

RA 3516 - Permanent Fixed Wing Aerodrome - Signs

Rationale

When moving around the Aerodrome it is essential that personnel are made aware of safety related information or instructions aimed at reducing the number of runway incursions or similar hazardous incidents. Aerodrome signs are used to convey this safety related information to the operating community.

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Regulation

3516(1)

General

3516(1) Heads of Establishments (HoEs) and Aviation Duty Holder-Facing Organizations (ADH-Facing Organizations) **shall** ensure that signs are provided to convey a mandatory instruction, information on a specific location or destination on a movement area, or to provide other information.

Acceptable Means of Compliance

3516(1)

General

1. Aerodrome Signs **should**:
 - a. Be frangible;
 - b. Be positioned sufficiently low to preserve clearance for propellers and the engine pods of jet Air Systems when located near a runway or taxiway;
 - c. When installed, have a height no greater than the dimensions shown in Table 1;
 - d. Be rectangular, as shown in Figures 1 and 2 with the longer side horizontal;
 - e. Only be red for mandatory instruction signs;
 - f. Have inscriptions in accordance with (iaw) the provisions of Figures 3 and 4;
 - g. Be illuminated iaw the provisions of International Civil Aviation Organization (ICAO) Annex 14 Vol I Appendix 4 when intended for use:
 - (1) in runway visual range conditions less than a value of 800 m; or
 - (2) at night in association with instrument runways; or
 - (3) at night in association with non-instrument runways where the code number is 3 or 4.
 - h. Be retro - reflective and/or illuminated iaw the provisions of ICAO Annex 14 Vol I Appendix 4 when intended for use at night in association with non-instrument runways where the code number is 1 or 2;
 - i. Have colour and discrimination requirements for all objects as detailed in ICAO Annex 14, Vol I, Appendix 1;
 - j. Have character sizes iaw ICAO Annex 14 Vol I Appendix 4.

Acceptable Means of Compliance 3516(1)

Table 1. Location distances for taxiing guidance signs including runway exit signs

Code number	Sign height (mm)			Perpendicular distance from defined taxiway pavement edge to near side of sign	Perpendicular distance from defined runway pavement edge to near side of sign
	Legend	Face (min.)	Installed (max.)		
1 or 2	200	400	700	5-11 m	3-10 m
1 or 2	300	600	900	5-11 m	3-10 m
3 or 4	300	600	900	11-21 m	8-15 m
3 or 4	400	800	1 100	11-21 m	8-15 m

Figure 1. Intermediate holding signs

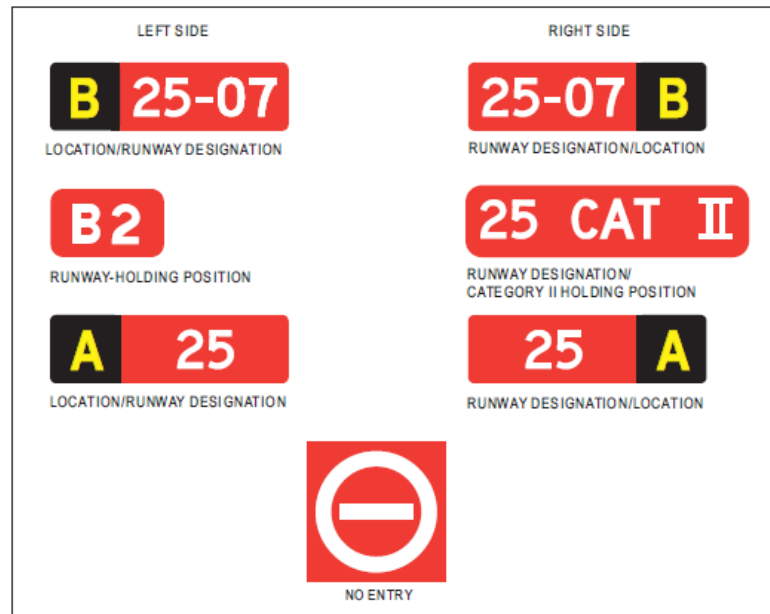
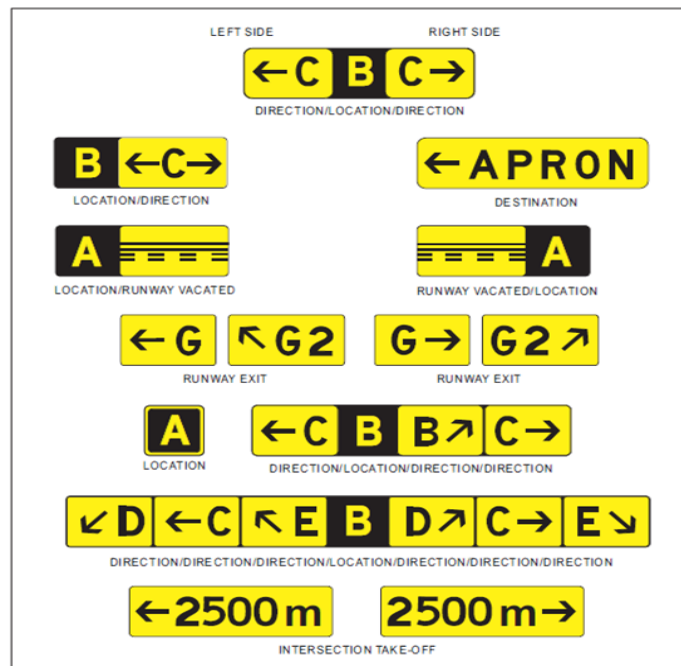


