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Earth-moving machinery — Symbols for operator controls and other displays —

Part 2: Symbols for specific machines, equipment and accessories

Engins de terrassement — Symboles pour les commandes de l'opérateur et autres indications —

Partie 2: Symboles spécifiques aux engins, équipements et accessoires

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 3, *Machine characteristics, electrical and electronic systems, operation and maintenance*.

This second edition cancels and replaces the first edition (ISO 6405-2:1993), which has been technically revised with many new symbols added. It also incorporates the Amendments ISO 6405-2:1993/Amd 1:1997 and ISO 6405-2:1993/Amd 2:2004.

A list of all parts in the ISO 6405 series can be found on the ISO website.

Earth-moving machinery — Symbols for operator controls and other displays —

Part 2:
Symbols for specific machines, equipment and accessories

1 Scope

This document standardizes symbols for use on operator controls and other displays on specific types of earth-moving machinery as defined in ISO 6165.

NOTE 1 ISO 6405-1 covers common symbols that apply to multiple types of earth-moving machinery.

NOTE 2 ISO 7000 and IEC 60417 can be consulted for additional internationally standardized symbols of potential relevance to earth-moving machinery.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6165, *Earth-moving machinery — Basic types — Identification and terms and definitions*

ISO 6405-1:2017, *Earth-moving machinery — Symbols for operator controls and other displays — Part 1: Common symbols*

IEC 80416-1, *Basic principles for graphical symbols for use on equipment — Part 1: Creation of graphical symbols for registration*

ISO 80416-2, *Basic principles for graphical symbols for use on equipment — Part 2: Form and use of arrows*

IEC 80416-3, *Basic principles for graphical symbols for use on equipment — Part 3: Guidelines for the application of graphical symbols*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at www.iso.org/obp

— IEC Electropedia: available at www.electropedia.org

3.1
symbol
graphical symbol
visually perceptible figure used to transmit information independent of language

Note 1 to entry: It may be produced by drawing, printing, or other means. Letters, numerals, and mathematical symbols may be used as symbols or symbol elements. For some specific applications, groups of letters (for example, AUTO, STOP) are used as symbols or symbol elements.

Note 2 to entry: Letters and numerals are not registered by ISO/TC 145/SC 3 or published in ISO 7000 unless they are symbol elements embedded in graphical symbols.

3.2
icon
digital display icon
digitized (pixelated) representation of a graphical symbol, usually used on a reconfigurable electronic display screen or graphical user interface (GUI)

Note 1 to entry: A single symbol can be represented by multiple icons, each of a different size, pixel count, or colourization.

4 General

4.1 Except as indicated in subsequent clauses, symbols shall be used as shown in this document.

4.2 Selected symbols, which are shown in outline form in this document, may be filled in actual use for enhanced clarity of reproduction and improved visual perception by the operator, except as otherwise specified for individual symbols, and in accordance with IEC 80416-3.

4.3 Limitations inherent in some reproduction and display technologies can require increased line width or other minor modifications of symbols. Such modifications are allowed, provided that the symbol remains conceptually unchanged in its basic graphical elements and is easily discernible by the operator.

4.4 To improve the appearance and perceptibility of a graphical symbol, or to coordinate with the design of the equipment to which it is applied, it can be necessary to modify the symbol as indicated in IEC 80416-3 (for example, to change the line width or to round the corners of the symbol). Such modifications are allowed, provided that the essential perceptible characteristics of the symbol are maintained.

4.5 For actual use, all symbols shall be reproduced large enough to be easily discernible by the operator. Follow IEC 80416-3 for the proper sizing of symbols. Symbols grouped together in a display or on a set of controls should be scaled to the same degree relative to the corner marks of the symbol original as shown in this document in order to maintain the correct visual relationship among the symbols. Symbols shall be used in the orientation shown in this document, unless rotation or mirror imaging is specifically allowed for individual symbols.

4.6 Most symbols are constructed using a building block approach in which various symbols and symbol elements are combined in a logical manner to produce a new symbol.

4.7 In some cases, symbols may be used in conjunction, without being combined into a composite symbol, to convey the same meaning as the composite symbol.

4.8 Symbols are generally intended to replace a word or words with a graphical image that has the same meaning for all operators, regardless of their native language. However, the use of a graphical symbol to identify a control or display does not preclude the use of words in conjunction with that control or display.

4.9 If a symbol shows a machine or parts of a machine from a side view, a machine moving from right to left across the symbol area shall be assumed. If a symbol shows a machine or parts of a machine from an overhead view, a machine moving from bottom to top across the symbol area shall be assumed.

4.10 Symbols on controls and displays shall have a good contrast to their background. A white or light-coloured symbol on a black or dark-coloured background is preferred for most controls. Displays may use either a white or light-coloured symbol on a black or dark-coloured background or a black or dark-

coloured symbol on a white or light-coloured background, depending upon which alternative provides the best visual perception. When a symbol image is reversed (for example, from black-on-white to white-on-black or vice versa) this reversal shall be done for the entire symbol.

4.11 If symbols are cast, moulded, embossed, or stamped into a surface, the symbols shall be visually distinct from that surface without dependence on colour.

4.12 Symbols shall be located on or adjacent to the control or display that is being identified. Where more than one symbol is required for a control, the symbols shall be located in relation to the control such that movement of the control towards the symbols shall effect the function depicted by that symbol.

4.13 Arrows used in symbols shall conform to the requirements of ISO 80416-2. IEC 80416-1 shall be consulted for the general principles for creating symbol originals. IEC 80416-3 should be consulted for guidelines for the application of symbols.

4.14 ISO/IEC registration numbers are shown for symbols which are registered in ISO 7000 or IEC 60417.

NOTE Symbol originals are approved and registered either by ISO/TC 145/SC 3 and published in ISO 7000 or by IEC/SC 3C and published in IEC 60417. In some cases, modified or application symbols, rather than the registered symbol originals, are standardized in this document.

4.15 When letters or numerals are used in a symbol, the font shown shall not be considered definitive. Other fonts may be used so long as the letters and numerals remain legible.

4.16 Symbols in this document are shown within marks that delimit the corners of the 75 mm square basic pattern from IEC 80416-1. Corner marks are not part of the symbol, but are provided to ensure consistent presentation of all symbol graphics.

5 Colour

When used on illuminated displays, the following colours shall have the meanings indicated:

— red denotes a failure, serious malfunction, or operating condition that requires immediate attention;

— yellow or amber denotes a condition outside normal operating limits;

— green denotes a normal operating condition.

6 Development of new symbols

6.1 Prior to developing a new symbol, a search should be conducted for previously standardized symbols with the same or similar meaning to what is needed. ISO 7000 and IEC 60417 (both available in database form) are compilations of internationally standardized symbols which can be useful both for finding appropriate symbols that do not appear in ISO 6405 and for generating concepts that can be used in the development of new symbols.

6.2 New symbols shall be developed in accordance with the principles of ISO 6405-1:2017, Annex A. IEC 80416-1 should be consulted for general principles for the creation of symbols. Arrows shall be in accordance with ISO 80416-2. Different arrow forms have different meanings according to ISO 80416-2. Care should be taken to use the correct arrow form. Following the guidelines of ISO 6405-1:2017, Annex A makes possible the development of symbols appropriate in graphical form and content for international standardization and ISO 7000 registration.

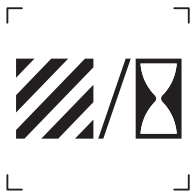
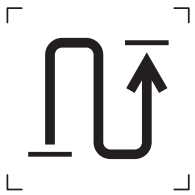
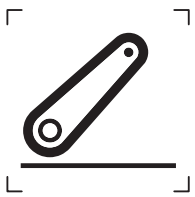
6.3 Symbols proposed for standardization in this document shall include a short explanation of the function or expected use of the symbol.

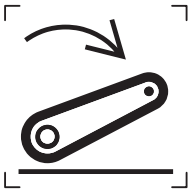
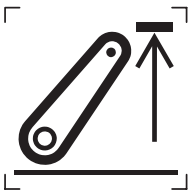
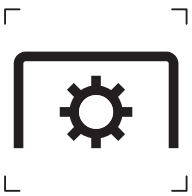
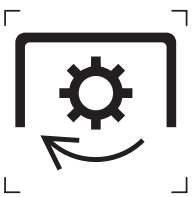
NOTE IEC 80416–1 uses the term "description" for this type of information and provides guidelines for writing descriptions for symbols intended for standardization in ISO 7000 or IEC 60417. The descriptions for symbols standardized in this document can serve as examples.

7 Adaptation of symbols as digital display icons

Symbols can be adapted for use as digital display icons on visual display units, reconfigurable displays, or other electronic displays. Such adaptations should follow the principles of ISO 80416-4. Special care should be taken to ensure that digital display icons preserve the visual impression of the symbol from which the icon is adapted. The same principles regarding use of colour with symbols apply to the use of colour with digital display icons.

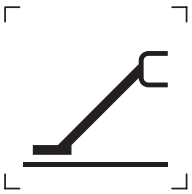
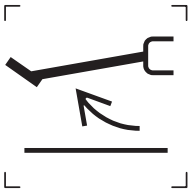
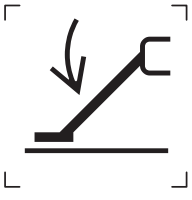
8 General machine and equipment symbols

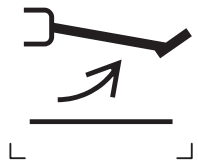
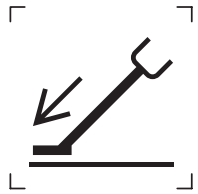
	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.1		**Area worked** To indicate the area that has been worked by a machine. To identify the control for specifying an area.	ISO 7000-1657
8.2		**Area worked per hour** To indicate the area that has been worked by a machine per hour of operation.	ISO 7000-1658
8.3		**Work distance travelled** To indicate the distance that has been travelled by a machine during work.	ISO 7000-2177
8.4		**Rockshaft** To identify the control for the rockshaft of a machine; the rockshaft raises or lowers the implement or equipment attached to it. To indicate the operational status of the rockshaft. The horizontal ground line may be deleted if in context, the symbol meaning remains clear.	ISO 7000-1566
8.5		**Rockshaft, up; rockshaft, raise** To identify the control that raises the rockshaft. To indicate that the rockshaft is being raised or is in the raised (up) position. The horizontal ground line may be deleted if in context, the symbol meaning remains clear.	ISO 7000-1567

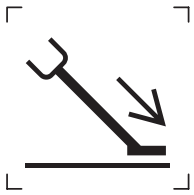
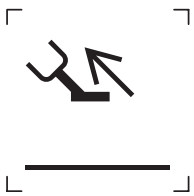
	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.6		**Rockshaft, down; rockshaft, lower** To identify the control that lowers the rockshaft. To indicate that the rockshaft is being lowered or is in the lowered (down) position. The horizontal ground line may be deleted if in context, the symbol meaning remains clear.	ISO 7000-1568
8.7		**Rockshaft, float** To identify the control that allows the rockshaft to move up and down with the contour of the ground over which or through which the implement or equipment attached to the rockshaft moves. To indicate that the rockshaft is in the float condition.	ISO 7000-1660
8.8		**Rockshaft, upper limit** To identify the control that sets the maximum height to which an implement can be raised by the rockshaft. To indicate that the rockshaft is raised to its maximum height. A machine symbol may be placed to the left of this symbol. The horizontal ground line may be deleted if in context, the symbol meaning remains clear.	ISO 7000-2178
8.9		**Differential lock** To identify the control for the differential lock, which forces both wheels on an axle to rotate at the same speed regardless of the traction available to either wheel individually while still allowing the wheels to rotate at different speeds when negotiating a turn. To indicate the operational status of the differential lock.	ISO 7000-1662
8.10		**PTO; power take-off** To identify the control for the power take-off (PTO) system. To indicate the operational status of the PTO. Symbol may be used with a numerical indicator of rated PTO rotational speed.	ISO 7000-1572
8.11		**Power take-off (PTO), direction of rotation, clockwise** To indicate that the PTO shaft rotates clockwise. For anti-clockwise rotation, use the mirror image (see 8.12). Direction of rotation is from the perspective of a person looking at the end of the PTO shaft.	ISO 7000-1664

