non-adjacent lap to starboard (*or* port) in accordance with Method 15.

1. When executed the squadron carry out the same procedure for ending a lap as in Method 11 to the point where sweeps are at the shortened-in condition (*i.e.* side of sweep is not changed).

2. When guide has shortened-in he alters course by two 90 degree turns to the new lap course. Remaining ships conform in succession.

3. The guide veers sweeps and hoists 1st *Flag R* close up when veered to 300 fm. (*See Article* 905C.) Remaining ships conform in succession, working *Flag R* as in Article 905B.

4. The guide puts the kite down and increases speed to 10 kt. on hoisting 2nd *Flag R* close up. (*See Article* 905C.) Remaining ships conform in succession, working *Flag R* as in Article 905B.

5. Speed is increased to 12 kt. on hauling down both *Flags R* when all ships are in station with kites down.

NOTES to preceding article:

(*a*) When ships are coming round to the new lap it is important that they should adjust course and speed so as to get to a position inside station before veering the sweep. This will enable the guide to go on to 10 kt., and later 12 kt., at the earliest possible moment.

(*b*) The guide need not wait for the 2nd *Flag R* to be hoisted at the dip in all ships before himself entering the new lap; the working of the *Flag R* is useful in enabling the guide to judge when he may do so, *e.g.* in a well worked up squadron if Nos. 2 and 3 have their *Flags R* at the dip this should enable the guide to maintain 10 kt. before entering the lap, and 12 kt. soon after entering it, that is, when he is satisfied that the ships at the end of the line will be in station.

1302. 'H' FORMATION

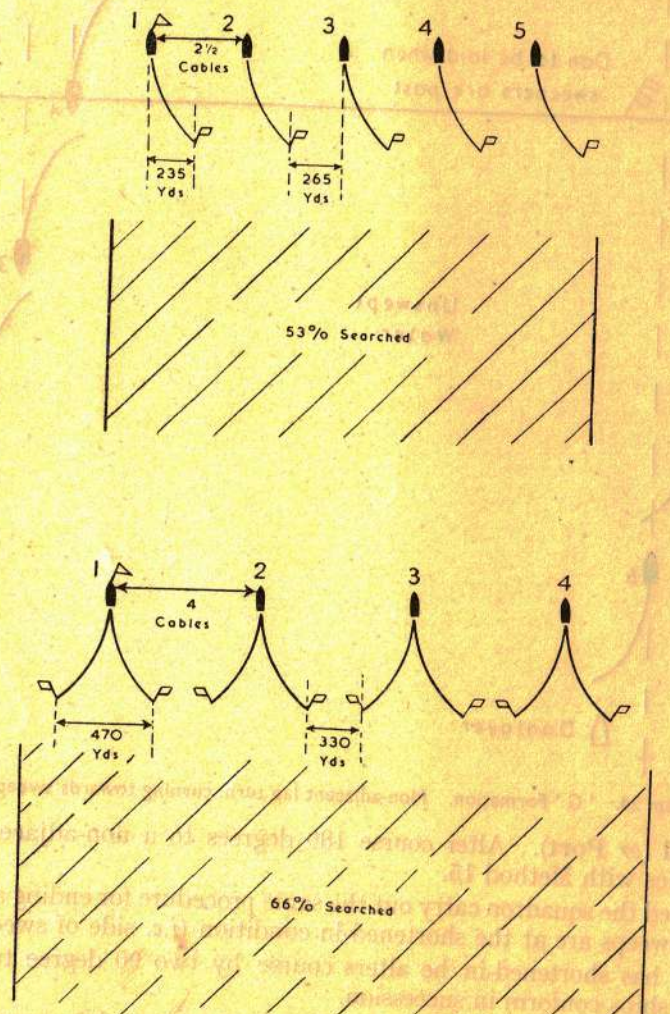


Diagram 25.

TAKING UP FORMATION STANDARD PROCEDURE 12

A. To take up 'H' formation

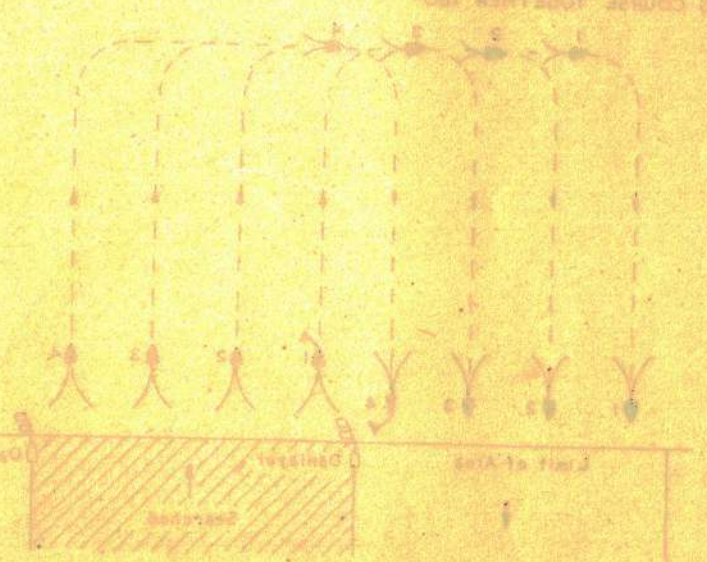
Signals made by O.T.C.	**H.** Starboard *or* Port.	Close up. Prepare to use Oropesa sweeps *both* sides in 'H' formation. If one sweep only is to be used, the side will be indicated by a second flag starboard or port, *e.g.* 'H starboard port' means 'Prepare to use single Oropesa sweep port side in formation 'H' to starboard.'
	H. Starboard *or* Port.	Dipped. Take up 'H' formation to starboard (*or* port). Ships in line abreast $2\frac{1}{2}$ cables for single Oropesa and 4 cables apart for double Oropesa.

B. Standard procedure No. 12

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
'H' Starboard *or* Port hauled down	Guide proceed at 6 kt. Stream sweeps. Guide proceed at 8 kt. when veered to the shortened-in condition.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion of veering to 300 fm.
FLAG R hauled down	Down kite to the same depth as used in previous laps unless otherwise ordered.	2	*Flag R* when kite is down. Show speed flags.
FLAG R hauled down	Guide proceed at 10 kt.	3	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	4	Show speed flags.

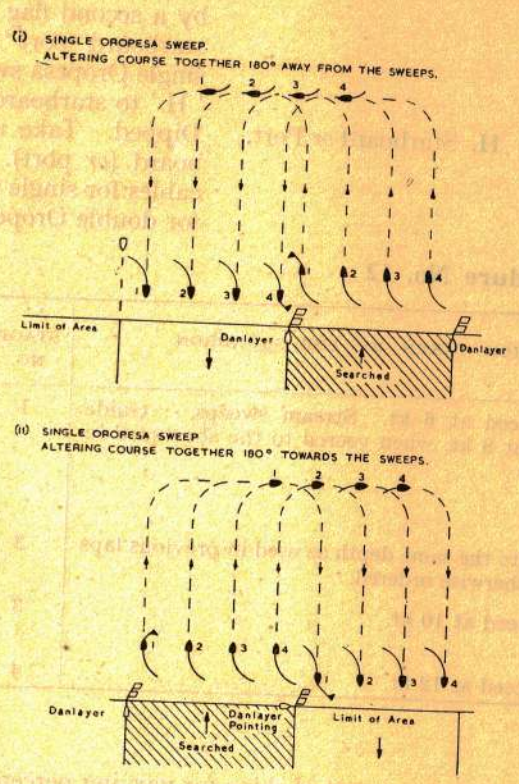
NOTE :

A formula giving the distances apart of ships for varying percentage of search is given in the *Minesweeping Manual,* Part 2.



C. Standard method of altering course No. 16

'H' formation, adjacent lap, turn together



(iii) DOUBLE OROPESA SWEEP.
ALTERING COURSE TOGETHER 180°

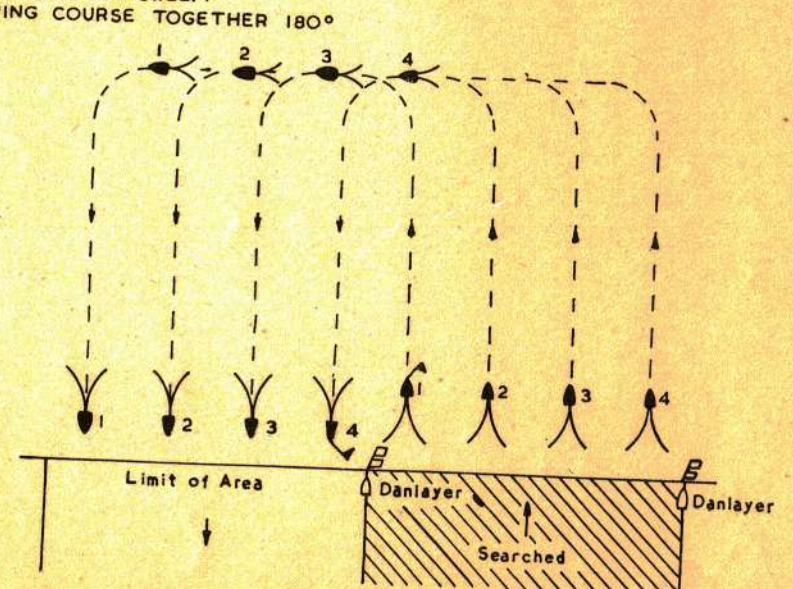


Diagram 26.

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
'D' Port *or* **Starboard hauled down**	Guide proceed at 8 kt. Up kite, heave in sweep(s) to the shortened-in condition.	1	Show speed flags. *Flag R* when kite is up, another for shortened-in. Work yardarm balls.
One FLAG R hauled down	Alter course 90 degrees together in the direction indicated. Rear ship assumes guide when the turn is completed.	2	—
Second FLAG R hauled down	Alter course 90 degrees together in the direction indicated. Veer sweep(s) to 300 fm.	3	Work yardarm balls. *Flag R* on completion.
FLAG R hauled down	Down kite to the same depth as used in previous laps unless otherwise indicated.	4	Show speed flags. *Flag R* on completion.
FLAG R hauled down	Guide proceed at 10 kt.	5	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	6	Show speed flags.

NOTES:

(*a*) If the distance apart of ships is $3\frac{1}{2}$ cables or more, kites need not be raised and sweeps need not be shortened-in before turning away from a single Oropesa sweep.

(*b*) As ships require more room for veering sweeps than for shortening-in, the first 90 degree turn should not be made until ships are well clear of the area.

(*c*) The wing ships are guide alternately when sweeping adjacent laps across an area.

(*d*) When the distance between laps warrants it, speed can be increased between the turns.

1303. 'I' FORMATION

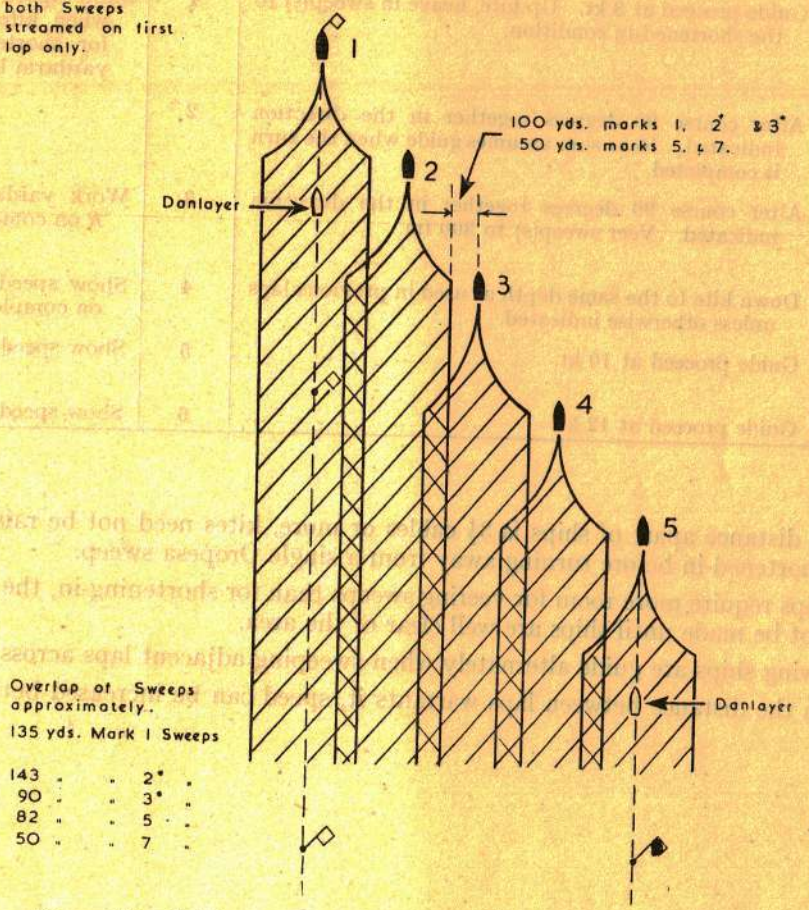


Diagram 27. 'I' Formation. Taking up formation, standard procedure 13.

