



UNIVERSAL SIGNALS FOR AIRCRAFT GROUND MARSHALLING

SECTION 1 POLICY & GENERAL INFORMATION

1.1 PURPOSE

This advisory circular (AC) provides guidance to ensure that ground personnel and pilots conform to the universal signals for ground marshalling of aircraft.

No person may be allowed to participate in ground movement of aircraft unless they demonstrate competency in the use and understanding of the signals included in this advisory circular.

1.2 STATUS OF THIS AC

This AC is an original issuance.

1.3 BACKGROUND

- A. Standardized universal signals for ground marshalling of aircraft are required to be used for international operations of aircraft.
- B. The signals included in this advisory circular are published by ICAO in Annex 2 and provided here for use by pilots and inclusion in the operators' manuals.

1.4 APPLICABILITY

This advisory circular is applicable to all ground personnel, pilots, operators and service providers involved in the ground marshalling of aircraft..

1.5 RELATED REGULATIONS

The following Vietnam Aviation Regulations (VARs) requirements are applicable to the aircraft ground marshalling—

- Pilots, operators and other personnel shall comply with universal aviation signals: Part 10
- Operators must include these universal ground marshalling signals in their operations manual: Part 12

1.6 RELATED PUBLICATIONS

These ICAO publications are source documents for this advisory circular—

- Annex 2; Rules of the Air.

Copies may be obtained from Document Sales Unit, ICAO, 999 University Street, Montreal, Quebec, Canada H3C 5H7.

- Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.
- Where an AC is referred to in a 'Note' below the regulation, the AC remains as guidance material,
- ACs should always be read in conjunction with the referenced regulations.

SECTION 2 SIGNALS FROM THE PILOT TO A SIGNALMAN

A. The PIC or SIC shall use the following signals when communicating with a signalman:

- 1) *Brakes engaged*: raise arm and hand, with fingers extended, horizontally in front of face, then clench fist.
- 2) *Brakes released*. raise arm, with fist clenched, horizontally in front of face, then extend fingers.
- 3) *Insert chocks*: arms extended, palms outwards, move hands inwards to cross in front of face.
- 4) *Remove chocks*: hands crossed in front of face, palms outwards, move arms outwards.
- 5) *Ready to start engine(s)*. Raise the appropriate number of fingers on one hand indicating the number of the engine to be started.

- These signals are designed for use by a pilot in the cockpit with hands plainly visible to the signalman, and illuminated as necessary to facilitate observation by the signalman.
- The aircraft engines are numbered in relation to the signalman facing the aircraft, from right to left (i.e. No. 1 engine being the port outer engine).

The moment the fist is clenched or the fingers are extended indicates, respectively, the moment of brake engagement or release.

SECTION 3 SIGNALMAN PREPARATION

3.1 POSITIONING

The signalman shall be positioned—

- 1) For aeroplanes, forward of the left-wing tip within view of the pilot; and
- 2) For helicopters, where the signalman can best be seen by the pilot.

- The meaning of the relevant signals remains the same if bats, illuminated wands or torchlights are held.
- The aircraft engines are numbered, for the signalman facing the aircraft, from right to left (i.e. No. 1 engine being the port outer engine).
- Signals marked with an asterisk are designed for use to hovering helicopters.

3.2 AREA CLEARANCES

Prior to using the ground marshalling signals, the signalman shall ascertain that the area within which an aircraft is to be guided is clear of objects which the aircraft might otherwise strike.

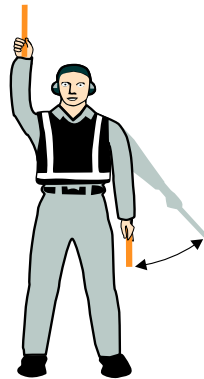
The design of many aircraft is such that the path of the wing tips, engines and other extremities cannot always be monitored visually from the flight deck while the aircraft is being manoeuvred on the ground.

SECTION 4 SIGNALS FROM THE SIGNALMAN TO A PILOT

The following marshalling signals shall be used from a signalman to an aircraft—

These signals are designed for use by the signalman, with hands illuminated as necessary to facilitate observation by the pilot, and facing the aircraft in a position.

