



A SEMINAR ON CASEY'S SCHOOLS OF INSTRUCTION

SCHOOLS OF THE SOLDIER AND COMPANY

MARCHING WHEELING

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GENERAL PRINCIPLES OF WHEELING. (p1)

- **Types of wheels**

1. from halts, or on fixed pivots,

1. Used to move from line into column & from column into line
2. Used to change direction of the line
3. pivot-man only turns in his place, without advancing or receding.

2. in march, or on movable pivots.

1. Used to change direction in column,
2. executed to the side opposite to the guide.
3. pivot takes steps of nine or eleven inches, according as the squad is marching in quick or double quick time,
4. subdivisions of a column may change direction without losing their distances

- **Man on wheeling flank**

- takes the full step of twenty-eight inches, or thirty-three inches, according to the cadence (common time / quick time, double quick respectively).

- **Man on pivot**

- takes steps of nine or eleven inches, when marching in quick or double quick time respectively.

- **All other men**

- each man maintains the same cadence and shortens his stride according to his approximation to the pivot in order to maintain rank alignment.

GENERAL PRINCIPLES OF WHEELING. (p2)

- **S.S. 390.** Wheelings are of two kinds: from halts, or on fixed pivots, and in march, or on movable pivots.
- **S.S. 391.** Wheeling on a fixed pivot takes place in passing a corps from the order in battle to the order in column, or from the latter to the former.
- **S.S. 392.** Wheels in marching take place in changes of direction in column, as often as this movement is executed to the side opposite to the guide.
- **S.S. 393.** In wheels from a halt, the pivot-man only turns in his place, without advancing or receding.
- **S.S. 394.** In the wheels in marching, the pivot takes steps of nine or eleven inches, according as the squad is marching in quick or double quick time, so as to clear the wheeling-point, which is necessary, in order that the subdivisions of a column may change direction without losing their distances, as will be explained in the School of the Company.
- **S.S. 395.** The man on the wheeling-flank will take the full step of twenty-eight inches, or thirty-three inches, according to the gait.

GENERAL PRINCIPLES OF WHEELING. (p3)

- **S.S. 396.** The rank being at a halt, the instructor will place a well-instructed man on the wheeling-flank to conduct it, and then command:
 - 1. *By squad, right wheel.* 2. MARCH.
- **S.S. 397.** At the second command, the rank will step off with the left foot, turning at the same time the head a little to the left, the eyes fixed on the line of the eyes of the men to their left; the pivot-man will merely mark time in gradually turning his body, in order to conform himself to the movement of the marching flank; the man who conducts this flank will take steps of twenty-eight inches, and from the first step advance a little the left shoulder, cast his eyes from time to time along the rank, and feel constantly the elbow of the next man lightly, but never push him.
- **S.S. 398.** The other men will feel lightly the elbow of the next man toward the pivot, resist pressure coming from the opposite side, and each will conform himself to the marching flank – shortening his step according to his approximation to the pivot.

Reenactor cautions

- I've often heard during the execution of a wheel, the phrase "lean-in, look-out"
 - This is the wrong guidance!
 - We need the soldiers to remain erect, not lean
 - Leaning causes compression of the ranks towards the pivot.
 - We need to minimize the turning of the head, in order to maintain alignment throughout the wheel.
 - Turning the head tends to turn the shoulders, which in turn deranges the alignment
- Recommend the phrase: "touch in, eyes out".
 - "touch": Emphasize the concept of light contact with the elbows
 - "eyes": Minimize the movement of the head and therefore the movement of the shoulders

GENERAL PRINCIPLES OF WHEELING. (p4)

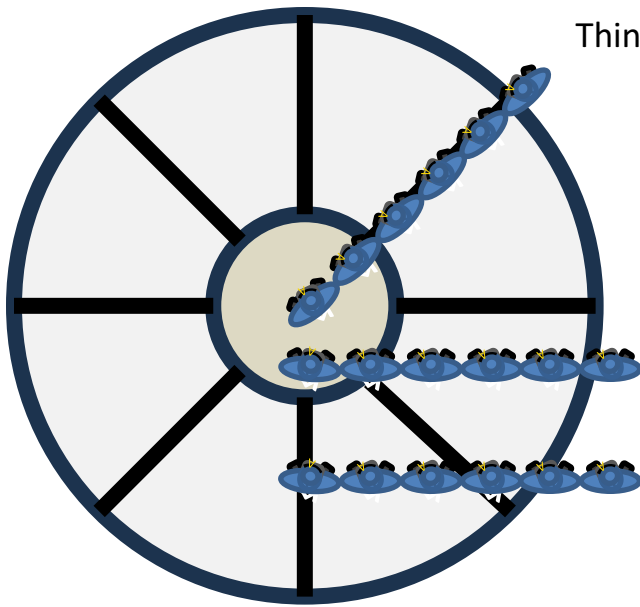
- **S.C. 230.** It is highly important, in order to preserve distances and the direction, that all the subdivisions of the column should change direction precisely at the point where the leading subdivision changed; it is for this reason that that point ought to be marked in advance, and that it is prescribed that the guides direct their march on the marker, also that each chief of subdivision shall not cause the change to commence till, the guide of his subdivision has grazed the breast of this marker.
- **S.C. 231.** Each chief will take care that his subdivision arrives at the point of change in a square with the line of direction: with this view, he will face to his subdivision when the one which precedes has commenced to turn or to wheel, and he will be watchful that it continues to march squarely until it arrives at the point where the change of direction is to commence.
- **S.C. 232.** If, in changes of direction, the pivot of the subdivision which wheels should not clear the wheeling point, the next subdivision would be arrested and distances lost; for the guide who conducts the marching rank having to describe an arc in length about once and a half the front of the subdivision, the second subdivision would be already up with the wheeling point, whilst the first which wheels has yet the half of its front to execute, and hence would be obliged to mark time until that half be executed. It is therefore prescribed, that the pivot of each subdivision should take steps of nine or eleven inches in length, according to the swiftness of the gait, in order not to arrest the march of the next subdivision. The chiefs of subdivision will look well to the step of the pivot, and cause his step to be lengthened or shortened as may be judged necessary. By the nature of this movement, the centre of each subdivision will bend a little to the rear.
 - The arc in length (i.e. radius) of “about once and a half the front of the subdivision” is for a wheel in motion.

GENERAL PRINCIPLES OF WHEELING. (p5)

- **S.C. 233.** The guides will **never alter** the length or the cadence of the step, whether the change of direction be to the side of the guide or to the opposite side.
- **S.C 234.** The marker, placed at the wheeling point, will always present his breast to the flank of the column. The instructor will take the greatest pains in causing the prescribed principles to be observed; he will see that each subdivision only commences the change of direction when the guide, grazing the breast of the marker, has nearly passed him, and, that the marching flank does not describe the arc of too large a circle, in order that it may not be thrown beyond the new direction.
- **S.C. 235.** In change of direction by wheel, the guide of the wheeling flank will cast his eyes over the ground at the moment of commencing the wheel, and will **describe an arc of a circle whose radius is equal to the front of the subdivision.**
 - The “arc of a circle whose radius is equal to the front of the subdivision” is for a wheel on a fixed pivot.

The following illustrate the
General Principles of Wheeling

Think of each battalion/division/company/platoon/file as a spoke in a wagonwheel.