A. To take up ' I ' formation

Signals made by O.T.C.	**I.** Starboard *or* Port.	Close up. Prepare to stream sweeps both sides in ' I ' formation.
	I. Starboard *or* Port.	Dipped. Take up ' I ' formation (*as indicated*). Ships form 4 cables apart 30 degrees on the quarter of their next ahead.

B. Standard procedure No. 13

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
' I ' Starboard *or* **Port hauled down**	Guide proceed at 6 kt. Stream sweeps. Guide proceed at 8 kt. when veered to the shortened-in condition.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion of veering to 300 fm.
FLAG R hauled down	Ships form 100 yd. abeam of their consort's float ...	2	*Flag R* when in station.
FLAG R hauled down	Down kite to the same depth as used in previous laps unless otherwise ordered.	3	*Flag R* when kite is down. Show speed flags.
FLAG R hauled down	Guide proceed at 10 kt.	4	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	5	Show speed flags.

NOTE:

' I ' formation is intended for double Oropesa sweeps (*single for guide except in first lap*). Should it be desired to use this formation for single Oropesa sweep, this must be indicated, and the side specified, by a separate signal.

C. Standard method of altering course No. 17

'I' formation, adjacent lap turn, wheeling towards the former line of bearing and changing the side of the formation

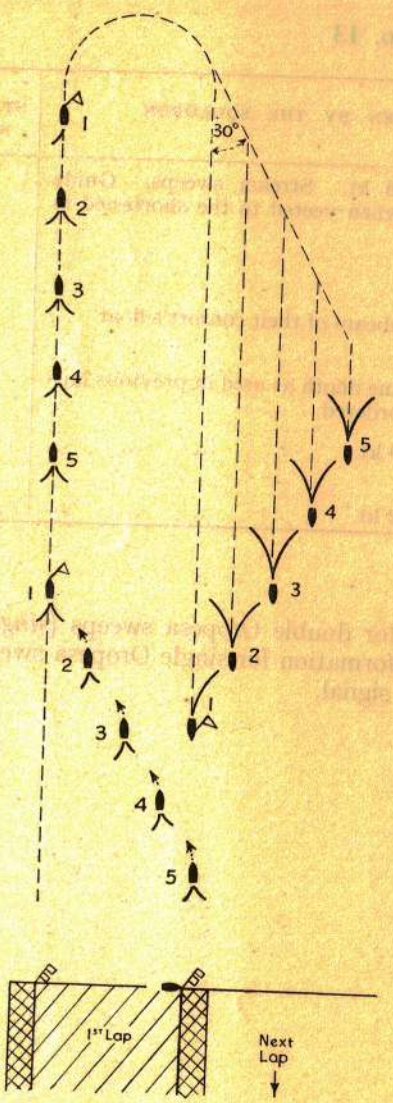


Diagram 28. 'I' Formation. Adjacent lap turn, wheeling towards the former line of bearing (17).

D. Starboard (*or* **Port**). Alter course 180 degrees to starboard (*or* port) in accordance with Standard Method 17.

1. When executed, guide reduces to 8 kt., recovers kite and shortens-in the sweep. (If both sweeps are streamed, guide recovers the sweep on the side towards which it is intended to turn.) Remaining ships get up kites and bring sweeps to the shortened-in condition.

2. As sweeps are shortened-in, ships form column 4 cables apart.

3. Guide alters 180 degrees in the direction indicated.

4. Remaining ships alter 150 degrees and then 30 degrees so as to take up 'I' formation formed on the opposite side for the new lap course.

5. When steady on the new lap course, guide veers the sweep to 300 fm. Guide hoists 1st *Flag R* close up on completion. (*See Article* 905*C*.) Remaining ships conform in succession, working *Flag R* on completion. (*See Article* 905*B*.)

6. Guide puts down the kite and increases to 10 kt., on hoisting 2nd *Flag R* close up. (*See Article* 905*C*.) Remaining ships conform in succession, working *Flag R* as in Article 905B.

7. Speed is increased to 12 kt. on hauling down both *Flags R* when all ships are in station with kites down.

D. Standard method of altering course No. 18

'I' formation, non-adjacent lap turn, wheeling towards the former line of bearing, maintaining the formation

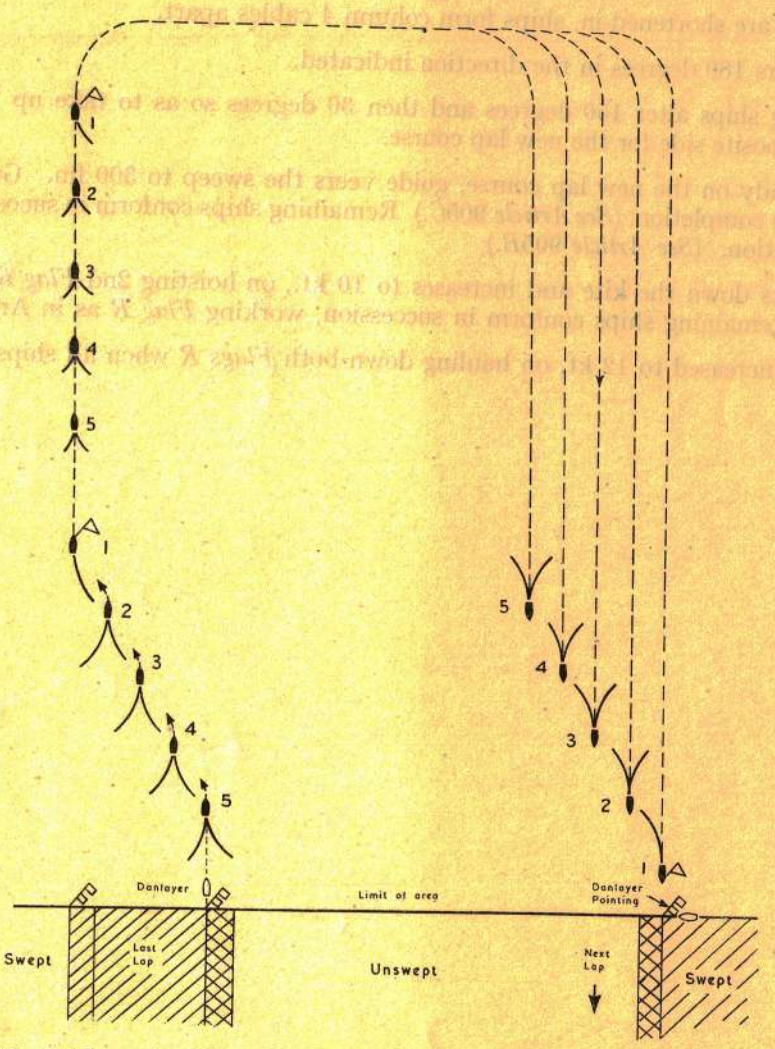


Diagram 29. 'I' Formation. Non-adjacent lap turn, wheeling towards the former line of bearing (18).

D.8 Starboard (*or* **Port**). Alter course 180 degrees to starboard (*or* port) in accordance with Standard Method 18.

1. When executed, guide reduces to 8 kt., recovers kite and shortens-in the sweep. (If both sweeps are streamed, guide recovers the sweep on the side away from the direction in which it is intended to turn.) Remaining ships get up kites and bring sweeps to the shortened in-condition.

2. As sweeps are shortened-in, ships form column 4 cables apart.

3. Guide alters 90 degrees in the direction indicated and then a further 90 degrees as requisite for the new lap.

4. Remaining ships turn in succession. The first turn is made in the water in which the guide turned ; the second turn is made earlier than their next ahead's turn in order to take up ' I ' formation on the new course.

5. When steady on the new lap course, guide veers the sweep(s) to 300 fm., hoisting 1st *Flag R* close up on completion. (*See Article* 905*C*.)

6. Remaining ships conform in succession, working *Flag R* on completion. (*See Article* 905*B*.)

7. Guide puts down the kite and increases to 10 kt., on hoisting 2nd *Flag R* close up. (*See Article* 905*C*.) Remaining ships conform in succession, working *Flag R* as in Article 905B.

8. Speed is increased to 12 kt. on hauling down both *Flags R* when all ships are in station with kites down.

E. **Standard method of altering course No. 19**

'I' formation, turn for adjacent lap or other side of channel center line, wheeling away from the former line of bearing and maintaining the formation

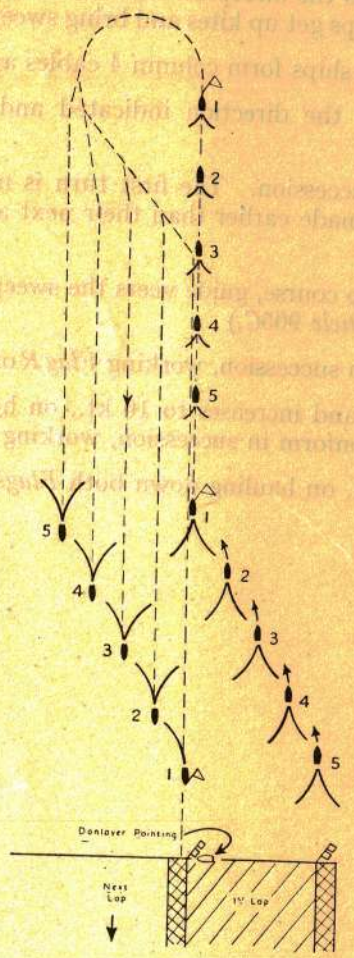


Diagram 30.

D.9 Port (*or* **Starboard**). Alter course 180 degrees to port (*or* starboard) in accordance with Standard Method 19.

1. When executed, guide reduces to 8 kt., recovers kite and shortens-in the sweep. (If both sweeps are streamed, guide recovers the sweep on the side towards which it is intended to turn.) Remaining ships get up kites and bring sweeps to the shortened-in condition.

2. As sweeps are shortened-in, ships form column 4 cables apart.

3. Guide alters course 220 degrees in the direction indicated. Remaining ships alter course in succession so as to form 'I' formation on the new lap course.

4. Guide alters back 40 degrees as requisite and when steady on the new lap course, veers the sweep(s) to 300 fm. Guide hoists 1st *Flag R* close up on completion. (*See Article* 905*C*.) Remaining ships conform in succession, working *Flag R* on completion. (*See Article* 905*B*.)

5. Guide puts down the kite and increases to 10 kt., on hoisting 2nd *Flag R* close up. (*See Article* 905*C*.) Remaining ships conform in succession, working *Flag R* as in Article 905B.