4.1 WINGWALKER CLEARANCE SIGNAL

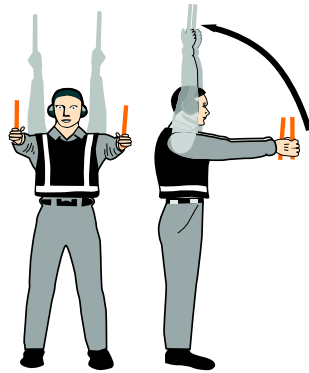


1. Wingwalker/guide

Raise right hand above head level with wand pointing up; move left-hand wand pointing down toward body.

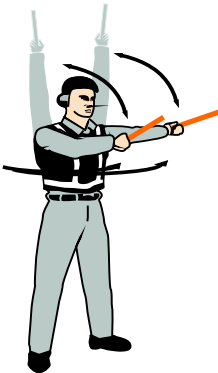
Note.— This signal provides an indication by a person positioned at the aircraft wing tip, to the pilot/ marshaller/ push-back operator, that the aircraft movement on/off a parking position would be unobstructed.

4.2 ARRIVAL AT THE GATE



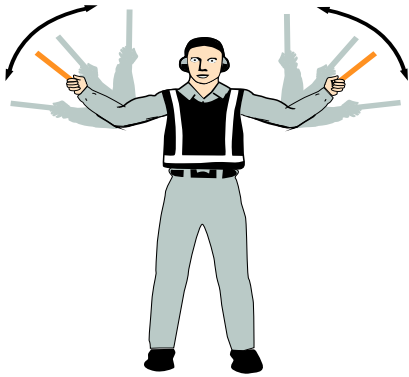
2. Identify gate

Raise fully extended arms straight above head with wands pointing up.



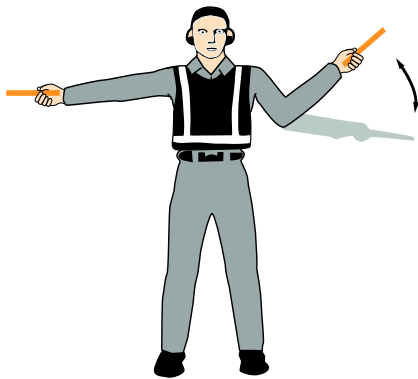
3. Proceed to next signalman or as directed by tower/ground control

Point both arms upward; move and extend arms outward to sides of body and point with wands to direction of next signalman or taxi area.



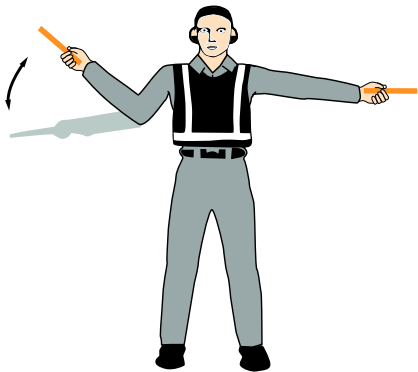
4. Straight ahead

Bend extended arms at elbows and move wands up and down from chest height to head.



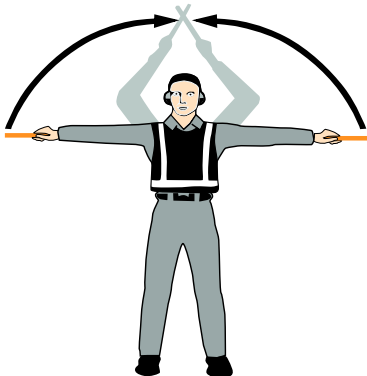
5 a). Turn left (from pilot's point of view)

With right arm and wand extended at a 90-degree angle to body, make "come ahead" signal with left hand. The rate of signal motion indicates to pilot the rate of aircraft turn.



5 b). Turn right (from pilot's point of view)

With left arm and wand extended at a 90-degree angle to body, make "come ahead" signal with right hand. The rate of signal motion indicates to pilot the rate of aircraft turn.

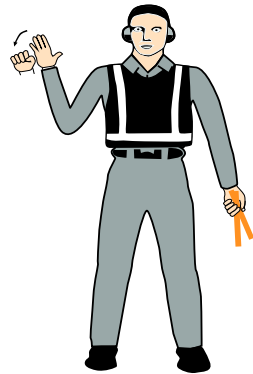


6 a). Normal stop

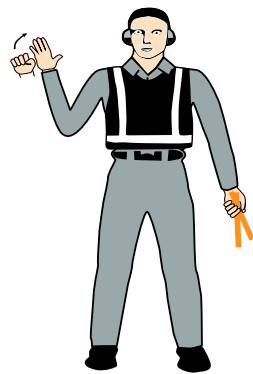
Fully extend arms and wands at a 90-degree angle to sides and slowly move to above head until wands cross.