	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.12		**Power take-off (PTO), direction of rotation, anti-clockwise** To indicate that the PTO shaft rotates anti-clockwise. For clockwise rotation, use ISO 7000-1664 (see 8.11). Direction of rotation is from the perspective of a person looking at the end of the PTO shaft.	Mirror image of ISO 7000–1664
8.13		**Power take-off (PTO), rotational speed** To identify the control that sets or adjusts the rotational speed of the power take-off (PTO) To indicate the rotational speed of the PTO. Symbol element “n/min” may be replaced by a numerical indicator of PTO rated rotational speed.	ISO 7000–3194
8.14		**Machine immobilizer** To identify the control that immobilizes the machine to prevent its unintended or unauthorized movement. To indicate that the machine is in the immobilized condition.	ISO7000–3037

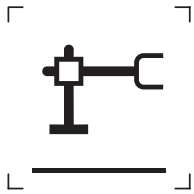
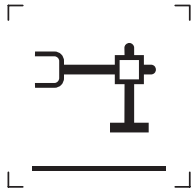
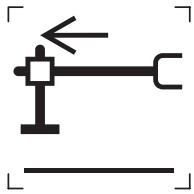
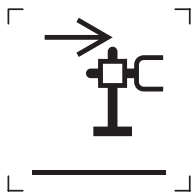
9 Stabilizer symbols

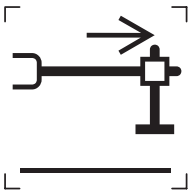
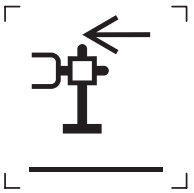
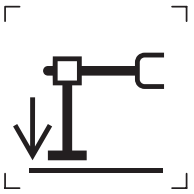
	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.1		**Left stabilizer** To identify the equipment used to stabilize the machine to prevent movement of the machine during operation. To identify the control for operation of the left stabilizer. If one control operates both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Mirror image of ISO 7000–2072
9.2		**Right stabilizer** To identify the equipment used to stabilize the machine to prevent movement of the machine during operation. To identify the control for operation of the right stabilizer. If one control operates both the left and right stabilizers, use symbol in 9.1. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–2072
9.3		**Left stabilizer, up; left stabilizer, raise** To identify the control that raises the left stabilizer. To indicate that the left stabilizer is being raised or is in the raised (up) position. If one control raises both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–2073
9.4		**Left stabilizer, down; left stabilizer, lower** To identify the control that raises the right stabilizer. To indicate that the right stabilizer is being lowered or is in the lowered (down) position. If one control lowers both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–2074

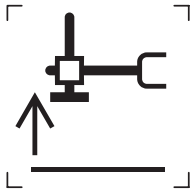
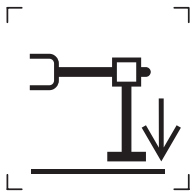
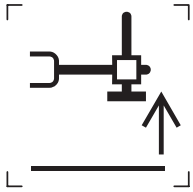
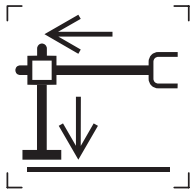
	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.5		**Right stabilizer, up; right stabilizer raise** To identify the control that lowers the right stabilizer. To indicate that the right stabilizer is being raised or is in the raised (up) position. If one control raises both the left and right stabilizers, use ISO 7000–2073 (see 9.3). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1292
9.6		**Right stabilizer, down; right stabilizer, lower** To identify the control that raises the right stabilizer. To indicate that the right stabilizer is being lowered or is in the lowered (down) position. If one control lowers both the left and right stabilizers, use ISO 7000–2074 (see 9.4). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1291
9.7		**Left stabilizer, extend** To identify the control that extends the left stabilizer to provide a wider stance of the machine for greater stability during operation. To indicate that the left stabilizer is being extended or is in the extended position. If one control extends both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–2075

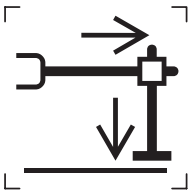
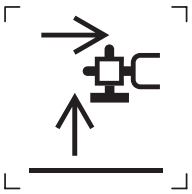
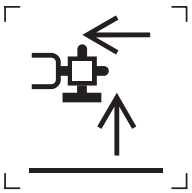
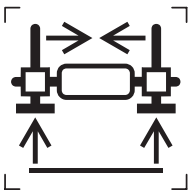
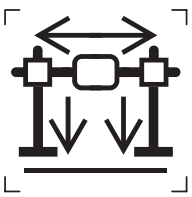
	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.8		**Left stabilizer, retract** To identify the control that retracts the left stabilizer. To indicate that the left stabilizer is being retracted or is in the retracted position. If one control retracts both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–2076
9.9		**Right stabilizer, extend** To identify the control that extends the right stabilizer to provide a wider stance of the machine for greater stability during operation. To indicate that the right stabilizer is being extended or is in the extended position. If one control extends both the left and right stabilizers, use application of ISO 7000–2075 (see 9.7). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–1536
9.10		**Right stabilizer, retract** To identify the control that retracts the right stabilizer. To indicate that the right stabilizer is being retracted or is in the retracted position. If one control retracts both the left and right stabilizers, use application of ISO 7000–2076 (see 9.8). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–1537

10 Outrigger symbols

	Graphical symbol	Symbol title and description	ISO/IEC registration number
10.1		**Left outrigger** To identify the control for the left outrigger. If one control operates both the left and right outriggers, use this symbol Use as the base symbol for developing left outrigger symbols. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Mirror image application of ISO7000–2077
10.2		**Right outrigger** To identify the control for the right outrigger. If one control operates both the left and right outriggers, use symbol in 10.1. Use as the base symbol for developing right outrigger symbols. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–2077
10.3		**Outrigger, left beam out, horizontal extension only** To identify the control that extends the left beam away from the machine. To indicate that the left beam is extending horizontally away from the machine or has reached its extension limit. To indicate the operational status of the left beam horizontal extension function. If one control extends both left and right beams, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–2078
10.4		**Outrigger, left beam in, horizontal retraction only** To identify the control that retracts the left beam toward the machine. To indicate that the left beam is retracting horizontally toward the machine or has reached its retraction limit. To indicate the operational status of the left beam horizontal retraction function. If one control retracts both left and right beams, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–2079

	Graphical symbol	Symbol title and description	ISO/IEC registration number
10.5		**Outrigger, right beam out, horizontal extension only** To identify the control that extends the right beam away from the machine. To indicate that the right beam is extending horizontally away from the machine or has reached its extension limit. To indicate the operational status of the right beam horizontal extension function. If one control extends both left and right beams, use application of ISO 7000–2078 (see 10.3). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–0746A
10.6		**Outrigger, right beam in, horizontal retraction only** To identify the control that retracts the right beam toward the machine. To indicate that the right beam is retracting horizontally toward the machine or has reached its retraction limit. To indicate the operational status of the right beam horizontal retraction function. If one control retracts both left and right beams, use application of ISO 7000–2079 (see 10.4). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–0747A
10.7		**Outrigger, left jack down, vertical extension only** To identify the control that extends the left jack down toward the ground. To indicate that the left jack is extending vertically down toward the ground or has reached its extension limit. To indicate the operational status of the left jack vertical extension function. If one control extends both left and right jacks, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–2080

	Graphical symbol	Symbol title and description	ISO/IEC registration number
10.8		**Outrigger, left jack up, vertical retraction only** To identify the control that retracts the left jack up away from the ground. To indicate that the left jack is retracting vertically up away from the ground or has reached its retraction limit. To indicate the operational status of the left jack vertical retraction function. If one control retracts both left and right jacks, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–2081
10.9		**Outrigger, right jack down, vertical extension only** To identify the control that extends the right jack down toward the ground. To indicate that the right jack is extending vertically down toward the ground or has reached its extension limit. To indicate the operational status of the right jack vertical extension function. If one control extends both left and right jacks, use application of ISO 7000–2080 (see 10.7). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–0750A
10.10		**Outrigger, right jack down, vertical retraction only** To identify the control that retracts the right jack up away from the ground. To indicate that the right jack is retracting vertically up away from the ground or has reached its retraction limit. To indicate the operational status of the right jack vertical retraction function. If one control retracts both left and right jacks, use application of ISO 7000–2081 (see 10.8). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000–0751A
10.11		**Outrigger, extend left beam and left jack** To identify the control that simultaneously extends the left beam and left jack. To indicate that the left beam and left jack are extending simultaneously. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Mirror image of ISO 7000–0738B

	Graphical symbol	Symbol title and description	ISO/IEC registration number
10.12		**Outrigger, extend right beam and right jack** To identify the control that simultaneously extends the right beam and right jack. To indicate that the right beam and right jack are extending simultaneously. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–0738B
10.13		**Outrigger, retract left beam and left jack** To identify the control that simultaneously retracts the left beam and left jack. To indicate that the left beam and left jack are retracting simultaneously. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Mirror image of ISO 7000–0739B
10.14		**Outrigger, retract right beam and right jack** To identify the control that simultaneously retracts the right beam and right jack. To indicate that the right beam and right jack are retracting simultaneously. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–0739B
10.15		**Outrigger, retract left/right beams and left/right jacks; house all outriggers (stabilizers)** To identify the control that simultaneously retracts left and right beams and left and right jacks. To indicate that the left and right beams and the left and right jacks are retracting simultaneously. To indicate the operational status of the overall beam and jack retraction function. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–2968
10.16		**Outrigger, extend left and right beams and left and right jacks; extend all outriggers (stabilizers)** To indicate that all outriggers have been extended both horizontally and vertically. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–3552

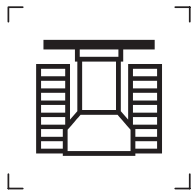
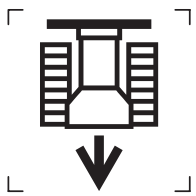
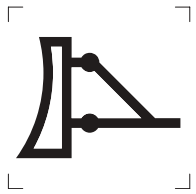
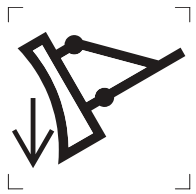
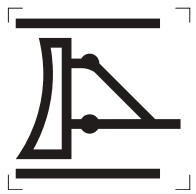
11 Clamshell bucket symbols

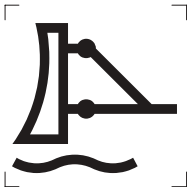
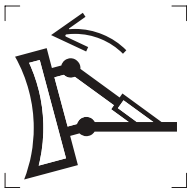
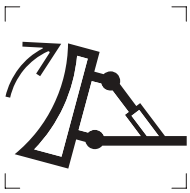
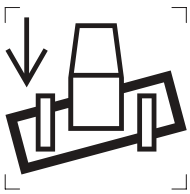
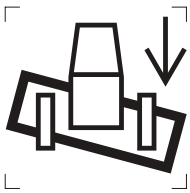
	Graphical symbol	Symbol title and description	ISO/IEC registration number
11.1		**Clamshell bucket** To identify the control for the bucket, which consists of two halves that open and close in the middle (like a clamshell) in order to grab and carry material. This symbol is viewed from the perspective of a person looking along the open-close axis of the clamshell bucket.	ISO 7000–1494
11.2		**Clamshell bucket, open** To identify the control that opens the bucket to empty material or to prepare to grab material. To indicate that the bucket is opening or is in the open position. This symbol is viewed from the perspective of a person looking along the open-close axis of the clamshell bucket.	ISO 7000–1495
11.3		**Clamshell bucket, close** To identify the control that closes the bucket to enclose material within the bucket. To identify that the bucket is closing or is in the closed position. This symbol is viewed from the perspective of a person looking along the open-close axis of the clamshell bucket.	ISO 7000–1496
11.4		**Clamshell bucket, rotate** To identify the control that rotates the bucket in either the clockwise or the anti-clockwise. To indicate that the clamshell bucket can be rotated either clockwise or anti-clockwise. This symbol is viewed from the perspective of a person looking along the open-close axis of the clamshell bucket.	ISO 7000–2082
11.5		**Clamshell bucket, rotate clockwise** To identify the control that rotates the bucket in the clockwise direction. To indicate that the bucket is rotating clockwise. This symbol is viewed from the perspective of a person looking along the open-close axis of the clamshell bucket.	ISO 7000–1497
11.6		**Clamshell bucket, rotate anti-clockwise** To identify the control that rotates the bucket in the anti-clockwise direction. To indicate that the bucket is rotating anti-clockwise. This symbol is viewed from the perspective of a person looking along the open-close axis of the clamshell bucket.	ISO 7000–1498