6. Speed is increased to 12 kt. on hauling down both *Flags R* when all ships are in station with kites down.

F. **Standard method of altering course No. 20**

'I' formation, non-adjacent lap turn, wheeling away from the former line of bearing and maintaining the formation

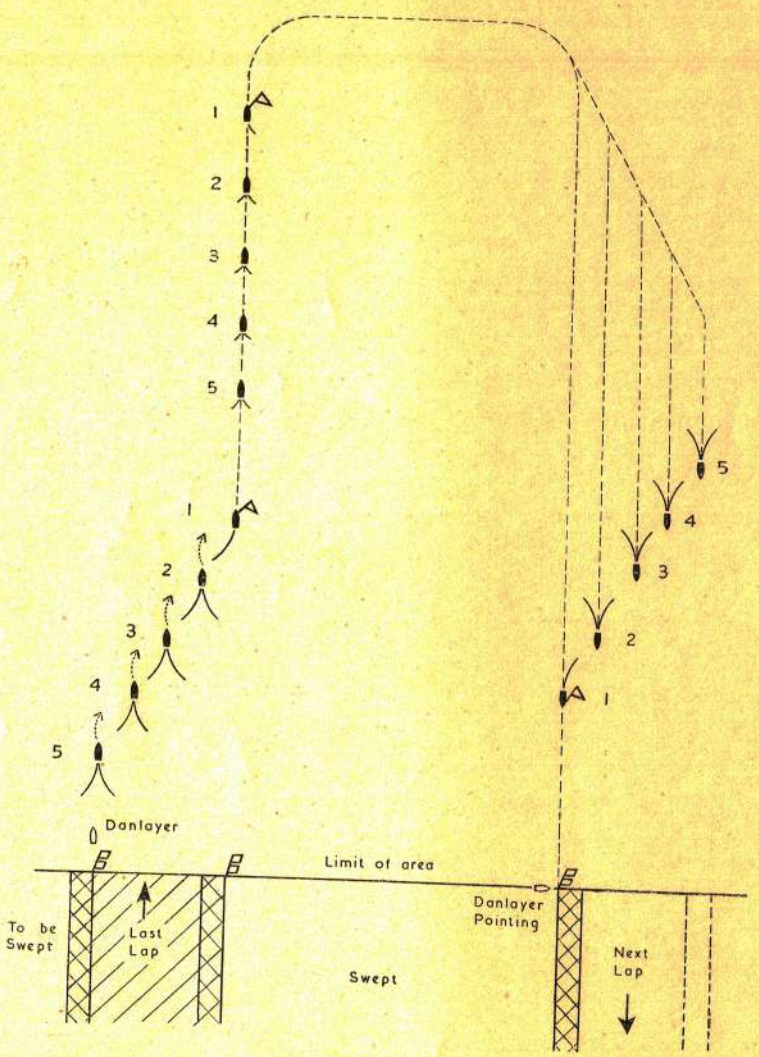


Diagram 31.

D. Starboard (*or* **Port**). Alter course 180 degrees to starboard (*or* port) in accordance with Standard Method 20.

1. When executed, guide reduces to 8 kt., recovers kite and shortens-in the sweep. (If both sweeps are streamed, guide recovers the sweep on the side towards which it is intended to turn.) Remaining ships get up kites and bring sweeps to the shortened-in condition.

2. As sweeps are shortened-in, ships form column at 4 cables apart.

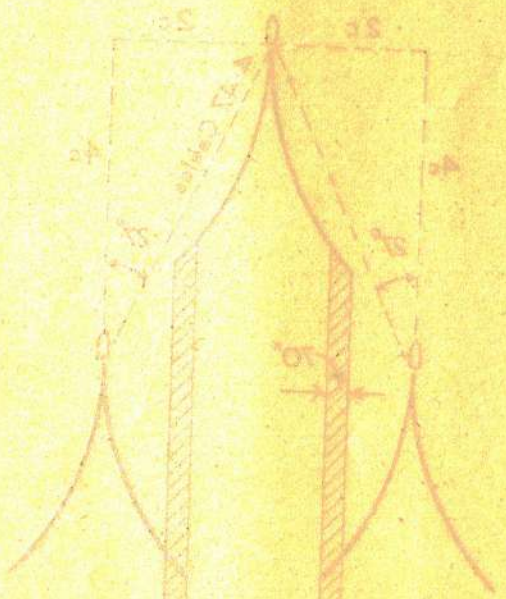
3. Guide alters 90 degrees in the direction indicated and then a further 90 degrees as requisite for the new lap.

4. Remaining ships turn in succession. The first turn is made in the water in which the guide turned ; the second turn is made later than their next ahead's in order to take up 'I' formation on the new lap course.

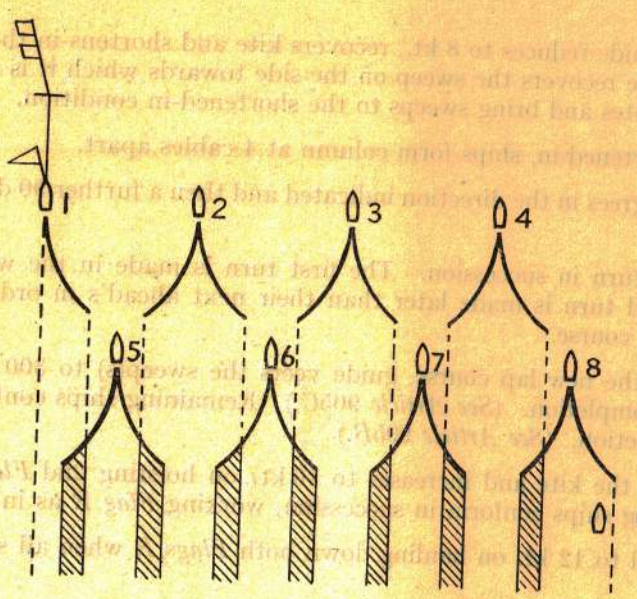
5. When steady on the new lap course, guide veers the sweep(s) to 300 fm. Guide hoists 1st *Flag R* close up on completion. (*See Article* 905*C*.) Remaining ships conform in succession, working *Flag R* on completion. (*See Article* 905*B*.)

6. Guide puts down the kite and increases to 10 kt., on hoisting 2nd *Flag R* close up. (*See Article* 905*C*.) Remaining ships conform in succession, working *Flag R* as in Article 905B.

7. Speed is increased to 12 kt. on hauling down both *Flags R* when all ships are in station with kites down.



1304. 'K' FORMATION



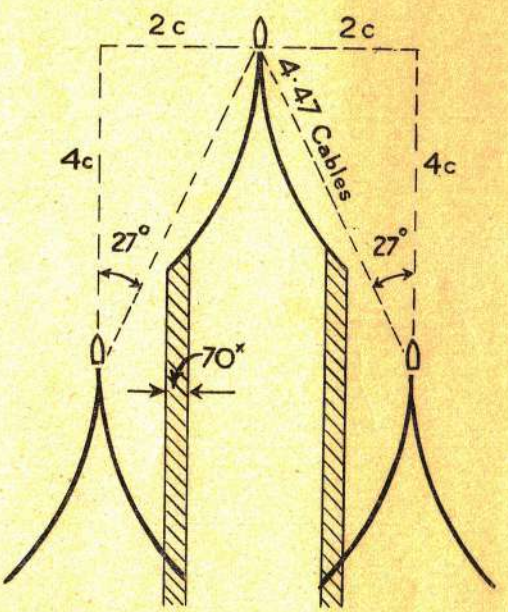


Diagram 32.

TAKING UP FORMATION. STANDARD PROCEDURE 14

A. **To take up ' K ' formation**

Signals made by O.T.C.

K. ~~Port or Starboard~~ Starboard or Port. Close up. Prepare to stream Oropesa sweeps both sides in ' K ' formation.

K. ~~Port or Starboard~~ Starboard or Port. Dipped. Take up ' K ' formation to port/to starboard.

B. **Standard procedure No. 14**

SIGNAL MADE BY GUIDE	ACTION TAKEN BY THE SQUADRON	STAGE NO.	SIGNAL ACTION TAKEN BY THE SQUADRON
' K ' ~~Port or Starboard~~ Starboard or Port hauled down	Guide proceed at 6 kt. Stream sweeps. Guide proceed at 8 kt. when veered to the shortened-in condition.	1	Show speed flags. Work masthead and yardarm balls. *Flag R* on completion.
FLAG R hauled down	Down kites to the same depth as used in previous laps unless otherwise ordered.	2	*Flag R* when kite is down. Show speed flags.
FLAG R hauled down	Guide proceed at 10 kt.	3	Show speed flags.
SPEED 12	Guide proceed at 12 kt.	4	Show speed flags.

NOTES;

(*a*) If more than 30 degrees from the sweeping course when first assuming ' K ' formation, sweeps should only be veered to the shortened-in condition. They can then be fully veered after the turn to the sweeping course.

(*b*) Stationing is to be as shown on the diagram unless otherwise ordered.

(*c*) ' K ' formation is intended for double Oropesa sweeps (*single for guide except in first lap*). Should it be desired to use this formation for single Oropesa sweep, this must be indicated, and the side specified, by a separate signal.

C. Standard method of altering course No. 21

'K' formation, adjacent lap, turn together, odd number of ships

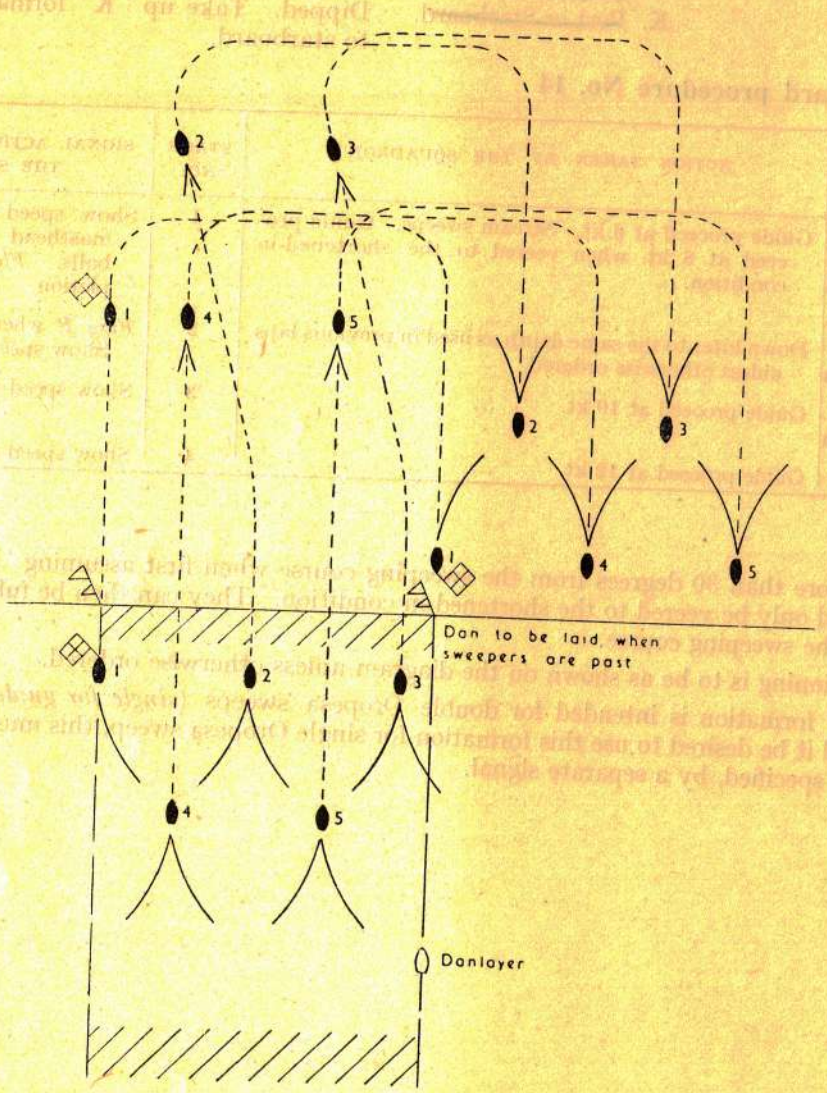


Diagram 33.

D. Starboard (*or* **Port**). Alter course 180 degrees to starboard (*or* port) in accordance with Standard Method No. 21.

1. Guide reduces speed of formation to 8 kt., recovers sweep and drops back to rear division. All remaining ships get up kites and shorten-in to 100 fm. *Flag R* on completion.

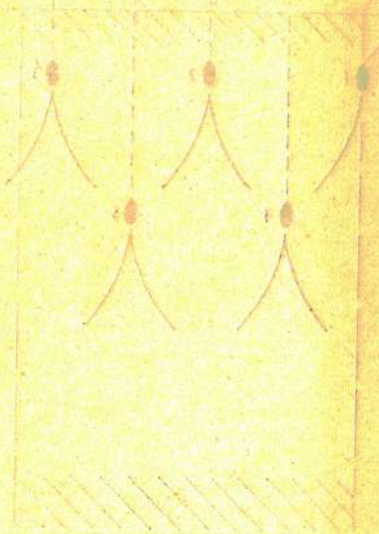
2. Leading division acting under the orders of Divisional Commander adjusts course to get to station on rear division as required for the new lap.