Figure 2. Airfield Sign Layout



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Figure 3a. Airfield Inscriptions

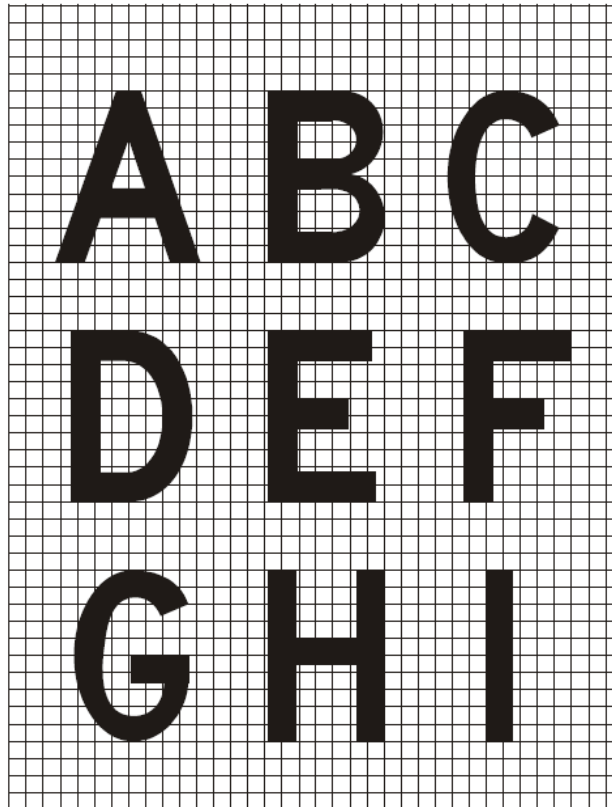
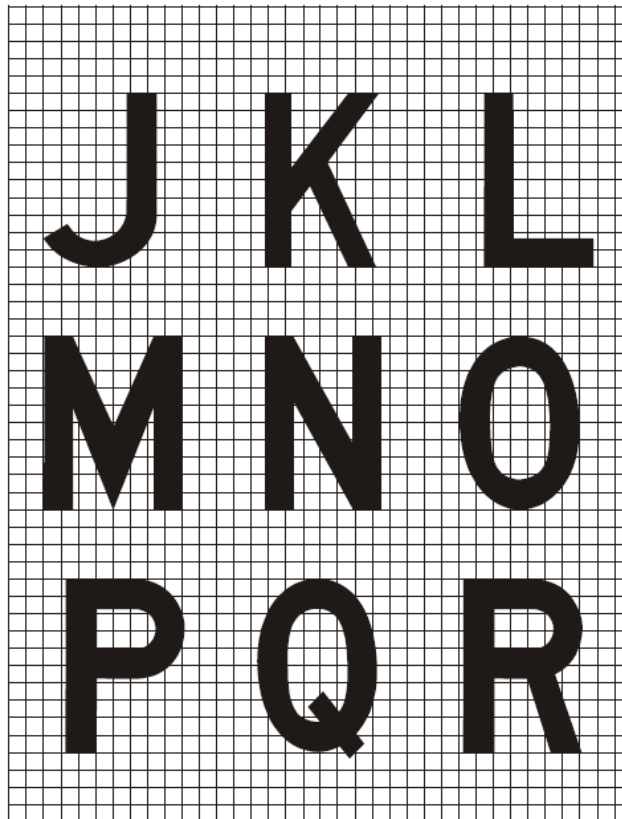