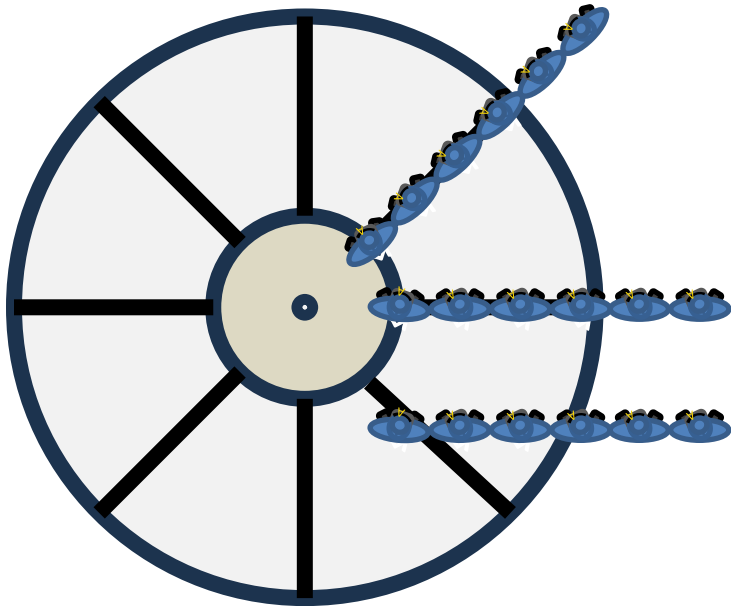
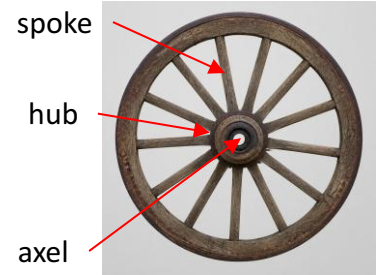


Wheel on a fixed pivot.

Think of the fixed-pivot guide as being the axle of the wagon wheel. It is fixed in place.

As the flanking guide advances and scribes his arc, the fixed-pivot stays fixed in place.

All following units cannot advance until the wheeling unit has completed their wheel and advanced out of the way.



Wheel on a moving pivot.

Think of the moving-pivot guide as being the point where the spoke connects to the hub of the wheel. That point on the hub scribes an arc around the axle as the wheel rotates.

As the flanking guide advances and scribes his arc, the moving-pivot also advances and scribes a proportionally smaller arc.

By scribing the proportionally smaller arc, all following units can continue to advance and subsequently change direction once they reach the point of execution.

PRINCIPLES OF WHEELING

recap

- General Principles (focus of daily drill)
 - Wheeling from halts, or on fixed pivots
 - The flanking guide maintains the cadence and the pace
 - He does not increase or decrease either cadence or pace
 - The pivot guide turns in his place (marks time),
 - He does not advance or recede
 - All other soldiers maintain the cadence and shorten the length of their step such that they remain behind a line drawn between the pivot guide to the flank guide
 - Quick time: 28 inches at the wheeling flank and 0 inches at the pivot.
 - Double Quick time: 33 inches at the wheeling flank and 0 inches at the pivot
 - Wheeling in motion
 - The flanking guide maintains the cadence and the pace
 - He does not increase or decrease either cadence or pace
 - The pivot guide maintains the cadence but shortens his step to 1/3 the pace of the flanking guide
 - He continues to advance along an arc
 - All other soldiers maintain the cadence and shorten the length of their step such that they remain behind a line drawn between the pivot guide to the flank guide
 - Quick time: 28 inches at the wheeling flank and 9 inches at the pivot.
 - Double Quick time: 33 inches at the wheeling flank and 11 inches at the pivot
- Special Principles (discussed in separate lesson)
 - Wheeling to break into platoons (S.C. 178, 185, 190, 195, 199)
 - Wheeling into line (S.C. 244 & 253; S.B. 464)

WHEELING FROM A HALT, OR ON A FIXED PIVOT.

Basic maneuver

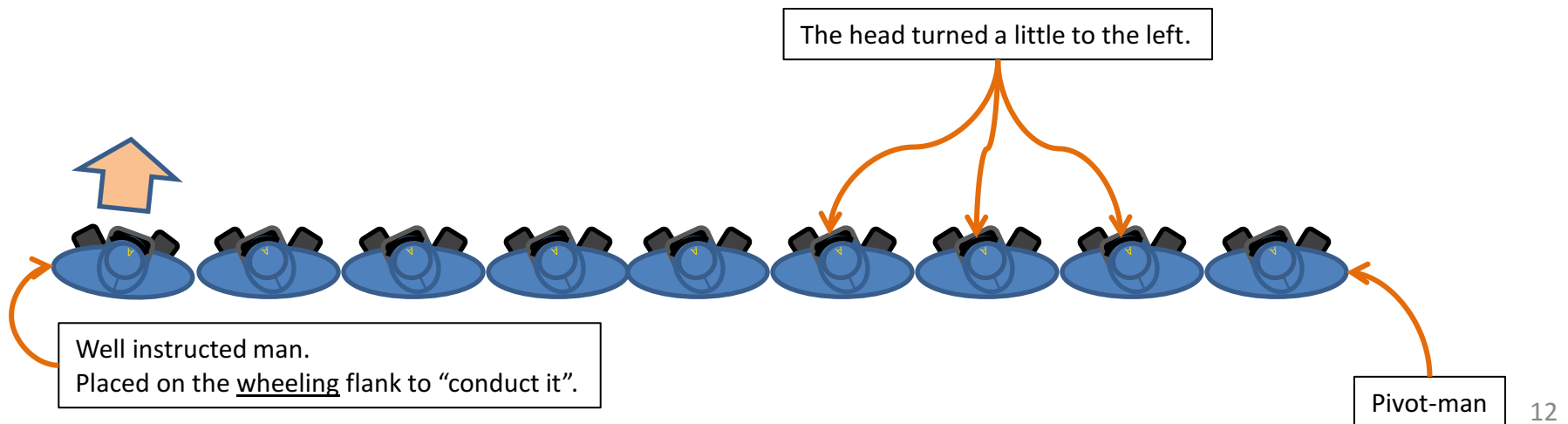
S.S. 396. The rank being at a halt, the instructor will place a well-instructed man on the wheeling-flank to conduct it, and then command:



Well instructed man placed on the wheeling flank to “conduct it”.
I.e., this soldier knows how to march in proper cadence & pace, and scribe the correct arc given the size of the unit.