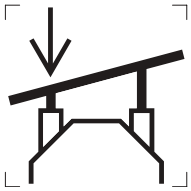
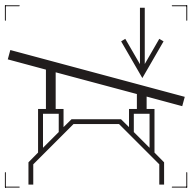
12 Grapple symbols

	Graphical symbol	Symbol title and description	ISO/IEC registration number
12.1		**Grapple** To identify the control for the grapple, which uses grab arms to grasp and carry material. This symbol is viewed from the perspective of a person looking along the open-close axis of the clam-shell bucket.	ISO 7000–1499
12.2		**Grapple, open** To identify the control that opens the grapple to allow it to grasp material or to drop material. To indicate that the grapple is opening or is in the open position. This symbol is viewed from the perspective of a person looking along the open-close axis of the clam-shell bucket.	ISO 7000–1500
12.3		**Grapple, close** To identify the control that closes the grapple to hold material. To indicate that the grapple is closing or is in the closed position. This symbol is viewed from the perspective of a person looking along the open-close axis of the clam-shell bucket.	ISO 7000–1501
12.4		**Grapple, rotate** To identify the control that rotates the grapple in either the clockwise or the anti-clockwise direction. To indicate that the grapple is free to rotate in either clockwise or anti-clockwise direction. This symbol is viewed from the perspective of a person looking along the open-close axis of the clam-shell bucket.	ISO 7000–1502
12.5		**Grapple, rotate clockwise** To identify the control that rotates the grapple in the clockwise direction. To indicate that the grapple is rotating clockwise. This symbol is viewed from the perspective of a person looking along the open-close axis of the clam-shell bucket.	ISO 7000–2083
12.6		**Grapple, rotate anti-clockwise** To identify the control that rotates the grapple in the anti-clockwise direction. To indicate that the grapple is rotating clockwise. This symbol is viewed from the perspective of a person looking along the open-close axis of the clam-shell bucket.	ISO 7000–2084

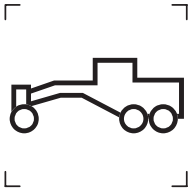
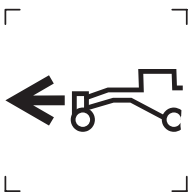
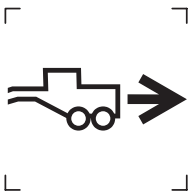
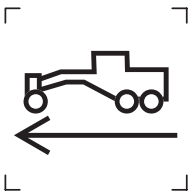
13 Dozer symbols

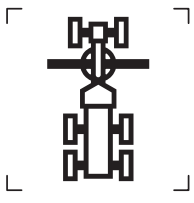
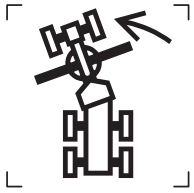
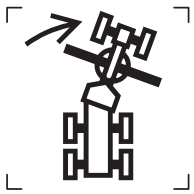
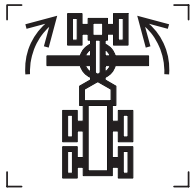
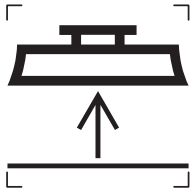
	Graphical symbol	Symbol title and description	ISO/IEC registration number
13.1		**Dozer (overhead view)** To identify the dozer from an overhead (plan) view. This symbol is viewed from the perspective of a person looking at the dozer from above the machine.	ISO 7000–3520
13.2		**Dozer, forward direction of movement (overhead view of machine)** To identify the control that moves the dozer in a forward direction. To indicate that the dozer is moving forward. This symbol is viewed from the perspective of a person looking at the dozer from above the machine.	ISO 7000–3521
13.3		**Dozer, rearward direction of movement (overhead view of machine)** To identify the control that moves the dozer in a rearward direction. To indicate that the dozer is moving rearward. This symbol is viewed from the perspective of a person looking at the dozer from above the machine.	ISO 7000–3522
13.4		**Dozer blade** To identify the control for the dozer blade. To indicate the operational status of the dozer blade.	ISO 7000–1451
13.5		**Dozer blade, raise** To identify the control that raises the dozer blade. To indicate that the dozer blade is being raised or is in the raised (up) position.	ISO 7000–1452
13.6		**Dozer blade, lower** To identify the control that lowers the dozer blade. To indicate that the dozer blade is being lowered or is in the lowered (down) position.	ISO 7000–1453
13.7		**Dozer blade, hold** To identify the control that holds the dozer blade in a specified position. To indicate that the blade is in the hold condition.	ISO 7000–1454

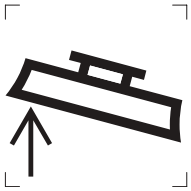
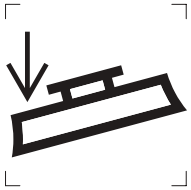
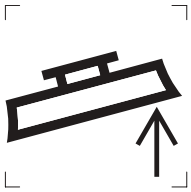
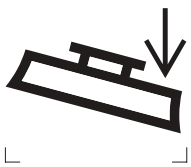
	Graphical symbol	Symbol title and description	ISO/IEC registration number
13.8		**Dozer blade, float** To identify the control that allows the dozer blade to move up and down with the contour of the ground. To indicate that the blade is in the float condition.	ISO 7000–1455
13.9		**Dozer blade, pitch forward** To identify the control that changes the angle (pitch) of the dozer blade forward away from the machine. To indicate that the blade is being angled forward.	ISO 7000–1461
13.10		**Dozer blade, pitch rearward** To identify the control that changes the angle (pitch) of the dozer blade rearward toward the machine. To indicate that the blade is being angled rearward.	ISO 7000–1460
13.11		**Dozer blade, tilt left** To identify the control that tilts the dozer blade to the left so that the left side of the blade is lowered relative to the right side. To indicate that the blade is being tilted downward to the left. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1457
13.12		**Dozer blade, tilt right** To identify the control that tilts the dozer blade to the right so that the right side of the blade is lowered relative to the left side. To indicate that the blade is being tilted downward to the right. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1456

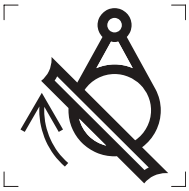
	Graphical symbol	Symbol title and description	ISO/IEC registration number
13.13		**Dozer blade, angle left** To identify the control that angles the dozer blade so that the right side of the blade is moved forward relative to the left side and material being pushed by the blade slides to the left of the machine. To indicate that the blade is being angled rearward to the left. This symbol is viewed from the perspective of a person looking at the blade from above the machine.	ISO 7000–1459
13.14		**Dozer blade, angle right** To identify the control that angles the dozer blade so that the left side of the blade is moved forward relative to the right side and material being pushed by the blade slides to the right of the machine. To indicate that the blade is being angled rearward to the right. This symbol is viewed from the perspective of a person looking at the blade from above the machine.	ISO 7000–1458

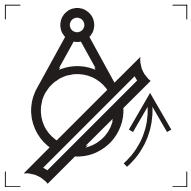
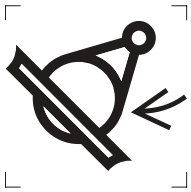
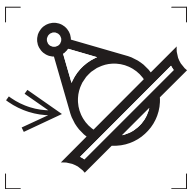
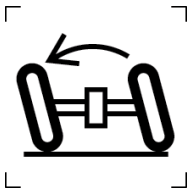
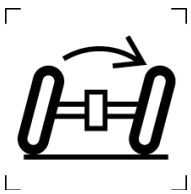
14 Grader symbols

	Graphical symbol	Symbol title and description	ISO/IEC registration number
14.1		**Grader (side view of machine)** To identify the grader from a side (profile) view. Use as a base symbol for developing grader symbols that use a side (profile) view.	ISO 7000–3523
14.2		**Grader, forward direction of movement (side view of machine)** To identify the control that moves the grader in the forward direction. To indicate that the grader is moving forward.	ISO 7000–3524
14.3		**Grader, rearward direction of movement (side view of machine)** To identify the control that moves the grader in the rearward direction. To indicate that the grader is moving rearward.	ISO 7000–3525
14.4		**Grader, ground speed** To identify the display that shows ground speed of the grader. To indicate the ground speed of the grader.	ISO 7000–3569

	Graphical symbol	Symbol title and description	ISO/IEC registration number
14.5		**Articulated grader (overhead view of machine)** To identify the articulated grader, where the front portion of the machine, including the blade, can be articulated left and right. This symbol is viewed from the perspective of a person looking at the grader from above the machine.	ISO 7000–2246
14.6		**Articulated grader, steer left** To identify the control that moves the front wheels of the machine, including the blade, to the left. To indicate that the machine is articulating to the left. This symbol is viewed from the perspective of a person looking at the grader from above the machine.	ISO 7000–2247
14.7		**Articulated grader, steer right** To identify the control that moves the front wheels of the machine, including the blade, to the right. To indicate that the machine is articulating to the right. This symbol is viewed from the perspective of a person looking at the grader from above the machine.	ISO 7000–2248
14.8		**Articulated grader, return-to-straight** To identify the control that returns the articulated grader to the straight ahead configuration. This symbol is viewed from the perspective of a person looking at the grader from above the machine.	ISO 7000–3526
14.9		**Grader blade (rear view)** To identify the control for the grader blade functions that are depicted from a rear view. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1503
14.10		**Grader blade, raise whole blade** To identify the control that raises the grader blade while maintaining its current angle relative to the horizontal. To indicate that the grader blade is being raised or is in the raised (up) position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–2085

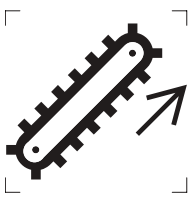
	Graphical symbol	Symbol title and description	ISO/IEC registration number
14.11		**Grader blade, lower whole blade** To identify the control that lowers the grader blade while maintaining its current angle relative to the horizontal. To indicate that the grade blade is being lowered or is in the lowered (down) position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–2086
14.12		**Grader blade, raise left side** To identify the control that raises the left side of the grader blade to increase its angle from the horizontal. To indicate that the left side of the grader blade is being raised or is in the raised (up) position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1506
14.13		**Grader blade, lower left side** To identify the control that lowers the left side of the grader blade to decrease its angle from the horizontal. To indicate that the left side of the grader blade is being lowered or is in the lowered (down) position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1507
14.14		**Grader blade, right side, raise** To identify the control that raises the right side of the grader blade to increase its angle from the horizontal. To indicate that the right side of the grader blade is being raised or is in the raised (up) position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1504
14.15		**Grader blade, right side, lower** To identify the control that lowers the right side of the grader blade to decrease its angle from the horizontal. To indicate that the right side of the grader blade is being lowered or is in the lowered (down) position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1505

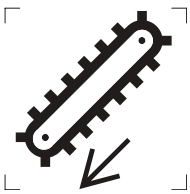
	Graphical symbol	Symbol title and description	ISO/IEC registration number
14.16		**Grader blade, side shift, left** To identify the control that shifts the grader blade to the left relative to the frame of the machine. To indicate that the grader blade is being shifted to the left side or is in the left side shift position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1509
14.17		**Grader blade, side shift, right** To identify the control that shifts the grader blade to the right relative to the frame of the machine. To indicate that the grader blade is being shifted to the right side or is in the right side shift position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000–1508
14.18		**Grader blade (side view)** To identify the control for grader blade functions that are depicted from a side (profile) view. To indicate the operational status of the grader blade.	ISO 7000–2243
14.19		**Grader blade, pitch forward** To identify the control that changes the angle (pitch) of the grader blade forward away from the machine. To indicate that the blade is being angled forward.	ISO 7000–2244
14.20		**Grader blade, pitch rearward** To identify the control that changes the angle (pitch) of the grader blade rearward toward the machine. To indicate that the blade is being angled rearward.	ISO 7000–2245
14.21		**Grader blade circle, rotate clockwise** To identify the control that rotates the grader blade circle clockwise to increase the blade angle to the right or decrease the blade angle to the left. To indicate that the blade circle is rotating clockwise. This symbol is viewed from the perspective of a person looking at the blade circle from above the machine.	ISO 7000–1510