Figure 3b. Airfield Inscriptions



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Figure 3c. Airfield Inscriptions

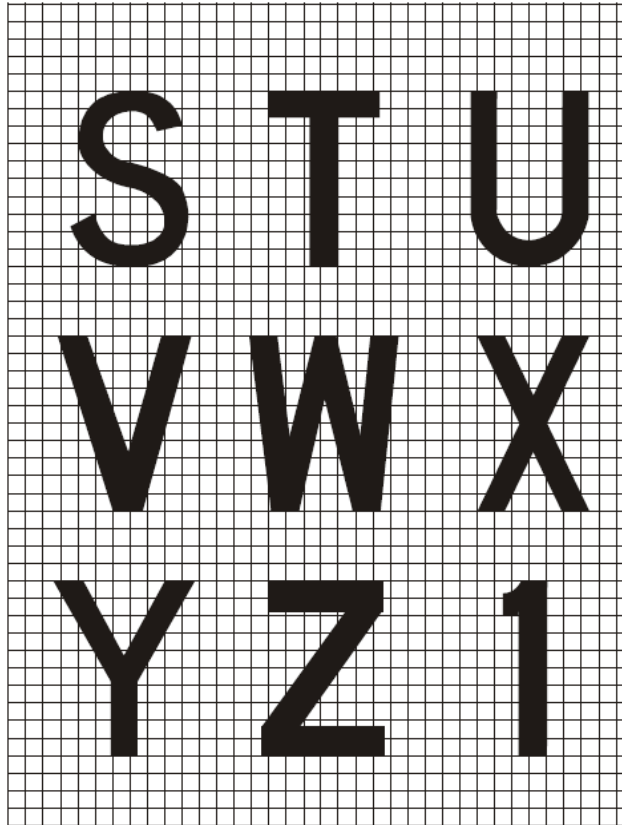
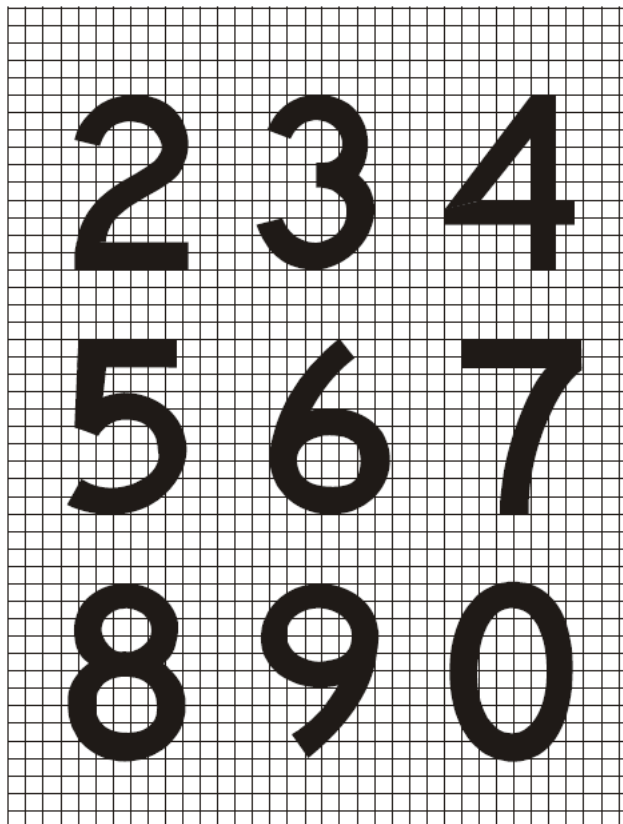