3. Guide turns the formation 90 degrees by *Flag R* together in the direction of the new lap, followed by a further 90 degree turn to the new lap course, streaming his new sweep while doing so. Old rear division now becomes leading division. The old leading division becomes rear division and adjusts course and speed to take up new station.

4. When ships are steady on the new course sweeps are veered and kites lowered independently. *Flag R* on completion.

5. On the guide hauling down *Flag R* speed is increased to 10 kt. Speed is increased to 12 kt. by speed signal.

NOTE.—In this formation, in order to simplify the turns between laps, each division becomes leading and rear division alternately.



D. **Standard method of altering course No. 22**

'K' formation, turning together to an adjacent lap or other side of a center line, odd number of ships

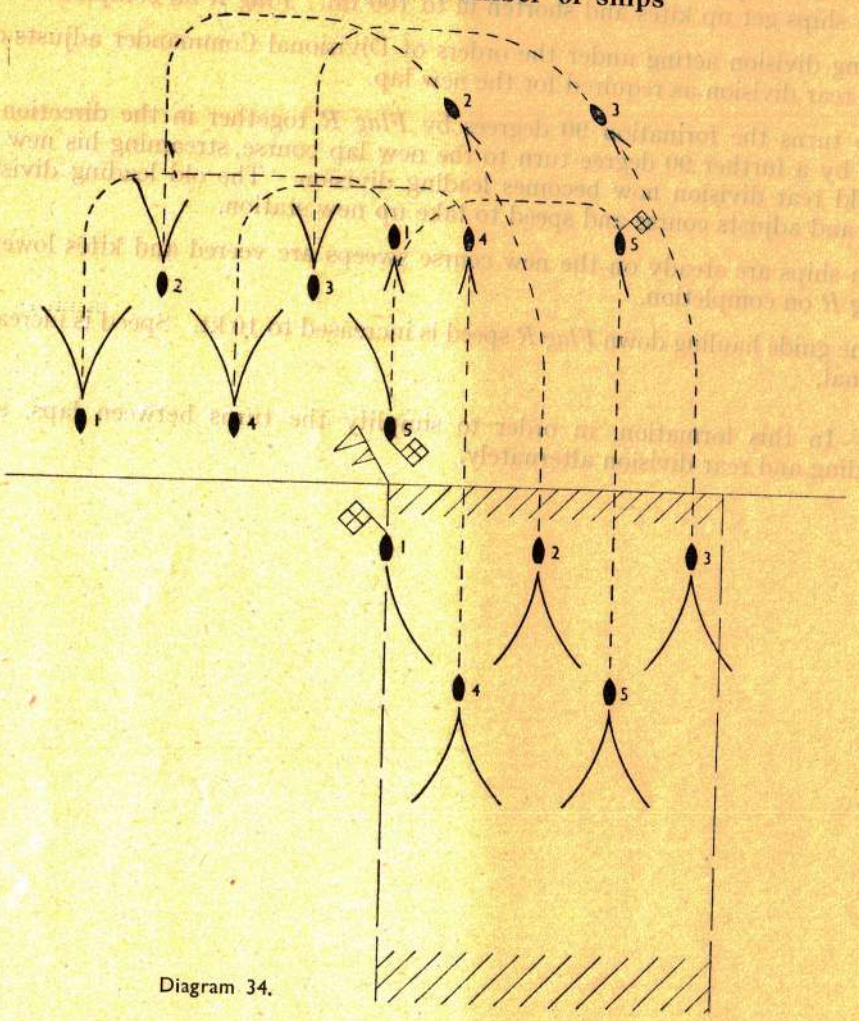


Diagram 34.

D.2 Port (*or* **Starboard**). Alter course 180 degrees to port (*or* starboard) in accordance with Standard Method No. 22.

1. Guide reduces speed of formation to 8 kt., shortens-in one sweep and streams the other. No. 5 shortens-in one sweep and recovers the other. All remaining ships get up kites and shorten-in to 100 fm. *Flag R* on completion.

2. No. 1 drops back into 2nd division and No. 5 takes guide. Leading division adjusts course to get to station on rear division as required for the new lap.

3. Guide turns the formation by *Flag R* 90 degrees together in the direction of the new lap, followed by a further 90 degree turn to come to the new lap course. The old leading division becomes rear division and adjusts course and speed to take up station.

4. When ships are steady sweeps are veered and kites lowered independently. *Flag R* on completion.

5. On the guide hauling down *Flag R* speed is increased to 10 kt. Speed is increased to 12 kt. by speed signal.

NOTE.—In this formation, in order to simplify the turns between laps, each division becomes leading and rear division alternately.

E. **Standard method of altering course No. 23**

'K' formation, turning together to an adjacent lap, even number of ships

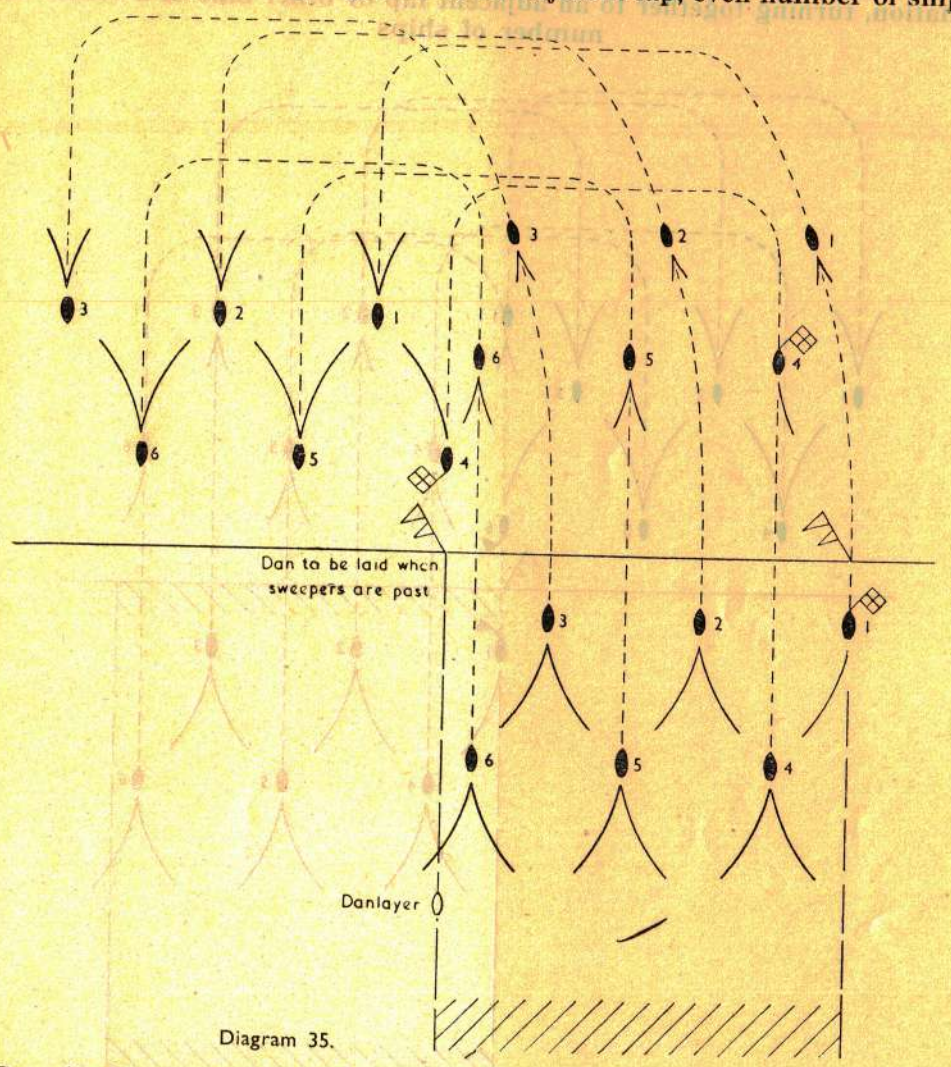


Diagram 35.

D.3 Port (*or* **Starboard**). Alter course 180 degrees to port (*or* starboard) in accordance with Standard Method No. 23.

1. Guide reduces speed of formation to 8 kt., shortens-in one sweep and streams the other. No. 4 shortens-in one sweep and recovers the other. All remaining ships get up kites and shorten-in sweeps to 100 fm. *Flag R* on completion.

2. No. 4 takes guide. Leading division adjusts course to get to station on rear division as required for the new lap.

3. Guide turns the formation by *Flag R* 90 degrees together in the direction of the new lap, followed by a further 90 degree turn to the new lap course. The old leading division becomes rear division and adjusts course and speed to take up new station.

4. When ships are steady sweeps are veered and kites lowered independently. *Flag R* on completion.

5. On the guide hauling down *Flag R* speed is increased to 10 kt. Speed is increased to 12 kt. by speed signal.

NOTE.—In this formation, in order to simplify the turns between laps, each division becomes leading and rear division alternately.

F. **Standard method of altering course No. 24**

'K' formation, turning together to an adjacent lap or other side of a center line, even number of ships

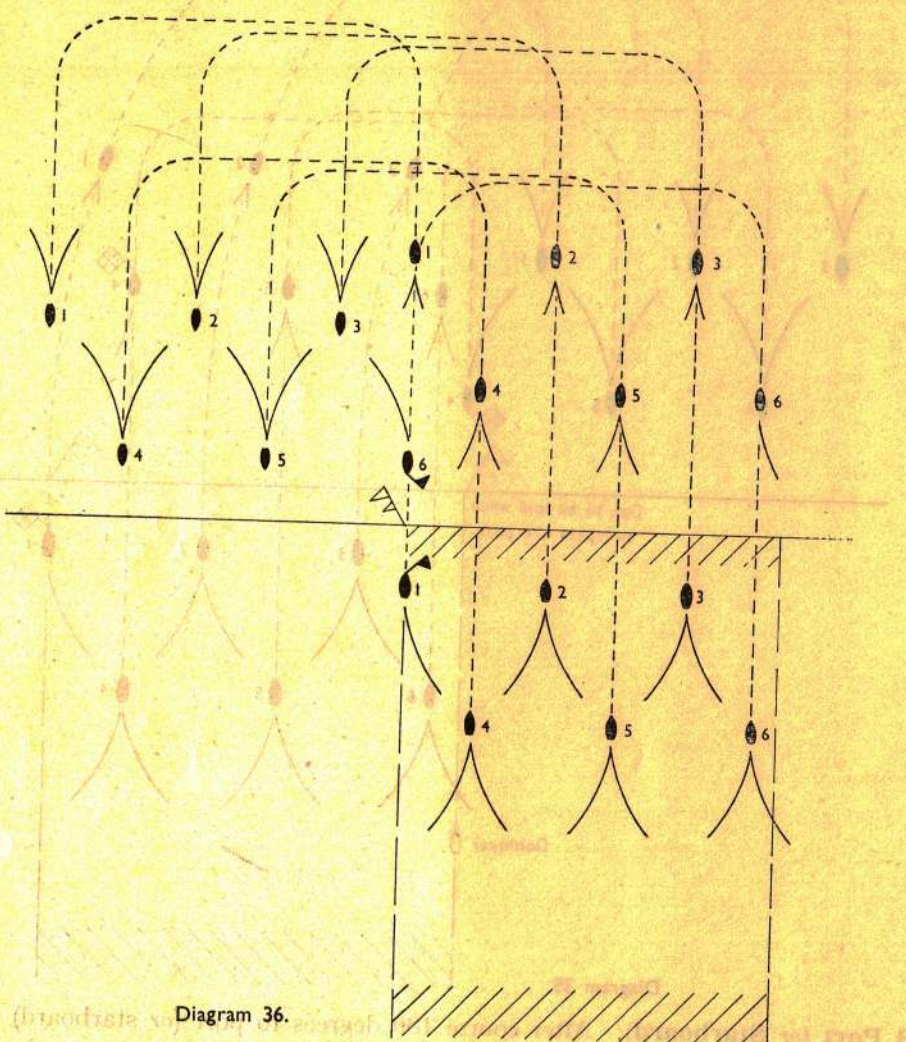


Diagram 36.