	Graphical symbol	Symbol title and description	ISO/IEC registration number
14.22		**Grader blade circle, rotate anti-clockwise** To identify the control that rotates the grader blade circle anti-clockwise to increase the blade angle to the left or decrease the blade angle to the right. To indicate that the blade circle is rotating anti-clockwise. This symbol is viewed from the perspective of a person looking at the blade circle from above the machine.	ISO 7000–1511
14.23		**Grader blade circle, shift left** To identify the control that shifts the blade circle to the left relative to the longitudinal axis of the machine in order to extend the reach of the blade. To indicate that the blade circle is being rotated to the left. This symbol is viewed from the perspective of a person looking at the blade circle from above the machine.	ISO 7000–1513
14.24		**Grader blade circle, shift right** To identify the control that shifts the blade circle to the right relative to the longitudinal axis of the machine in order to extend the reach of the blade. To indicate that the blade circle is being rotated to the right. This symbol is viewed from the perspective of a person looking at the blade circle from above the machine.	ISO 7000–1512
14.25		**Grader, wheel lean, left** To identify the control that leans the grader wheels to the left in order to assist in steering during operation of the grader. To indicate that the wheels are leaning to the left. This symbol is viewed from the perspective of a person looking at the grader forward along the longitudinal axis of the machine.	ISO 7000–1518
14.26		**Grader, wheel lean, right** To identify the control that leans the grader wheels to the right in order to assist in steering during operation of the grader. To indicate that the wheels are leaning to the right. This symbol is viewed from the perspective of a person looking at the grader forward along the longitudinal axis of the machine.	ISO 7000–1517

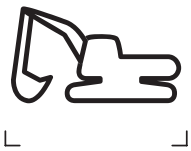
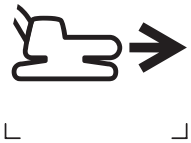
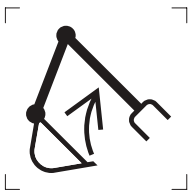
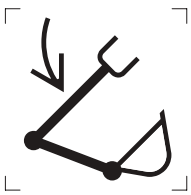
15 Scraper symbols

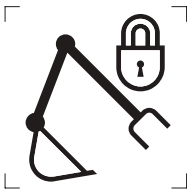
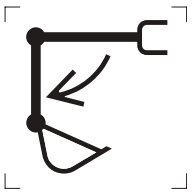
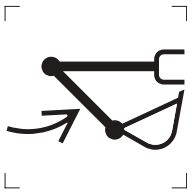
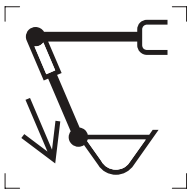
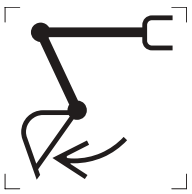
	Graphical symbol	Symbol title and description	ISO/IEC registration number
15.1		**Scraper bowl** To identify the equipment that can be self-propelled, towed, or pushed to scrape, collect, and disperse material. To identify the control for operation of the scraper bowl. To indicate the operational status of the scraper bowl.	ISO 7000–1523
15.2		**Scraper bowl, raise** To identify the control that raises the scraper bowl for travel mode or to limit the amount of material being scraped into the bowl. To indicate that the bowl is being raised or is in the raised (up) position.	ISO 7000–1524
15.3		**Scraper bowl, lower** To identify the control that lowers the scraper bowl to position it for scraping or collecting material or to increase the amount of material being scraped into the bowl. To indicate that the bowl is being lowered or is in the lowered (down) position.	ISO 7000–1525
15.4		**Scraper bowl, hold** To identify the control that holds the scraper bowl in a constant position. To indicate that the bowl is in the hold condition.	ISO 7000–1526
15.5		**Scraper apron** To identify the control for operation of the scraper apron, which opens and closes to allow the desired amount of soil or other material to be collected in the scraper bowl. To indicate the operational status of the scraper apron.	ISO 7000–2087
15.6		**Scraper apron, raise** To identify the control that raises the scraper apron to allow material to enter or exit the scraper bowl. To indicate that the apron is being raised or is in its raised (up) position.	ISO 7000–1527
15.7		**Scraper apron, lower** To identify the control that lowers the scraper apron to prevent material from entering or exiting the scraper bowl. To indicate that the apron is being lowered or is in its lowered (down) position.	ISO 7000–1528

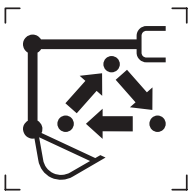
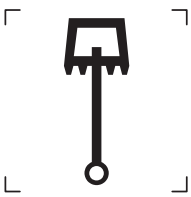
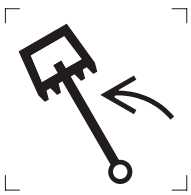
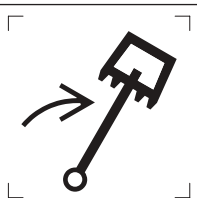
	Graphical symbol	Symbol title and description	ISO/IEC registration number
15.8		**Scraper apron, hold** To identify the control that holds the apron in its current position to maintain a constant opening to the scraper bowl. To indicate that the apron is in the hold condition.	ISO 7000–1529
15.9		**Scraper apron, float** To identify the control that allows the opening of the scraper bowl to raise or lower depending on the level of ground beneath the bowl. To indicate that the apron is in the float condition.	ISO 7000–1530
15.10		**Scraper ejector** To identify the control for the scraper ejector, which moves forward to push the material out of the scraper bowl or rearward to allow material to enter the scraper bowl. To indicate the operational status of the scraper ejector.	ISO 7000–2088
15.11		**Scraper ejector, eject** To identify the control that moves the ejector bar from the rear of the scraper bowl to the front to push the material out of the scraper bowl. To indicate that the ejector bar is moving in the ejection direction.	ISO 7000–1531
15.12		**Scraper ejector, return** To identify the control that moves the ejector bar back to its ready position to allow material to be added to the scraper bowl. To indicate that the ejector bar is moving in the return direction.	ISO 7000–1532
15.13		**Scraper ejector, hold** To identify the control that holds the ejector bar in a constant position. To indicate that the ejector bar is in the hold condition.	ISO 7000–1533
15.14		**Scraper elevator** To identify the control for the scraper elevator, which moves material toward either the front or rear of the scraper bowl. To indicate the operational status of the scraper elevator.	ISO 7000–2089
15.15		**Scraper elevator, load** To identify the control that operates the elevator to move material into the scraper bowl. To indicate that the elevator is loading material.	ISO 7000–1534

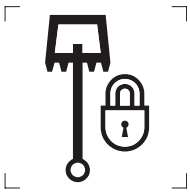
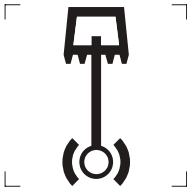
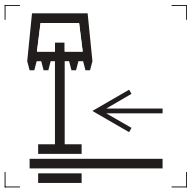
	Graphical symbol	Symbol title and description	ISO/IEC registration number
15.16		**Scraper elevator, unload** To identify the control that operates the elevator to move material out of the scraper bowl. To indicate that the elevator is unloading material.	ISO 7000–1535
15.17		**Scraper, draft setting; average draft** To identify the control that sets the average draft of the scraper. To indicate the average draft setting of the scraper.	ISO 7000–3527
15.18		**Scraper, initial draft setting, first scraper** To identify the control that sets the initial draft of the first scraper. To indicate the initial draft setting of the first scraper.	ISO 7000–3528
15.19		**Scraper, initial draft setting, second scraper** To identify the control that sets the initial draft of the second scraper. To indicate the initial draft setting of the second scraper.	Application of ISO 7000–3528
15.20		**Scraper, initial draft setting, third scraper** To identify the control that sets the initial draft of the third scraper. To indicate the initial draft setting of the third scraper.	Application of ISO 7000–3528

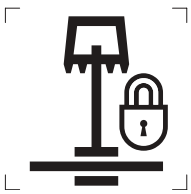
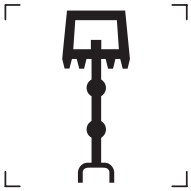
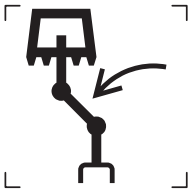
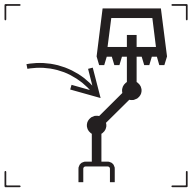
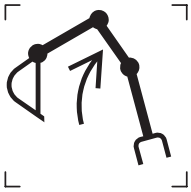
16 Excavator/backhoe symbols

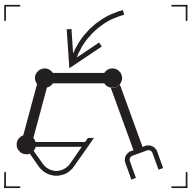
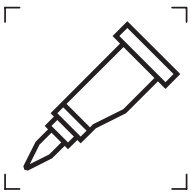
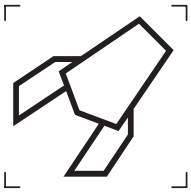
	Graphical symbol	Symbol title and description	ISO/IEC registration number
16.1		**Excavator (side view of machine)** To identify the excavator from a side (profile) view. Use as a base symbol for developing excavator symbols that use a side (profile) view.	ISO 7000–3529
16.2		**Excavator, forward direction of movement (side view of machine)** To identify the control that moves the excavator in the forward direction. To indicate that the excavator is moving forward.	ISO 7000–3530
16.3		**Excavator, rearward direction of movement (side view of machine)** To identify the control that moves the excavator in the rearward direction. To indicate that the excavator is moving rearward.	ISO 7000–3531
16.4		**Excavator/backhoe, hoe equipment** To identify the equipment used on the excavator or backhoe to dig or scoop material. To identify the control for operation of the hoe equipment of the excavator or backhoe.	ISO 7000–1468
16.5		**Excavator/backhoe, boom, raise** To identify the control that raises the boom of the excavator or backhoe. To indicate that the boom is being raised or is in the raised (up) position.	ISO 7000–1470
16.6		**Excavator/backhoe, boom, lower** To identify the control that lowers the boom of the excavator or backhoe. To indicate that the boom is being lowered or is in the lowered (down) position.	ISO 7000–1469
16.7		**Excavator/backhoe, boom, extend** To identify the control that extends the boom away from the machine and increases the reach of the hoe equipment. To indicate that the boom is being extended or is in the extended position.	ISO 7000–1472
16.8		**Excavator/backhoe, boom, retract** To identify the control that retracts the boom toward the machine and reduces the reach of the hoe equipment. To indicate that the boom is being retracted or is in the retracted position.	ISO 7000–1471

	Graphical symbol	Symbol title and description	ISO/IEC registration number
16.9		**Excavator/backhoe, boom, transport lock** To identify the control that locks the boom to prevent its movement during transportation of the excavator or backhoe. To indicate that the boom is in the transport lock condition.	ISO 7000–1486
16.10		**Excavator/backhoe, arm, out** To identify the control that moves the arm outward away from the machine by increasing the angle between the boom and arm. To indicate that the arm is being moved outward or is in the out position.	ISO 7000–1474
16.11		**Excavator/backhoe, arm, in** To identify the control that moves the arm toward the machine by decreasing the angle between the boom and arm. To indicate that the arm is being moved inward or is in the in position.	ISO 7000–1473
16.12		**Excavator/backhoe, arm, extend** To identify the control that extends the arm and increases the reach of the hoe equipment. To indicate that the arm is being extended or is in the extended position.	ISO 7000–1475
16.13		**Excavator/backhoe, arm, retract** To identify the control that retracts the arm and decreases the reach of the hoe equipment. To indicate that the arm is being retracted or is in the retracted position.	ISO 7000–1476
16.14		**Excavator/backhoe, bucket, dump** To identify the control that moves the tip of the bucket toward vertical to dump its contents. To indicate that the bucket is being dumped or is in the dump position.	ISO 7000–1477
16.15		**Excavator/backhoe, bucket, dig (rollback)** To identify the control that moves the tip of the bucket away from vertical to dig, lift, and carry material. To indicate that the bucket is being rolled back or is in the dig (rollback) position.	ISO 7000–1478
16.16		**Excavator/backhoe, power boost** To identify the control for the power boost function, which increases the power available to the hoe equipment by diverting power from other functions. To indicate the operational status of the power boost function.	ISO 7000–2637