**6 b). Emergency stop**

Abruptly extend arms and wands to top of head, crossing wands.

4.3 BRAKE & CHOCK SIGNALS**7 a). Set brakes**

Raise hand just above shoulder height with open palm. Ensuring eye contact with flight crew, close hand into a fist. **Do not** move until receipt of “thumbs up” acknowledgement from flight crew.

**7 b). Release brakes**

Raise hand just above shoulder height with hand closed in a fist. Ensuring eye contact with flight crew, open palm. **Do not** move until receipt of “thumbs up” acknowledgement from flight crew.



8 a). Chocks inserted

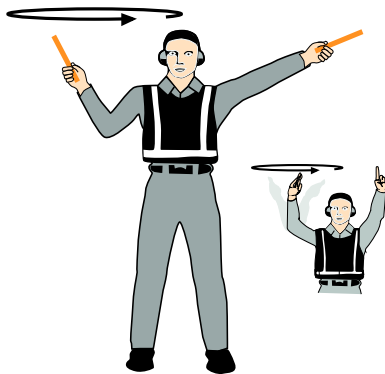
With arms and wands fully extended above head, move wands inward in a “jabbing” motion until wands touch. **Ensure** acknowledgement is received from flight crew.



8 b). Chocks removed

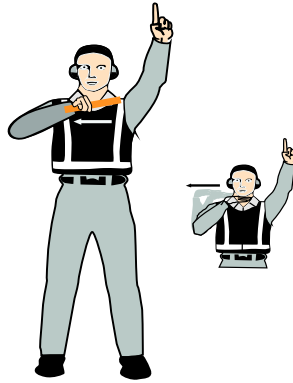
With arms and wands fully extended above head, move wands outward in a “jabbing” motion. **Do not** remove chocks until authorized by flight crew.

4.4 ENGINE-RELATED SIGNALS

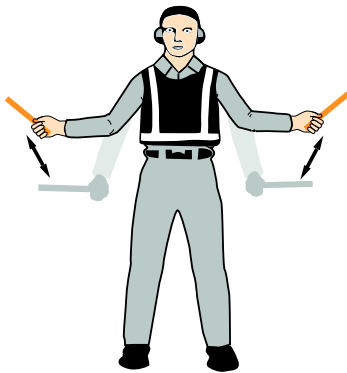


9. Start engine(s)

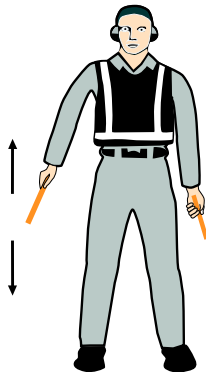
Raise right arm to head level with wand pointing up and start a circular motion with hand; at the same time, with left arm raised above head level, point to engine to be started.

**10. Cut engines**

Extend arm with wand forward of body at shoulder level; move hand and wand to top of left shoulder and draw wand to top of right shoulder in a slicing motion across throat.

**11. Slow down**

Move extended arms downwards in a "patting" gesture, moving wands up and down from waist to knees.

**12. Slow down engine(s)
on indicated side**

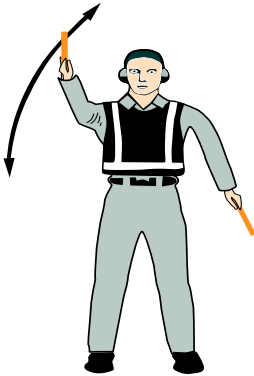
With arms down and wands toward ground, wave either *right* or *left* wand up and down indicating engine(s) on *left* or *right* side respectively should be slowed down.

4.5 POWERBACK SIGNALS



13. Move back

With arms in front of body at waist height, rotate arms in a forward motion. To stop rearward movement, use signal 6 a) or 6 b).



14 a). Turns while backing (for tail to starboard)

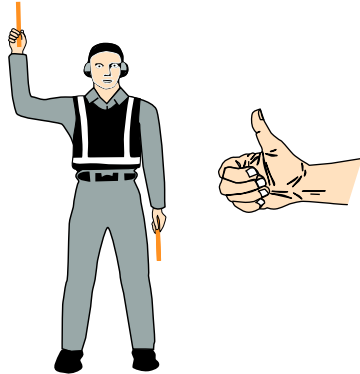
Point left arm with wand down and bring right arm from overhead vertical position to horizontal forward position, repeating right-arm movement.