Figure 3d. Airfield Inscriptions



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Figure 3e. Airfield Inscriptions

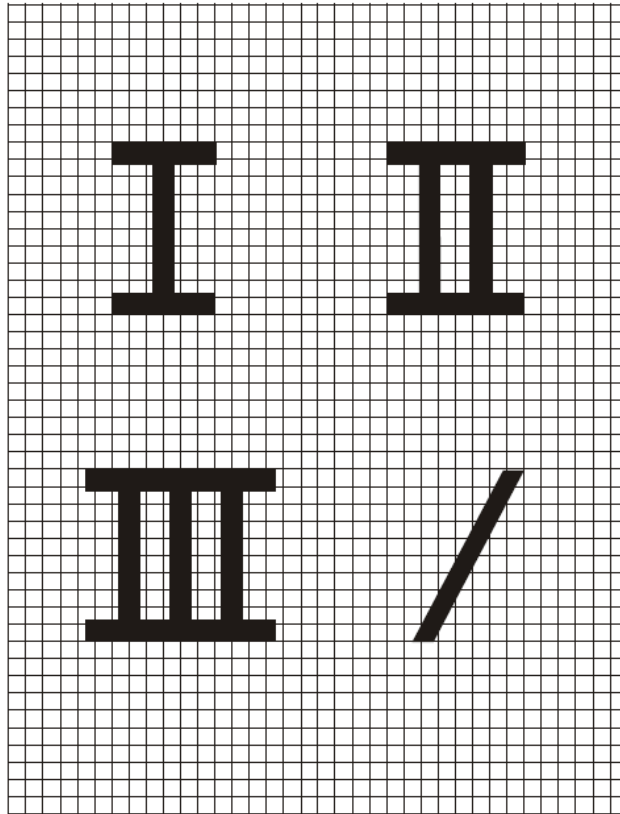


Figure 3e. Airfield Inscriptions - Runway Vacated Sign

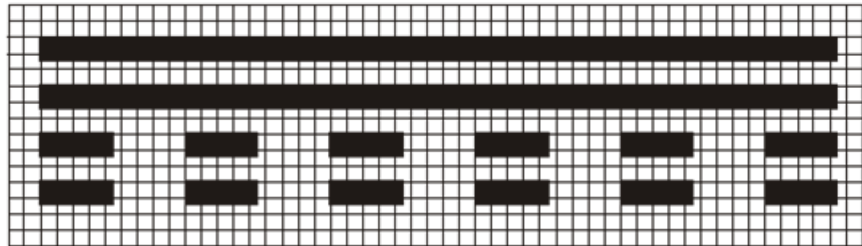
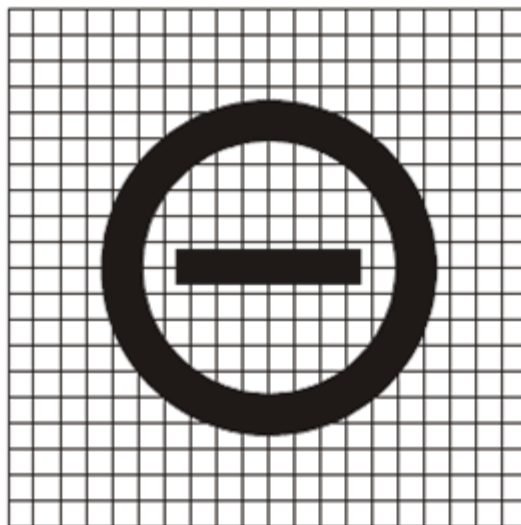
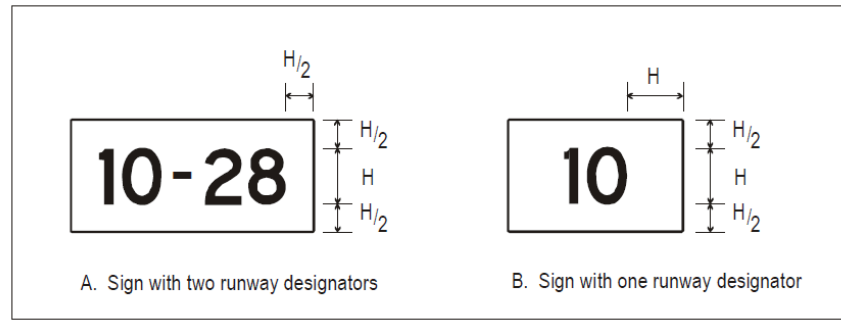


Figure 3f. Airfield Inscriptions - NO ENTRY sign



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Figure 4. Airfield Inscription Dimensions



**Guidance
Material
3516(1)**

General

Civil Equivalence.