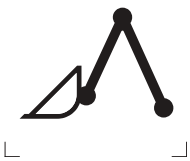
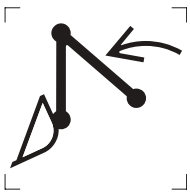
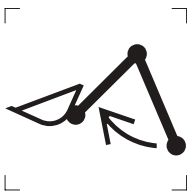
	Graphical symbol	Symbol title and description	ISO/IEC registration number
16.17		**Excavator/backhoe, quick coupler (attachment bracket), lock** To identify the control that moves the quick coupler (attachment bracket) mechanism to the lock position. To indicate that the quick coupler is in the lock position. Engaging the control moves the engagement and locking mechanism but does not guarantee actual locking unless the parts are properly mated.	ISO 7000–3532
16.18		**Excavator/backhoe, quick coupler (attachment bracket), unlock** To identify the control that moves the quick coupler (attachment bracket) mechanism to the unlock position. To indicate that the quick coupler is in the unlock position.	ISO 7000–3533
16.19		**Excavator/backhoe, work mode selector** To identify the control by which the working mode of the excavator or backhoe is selected. The working mode can include a programmed series of actions that are taken repetitively with little or no interaction by the operator. To indicate the current working mode.	ISO 7000–2638
16.20		**Excavator/backhoe, boom swing** To identify the control that swings the boom either left or right. To indicate the operational status of the boom swing function. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–2090
16.21		**Excavator/backhoe, boom swing, left** To identify the control that swings the boom to the left. To indicate that the boom is swinging to the left. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–1480
16.22		**Excavator/backhoe, boom swing, right** To identify the control that swings the boom to the right. To indicate that the boom is swinging to the right. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–1479

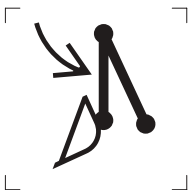
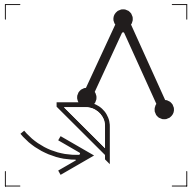
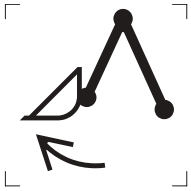
	Graphical symbol	Symbol title and description	ISO/IEC registration number
16.23		**Excavator/backhoe, boom swing lock** To identify the control that locks the boom in a fixed position to present it swinging left or right. To indicate that the boom is locked in its current position. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–1481
16.24		**Excavator/backhoe, boom swing brake** To identify the control that applies the swing brake to slow or stop the boom swing. To indicate that the operational status of the boom swing brake. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–1482
16.25		**Excavator/backhoe, boom side shift** To identify the control that moves the boom laterally to allow operation of the boom and bucket from the offset right or offset left position. To indicate the operational status of the boom side shift function. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–2091
16.26		**Excavator/backhoe, boom side shift, left** To identify the control that moves the boom laterally to the left to allow operation of the boom and bucket from the offset left position. To indicate that the boom is being shifted to the left. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–1483
16.27		**Excavator/backhoe, boom side shift, right** To identify the control that moves the boom laterally to the right to allow operation of the boom and bucket from the offset right position. To indicate that the boom is being shifted to the right. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–1484

	Graphical symbol	Symbol title and description	ISO/IEC registration number
16.28		**Excavator/backhoe, boom side shift lock** To identify the control that locks the boom in a fixed position to prevent it from shifting left or right. To indicate that the boom is locked in its current position. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–1485
16.29		**Excavator/backhoe, offset boom** To identify the control for operation of the offset boom of the excavator or backhoe. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–3476
16.30		**Excavator/backhoe, offset boom swing, left** To identify the control that moves the offset boom to the left, thereby increasing the lateral reach of the hoe equipment. To indicate that the offset boom is moving to the left. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–2249
16.31		**Excavator/backhoe, offset boom swing, right** To identify the control that moves the offset boom to the right, thereby increasing the lateral reach of the hoe equipment. To indicate that the offset boom is moving to the right. This symbol is viewed from the perspective of a person looking at the boom and bucket from above the machine.	ISO 7000–2250
16.32		**Excavator/backhoe, adjustable boom, raise** To identify the control that raises the adjustable boom of the excavator or backhoe. To indicate that the adjustable boom is being raised or is in the raised (up) position.	ISO 7000–3534

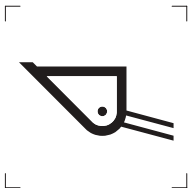
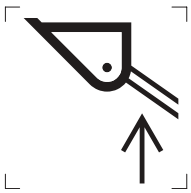
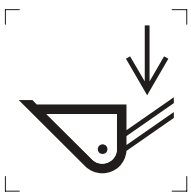
	Graphical symbol	Symbol title and description	ISO/IEC registration number
16.33		**Excavator/backhoe, adjustable boom, lower** To identify the control that lowers the adjustable boom of the excavator or backhoe. To indicate that the adjustable boom is being raised or is in the lowered (down) position	ISO 7000–3535
16.34		**Excavator attachment, hydraulic hammer (breaker)** To identify the control for operation of the hydraulic hammer (breaker). To indicate the operational status of the hydraulic hammer (breaker). Symbol may be rotated to vertical, horizontal, or upward angled in actual application.	ISO 7000–3337
16.35		**Excavator attachment, hydraulic scissors (crusher)** To identify the control for operation of the hydraulic scissors (crusher). To indicate the operational status of the hydraulic scissors (crusher). Symbol may be rotated to vertical, horizontal, or upward angled in actual application.	ISO 7000–3338

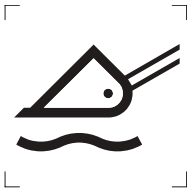
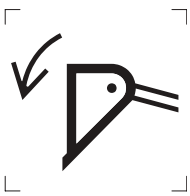
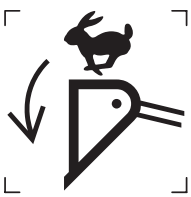
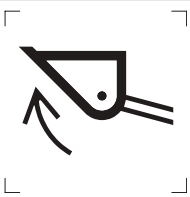
17 Excavator/shovel symbols

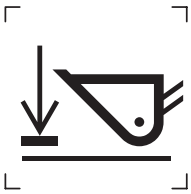
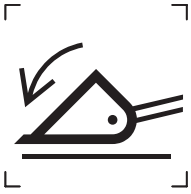
	Graphical symbol	Symbol title and description	ISO/IEC registration number
17.1		**Excavator/shovel, shovel equipment** To identify the equipment used on the excavator to scoop or shovel material. To identify the control for operation of the excavator/shovel equipment.	ISO 7000–1487
17.2		**Excavator/shovel, boom, raise** To identify the control that raises the boom of the excavator/shovel. To indicate that the boom is being raised or is in the raised (up) position.	ISO 7000–1489
17.3		**Excavator/shovel, boom, lower** To identify the control that lowers the boom of the excavator/shovel. To indicate that the boom is being lowered or is in the lowered (down) position.	ISO 7000–1488
17.4		**Excavator/shovel, arm, out** To identify the control that moves the arm outward away from the machine by increasing the angle between the boom and arm. To indicate that the arm is moving outward or is in the out position.	ISO 7000–1490

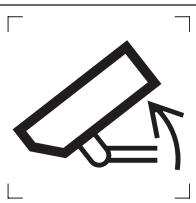
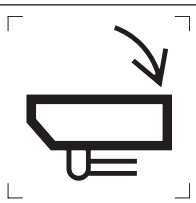
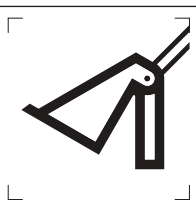
	Graphical symbol	Symbol title and description	ISO/IEC registration number
17.5		**Excavator/shovel, arm, in** To identify the control that moves the arm inward toward the machine by decreasing the angle between the boom and arm. To indicate that the arm is moving inward or is in the in position.	ISO 7000–1491
17.6		**Excavator/shovel, bucket, dump** To identify the control that moves the tip of the bucket toward vertical to dump its contents. To indicate that the bucket is being dumped or is in the dump position.	ISO 7000–1492
17.7		**Excavator/shovel, bucket, dig (rollback)** To identify the control that moves the tip of the bucket away from vertical to dig, lift, and carry material. To indicate that the bucket is being rolled back or is in the dig (rollback) position.	ISO 7000–1493

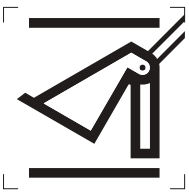
18 Loader symbols

	Graphical symbol	Symbol title and description	ISO/IEC registration number
18.1		**Loader bucket** To identify the equipment used to scoop, carry, and dump material. To identify the control for operation of the loader bucket.	ISO 7000–1437
18.2		**Loader bucket, raise** To identify the control that raises the bucket by raising the loader lift arms. To indicate that the bucket is being raised or is in the raised (up) position.	ISO 7000–1438
18.3		**Loader bucket, quick raise** To identify the control that rapidly raises the loader bucket	ISO 7000–3536
18.4		**Loader bucket, lower** To identify the control that lowers the bucket by lowering the loader lift arms. To indicate that the bucket is being lowered or is in the lowered (down) position.	ISO 7000–1439

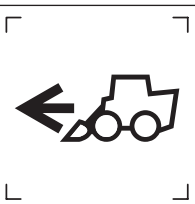
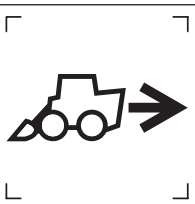
	Graphical symbol	Symbol title and description	ISO/IEC registration number
18.5		**Loader bucket, hold** To identify the control that holds the bucket in a constant position relative to the machine. To indicate that the bucket is in the hold condition.	ISO 7000–1440
18.6		**Loader bucket, float** To identify the control that allows the bucket the move up and down depending on the contour of the ground. To indicate that the bucket is in the float condition.	ISO 7000–1441
18.7		**Loader bucket, extend** To identify the control that extends the loader bucket away from the machine by lengthening the loader arms. To indicate that the bucket is being extended or is in the extended (out) position.	ISO 7000–2161
18.8		**Loader bucket, retract** To identify the control that retracts the loader bucket toward the machine by shortening the loader arms. To indicate that the bucket is being retracted or is in the retracted (in) position.	ISO 7000–2162
18.9		**Loader bucket, dump** To identify the control that moves the tip of the bucket toward vertical to dump its contents. To indicate that the bucket is being dumped or is in the dump position.	ISO 7000–1442
18.10		**Loader bucket, quick dump** To identify the control that rapidly dumps the contents of the loader bucket.	ISO 7000–3537
18.11		**Loader bucket, rollback** To identify the control that moves the tip of the bucket away from vertical to lift and carry material. To indicate that the bucket is being rolled back or is in the rollback position.	ISO 7000–1443
18.12		**Loader bucket, rollback, automatic mode** To identify the control that places the loader bucket rollback function into automatic mode of operation. To indicate that the loader bucket rollback function is in automatic mode of operation.	ISO 7000–3538

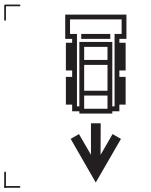
	Graphical symbol	Symbol title and description	ISO/IEC registration number
18.13		**Loader bucket, return-to-carry** To identify the control that returns the bucket to the carry position.	ISO 7000–3539
18.14		**Loader bucket, return-to-dig** To identify the control that returns the bucket to the dig position.	ISO7000–3540
18.15		**Loader bucket, quick coupler (attachment bracket), lock** To identify the control that locks the quick coupler (attachment bracket) for the loader bucket or other attachment. To indicate that the quick coupler is in the locked position. Engaging the control moves the engagement and locking mechanism but does not guarantee actual locking unless the parts are properly mated.	ISO 7000–3541
18.16		**Loader bucket, quick coupler (attachment bracket), unlock** To identify the control that unlocks the quick coupler (attachment bracket) for the loader bucket or other attachment. To indicate that the quick coupler is in the unlocked position.	ISO 7000–3542
18.17		**Loader bucket grapple** To identify the control for a loader bucket equipped with a grapple, which is used to secure material in the bucket during lifting, lowering, or transporting.	ISO 7000–2200
18.18		**Loader bucket grapple, open** To identify the control that opens the grapple over the loader bucket. To indicate that the grapple is being opened or is in the open position.	ISO 7000–2201
18.19		**Loader bucket grapple, close** To identify the control that closes the grapple over the loader bucket. To indicate that the grapple is being closed or is in the closed position.	ISO 7000–2202