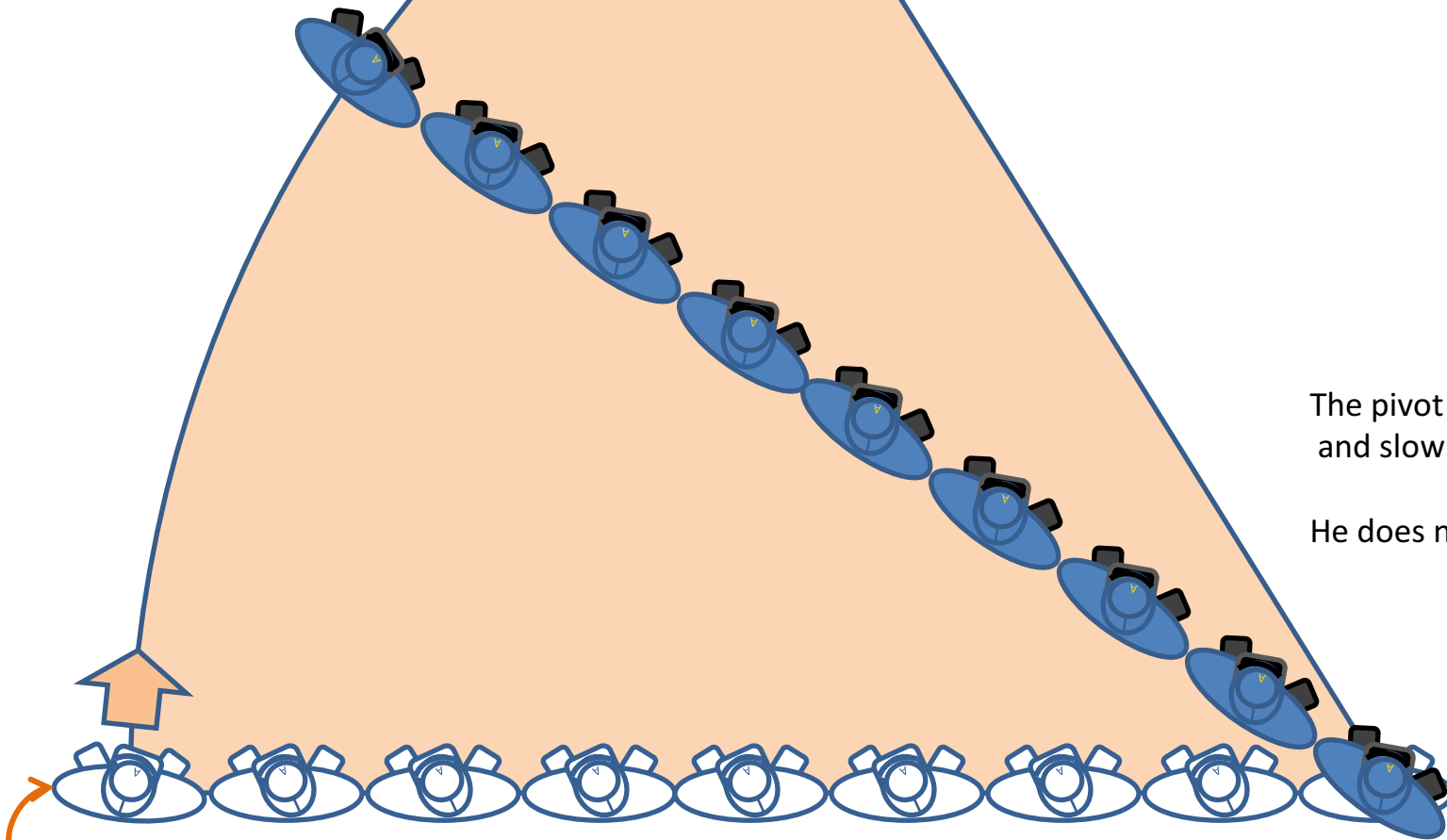
1. *By squad, right wheel.* 2. MARCH.

S.S. 397. At the second command, the rank will step off with the left foot, turning at the same time the head a little to the left, the eyes fixed on the line of the eyes of the men to their left; the pivot-man will merely mark time in gradually turning his body, in order to conform himself to the movement of the marching flank; the man who conducts this flank will take steps of twenty-eight inches, and from the first step advance a little the left shoulder, cast his eyes from time to time along the rank, and feel constantly the elbow of the next man lightly, but never push him.



S.S. 398. The other men will feel lightly the elbow of the next man toward the pivot, resist pressure Coming from the opposite side, and each will conform himself to the marching flank-shortening his step according to his approximation to the pivot.

In Quick Time, the man who conducts the flank takes steps of twenty-eight inches.



The pivot man marks time, and slowly turns in place.

He does not march backwards!

Well instructed man.
Placed on the wheeling flank to “conduct it”.

Pivot-man

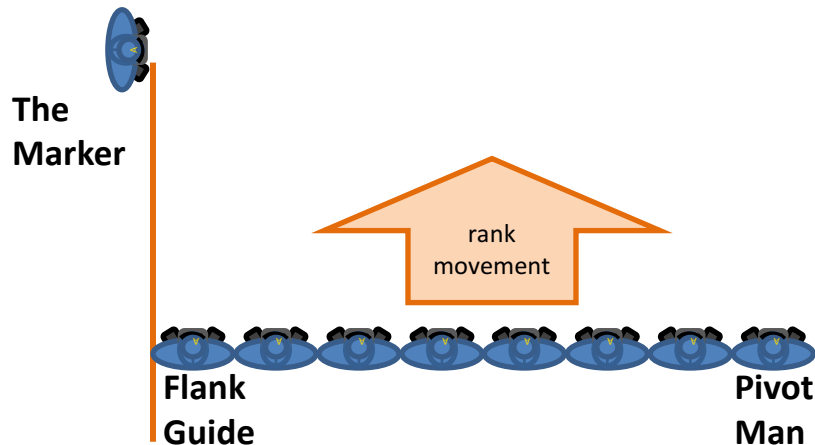
WHEELING IN MARCHING, OR ON A MOVABLE PIVOT.

- **S.S. 406.** When the recruits have been brought to execute well the wheel from a halt, they will be taught to wheel in marching.
- **S.S. 407.** To this end, the rank being in march, when the instructor shall wish to cause it to change direction to the reverse flank (to the side opposite to the guide or pivot flank) he will command:
 - 1. *Right (or left) wheel.* 2. MARCH.
- **S.S. 408.** The first command will be given when the rank is yet four paces from the wheeling point.
- **S.S. 409.** At the second command, the wheel will be executed in the same manner as from a halt, except that the touch of the elbow will remain toward the marching flank (or side of the guide) instead of the side of the actual pivot; that the pivot man, instead of merely turning in his place, will conform himself to the movement of the marching flank, feel lightly the elbow of the next man, take steps of full nine inches, and thus gain ground forward in describing a small curve so as to clear the point of the wheel. The middle of the rank will bend slightly to the rear. As soon as the movement shall commence, the man who conducts the marching flank will cast his eyes on the ground over which he will have to pass.

1. *Right (or left) wheel.* 2. MARCH.

S.S. 408. The first command will be given when the rank is yet four paces from the wheeling point.

S.C. 230. It is highly important, in order to preserve distances and the direction, that all the subdivisions of the column should change direction precisely at the point where the leading subdivision changed; it is for this reason that that point ought to be marked in advance, and that it is prescribed that the guides direct their march on the marker, also that each chief of subdivision shall not cause the change to commence till, the guide of his subdivision has grazed the breast of this marker.



WHEELING IN MARCHING, OR ON A MOVABLE PIVOT.