D.4 Port (*or* **Starboard**). Alter course 180 degrees to port (*or* starboard) in accordance with Standard Method No. 24.

1. Guide reduces speed of formation to 8 kt., shortens-in one sweep and veers the other. No. 6 shortens-in one sweep and recovers the other. All remaining ships get up kites and shorten-in to 100 fm. *Flag R* on completion.

2. No. 6 takes guide and turns the formation by *Flag R* 90 degrees together in the direction of new lap, followed by a further 90 degree turn to the new lap course. The old leading division becomes rear division.

3. When ships are steady sweeps are veered and kites lowered independently. *Flag R* on completion.

4. On guide hauling down *Flag R* speed is increased to 10 kt. Speed is increased to 12 kt. by speed signal.

NOTE.—In this formation, in order to simplify the turns between laps, each division becomes leading and rear division alternately.

1305. SIGNALS TO RECOVER WIRE SWEEPS ON COMPLETION OF SWEEPING

A. 'B,' 'C,' 'D' and 'F' formations

Speed signal ... Guide is to proceed at speed indicated (6 kt. in normal conditions, 8 knots in water of less than 25 fms.)

NEGAT 6I ... Up kite.

6D ... Ships are to close to $\frac{3}{4}$ cable apart on their sub-divisional guide, sight sweeps and slip.

B. 'J' formation

Speed signal ... Guide is to proceed at speed indicated (6 kt. in normal conditions, 8 knots in water of less than 25 fms.)

NEGAT 6I ... Up kites.

NEGAT 6C ... Ships are to close to $\frac{3}{4}$ cables apart on the guide, heaving in sweeps as necessary.

NEGAT 6B ... Sight sweeps and slip.

C. 'G,' 'H,' 'I' and 'K' formations

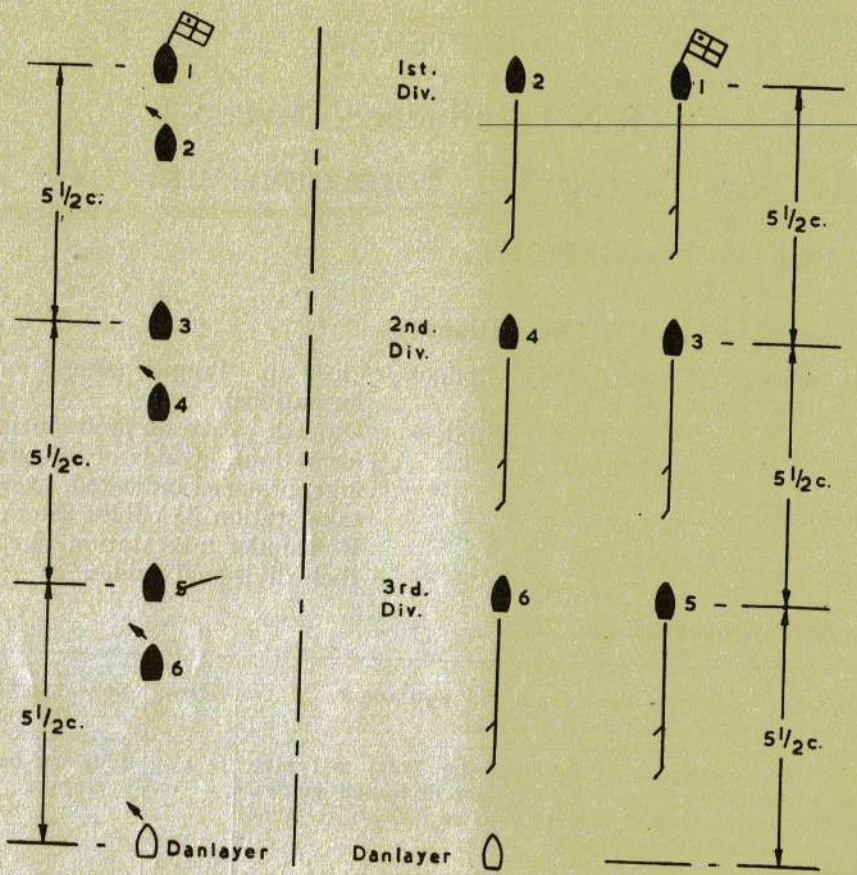
Speed signal ... Guide is to proceed at speed indicated (8 kt. in normal conditions).

NEGAT 6I ... Up kites.

NEGAT 6O ... In sweeps.

NOTE.—Flag R is worked as given in Article 1102, Note (*a*), and sweeping balls as in Article 901.

(i) 'P' FORMATION



PRELIMINARY FORMATION

'P' FORMATION TO PORT

TAKING UP FORMATION, STANDARD PROCEDURE ??

(ii) 'Q' FORMATION

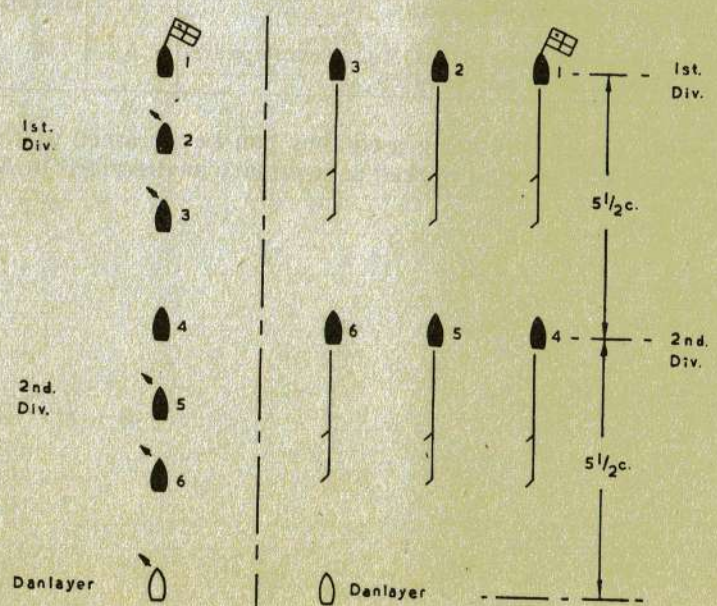


Diagram 37.

PRELIMINARY FORMATION

'Q' FORMATION TO PORT

D. **Standard method of altering course No. 31**

'P' formation, altering course by wheeling to sweep an adjacent lap.

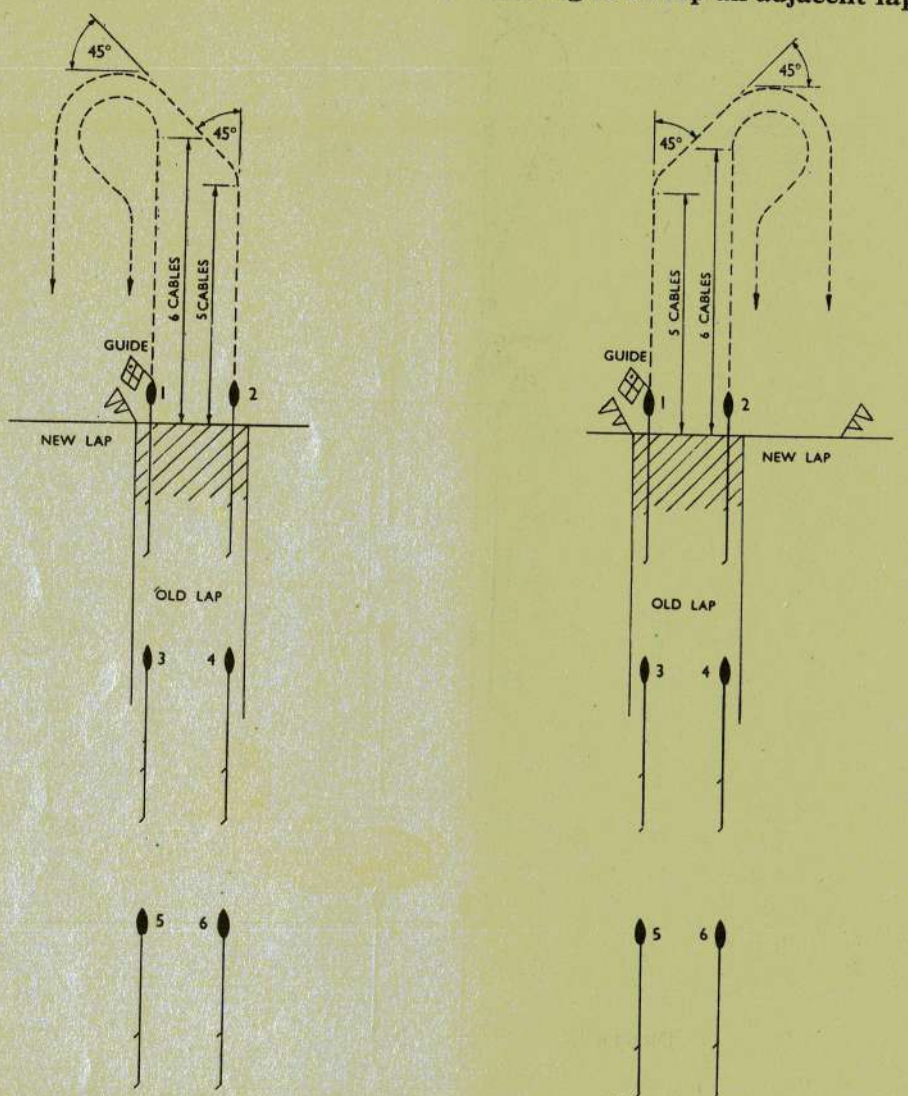


Diagram 39.

E. Standard method of altering course No. 32

'Q' formation. Alteration of course to re-sweep the same lap. Ships in formation two or more cables apart.

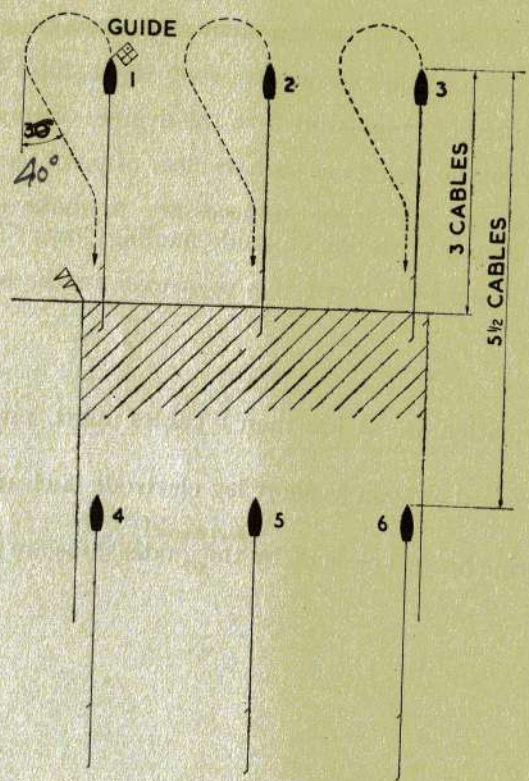


Diagram 40.

D. Alter course 180 degrees to re-sweep the lap in accordance with Method 32. *The Turn is always made towards the guide.*

1. When executed at 3 cables clear of lap leading division alter course together ~~210~~ 220 degrees to Port (*or* Starboard).

2. Guide alters to the new lap course (on hauling down *Flag R*) at a minimum distance of one cable from the lap.

3. Rear division carries out this maneuver in the same water as the leading division.

NOTES :

(*a*) Sweeps are to be de-energised as soon as short leg electrode is clear of the end of the lap and the *Red Flag* is to be dipped.

(*b*) On the *Red Flag* being hoisted close up by the divisional guides ships are to energise and synchronise sweeps.

(*c*) If 3 or more divisions are sweeping, the guide of the leading division must delay the turn so as not to enter the lap until the rear division is clear.

(*d*) Ships in second and subsequent divisions must haul over slightly for the grid iron maneuver, so that if the guide turns to port, ships pass port to port and if the guide turns to starboard ships pass starboard to starboard vis-a-vis their opposite numbers in the other division(s).