	Graphical symbol	Symbol title and description	ISO/IEC registration number
18.20		**Loader, loading system failure** To indicate that the loading system for the loader has failed or is malfunctioning.	ISO 7000–3340
18.21		**Loader bucket, transport mode** To identify the control that places the loader bucket into transport mode. To indicate that the loader bucket is in transport mode.	ISO 7000–3472
18.22		**Side-dump bucket** To identify the control for the bucket that dumps its contents from the side of the bucket. To indicate the operational status of the side-dump bucket.	ISO 7000–2092
18.23		**Side-dump bucket, dump** To identify the control that dumps the side-dump bucket by tilting the moveable side upward. To indicate that the bucket is being dumped or is in the dump position.	ISO 7000–1449
18.24		**Side-dump bucket, return** To identify the control that returns the side-dump bucket to its horizontal orientation. To indicate that the bucket is returning or has returned to its horizontal orientation.	ISO 7000–1450
18.25		**Side-dump bucket, hold** To identify the control that holds the side-dump bucket in a constant position. To indicate that the side-dump bucket is in the hold condition.	ISO 7000–2093
18.26		**Multi-purpose bucket** To identify the type of bucket that performs multiple functions, such as grasping, scooping, carrying, and dumping. To identify the control for operation of the multi-purpose bucket.	ISO 7000–1445

	Graphical symbol	Symbol title and description	ISO/IEC registration number
18.27		**Multi-purpose bucket, open** To identify the control that opens the bucket by moving the bottom of the scoop away from the fixed base to allow the bucket to grasp items, to load material into the scoop, or to dump its contents. To indicate that the bucket is opening or is in the open position.	ISO 7000–1446
18.28		**Multi-purpose bucket, close** To identify the control that closes the bucket by moving the bottom of the scoop toward the fixed base to grasp items or to load material into the scoop. To indicate that the bucket is closing or is in the closed position.	ISO 7000–1447
18.29		**Multi-purpose bucket, hold** To identify the control that holds the bucket components in a constant position. To indicate that the bucket is in the hold condition.	ISO 7000–1448

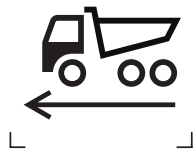
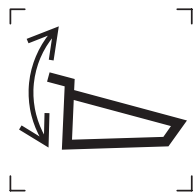
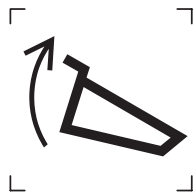
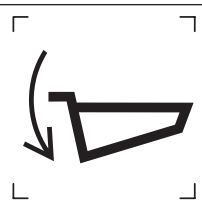
19 Skid-steer loader symbols

	Graphical symbol	Symbol title and description	ISO/IEC registration number
19.1		**Skid steer loader (side view of machine)** To identify the skid steer loader from a side (profile) view. Use as a base symbol for developing skid steer loader symbols that use a side (profile) view.	ISO 7000–3473
19.2		**Skid steer loader, forward direction of movement (side view of machine)** To identify the control that moves the skid steer loader in a forward direction. To indicate that the skid steer loader is moving forward.	ISO 7000–3543
19.3		**Skid steer loader, rearward direction of movement (side view of machine)** To identify the control that moves the skid steer loader in a rearward direction. To indicate that the skid steer loader is moving rearward.	ISO 7000–3544

	Graphical symbol	Symbol title and description	ISO/IEC registration number
19.4		**Skid steer loader (overhead view of machine)** To identify the skid steer loader from an overhead (plan) view. Use as a base symbol for developing skid steer loader symbols that use an overhead (plan) view. This symbol is viewed from the perspective of a person looking at the skid steer loader from above the machine.	ISO 7000–3474
19.5		**Skid steer loader, forward direction of movement (overhead view of machine)** To identify the control that moves the skid steer loader in a forward direction. To indicate that the skid steer loader is moving forward. This symbol is viewed from the perspective of a person looking at the skid steer loader from above the machine.	ISO 7000–3545
19.6		**Skid steer loader, rearward direction of movement (overhead view of machine)** To identify the control that moves the skid steer loader in a rearward direction. To indicate that the skid steer loader is moving rearward. This symbol is viewed from the perspective of a person looking at the skid steer loader from above the machine.	ISO 7000–3546

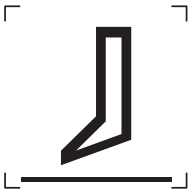
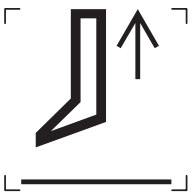
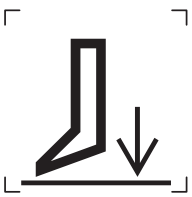
20 Dumper symbols

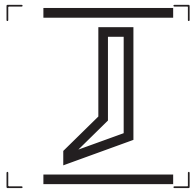
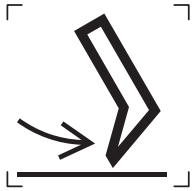
	Graphical symbol	Symbol title and description	ISO/IEC registration number
20.1		**Dumper (side view of machine)** To identify the dumper from a side (profile) view. Use as a base symbol for developing dumper symbols that use a side (profile) view.	ISO 7000–3547
20.2		**Dumper, forward direction of movement (side view of machine)** To identify the control that moves the dumper in a forward direction. To indicate that the dumper is moving forward.	ISO 7000–3548
20.3		**Dumper, rearward direction of movement (side view of machine)** To identify the control that moves the dumper in a rearward direction. To indicate that the dumper is moving rearward.	ISO 7000–3549

	Graphical symbol	Symbol title and description	ISO/IEC registration number
20.4		**Dumper, ground speed** To identify the display that shows ground speed of the dumper. To indicate the ground speed of the dumper.	ISO 7000–3550
20.5		**Dumper, downhill (descent) speed control** To identify the control that sets the maximum downhill (descent) speed of the dumper. To indicate that the specified maximum downhill ground speed has been reached or exceeded.	ISO 7000–3551
20.6		**Dumper body** To identify the portion of a dumper truck in which material is stored and transported.	ISO 7000–2094
20.7		**Dumper body, tip up and return** To identify the control that lifts the front of the dumper body to dump its contents (tip up) or lowers the front of the dumper body to return to its transport (carry) position.	ISO 7000–3475
20.8		**Dumper body, tip up** To identify the control that lifts the front of the dumper body from the horizontal to dump its contents. To indicate that the dumper body is being tipped up or is in the tipped up position.	ISO 7000–1519
20.9		**Dumper body, return** To identify the control that lowers the front of the dumper body toward the horizontal and returns the body to its transport (carry) position. To identify the control that lowers the front of the dumper body toward the horizontal. To indicate that the dumper body is being returned to or is in the transport (carry) position.	ISO 7000–1520

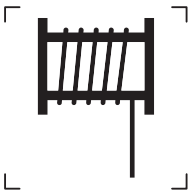
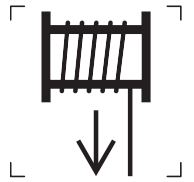
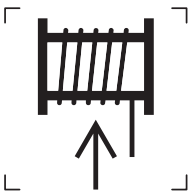
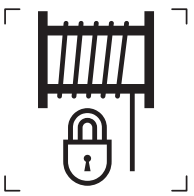
	Graphical symbol	Symbol title and description	ISO/IEC registration number
20.10		**Dumper body, hold** To identify the control that holds the dumper body in a constant position. To indicate that the dumper body is in the hold condition.	ISO 7000–1521
20.11		**Dumper body, float** To identify the control that allows the dumper body to move up and down. To indicate that the dumper body is in the float condition.	ISO 7000–1522
20.12		**Dumper body, system failure** To indicate that the dumper body system has failed or is malfunctioning.	ISO 7000–3341

21 Ground-engaging equipment (ripper and scarifier) symbols

	Graphical symbol	Symbol title and description	ISO/IEC registration number
21.1		**Ground-engaging equipment (ripper or scarifier)** To identify the control for the machine attachment that is used to rip, scrape, or loosen the ground or material for subsequent removal or dispersal. To indicate the operational status of the ripper or scarifier. Multiple rippers or scarifiers can be identified by Arabic numerals, with “1” indicating the most forward on the machine.	ISO 7000–2096
21.2		**Ground-engaging equipment (ripper or scarifier), raise** To identify the control that raises the ripper or scarifier. To indicate that the ripper or scarifier is being raised or is in the raised position. Multiple rippers or scarifiers can be identified by Arabic numerals, with “1” indicating the most forward on the machine.	ISO 7000–2097
21.3		**Ground-engaging equipment (ripper or scarifier), lower** To identify the control that lowers the ripper or scarifier. To indicate that the ripper or scarifier is being lowered or is in the lowered position. Multiple rippers or scarifiers can be identified by Arabic numerals, with “1” indicating the most forward on the machine.	ISO 7000–2098

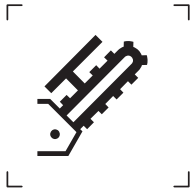
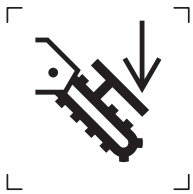
	Graphical symbol	Symbol title and description	ISO/IEC registration number
21.4		**Ground-engaging equipment (ripper or scarifier), hold** To identify the control that holds the ripper or scarifier in a constant position. To indicate that the ripper or scarifier is in the hold condition. Multiple rippers or scarifiers can be identified by Arabic numerals, with "1" indicating the most forward on the machine.	ISO 7000–2099
21.5		**Ground-engaging equipment (ripper or scarifier), float** To identify the control that allows the ripper or scarifier to move up or down according to the contour of the ground. To indicate that the ripper or scarifier is in the float position. Multiple rippers or scarifiers can be identified by Arabic numerals, with "1" indicating the most forward on the machine.	ISO 7000–2251
21.6		**Ground-engaging equipment (ripper or scarifier), pitch in** To identify the control that causes the ground-engaging portion of the ripper or scarifier to pitch forward (in) to decrease the angle of engagement with the ground. To indicate that the ripper or scarifier is being pitched in or is in the pitched-in position. Multiple rippers or scarifiers can be identified by Arabic numerals, with "1" indicating the most forward on the machine.	ISO 7000–2252
21.7		**Ground-engaging equipment (ripper or scarifier), pitch out** To identify the control that causes the ground-engaging portion of the ripper or scarifier to pitch rearward (out) to increase the angle of engagement with the ground. To indicate that the ripper or scarifier is being pitched out or is in the pitched-out position. Multiple rippers or scarifiers can be identified by Arabic numerals, with "1" indicating the most forward on the machine.	ISO 7000–2253

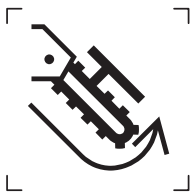
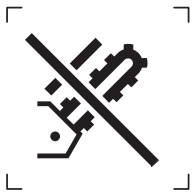
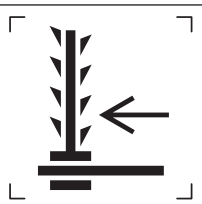
22 Winch symbols

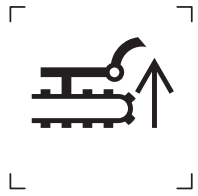
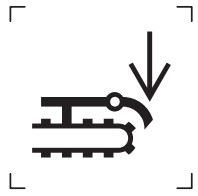
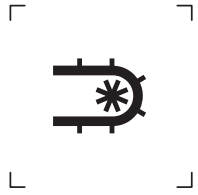
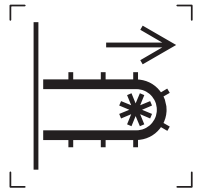
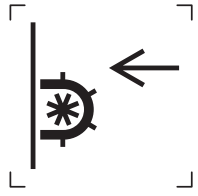
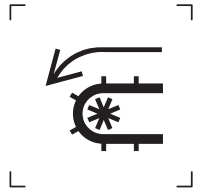
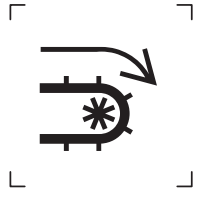
	Graphical symbol	Symbol title and description	ISO/IEC registration number
22.1		**Winch** To identify the control for the equipment used for pulling an object toward the machine or allowing the object to move away from the machine to which the object is attached by means of a rope or cable. To indicate the operational status of the winch. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000–1176
22.2		**Winch, spool out** To identify the control that unwinds the winch cable while tension is applied to control movement of the attached object. To indicate that the winch is spooling out. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000–1539
22.3		**Winch, spool in** To identify the control that winds the winch cable to pull the attached object toward the machine. To indicate that the winch is spooling in. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000–1538
22.4		**Winch, free spool** To identify the control that allows the winch cable to unwind with uncontrolled tension. To indicate that the winch is in the free spool condition. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000–1540
22.5		**Winch, lock** To identify the control that locks the winch to prevent movement of the reel. To indicate that the winch is locked. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000–2070
22.6		**Winch, brake** To identify the control that slows or stops the movement of the winch reel. To indicate the operational status of the winch brake.	ISO 7000–2071