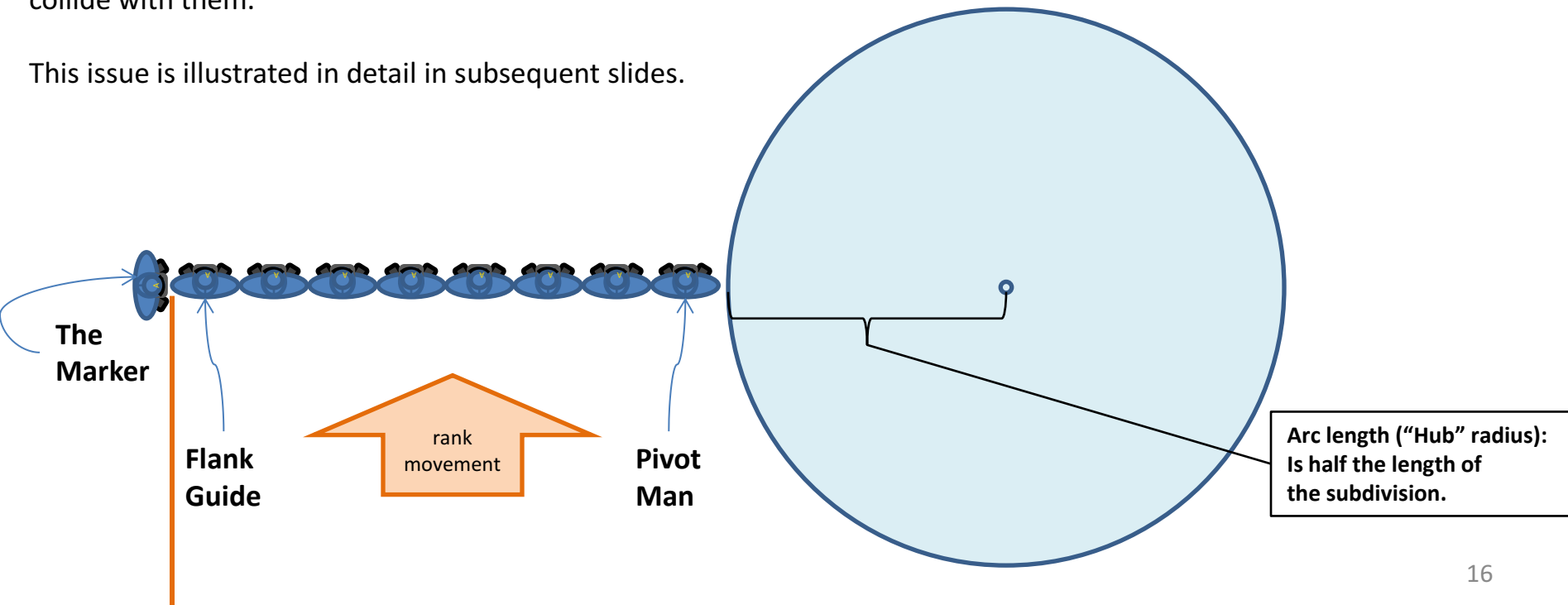
Per **S.C. 232**, the flanking guide must **“describe an arc in length about once and a half the front of the subdivision”**.

This means that for a Company marching by itself, the radius of the hub is half the length of that subdivision.

However, when a Battalion is marching in column of Companies, the Flanking Guides are supposed to follow in the tracks of the lead Flanking Guide.

When the Companies are NOT the same size the, lead Company must describe an arc that is about one and a half times the front of the **largest** company in the Battalion. If the lead Company is not the largest Company, the movable-pivot soldier of the lead Company, and any Company that is smaller than that largest Company, cannot take the 9 (or 11) inch steps they are accustomed to when their Company is marching by itself. Otherwise a following larger Company will collide with them.

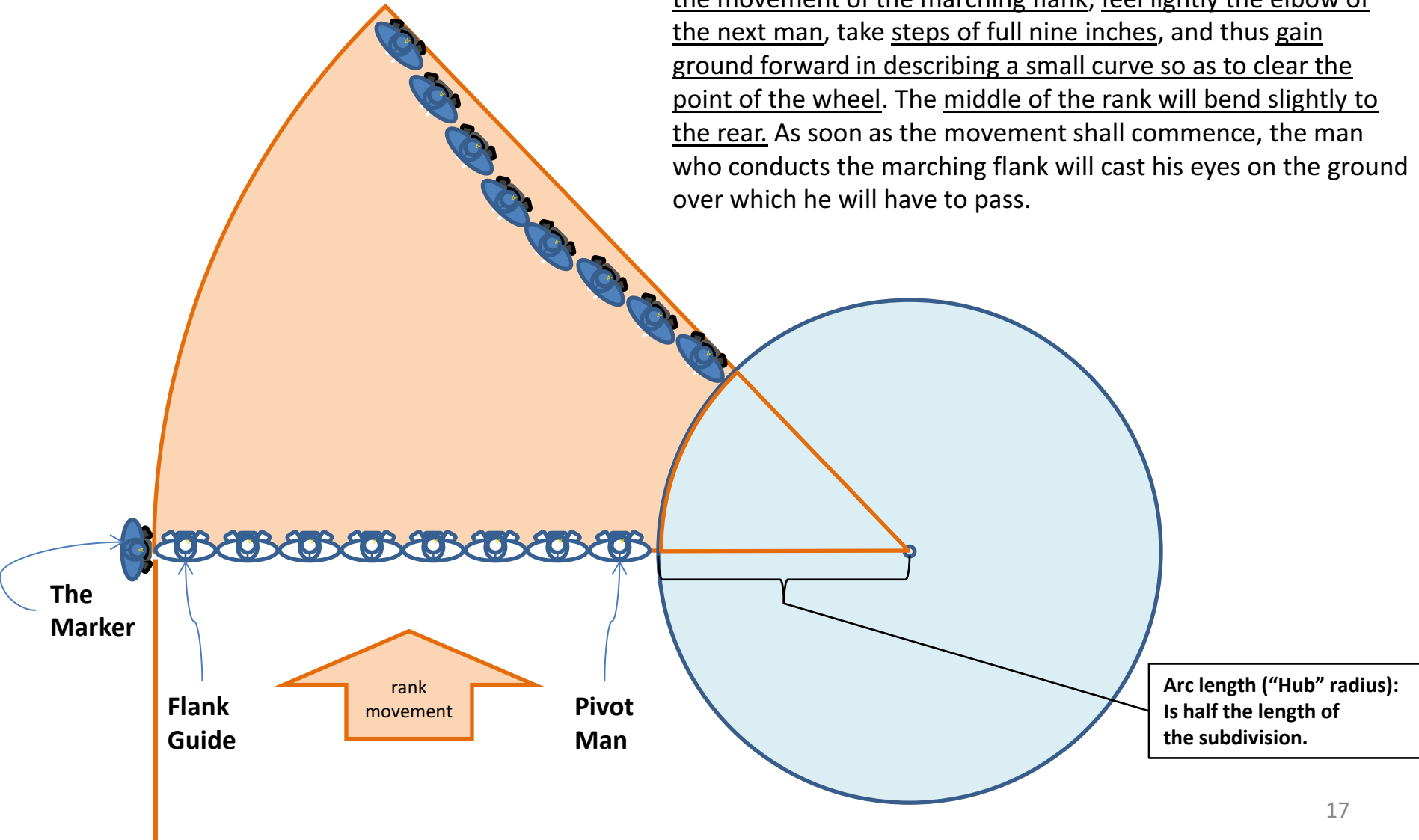
This issue is illustrated in detail in subsequent slides.