- This regulation is in line with ICAO Annex 14 Vol I Section 5.4.1.

**Regulation
3516(2)**

Mandatory Instruction Signs

- 3516(2) HoEs and ADH-Facing Organizations **shall** ensure that a mandatory instruction sign is provided to identify a location beyond which an Air System taxiing, or vehicle is not to proceed unless authorized by ► **Air Traffic Control (ATC)**. ◀

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3516(2)**

Mandatory Instruction Signs

- Mandatory instruction signs **should** include runway designation signs, Category I, II, or III holding position signs, runway-holding position signs, road-holding position signs, and NO ENTRY signs.
- A mandatory instruction sign **should** consist of an inscription in white on a red background.
- Internally lit mandatory signs **should** be provided with an alternative power source in accordance with the requirements of RA 3520¹.
- Runway Designation Signs **should**:
 - Be supplemented with a pattern 'A' runway-holding position marking, as shown in RA 3514² Figure 6, at a taxiway/runway intersection or a runway/runway intersection;
 - At a taxiway/runway intersection or a runway/runway intersection, be located on each side of the runway-holding position marking facing the direction of approach to the runway;
 - Have an inscription consisting of the runway designations of the intersecting runway properly oriented with respect to the viewing position of the sign; ► **and** ◀
 - When installed in the vicinity of a runway extremity, show the runway designation of the concerned runway extremity only.
- Category I/II/III Holding Position Signs **should**:
 - Be supplemented with a pattern 'B' runway-holding position marking, as shown in RA 3514 Figure 6;
 - For a Category I, II, or III holding position sign, be located on each side of the runway-holding position marking facing the direction of the approach to the critical area; and

¹ ► Refer to ◀ RA 3520 - Permanent Fixed Wing Aerodrome - Aerodrome Electrical Systems.

² ► Refer to ◀ RA 3514 - Permanent Fixed Wing Aerodrome - Markings.

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3516(2)**

- c. Have an inscription on a Category I, II, III, or joint II/III holding position sign consisting of the runway designator followed by CAT I, CAT II, CAT III, or CAT II/III as appropriate.
8. Runway Holding Position Signs **should**:
- a. Supplement a pattern 'A' runway holding position marking, as shown in RA 3514 Figure 6, at a runway holding position;
- b. Be located on each side of the runway holding position established iaw RA 3511³ Table 7 facing the approach to the Obstacle Limitation Surface or Instrument Landing System (ILS)/Microwave Landing System (MLS) critical/sensitive area as appropriate; and
- c. Have an inscription consisting of the taxiway designation and a number at a runway holding position established iaw RA 3511 Table 7.
9. Road Holding Position Signs **should**:
- a. Be provided at all road entrances to a runway or a taxiway;
- b. Be located 1.5 m from one edge of the road (left or right as appropriate to the local road traffic regulations) at the holding position; and
- c. Have an inscription that conforms to the local road traffic regulations and include the following:
- (1) A Stop Sign.
 - (2) A location designator.
10. NO ENTRY Signs **should**:
- a. Be provided when entry into an area is prohibited, on both sides of the road;
- b. Be located at the beginning of the area to which entrance is prohibited on each side of the taxiway as viewed by the pilot; and
- c. Have an inscription iaw Figure 3f.