14 b). Turns while backing (for tail to port)

Point right arm with wand down and bring left arm from overhead vertical position to horizontal forward position, repeating left-arm movement.

4.6 ALL-CLEAR SIGNAL

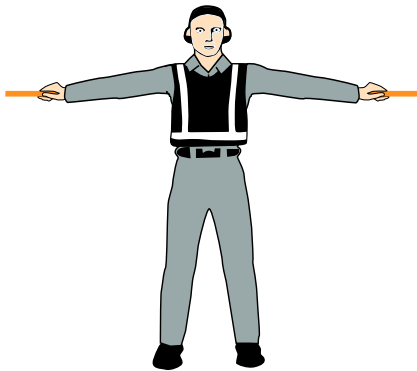


15. Affirmative/all clear

Raise right arm to head level with wand pointing up or display hand with "thumbs up"; left arm remains at side by knee.

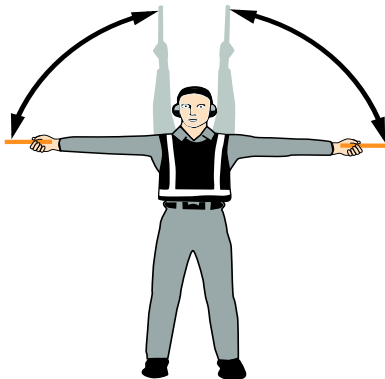
Note.— This signal is also used as a technical/ servicing communication signal.

4.7 HELICOPTER-RELATED SIGNALS



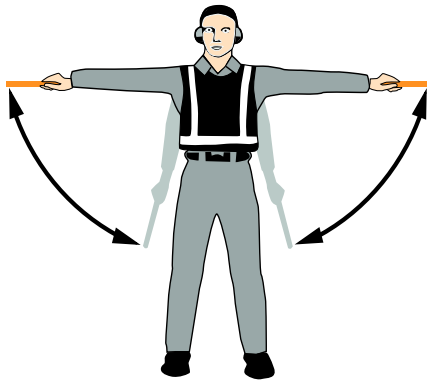
*16. Hover

Fully extend arms and wands at a 90-degree angle to sides.

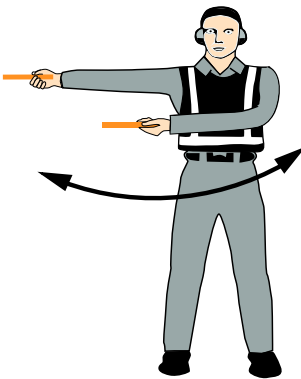


*17. Move upwards

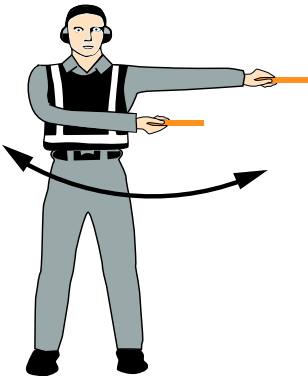
Fully extend arms and wands at a 90-degree angle to sides and, with palms turned up, move hands upwards. Speed of movement indicates rate of ascent.

***18. Move downwards**

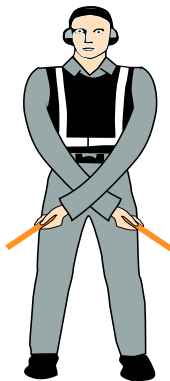
Fully extend arms and wands at a 90-degree angle to sides and, with palms turned down, move hands downwards. Speed of movement indicates rate of descent.

***19 a). Move horizontally left
(from pilot's point of view)**

Extend arm horizontally at a 90-degree angle to right side of body. Move other arm in same direction in a sweeping motion.

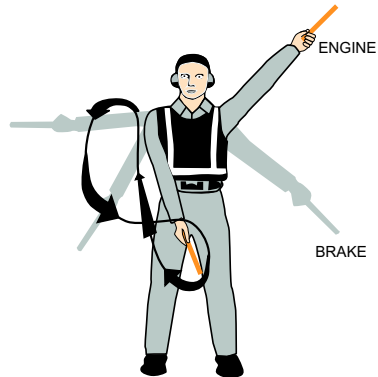
***19 b). Move horizontally right
(from pilot's point of view)**

Extend arm horizontally at a 90-degree angle to left side of body. Move other arm in same direction in a sweeping motion.