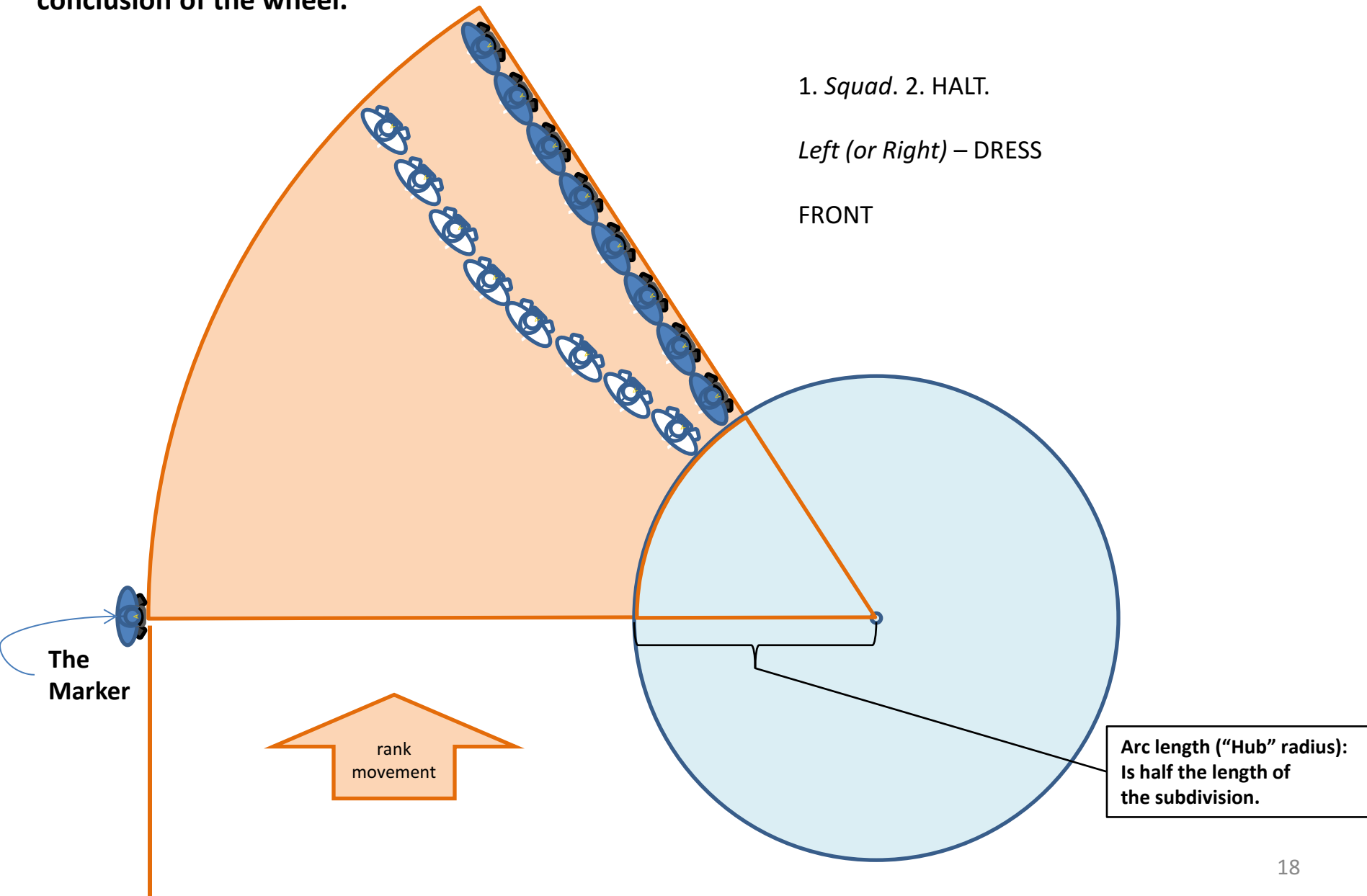
**WHEELING IN MARCHING,
OR ON A MOVABLE PIVOT.**

1. *Right wheel.* 2. MARCH.

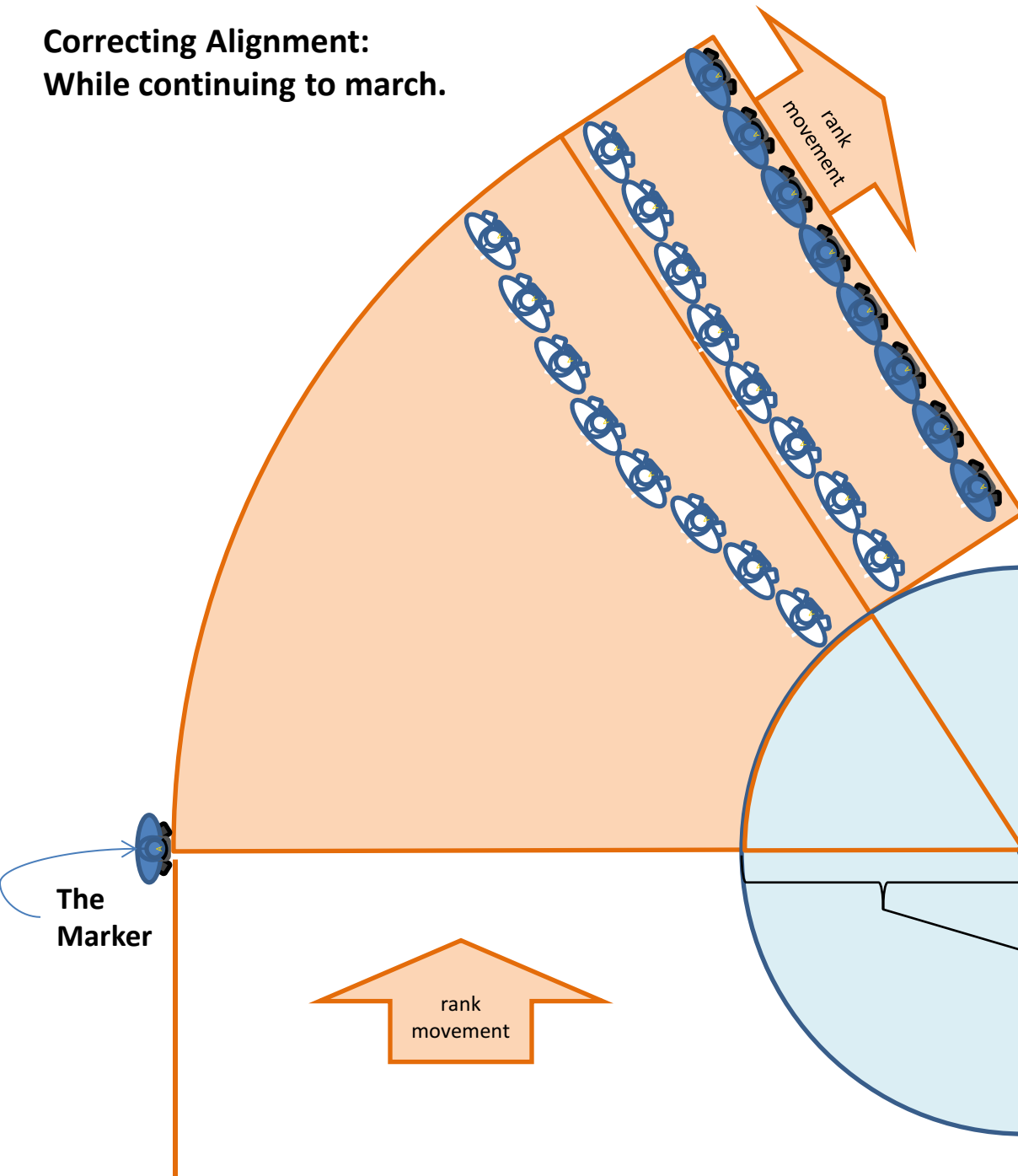
S.S. 409. At the second command, the wheel will be executed in the same manner as from a halt, except that the touch of the elbow will remain toward the marching flank (or side of the guide) instead of the side of the actual pivot; that the pivot man, instead of merely turning in his place, will conform himself to the movement of the marching flank, feel lightly the elbow of the next man, take steps of full nine inches, and thus gain ground forward in describing a small curve so as to clear the point of the wheel. The middle of the rank will bend slightly to the rear. As soon as the movement shall commence, the man who conducts the marching flank will cast his eyes on the ground over which he will have to pass.



**Correcting Alignment:
Halting the unit at the
conclusion of the wheel.**



Correcting Alignment: While continuing to march.