G. Standard method of altering course No. 34

'Q' formation, to sweep an adjacent lap, ships turning together towards the direction of the new lap

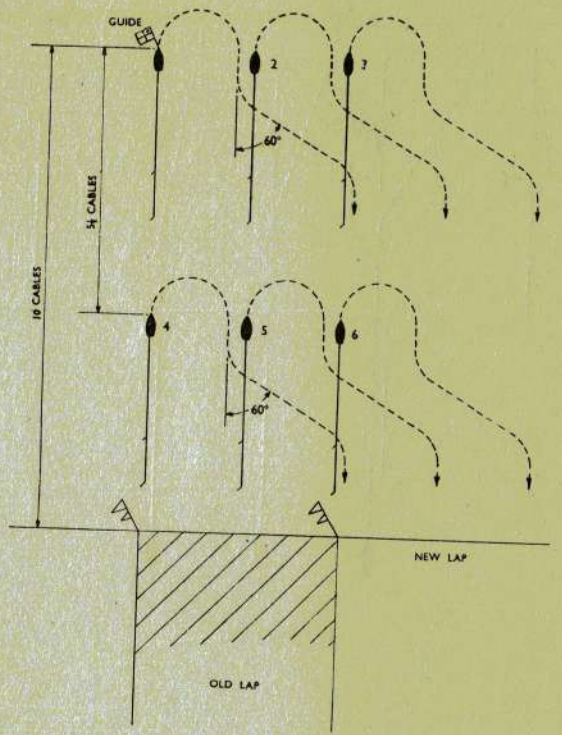


Diagram 42.

D.4 Starboard (*or* **Port**). Alter course 180 degrees together to Starboard (*or* Port) in accordance with Method 34, to sweep an adjacent lap. Guide of rear division take guide of formation.

1. When executed by guide at 10 cables clear of the lap, ships turn 180 degrees together in the direction indicated. *Flag R* to be hoisted close up on completion.

2. As soon as 180 degrees turn is completed guide hauls down *Flag R* and ships turn 60 degrees in the direction of the new lap.

3. Guide alters course as necessary to come to the new lap course on hauling down *Flag R* at a minimum distance of one cable from the new lap. New rear division conforms.

NOTES:

(*a*) When ships in formation are at less than 2 cables apart they must open out to this distance as soon as short leg electrode is clear.

(*b*) Sweeps are to be de-energised as soon as short leg electrode is clear of the end of the lap and the *Red Flag* is to be dipped.

(*c*) On the *Red Flag* being hoisted close up by the guides ships are to energise and synchronise sweeps.

I. Standard method of altering course No. 36

'Q' formation. Alteration of course by wheeling to sweep an adjacent lap.

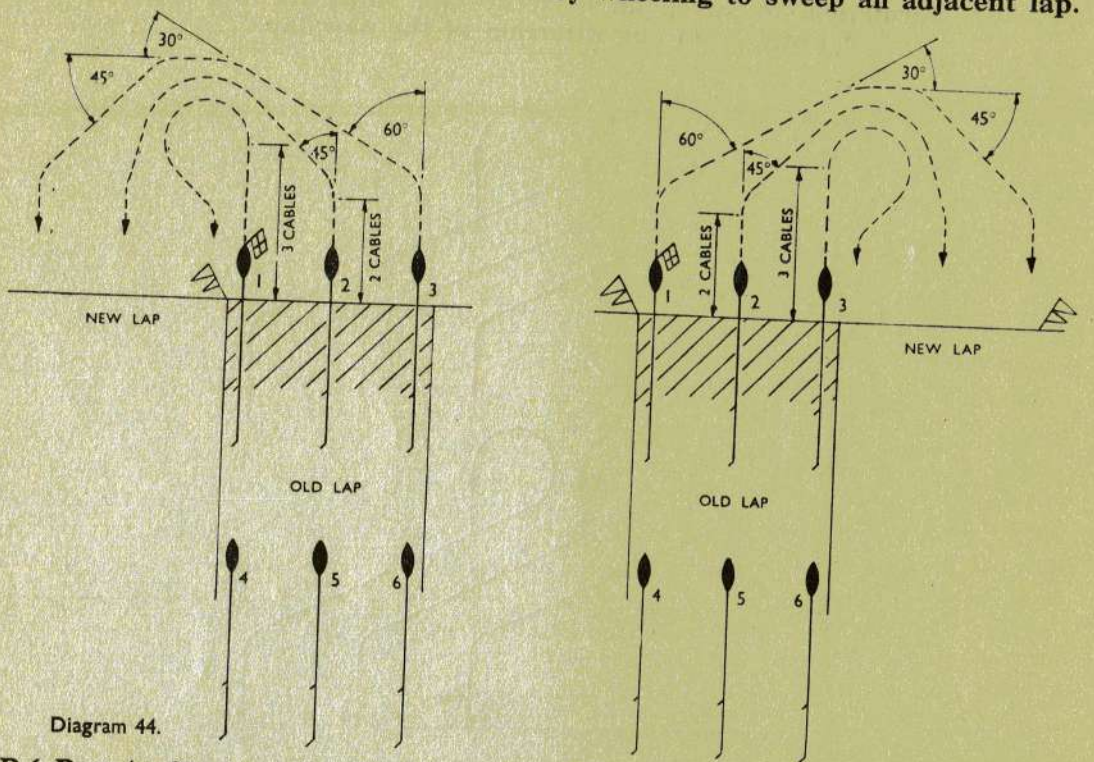


Diagram 44.

D.6 Port (*or* **Starboard**). Alter course 180 degrees by wheeling to sweep an adjacent lap in accordance with Method 36.

1. When executed by guide at 2 cables clear of lap pivot ship maintains course and speed for 1 cable (*see Note* (*a*)). Center and wing ships alter course by 45 degrees and 60 degrees respectively and increase speed to 15 kt. or stationing speed, keeping outside pivot ship's tail.

2. When 3 cables clear of the lap pivot ship alters course 210 degrees.

3. Center and wing ships alter a further 45 degrees and 30 degrees respectively as soon as pivot ship's tail is clear.

4. Pivot ship reduces speed on completing first 180 degrees of turn.

5. Center ship alters course 90 degrees as soon as clear of pivot ship's tail. Wing ship alters 45 degrees as soon as clear of center ship's tail, and subsequently further 45 degrees.

6. Pivot ship alters to new lap course as necessary to make end dan and increases to sweeping speed when ships are in station on guide hauling down *Flag R*.

7. Rear division carries out this maneuver in the same water as the leading division.

NOTES:

(*a*) When ships in formation are at less than 2 cables apart, the O.T.C. must execute the turn when 3 cables clear of the lap and pivot ship must start turning 210 degrees immediately (*i.e.* at the same time as center and wing ships).

(*b*) Sweeps are de-energised as soon as short leg electrode is clear of the end of the lap and the *Red Flag* is to be dipped.

(*c*) On the *Red Flag* being hoisted close up by the divisional guides ships are to energise and synchronise sweeps.

(*d*) If three or more divisions are sweeping the guide must delay the turn so as not to enter the new lap before the rear division is clear of the old lap.

1402. 'T' FORMATION

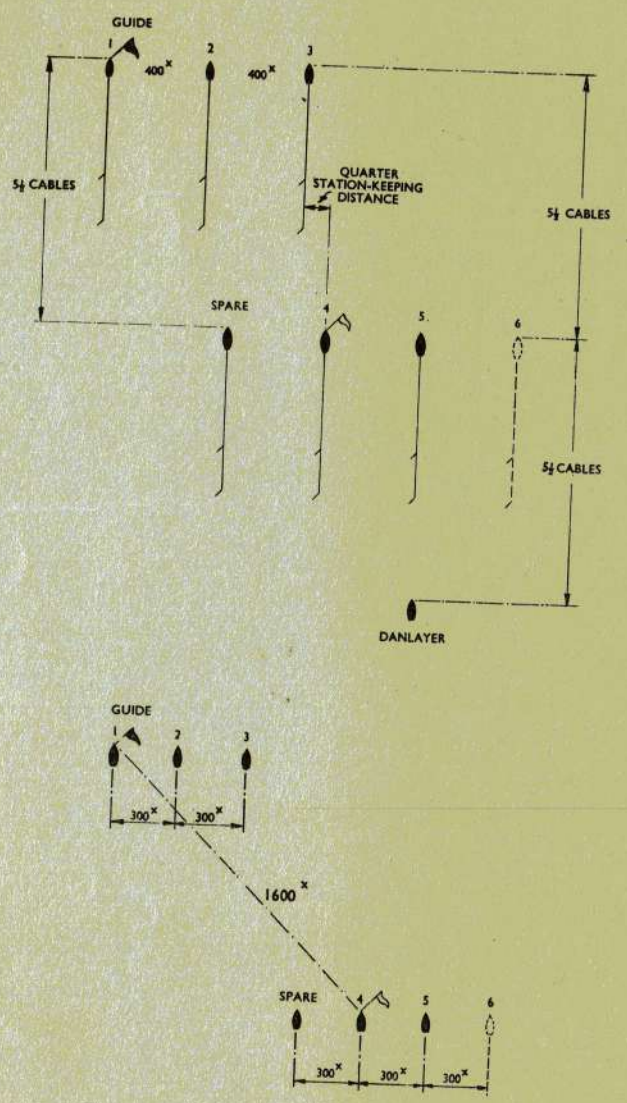


Diagram 45.

Preliminary Formation.

TAKING UP FORMATION. STANDARD PROCEDURE 21.

C. Standard method of altering course No. 37

'T' formation, to re-sweep the same lap, each division turning together. Rear division will be on the leading division's opposite quarter on the new lap

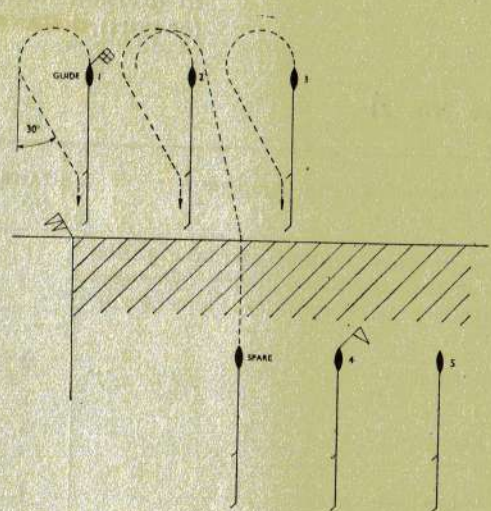


Diagram 46.

FLAG D. Alter course 180 degrees to re-sweep the same lap in accordance with Method 37. Ships always turn towards the guide.

1. When executed by guide at 3 cables clear of the lap leading division alters course together 210 degrees.

2. Guide alters to the new lap course at a minimum distance of 1 cable from the new lap on hauling down *Flag R*.

3. Spare ship carries out grid iron between center and wing ships of leading division.

4. Rear division carries out this maneuver abeam of the leading division's turning position. Guide of rear division works *Flag R* for the turn.

NOTES:

(*a*) Sweeps are to be de-energised as soon as short leg electrode clear of the lap and the *Red Flag* is to be dipped.

(*b*) On the *Red Flag* being hoisted close up by the divisional guides, ships are to energise and synchronise sweeps.

E. Standard method of altering course No. 39

'T' formation. Alteration of course by wheeling to sweep an adjacent lap

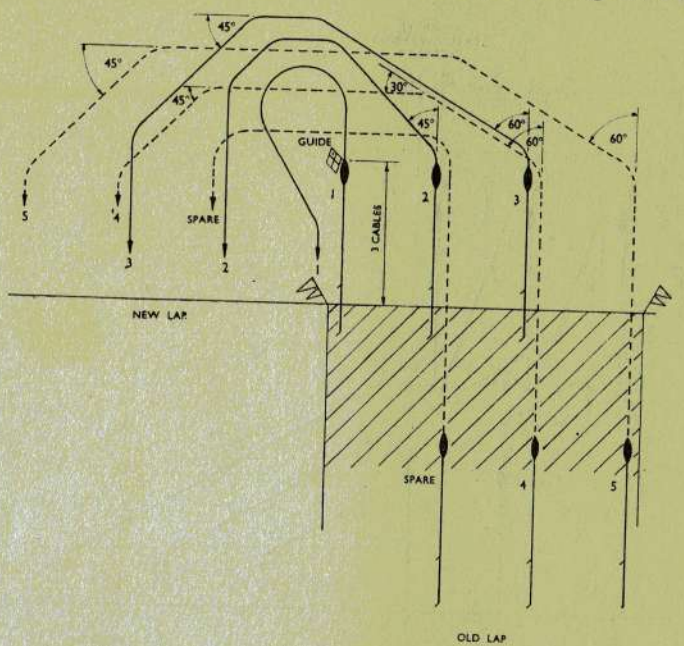


Diagram 48.