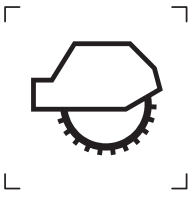
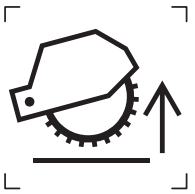
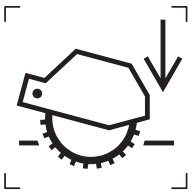
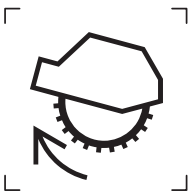
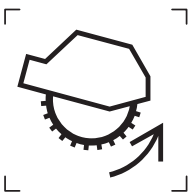
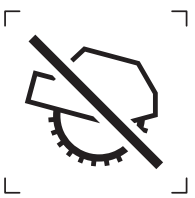
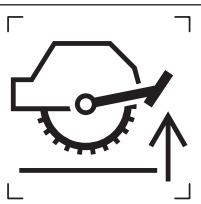
	Graphical symbol	Symbol title and description	ISO/IEC registration number
22.7		**Winch oil** To identify the fill point for winch oil. To identify the container for winch oil.	ISO 7000–3509
22.8		**Winch oil pressure** To identify the display that provides information about the winch oil pressure. To indicate the winch oil pressure.	ISO 7000–3510
22.9		**Winch angle** To indicate the maximum angle at which the winch can reel in or reel out. To indicate the angle at which the winch is reeling in or reeling out. The symbol is used together with a number that indicates the maximum or actual winch angle in degrees. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000–3000

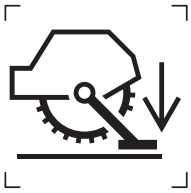
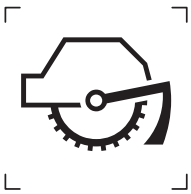
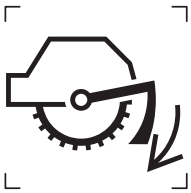
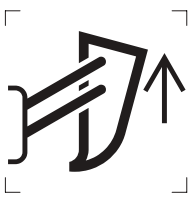
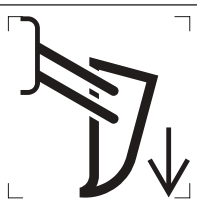
23 Trencher symbols

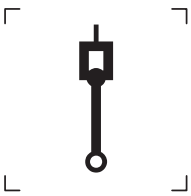
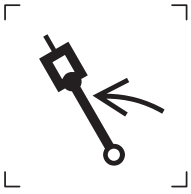
	Graphical symbol	Symbol title and description	ISO/IEC registration number
23.1		**Digging boom** To identify the control for equipment used to dig a furrow or trench. To indicate the operational status of the digging boom.	ISO 7000–2254
23.2		**Digging boom, raise** To identify the control that raises the digging boom of trenching equipment. To indicate that the digging boom is being raised or is in the raised (up) position.	ISO 7000–2255
23.3		**Digging boom, lower** To identify the control that lowers the digging boom of trenching equipment. To indicate that the digging boom is being lowered or is in the lowered (down) position.	ISO 7000–2256
23.4		**Digging chain, forward rotation** To identify the control that rotates the digging chain from top to bottom around the digging boom to pull soil out of the trench. To indicate that the digging chain is rotating in the forward direction.	ISO 7000–2257

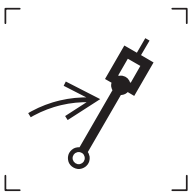
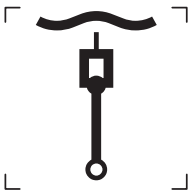
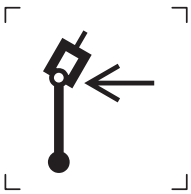
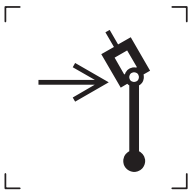
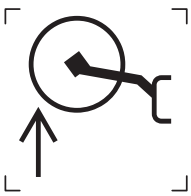
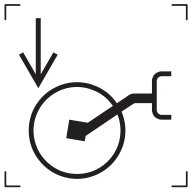
	Graphical symbol	Symbol title and description	ISO/IEC registration number
23.5		**Digging chain, reverse rotation** To identify the control that rotates the digging chain from bottom to top around the digging boom. To indicate that the digging chain is rotating in the reverse direction.	ISO 7000–2258
23.6		**Digging chain, disengage** To identify the control that stops the rotation of the digging chain by disengaging its drive mechanism. To indicate that the digging chain is disengaged and therefore cannot operate.	ISO 7000–2259
23.7		**Digging boom, side shift** To identify the control that shifts the trencher digging boom laterally from left to right (or right to left) for operation in that area. This symbol is viewed from the perspective of a person looking at the digging boom from above the machine.	ISO 7000–2260
23.8		**Digging boom, side shift left** To identify the control that shifts the trencher digging boom laterally to the left. To indicate that the trencher digging boom is shifting laterally to the left. This symbol is viewed from the perspective of a person looking at the digging boom from above the machine.	ISO 7000–2261
23.9		**Digging boom, side shift right** To identify the control that shifts the trencher digging boom laterally to the right. To indicate that the trencher digging boom is shifting laterally to the right. This symbol is viewed from the perspective of a person looking at the digging boom from above the machine.	ISO 7000–2262
23.10		**Digging boom, side shift lock** To identify the control that locks the trencher side shift to prevent lateral movement of the digging boom. To indicate that the side shift control is locked and the digging boom cannot shift laterally. This symbol is viewed from the perspective of a person looking at the digging boom from above the machine.	ISO 7000–2263

	Graphical symbol	Symbol title and description	ISO/IEC registration number
23.11		**Trench cleaner** To identify the equipment that removes debris from the trencher. To identify the control for operation of the trench cleaner.	ISO 7000–2264
23.12		**Trench cleaner, raise** To identify the control that raises the cleaner on the trencher. To indicate that the trench cleaner is being raised or is in the raised (up) position.	ISO 7000–2265
23.13		**Trench cleaner, lower** To identify the control that lowers the cleaner on the trencher. To indicate that the trench cleaner is being lowered or is in the lowered (down) position.	ISO 7000–2266
23.14		**Trencher conveyor** To identify the control for the conveyor equipment to move soil along the trench. To indicate the operational status of the trencher conveyor.	ISO 7000–2267
23.15		**Trencher conveyor, side shift out** To identify the control that extends the trencher conveyor. To indicate that the conveyor is being extended or is in the extended (out) position.	ISO 7000–2268
23.16		**Trencher conveyor, side shift in** To identify the control that retracts the trencher conveyor. To indicate that the conveyor is being retracted or is in the retracted (in) position.	ISO 7000–2269
23.17		**Trencher conveyor, left rotation** To identify the control that operates the conveyor to move soil to the left of the trencher. To indicate that the conveyor is rotating to the left.	ISO 7000–2270
23.18		**Trencher conveyor, right rotation** To identify the control that operates the conveyor to move soil to the right of the trencher. To indicate that the conveyor is rotating to the right.	ISO 7000–2271

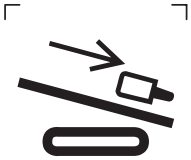
	Graphical symbol	Symbol title and description	ISO/IEC registration number
23.19		**Disk trencher** To identify the equipment that uses a rotating disc to cut the trench. To identify the control for operation of the disk trencher.	ISO 7000–2272
23.20		**Disk trencher, raise** To identify the control that raises the disk relative to ground level. To indicate that the disk is being raised or is in the raised (up) position.	ISO 7000–2273-
23.21		**Disk trencher, lower** To identify the control that lowers the disk relative to ground level. To indicate that the disk is being lowered or is in the lowered (down) position.	ISO 7000–2274
23.22		**Disk trencher, forward rotation** To identify the control that rotates the disk in the forward direction. To indicate that the disk is rotating forward.	ISO 7000–2275
23.23		**Disk trencher, rearward rotation** To identify the control that rotates the disk in the rearward direction. To indicate that the disk is rotating rearward.	ISO 7000–2276
23.24		**Disk trencher, disengage** To identify the control that disengages or deactivates operation of the disk. To indicate that the disk is disengaged.	ISO 7000–2277
23.25		**Disk trencher, stabilizer** To identify the equipment used to add stability to the disk trencher during operation. To identify the control for operation of the stabilizer.	ISO 7000–2278
23.26		**Disk trencher, raise stabilizer** To identify the control that raises the stabilizer. To indicate that the stabilizer is being raised or is in the raised (up) position.	ISO 7000–2279

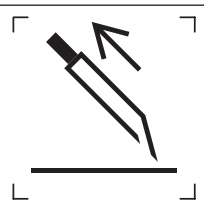
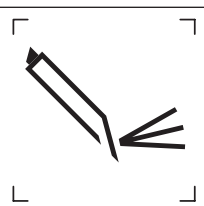
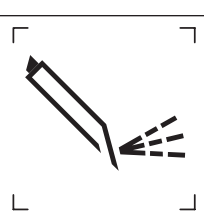
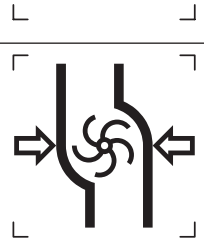
	Graphical symbol	Symbol title and description	ISO/IEC registration number
23.27		**Disk trencher, lower stabilizer** To identify the control that lowers the stabilizer. To indicate that the stabilizer is being lowered or is in the lowered (down) position.	ISO 7000–2280
23.28		**Disk trencher, trench cleaner** To identify the equipment that stops debris or other material from getting into the upper cover of the disk trencher. To identify the control for operation of the trench cleaner.	ISO 7000–2281
23.29		**Disk trencher, raise trench cleaner** To identify the control that raises the trench cleaner. To indicate that the trench cleaner is being raised or is in the raised (up) position.	ISO 7000–2282
23.30		**Disk trencher, lower trench cleaner** To identify the control that lowers the trench cleaner. To indicate that the trench cleaner is being lowered or is in the lowered (down) position.	ISO 7000–2283
23.31		**Direct burial plough** To identify the equipment that is pulled through the ground and simultaneously feeds the cable through the blow blade at the desired depth without digging an open trench. To identify the control for operation of the direct burial plough.	ISO 7000–1462
23.32		**Direct burial plough, raise** To identify the control that raises the plough. To indicate that the plough is being raised or is in the raised (up) position.	ISO 7000–1463
23.33		**Direct burial plough, lower** To identify the control that lowers the plough. To indicate that the plough is being lowered or is in the lowered (down) position.	ISO 7000–1464