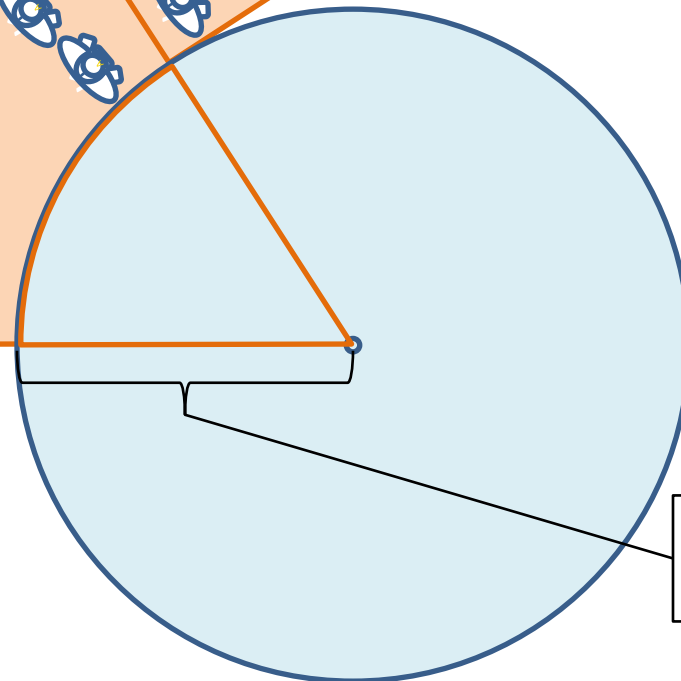
1. *Forward.* 2. MARCH.

Once the command has been given,
"1. Forward. 2 March"

The guides resume the prescribed step and
cadence.

The men in the middle part of the rank
dress their alignment by lengthening the step,

Per S.S. 336: "that they recover by insensible
degrees, the slight touch of the elbow, if lost; that
they maintain the head direct to the front, no
matter on which side the guide may be; and if
found before or behind the alignment, that the
man in fault corrects himself by shortening or
lengthening the step, by degrees, almost
insensible"



Wheeling in Marching

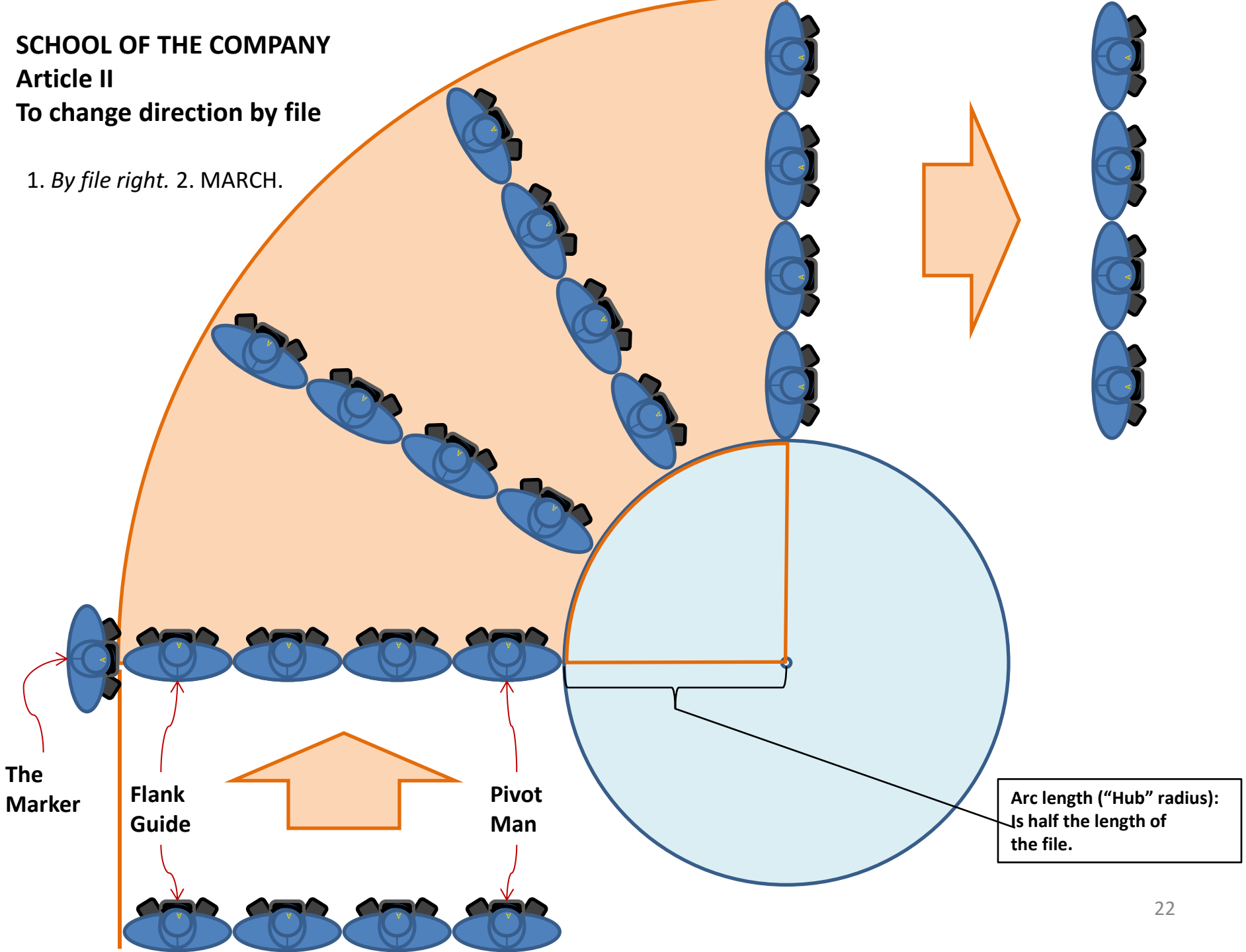
From School of the Company

1. *By file, left (or right)*. 2. MARCH.

- This is a wheel in motion by individual files.
 - Think “By file, left wheel” MARCH
 - Pivot man: “shortening a little the first five or six steps”
 - Flanking man : “will wheel in the step of twenty-eight inches”
- **S.C. 145.** At the command *march*, the first file will wheel; if to the side of the front-rank man, the latter will take care not to turn at once, but to describe a short arc of a circle, shortening a little the first five or six steps in order to give time to the fourth man of this file to conform himself to the movement. If the wheel be to the side of the rear-rank, the front-rank man will wheel in the step of twenty-eight inches, and the fourth man will conform himself to the movement by describing a short arc of a circle, as has been explained. Each file will come to wheel on the same ground where that which preceded it wheeled.
- **S.C. 146.** The instructor will see that the wheel be executed according to these principles, in order that the distance between the files may always be preserved, and that there be no check or hindrance at the wheeling point.

SCHOOL OF THE COMPANY
Article II
To change direction by file

1. *By file right.* 2. MARCH.



Wheeling a Column of Companies

- Wheeling a Column of Companies on a movable pivot according to the principles of wheeling assumes that all the companies are the same size!
- If they are not, the companies need to behave as if they are the same size as the largest Company in the column.
- If they don't, and each Company executes a wheel in motion by the book, as they practiced on their own:
 - The Column will lose alignment
 - Small Companies will most probably get run over by a following larger company.

All Companies are the same size.

Once the command has been given,
"1. Forward. 2 March"
The guides resume the prescribed
step and cadence.
The men on the middle part of the rank
dress their alignment by lengthening the step,
"by degrees, almost insensible" (S.S. 336).