***20. Land**

Cross arms with wands downwards and in front of body.

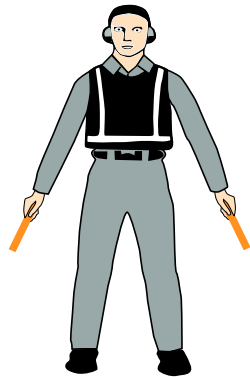
4.8 FIRE SIGNAL



21. Fire

Move right-hand wand in a “fanning” motion from shoulder to knee, while at the same time pointing with left-hand wand to area of fire.

4.9 HOLD POSITION SIGNAL



22. Hold position/stand by

Fully extend arms and wands downwards at a 45-degree angle to sides. Hold position until aircraft is clear for next manoeuvre.

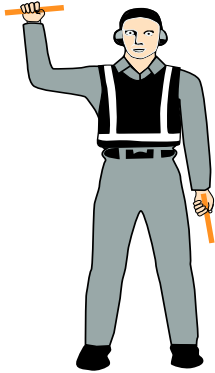
4.10 RELEASE AIRCRAFT FOR TAXI



23. Dispatch aircraft

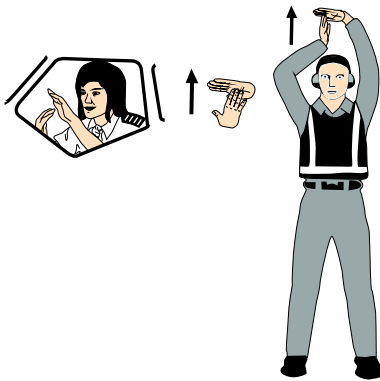
Perform a standard salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with flight crew until aircraft has begun to taxi.

4.11 TECHNICAL/SERVICES COMMUNICATION SIGNALS



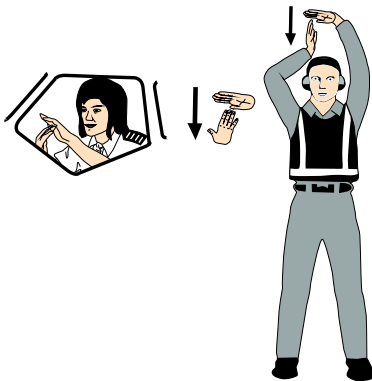
24. Do not touch controls (technical/servicing communication signal)

Extend right arm fully above head and close fist or hold wand in horizontal position; left arm remains at side by knee.



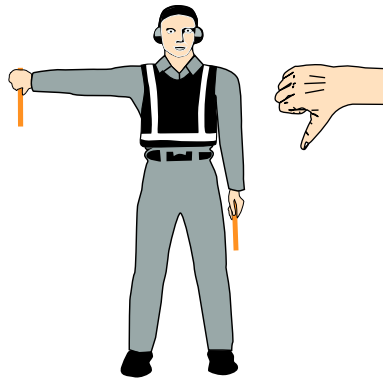
25. Connect ground power (technical/servicing communication signal)

Hold arms fully extended above head; open left hand horizontally and move finger tips of right hand into and touch open palm of left hand (forming a "T"). At night, illuminated wands can also be used to form the "T" above head.



26. Disconnect power (technical/servicing communication signal)

Hold arms fully extended above head with finger tips of right hand touching open horizontal palm of left hand (forming a "T"); then move right hand away from the left. **Do not** disconnect power until authorized by flight crew. At night, illuminated wands can also be used to form the "T" above head.



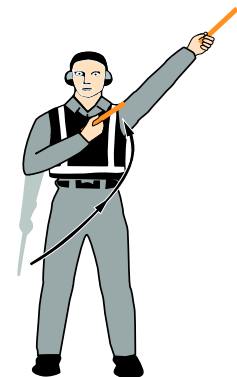
**27. Negative
(technical/servicing
communication signal)**

Hold right arm straight out at 90 degrees from shoulder and point wand down to ground or display hand with "thumbs down"; left hand remains at side by knee.



**28. Establish communication
via interphone
(technical/servicing
communication signal)**

Extend both arms at 90 degrees from body and move hands to cup both ears.



**29. Open/close stairs
(technical/servicing
communication signal)**

With right arm at side and left arm raised above head at a 45-degree angle, move right arm in a sweeping motion towards top of left shoulder.

Note.— This signal is intended mainly for aircraft with the set of integral stairs at the front.

End of Advisory Circular

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