D.9 Port (*or* **Starboard**). Alter course 180 degrees by wheeling to sweep an adjacent lap on side of guide as indicated in accordance with Method 39.

1. When executed by guide at 3 cables clear of the lap guide maintains course and speed for one cable before turning 210 degrees. Center and wing ships of leading division alter course 45 degrees and 60 degrees respectively in the direction indicated and increase speed to 15 kt. or stationing speed.

2. Center and wing ships alter course a further 45 degrees and 30 degrees respectively when it is clear to do so.

3. Guide reduces speed when first 180 degrees of turn is completed.

4. Center and wing ships alter course further 90 degrees as necessary to resume station. Center and wing ships must not reduce speed until in station on the guide on the new course.

5. Spare ship executes the turning signal (*Flag R*) for the rear division when 3 cables CLEAR of the lap. Spare alters course 90 degrees. Other ships of rear division alter course 60 degrees and increase speed to 15 kt. or stationing speed.

6. Spare ship and 2nd division alter course as necessary to take up position in the formation.

7. Guide of leading division alters course to the new lap course as necessary to make end dan.

8. Guide increases speed to 12 kt. on hauling down *Flag R* (when all ships are in station).

NOTES:

(*a*) Sweeps are to be de-energised as soon as short leg electrode is clear of the end of the lap and the *Red Flag* is to be dipped.

(*b*) On the *Red Flag* being hoisted close up by the divisional guides ships are to energise and synchronise sweeps.

(*c*) Wing ships may start to gain bearing on the guide as soon as pulsing is stopped (*i.e.* before the turn is executed).

(*d*) This turn should not be used for wheeling to a lap on the side away from the guide.

C. **Standard method of altering course No. 40**

'S' formation, to re-sweep the same lap, center ship holding on before turning, remainder outwards

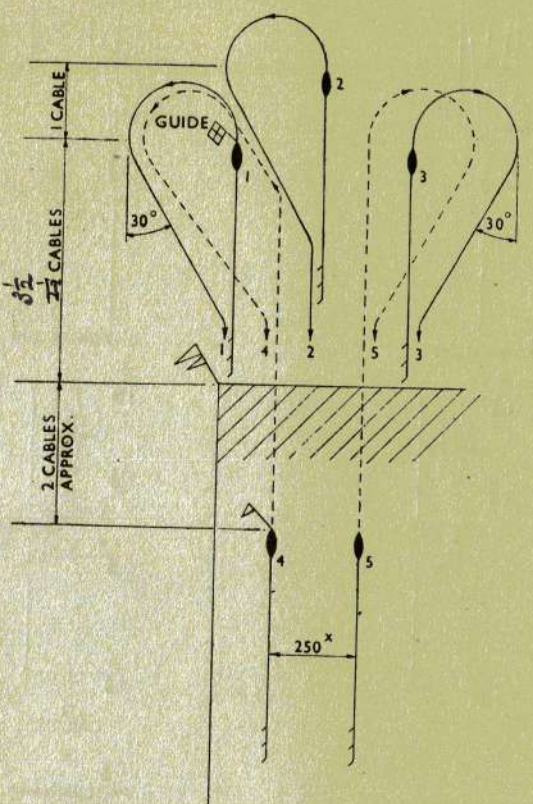


Diagram 50.

D. Alter course 180 degrees to re-sweep the same lap in accordance with Method 40.

1. When the leading division stops pulsing the center ship increases speed to 15 kt. or stationing speed.

2. When executed by guide at 3½ cables clear of the end of the lap (*see Note* (*c*)), guide and wing ship turn 210 degrees outwards together.

3. Center ship turns 210 degrees in the same direction as guide when one cable beyond the latter's turning point, that is, when she can safely do so. She reduces speed on regaining station.

4. Guide alters to the new lap course as necessary to make end dan (on hauling down *Flag R*).

5. Second division turns at the same distance from the end of the lap as the leading division but the guide of the second division will have to haul over as indicated in the diagram to avoid the tail of center ship of leading division (*see Note* (*c*)).

NOTES:

(*a*) Sweeps are to be de-energised as soon as short leg electrode is clear of the end of the lap and the *Red Flag* is to be dipped.

(*b*) On the *Red Flag* being hoisted close up by divisional guides ships are to energise and synchronise sweeps.

(*c*) If there are three ships in the rear division the turn must not be executed until 4½ cables clear of the lap, and 6 must start to open out from 5 by an alteration of course of 20 degrees when no more than one cable clear of the end of the lap in order to pass port to port vis-a-vis 3, must increase speed to maintain bearing and turn outwards when turning to the new lap.

E. Standard method of altering course No. 42

'S' formation, to sweep an adjacent lap, ships opening out before turning towards the direction of the new lap

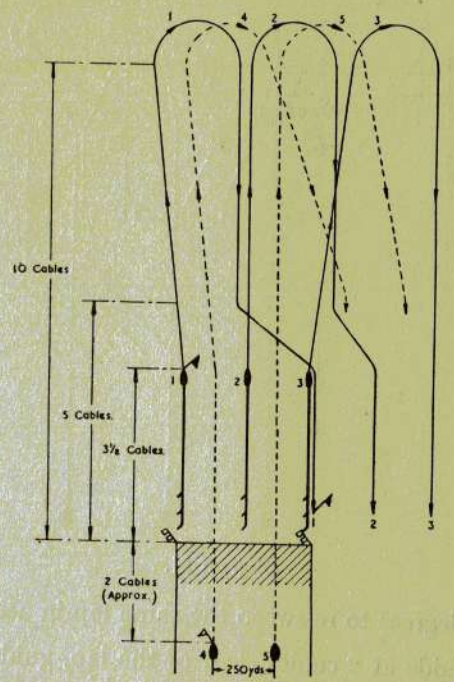


Diagram 52.

D.2 Starboard (*or* **Port**). Alter course 180 degrees to sweep an adjacent lap in accordance with Method 42. Ships turning towards the direction of the new lap indicated.

1. When executed by guide at 3½ cables clear of the lap, guide and wing ships of leading division start to open out from center ship in order to be at turning distance apart when 10 cables clear of the lap. Center ship maintains course. Guide and wing ship resume original course and hoist *Flag R* close up when opened out.

2. When rear division is 3½ cables clear of the lap, guide of rear division (4) starts to open out from 5 in order to be at turning distance when 10 cables clear of the lap. Five maintains course (*see Note* (*c*)).

3. When 10 cables clear of the lap, guide of leading division hauls down *Flag R*. Ships of leading division turn 180 degrees together in the direction of the new lap.

4. Rear division ships grid iron between ships of the leading division and turn abeam of the position where the leading division turned, (guide working *Flag R* for the turn), adjusting course as necessary to take up station on the new lap course (*see Note* (*c*)).

5. When the leading division has passed clear of the tails of the rear division the guide and center ship close in on the wing ship to take up station. Guide works *Flag R* on turning to the new lap course.

NOTES:

(*a*) Sweeps are to be de-energised as soon as short leg electrode is clear of the end of the lap and the *Red Flag* is to be dipped.

(*b*) On the *Red Flag* being hoisted close up by guides ships are to energise and synchronise sweeps.

(*c*) When there are three ships in the rear division 6 must open out from 5, and will pass port to port vis-a-vis 2.

G. Standard method of altering course No. 44

'S' formation. Alteration of course by wheeling to sweep an adjacent lap.

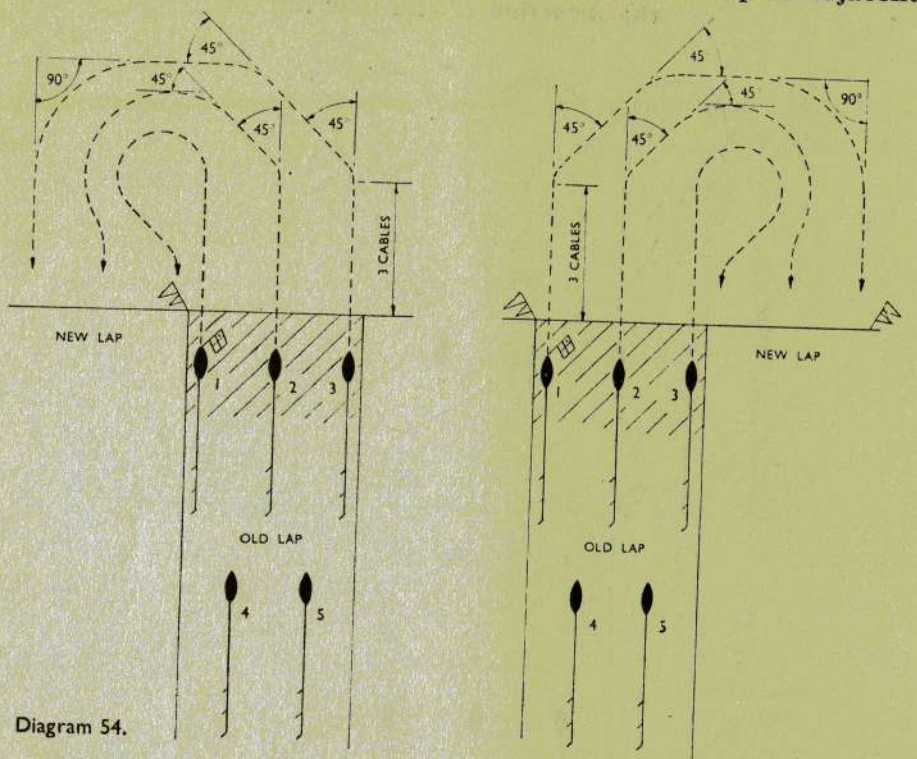


Diagram 54.

D.4 Port (*or* **Starboard**). Alter course 180 degrees by wheeling to an adjacent lap ~~side~~ indicated in accordance with Method 44.

1. When executed by guide at 3 cables clear of the lap, pivot ship alters course 210 degrees. Center and wing ships alter course 45 degrees and increase speed to 15 kt. or stationing speed.

2. Center and wing ships alter a further 45 degrees as soon as it is clear to do so.

3. Pivot ship reduces speed to 6 kt. on completing first 180 degrees turn.

4. Center and wing ships alter a further 45 degrees and 90 degrees as soon as it is clear to do so. Pivot ship alters to new lap course as necessary to make end dan. *Flag R* when in station.

5. On guide hauling down *Flag R*, pivot ship increases to 12 kt. or sweeping speed, remainder reducing speed when in station.

6. 2nd division carries out this maneuver when abeam of leading division's turning position.

NOTES:

(*a*) Sweeps are to be de-energised as soon as short leg electrode is clear of the end of the lap and the *Red Flag* is to be dipped.

(*b*) On the *Red Flag* being hoisted close up by guides ships are to energise and synchronise sweeps.

(*c*) If there are three ships in the second division the turn is carried out as above if wheeling to port in formation 'S' to Starboard, or vice versa. For a wheel in the same direction as that of the formation, the second division, as soon as clear of the lap, must haul over into the wake of leading division, and the turn must not be executed until the guide is four cables clear of the lap.

1404. 'P,' 'Q,' 'R,' 'S' AND 'T' FORMATIONS—TO RECOVER SWEEPS ON COMPLETION OF SWEEPING

Black Flag at the dip
or
Red Flag at the dip } De-energise or switch off sweeps.

Black Flag or Red Flag to be worked as Articles 902, 903 and 904.

Speed signal ... Guide is to proceed at speed indicated (4 kt. in normal conditions).

Negat. 7.C ... Recover sweeps.
Red Flag or Black Flag to be worked and sweeping balls as Article 901D.

CHAPTER 15

Two Flag Groups For General Purposes Required By Vessels Not Holding A.C.P. 175

1501. ADMINISTRATION

AJ .. .. .. Reporting for duty.

AM .. .. .. **Assist boat** apparently in trouble on bearing ——— from this ship or ship indicated.