Flank Guide

The Marker

Pivot Man

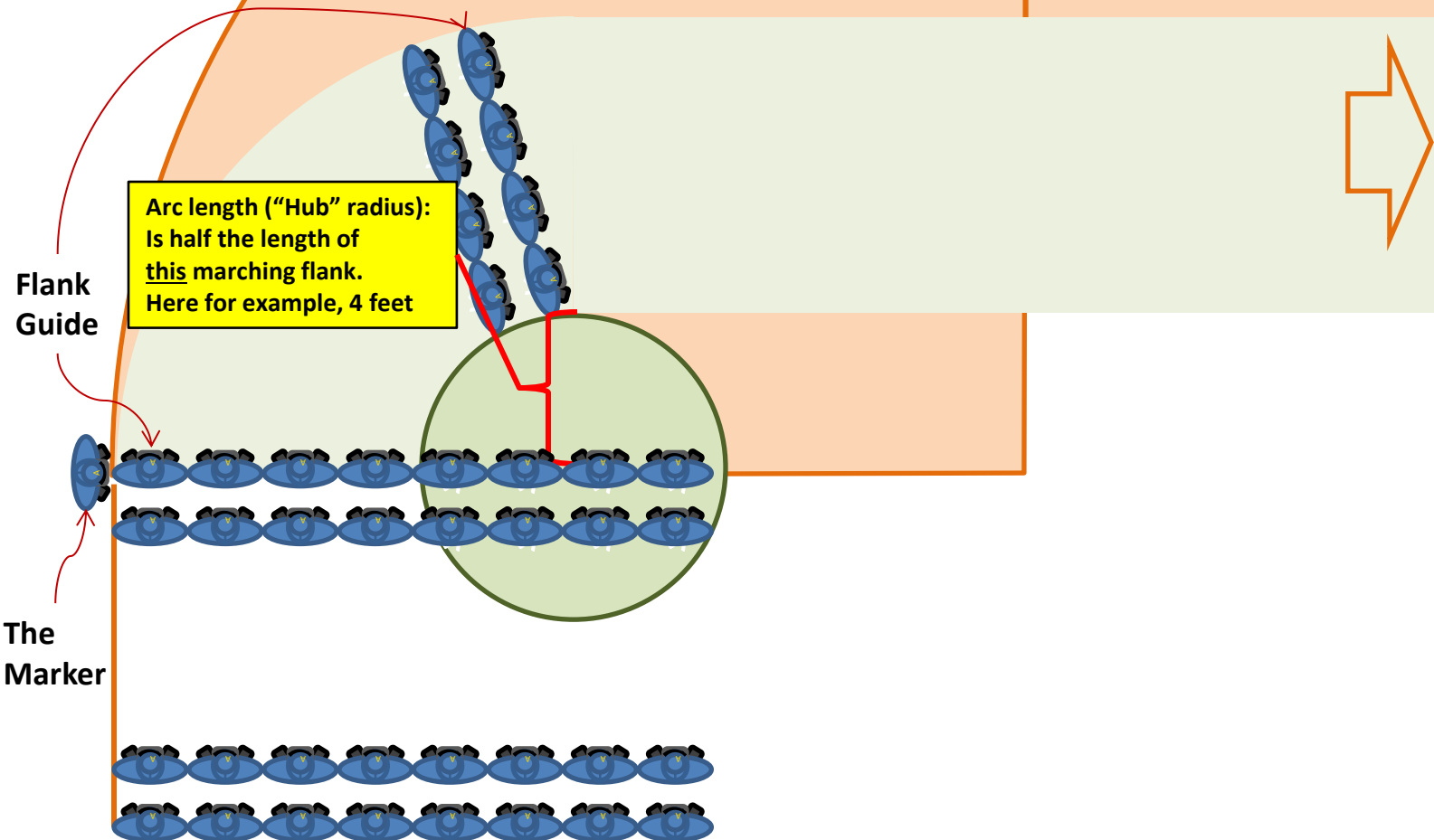
1. *Right wheel.* 2. MARCH.

Arc length ("Hub" radius):
Is half the length of
the subdivision.

WHEELING IN MARCHING, OR ON A MOVABLE PIVOT.
All Companies are NOT the same size.

And the lead Company is not the largest Company.

When marching as Column Of Companies
If the Flanking Guide of the lead Company fails to scribe an arc of sufficient length in order for the largest Company to execute their wheel in motion ...



WHEELING IN MARCHING, OR ON A MOVABLE PIVOT.

All Companies are NOT the same size.

Collisions most probably will occur.

Flanking Guides must follow the path set by the lead Flanking Guide

Here the arc length described by a small leading Company is not sufficient for a larger following Company to properly execute a wheel in motion.