**Guidance
Material
3516(2)**

Mandatory Instruction Signs

11. Where, owing to environmental or other factors, the conspicuity of the inscription on a mandatory instruction sign needs to be enhanced, the outside edge of the white inscription may be supplemented by a black outline measuring 10 mm in width for runway code numbers 1 and 2, and 20 mm in width for runway code numbers 3 and 4.
12. Where diagonal lines are used on airfield signs, as illustrated at Figure 2, the stroke width of the diagonal will be equal to $\frac{3}{4}$ of the stroke of the character. The size of the break between the diagonal and the character will be approximately $\frac{1}{2}$ the character stroke width.
13. Road holding position signs may also be provided at road entrances to taxiways.
14. Where appropriate, road holding position signs may state a requirement to obtain ATC clearance.

Civil Equivalence.

15. This regulation is in line with ICAO Annex 14 Vol I Section 5.4.2.

**Regulation
3516(3)**

Information Signs

- 3516(3) HoEs and ADH-Facing Organizations **shall** ensure that an information sign is provided where there is an operational need to identify a specific location or routing information.

³ ▶ Refer to ◀ RA 3511 – Permanent Fixed Wing Aerodrome – Physical Characteristics.

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3516(3)**

Information Signs

16. Information signs **should** include, but are not limited to:
- Direction signs.
 - Location signs.
 - Destination signs.
 - Runway exit signs.
 - Runway vacated signs.
 - Intersection take-off signs.
17. An information sign other than a location sign **should** consist of an inscription in black on a yellow background.
18. A location sign **should** consist of an inscription in yellow on a black background and where it is a stand-alone sign, **should** have a yellow border.
19. Except as specified in sub-para 21.b, information signs **should** wherever practicable, be located on the left-hand side of the taxiway iaw Table 1.
20. An information sign other than a location sign **should not** be collocated with a mandatory instruction sign.
21. A Runway Exit sign **should**:
- Be provided where there is an operational need to identify a runway exit;
 - Be located on the same side of the runway as the exit is located (ie left or right), and positioned iaw Table 1;
 - Be located prior to the runway exit point in line with a position at least 60 m prior to the point of tangency where the code number is 3 or 4, and at least 30 m where the code number is 1 or 2; ► and ◀
 - Have an inscription consisting of the designator of the exit taxiway and an arrow indicating the direction to follow.
22. A Runway Vacated sign **should**:
- Be provided where the exit taxiway is not provided with taxiway centre-line lights and there is a need to indicate to a pilot leaving a runway the perimeter of the ILS/MLS critical/sensitive area, or the lower edge of the inner transitional surface whichever is farther from the runway centre-line;
 - Be located at least on one side of the taxiway, with the distance between the sign and the centre-line of a runway not less than the greater of the following:
 - The distance between the centre-line of the runway and the perimeter of the ILS/MLS critical/sensitive area; or
 - The distance between the centre-line of the runway and the lower edge of the inner transitional surface; and
 - Have an inscription depicting the runway-holding position marking as shown in Figure 2.
23. An Intersection Take-Off sign **should**:
- Be provided to indicate the remaining Take-Off Run Available (TORA) for such take-offs at runways where intersection take-offs are conducted;
 - Be located at the left-hand side of the entry taxiway, with the distance between the sign and the centre-line of the runway not less than 60 m where the code number is 3 or 4 and not less than 45 m where the code number is 1 or 2; ► and ◀
 - Have an inscription consisting of a numerical message indicating the remaining TORA in metres, plus an arrow, appropriately located and oriented, indicating the direction of the take-off as shown in Figure 2.
24. A Destination sign **should**:

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- a. Indicate the direction to a specific destination on the aerodrome, such as cargo area, general aviation, etc; ► and ◀
- b. Have an inscription comprising an alpha, alphanumerical or numerical message identifying the destination, plus an arrow indicating the direction to proceed as shown in Figure 2.
25. A Direction sign **should**:
- a. Be provided when there is an operational need to identify the designation and direction of taxiways at an intersection; and
- b. Have an inscription comprising an alpha or alphanumerical message identifying the taxiways, plus an arrow or arrows appropriately oriented as shown in Figure 2.
26. A Location sign **should**:
- a. When combined with a direction sign, be provided when it is intended to indicate routing information prior to a taxiway intersection;
- b. Be provided at an intermediate holding position;
- c. Be provided in conjunction with a runway designation sign except at a runway/runway intersection;
- d. Be provided in conjunction with a direction sign;
- e. Where necessary, be provided to identify taxiways exiting an apron or taxiways beyond an intersection;
- f. ► Be positioned outboard of the ◀ runway vacated sign, where a taxiway location sign ► is provided in conjunction with a ◀ runway vacated sign;
- g. Where a taxiway location sign is provided in conjunction with a runway designation sign, be positioned outboard of the runway designation sign;
- h. Have an inscription comprising the designation of the location of the taxiway, runway, or other pavement the Air System is on or is entering, and **should not** contain arrows; ► and ◀
- i. Where it is necessary to identify each of a series of intermediate holding positions on the same taxiway, consist of the taxiway designation and a progressive number;
27. Where used in combination with direction signs:
- a. All direction signs related to left turns **should** be placed on the left side of the location sign and all direction signs related to right turns **should** be placed on the right side of the location sign, except that where the junction consists of one intersecting taxiway, the location sign may alternatively be placed on the left-hand side;
- b. The direction signs **should** be placed such that the direction of the arrows departs increasingly from the vertical with increasing deviation of the corresponding taxiway;
- c. An appropriate direction sign **should** be placed next to the location sign where the direction of the location taxiway changes significantly beyond the intersection; and
- d. Adjacent direction signs **should** be delineated by a vertical black line as shown in Figure 2.
28. Where a taxiway ends at an intersection such as a 'T' and it is necessary to identify this, a barricade, direction sign, and/or other appropriate visual aid **should** be used, such as a yellow diagonal marker overlaid on the appropriate Taxiway Location Sign where a taxiway ends at an intersection other than an intersection with a runway.
29. At a taxiway intersection, information signs **should** be located prior to the intersection and in line with the taxiway intersection marking. Where there is no taxiway intersection marking, the signs **should** be installed at least 60 m from the centre-line of

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the intersecting taxiway where the code number is 3 or 4, and at least 40 m where the code number is 1 or 2.

30. A taxiway **should** be identified by a designator comprising a letter, letters, or a combination of a letter or letters followed by a number.

31. When designating taxiways, the use of the letters I, O, or X, and the use of words such as 'inner' and 'outer' **should** be avoided wherever possible, to avoid confusion with the numerals 1, 0, and closed marking.

32. The use of numbers alone on the manoeuvring area **should** be reserved for the designation of runways, or to indicate the location of Air System stands.

**Guidance
Material
3516(3)**

Information Signs

Civil Equivalence.

33. This regulation is in line with ICAO Annex 14 Vol I para 5.4.

**Regulation
3516(4)**

Aerodrome Access Boards

3516(4) HoEs and ADH-Facing Organizations **shall** ensure that Aerodrome Access Boards are erected in prominent positions at all points where roads join the Movement Area.

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3516(4)**

Aerodrome Access Boards

34. Aerodrome Access Boards **should** be of the same style as RA 3516(2).

35. Aerodrome Access Boards **should** have the following wording:

'STOP

MOVEMENT AREA

VEHICLES ARE NOT TO BE DRIVEN PAST THIS POINT WITHOUT THE
PERMISSION OF AIR TRAFFIC CONTROL'.

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3516(4)**

Aerodrome Access Boards

36. At Units where it is not possible to proceed to ATC without entering the Movement Area, this notice can be amended to show how permission could be obtained. Examples of alternative wordings are:

a. DRIVERS ARE TO REPORT TO THE GUARDROOM AND OBTAIN PERMISSION FROM AIR TRAFFIC CONTROL BEFORE PROCEEDING; or

b. DRIVERS ARE TO REPORT TO AIR TRAFFIC CONTROL BY TELEPHONE (EXT.....) BEFORE PROCEEDING.

37. Where, from outside the Movement Area, the authorized access to the Movement Area is through an Apron, the notice board at the entry point to the apron area ► **needs to** ◀ give due warning of the conditions for entry to the Movement Area.

38. In addition to the Movement Area boards, personnel may be given a general warning by other notice boards prominently displayed at all entrances to the Unit. These notices could read:

VEHICLES MUST GIVE WAY TO AIRCRAFT.

ALL VISITING DRIVERS ARE TO REPORT TO AIR TRAFFIC CONTROL BEFORE PROCEEDING ON TO THE MOVEMENT AREA.