AO .. .. .. **Boat** capsized or in danger bearing ——— from this ship or ship indicated.

AV .. .. .. **Close** me or unit indicated for transfer of ——— (*List A*) by method (——— *List B*). Gear is to be provided by ship being closed.

List A
1. Mail.
2. Personnel.
3. Stores.
4. Fuel.

List B
1. Boat.
2. Burtoning.
3. Heaving line.
4. Helicopter.
5. Jackstay or trolley line.

BH .. .. .. **Hoist** all boats *or* (———).
1. Power boats.
2. Pulling boats.
3. Small boats.
4. Boats hoisted by cranes or booms.

BI .. .. .. **Leave and liberty.** Usual leave and liberty may be granted (*or* from ——— to ———).

BK .. .. .. **Mail.** Send to this ship or ship indicated for mail (*or* ———).
1. Classified matter.
2. Official mail.
3. Parcels.
4. Registered mail.

BL .. .. .. **Man overboard.** Man overboard has been ———.
1. Given up for lost.
2. Picked up.

BM .. .. .. **Medical Officer.** Send medical officer as soon as possible (*or* at ———) (to ———).

BP .. .. .. **Practique.** Ships have practique.

BR .. .. .. **Recall** all personnel (*or* ———).
1. Officers.
2. Men.
3. Boats.

BX .. .. .. **Splice** the mainbrace.

BZ .. .. .. **Well Done.**

1502. ANCHOR—ING

EL .. .. .. **Anchor** (———). **Port** *or* **Starboard** may be added to indicate which anchor is to be used.
1. At your discretion.
2. In accordance with previous instructions.
3. In any unoccupied berth.
4. In berth ———.
5. In berths previously assigned.
6. In berths previously occupied.
7. In position ———.
8. In present sequence.
9. In succession from the rear.
10. On account of fog.
11. On bearing ——— (distance ——— miles) from ship indicated.
12. On line of bearing ———. (Distance between ships ——— hundreds of yards.)

EV .. .. .. **Get underway** (———). Order of units or types may be indicated.
1. And form column.
2. And proceed on duty assigned.
3. And proceed out of port.
4. Distance between guides of units is to be ——— hundreds of yards.
5. Distance between units is to be ——— hundreds of yards.
6. In succession.
7. In succession and form column.
8. In succession from the rear.
9. In accordance with previous instructions.
10. Units are to proceed at ——— minute intervals.

FA .. .. .. **Let go** another anchor.

FE .. .. .. **Notice :** Come to *or* revert to ——— hours notice for getting underway (at ——— knots).

FH .. .. .. **Secure** to buoy(s) (———).
1. Bow and stern.
2. In accordance with previous instructions.
3. To any unoccupied buoy.
4. To buoy ———.
5. To buoy(s) previously assigned.
6. To buoy(s) previously occupied.

FI .. .. .. **Shift berth** to ——— indicated. **Port** *or* **Starboard** may be added to indicate which side of the ship is to be next to pier.
1. Berth.
2. Buoy.

FN .. .. .. **Weigh anchor** (*or* ———). **Port** *or* **Starboard** may be used to indicate which anchor.
1. Second Anchor.
2. Secure Anchors.

1502A. ATTACK

HW .. .. .. **Attack** by atomic weapons has occurred (PURPLE ONE) (*or* ———).
1. Attack by atomic weapons is probable (PURPLE THREE). (See Flag 3 for PURPLE TWO.)

1503. BEARING AND DISTANCE

JL .. .. .. **Attention** is called to bearing ———.

JO .. .. .. **Close** me or unit indicated (to ——— hundreds of yards).

JP .. .. .. **Distance.** Take distance ———.
1. In ——— hundreds of yards.
2. Maintain present distance.
3. Proper.
4. Standard.

JR .. .. .. **Interval.** Take interval ———.
1. Extended maneuvering interval.
2. In ——— hundreds of yards.
3. In ——— thousands of yards.
4. Maneuvering.
5. Of ——— hundreds of yards between service lines.
6. Of ——— hundreds of yards between service and waiting lines.
7. Proper.

JS .. .. .. **Keep** within ——— distance of this unit or unit indicated.
1. Radar.
2. Very high frequency.
3. Visual signalling.

JV .. .. .. **Relative bearings** and **distances** are to be———.
1. Preserved.
2. Resumed.

JW .. .. .. **True** bearings and distances are to be ———.
1. Preserved.
2. Resumed.

1504. COMMAND

KG .. .. .. **Assignment.** You are assigned to this unit or unit indicated.

KL .. .. .. **Form** unit indicated.

KP .. .. .. **Organisation.** Assume ——— organisation (number ———) or as indicated by call sign or type letter indicator following.
1. Task.
2. Type.

KR .. .. .. **Tactical command.** Assume tactical command (of ———).

KS .. .. .. **Take charge** (———).
1. And conduct the exercise.
2. And proceed as previously directed.
3. And proceed to port.
4. Of force (*or* ———) and maneuver as necessary for flying operations.
5. Of force (*or* ———) for maneuvers.
6. Of operations.

KT .. .. .. **Transfer.** Officer making this signal will transfer his flag to ship indicated (at ———).

KU .. .. .. **Unit** indicated by call sign following is composed of units indicated.

KW .. .. .. **Execute** plan/order ——— (phase ———). Plan *or* order number may be indicated.

KY .. .. .. **Operations.** Commence operations (*or* ———).
1. Cease operations.
2. Delay operations until further orders or until ———.
3. Expedite operations.
4. Operations completed.

KZ .. .. .. **Operations.** Unable to carry out operations or operation indicated due to ———.
1. Damage.
2. Lack of services.
3. Prior commitments.
4. Weather.

1505. COMMUNICATIONS

LG .. .. .. **Communicate.** This ship or ship indicated is unable to communicate by ———.
1. Flaghoist.
2. Nancy.
3. Non-directional light.
4. Radiotelegraphy. (Frequency in mcs. or circuit designation preceded by DESIG may be added.)
5. Radiotelephony. (Frequency in mcs. or circuit designation preceded by DESIG may be added.)
6. Signal light.
7. Sonar.

LK .. .. .. **Expedite.** Expedite signal(s) (by ———).
1. Acknowledging more promptly.
2. Answering more promptly.
3. Making hoist on both sides.
4. Making hoist on other side.
5. Relaying more promptly.

LN .. .. .. **Method.** Use ——— method.
1. Flaghoist.
2. Flashing light.
3. Nancy.
4. Radar.
5. Radiotelegraphy.
6. Radiotelephony.
7. Semaphore.
8. Sonar.

LP .. .. .. **Repeat** all visual signals by radio.

1506. INTELLIGENCE

QO .. .. .. **Sighted** ———.

1. A.A. fire.
2. Buoy.
3. Colored water.
4. Flare.
5. Flashes of guns.
6. Floating object.
7. Glare of searchlight.
8. Iceberg.
9. Land.
10. Lights.
11. Lighthouse.
12. Lightship.
13. Oil patch.
14. Periscope (snorkel).
15. Reefs.
16. Rocket.
17. Rocks.
18. Ship without lights.
19. Shoals.
20. Small boat.
21. Smoke.
22. Smoke bomb.
23. Star-shell.
24. Star (Verys).
25. Wreckage.

1507. NAVIGATION

SU .. .. .. **Darken ship.** Show no light (*or* only ——— lights from List A) (——— from List B).

List A

1. Blue riding.
2. Blue stern.
3. Dimmed navigation.
4. Dimmed riding.
5. Navigation lights.
6. Red truck.
7. Riding.
8. Shaded (screened stern).
9. Special.

List B

1. To indicate position.
2. During night air operations.

SV .. .. .. **Degaussing** equipment. Use degaussing equipment.

SW .. .. .. **Depth** of water is ——— fathoms.

SX .. .. .. **Draft** is ——— feet.

SY .. .. .. **Estimated time** of ——— is ———.
1. Arrival.
2. Attack.
3. Commencement of exercise.
4. Commencement of flight operation.
5. Completion.
6. Completion of exercise.
7. Completion of flight operation.
8. Completion of replenishment.
9. Contact.
10. Departure.
11. Readiness for sea.
12. Rejoining.

SZ .. .. .. **Fogbuoy.** Stream fogbuoy (at ——— hundreds of yards astern).

TD .. .. .. **Land.** Keep out of sight of land.

TF .. .. .. **Light.** You (*or* ship indicated) have a light showing ——— PORT or STARBOARD may be added to indicate side.
1. Aft.
2. Aloft.
3. Amidships.
4. Forward.
5. Superstructure.

TH .. .. .. **Night intentions.** Remain as indicated during the night (*or* until ———).
1. At present speed.
2. In present formation.
3. In present formation, on present course and at present speed.
4. In present disposition.
5. On present course.

TM .. .. .. **PIM.** Position and Intended Movement is as indicated.
(*a*) Position.
(*b*) Time in whole hours.
(*c*) Course.
(*d*) Speed.

TP .. .. .. **Position.** Be in position (*or* position ———) at ——— NEGAT following means 'Unable to arrive in position (*or* position ———) at prescribed time. Can arrive at ———.'

TQ .. .. .. **Position.** My position is ———.

UE .. .. .. **Time.** Zero time will be indicated by the execution of this signal (*or* by numerals following).

UH .. .. .. **Zone time.** Use zone time indicated by letter following DESIG (at ———).

1507A. DAMAGE

VM .. .. .. **Damaged.** This ship, or ship(s) indicated, is damaged (by ———). A time signal indicates time at which damage will be repaired.
1. Bomb attack.
2. Collision.
3. Enemy action.
4. Fire.
5. Grounding.
6. Heavy leakage.
7. Storm.
8. Underwater explosion.

1508. TACTICAL

YM .. .. .. **Act** independently.

YR .. .. .. **Close up** (———).
1. Leaving places vacant for ships temporarily out of the formation.
2. Without regard for ships out of formation.

YS .. .. .. **Conform** to general movements of this unit or unit indicated.

YV .. .. .. **Expedite** ———.
1. Action.
2. Answer to signal.
3. Maneuver.
4. Operation.

YW .. .. .. **Follow** in wake of this ship, or ship indicated (*or* ———).
1. Wake of the guide.
2. Wake of the O.T.C.

ZA .. .. .. **Join** ———.
1. As leading ship of this unit or unit indicated and conform to movements of this unit.
2. As rear ship of this unit or unit indicated and conform to movements of this unit.
3. Formation (*or* formation indicated) when practicable, falling in astern or taking any station open.
4. This unit (*or* unit indicated). Station may be indicated.
5. Your own Senior Officer.

ZB .. .. .. **Join** (*or* rejoin) this unit or unit indicated (———).
1. At ———.
2. When conditions exist as indicated.
3. When present orders have been carried out.

ZC .. .. .. **Keep** ———.
1. Ahead.
2. Astern.
3. Clear during maneuvers.
4. In wake of this unit *or* unit indicated.
5. Just clear of the wake of next ahead.
6. Out of the way.
7. To port of this unit *or* unit indicated.
8. To starboard of this unit *or* unit indicated.

ZG .. .. .. **Movements.** Follow my movements (*or* of ———).
1. Column leader (*or* unit indicated) in conforming to channel by adjusting course and speed as necessary to pass over the same ground.
2. O.T.C.
3. O.T.C. in altering course and speed.
4. This unit or unit indicated.

ZH .. .. .. **Pass** ———.

1. Ahead of this unit *or* unit indicated.
2. Astern of this unit *or* unit indicated.
3. Between lines.
4. Ships unable to keep station.
5. Through infomation.
6. Through lines.
7. To port of this unit *or* unit indicated.
8. To starboard of this unit *or* unit indicated.

ZJ .. .. .. **Proceed** (———).

1. As previously directed.
2. In accordance with operation order *or* serial number as indicated.
3. In company (with ———).
4. Independently.
5. Independently into port and take berth previously assigned.
6. On duty assigned.
7. Out of port.
8. To ———.
9. To anchorage.
10. To attack.
11. To contact area.
12. To port.
13. To position ———.
14. To recover man overboard (from ———).
15. To regular station.
16. To rendezvous.
17. With dispatch.
18. Without regard to formation.

ZQ .. .. .. **Underway.** Remain underway (until ———).

(C46184) 2,600+2 5/54