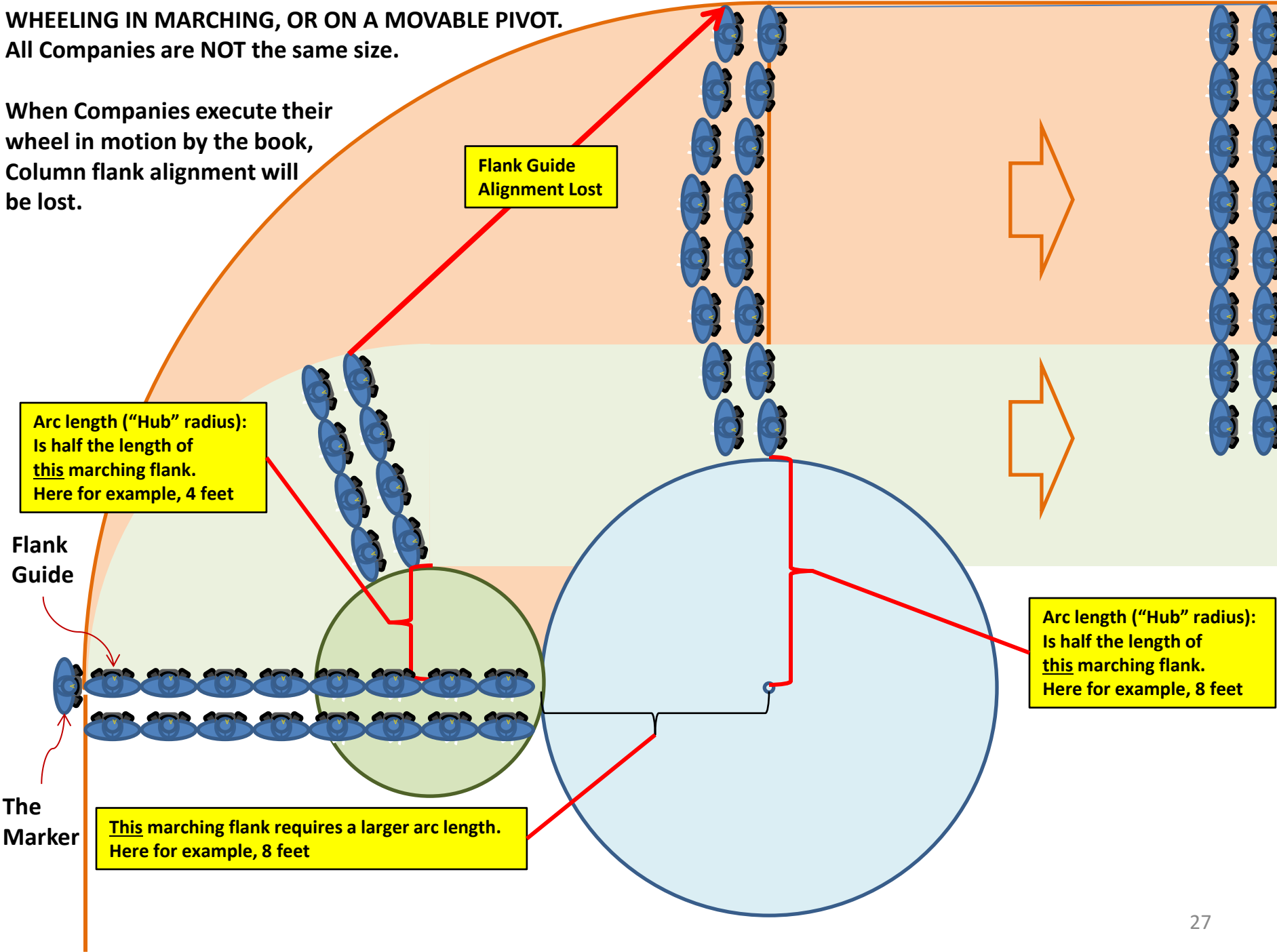


The Marker

Because of the constrained arc length set by the lead Company, in order for the flanking guide of the second Company to follow in the path of the lead flanking guide, the second Company needs to execute a wheel almost on a fixed pivot. And will therefore impede the progress of any following Company.

WHEELING IN MARCHING, OR ON A MOVABLE PIVOT.
All Companies are NOT the same size.

When Companies execute their wheel in motion by the book, Column flank alignment will be lost.



WHEN THEY ARE NOT THE SAME SIZE, THEN
THE COMPANIES NEED TO BEHAVE AS IF
THEY ARE THE SAME SIZE

THE FLANK GUIDES MUST FOLLOW THE
TRACK SET BY THE LEAD GUIDE.

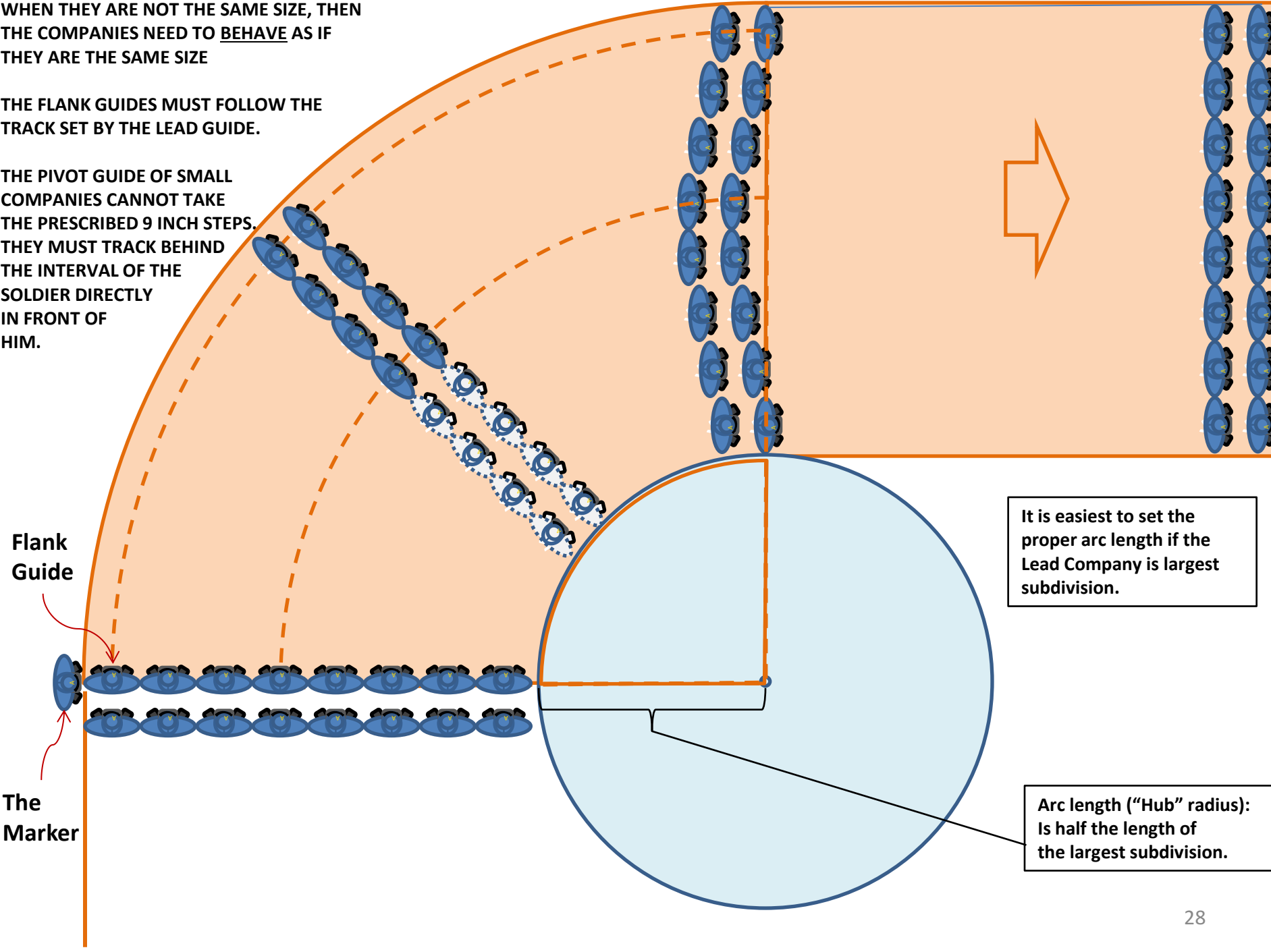
THE PIVOT GUIDE OF SMALL
COMPANIES CANNOT TAKE
THE PRESCRIBED 9 INCH STEPS.
THEY MUST TRACK BEHIND
THE INTERVAL OF THE
SOLDIER DIRECTLY
IN FRONT OF
HIM.

Flank
Guide

The
Marker

It is easiest to set the
proper arc length if the
Lead Company is largest
subdivision.

Arc length ("Hub" radius):
Is half the length of
the largest subdivision.



WHEN THEY ARE NOT THE SAME SIZE, THEN
THE COMPANIES NEED TO BEHAVE AS IF
THEY ARE THE SAME SIZE

THE FLANK GUIDES MUST FOLLOW THE
TRACK SET BY THE LEAD GUIDE.

THE PIVOT GUIDE OF SMALL
COMPANIES CANNOT TAKE
THE PRESCRIBED 9 INCH STEPS.
THEY MUST TRACK BEHIND
THE INTERVAL OF THE
SOLDIER DIRECTLY
IN FRONT OF
HIM.

Flank
Guide

The
Marker

If the Lead Company is a
small Company, it must
scribe an arc length that is
half the length of the
largest subdivision.

Arc length ("Hub" radius):
Is half the length of
the largest subdivision.

Maintain Pace and Cadence

- Leading units can neither slacken the pace nor shorten the stride as they exit a change of direction!
- Doing so will impede the progress of the following units.
 - **S.B. 285.** It has been demonstrated, school of the company, how important it is, *first*, that each subdivision execute its change of direction precisely at the point where the leading one had changed, and that it arrive in a square with the direction; *second*, that the wheeling point ought always to be cleared in time, in order that the subdivision engaged in the wheel may not arrest the movement of the following one. The deeper the column, the more rigorously ought these principles to be observed; because, a fault that would be but slight in a column of a single battalion, would cause much embarrassment in one of great depth.