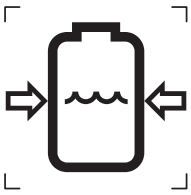
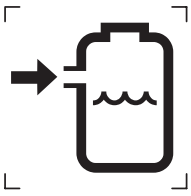
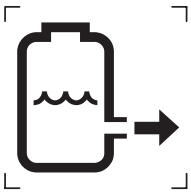
	Graphical symbol	Symbol title and description	ISO/IEC registration number
23.34		**Direct burial plough, vertical float** To identify the control that allows the plough to move with the contour of the ground. To indicate that the plough is in the float condition.	ISO 7000–2284
23.35		**Direct burial plough, pitch in** To identify the control that changes the angle of the plough inward. To indicate that the plough is being angled inward.	ISO 7000–1466
23.36		**Direct burial plough, pitch out** To identify the control that changes the angle of the plough outward. To indicate that the plough is being angled outward.	ISO 7000–1467
23.37		**Direct burial plough, vibrator engage** To identify the control for the vibrating function on the plough. To identify the control that engages or activates the plough vibrator. To indicate that the vibrating function is engaged.	ISO 7000–2285
23.38		**Direct burial plough, vibrator disengage** To identify the control that disengages or deactivates the plough vibrator. To indicate that the vibrating function is disengaged.	ISO 7000–2286
23.39		**Direct burial plough, swing** To identify the control that swings the plough either left or right. To indicate that the plough can swing either left or right. This symbol is viewed from the perspective of a person looking at the direct burial plough boom from above the machine.	ISO 7000–2287
23.40		**Direct burial plough, swing left** To identify the control that swings the plough to the left. To indicate that the plough is swinging to the left. This symbol is viewed from the perspective of a person looking at the direct burial plough boom from above the machine.	ISO 7000–2288

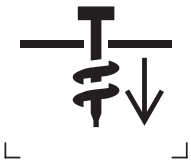
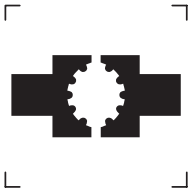
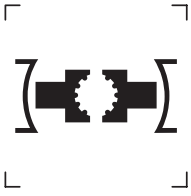
	Graphical symbol	Symbol title and description	ISO/IEC registration number
23.41		**Direct burial plough, swing right** To identify the control that swings the plough to the right. To indicate that the plough is swinging to the right. This symbol is viewed from the perspective of a person looking at the direct burial plough boom from above the machine.	ISO 7000–2289
23.42		**Direct burial plough, swing lateral float** To identify the control that allows the plough to move either left or right according to the trenching conditions. To indicate that the plough is in the float condition. This symbol is viewed from the perspective of a person looking at the direct burial plough boom from above the machine.	ISO 7000–2290
23.43		**Direct burial plough, plough blade, steer left** To identify the control that angles the plough blade to the left. To indicate that the plough blade is angling to the left or has reached its maximum angle to the left. This symbol is viewed from the perspective of a person looking at the direct burial plough boom from above the machine.	ISO 7000–2291
23.44		**Direct burial plough, plough blade, steer right** To identify the control that angles the plough blade to the right. To indicate that the plough blade is angling to the left or has reached its maximum angle to the right. This symbol is viewed from the perspective of a person looking at the direct burial plough boom from above the machine.	ISO 7000–2292
23.45		**Reel carrier, raise** To identify the control that raises the reel carrier. To indicate that the reel carrier is in the raised (up) position.	ISO 7000–2293
23.46		**Reel carrier, lower** To identify the control that lowers the reel carrier. To indicate that the reel carrier is in the lowered (down) position.	ISO 7000–2294

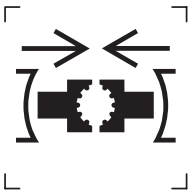
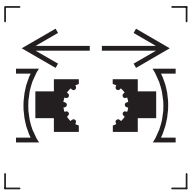
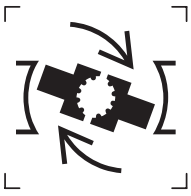
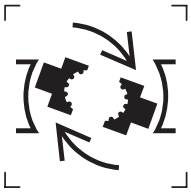
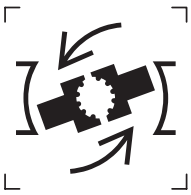
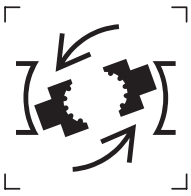
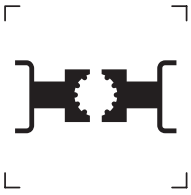
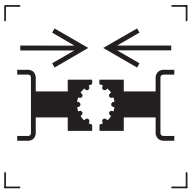
24 Horizontal directional drilling machine symbols

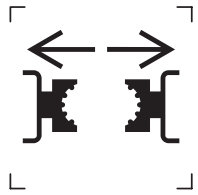
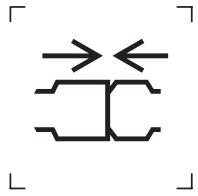
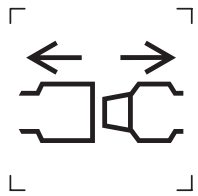
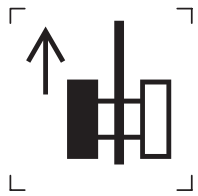
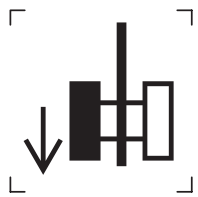
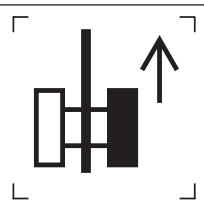
	Graphical symbol	Symbol title and description	ISO/IEC registration number
24.1		**Horizontal directional drilling machine (side view)** To identify the horizontal directional drilling machine from a side (profile) view. Use as a base symbol for developing tractor symbols that use a side (profile) view.	ISO 7000–3553
24.2		**Horizontal directional drilling machine, feed beam, tilt up** To identify the control that tilts the feed beam by raising one end. To indicate that the feed beam is being tilted up or is in the tilted up position.	ISO 7000–3554
24.3		**Horizontal directional drilling machine, feed beam, tilt down** To identify the control that returns the feed beam to its horizontal orientation by lowering one end. To indicate that the feed beam is being tilted down or is in the tilted down position.	ISO 7000–3555
24.4		**Horizontal directional drilling machine, feed beam, move down** To identify the control that moves the feed beam down to insert the next section of the drill string. To indicate that the feed beam is moving down.	ISO 7000–3556
24.5		**Horizontal directional drilling machine, feed beam, move up** To identify the control that moves the feed beam up to receive the next section of the drill string. To indicate that the feed beam is moving up.	ISO 7000–3557
24.6		**Horizontal directional drilling machine, carriage, retract (up)** To identify the control that retracts the carriage to receive the next section of the drill string. To indicate that the carriage is being retracted or is in the retracted (up) position.	ISO 7000–3570
24.7		**Horizontal directional drilling machine, carriage, thrust (down)** To identify the control that thrusts the carriage down to insert the next section of the drill string. To indicate that the carriage is being thrust down or is in the down position.	ISO 7000–3571
24.8		**Horizontal directional drilling machine, carriage, drill string** To identify the equipment that drills the shaft. To identify the control for operation of the drill string. To indicate the operational status of the drill string.	ISO 7000–3572

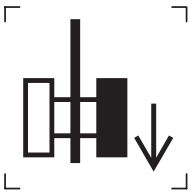
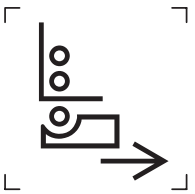
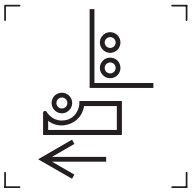
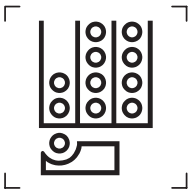
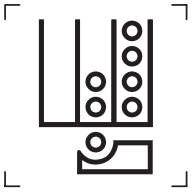
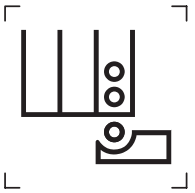
	Graphical symbol	Symbol title and description	ISO/IEC registration number
24.9		**Horizontal directional drilling machine, carriage, drill string, forward rotation** To identify the control that rotates the drill string to move it forward. To indicate that the drill string is rotating forward.	ISO 7000–3573
24.10		**Horizontal directional drilling machine, carriage, drill string, reverse rotation** To identify the control that rotates the drill string to reverse its direction of movement. To indicate that the drill string is rotating in reverse direction.	ISO 7000–3574
24.11		**Horizontal directional drilling machine, carriage, drill string, retract** To identify the control that retracts the drill string. To indicate that the drill string is being retracted.	ISO 7000–3575
24.12		**Horizontal directional drilling machine, carriage, drill string, thrust** To identify the control that thrusts the drill string into the ground. To indicate that the drill string is being thrust into the ground.	ISO 7000–3576
24.13		**Horizontal directional drilling machine, carriage, drill string, full fluid flow** To identify the control for full flow of fluid from the drill string. To indicate that there is full flow of fluid from the drill string.	ISO 7000–3577
24.14		**Horizontal directional drilling machine, carriage, drill string, reduced fluid flow** To identify the control that reduces the flow of fluid from the drill string. To indicate that there is reduced flow of fluid from the drill string.	ISO 7000–3578
24.15		**Fluid pump pressure** To identify the control that adjusts the operating pressure of the fluid pump. To indicate the operating pressure of the fluid pump.	ISO 7000–2217

	Graphical symbol	Symbol title and description	ISO/IEC registration number
24.16		**Fluid tank pressure** To identify the control that adjusts the operating pressure of the tank that contains the drilling fluid. To indicate the operating pressure of the fluid tank.	ISO 7000–2214
24.17		**Fluid tank, inlet** To identify the inlet location to the tank that contains the drilling fluid. To identify the control for the fluid tank inlet.	ISO 7000–3579
24.18		**Fluid tank, outlet** To identify the outlet location from the tank that contains the drilling fluid. To identify the control for the fluid tank outlet.	ISO 7000–3580
24.19		**Fluid mixing tank** To identify the tank where the drilling fluid is mixed. To identify the control for operation of the fluid mixing tank. To indicate the operational status of the fluid mixing tank.	ISO 7000–3558
24.20		**Fluid mixing tank, inlet** To identify the inlet location to the tank where the drilling fluid is mixed. To identify the control for the fluid mixing tank inlet.	ISO 7000–3559
24.21		**Fluid mixing tank, outlet** To identify the outlet location from the tank where the drilling fluid is mixed. To identify the control for the fluid mixing tank outlet.	ISO 7000–3560
24.22		**Earth anchor** To identify the equipment that prevents the horizontal directional drilling machine from moving during operation. To identify the control for operation of the earth anchor. To indicate the operational status of the earth anchor.	ISO 7000–3561

	Graphical symbol	Symbol title and description	ISO/IEC registration number
24.23		**Earth anchor, in (down)** To identify the control that moves the earth anchor directly into the ground. To indicate that the earth anchor is moving downward into the ground.	ISO 7000–3562
24.24		**Earth anchor, out (up)** To identify the control that removes the earth anchor from the ground. To indicate that the earth anchor is moving upward out of the ground.	ISO 7000–3563
24.25		**Earth anchor, rotate clockwise (in)** To identify the control that rotates the earth anchor in the clockwise direction and thereby moves the anchor into the ground. To indicate that the earth anchor is rotating clockwise. The arrow indicating rotation of the earth anchor is viewed from the perspective of a person looking at the anchor from above the machine.	ISO 7000–3564
24.26		**Earth anchor, rotate anti-clockwise (out)** To identify the control that rotates the earth anchor in the anti-clockwise direction and thereby removes the anchor from the ground. To indicate that the earth anchor is rotating anti-clockwise. The arrow indicating rotation of the earth anchor is viewed from the perspective of a person looking at the anchor from above the machine.	ISO 7000–3565
24.27		**Clamp** To identify the equipment that grasps to the drill string to prevent unintended movement. To identify the control for operation of the clamp. To indicate the operational status of the clamp.	Application of ISO 7000–3581
24.28		**Rotating clamp** To identify the equipment that grasps the drill string to prevent movement other than rotation. To identify the control for operation of the rotating clamp. To indicate the operational status of the rotating clamp.	Application of ISO 7000–3582

	Graphical symbol	Symbol title and description	ISO/IEC registration number
24.29		**Rotating clamp, close** To identify the control that closes the rotating clamp to grasp the drill string.	Application of ISO 7000–3583
24.30		**Rotating clamp, open** To identify the control that opens the rotating clamp to release the drill string.	Application of ISO 7000–3584
24.31		**Rotating clamp, clamp and rotate clockwise** To identify the control that closes the rotating clamp to simultaneously grasp the drill string and rotate clockwise.	Application of ISO 7000–3585
24.32		**Rotating clamp, unclamp and rotate clockwise** To identify the control that opens the rotating clamp to simultaneously release the drill string and rotate clockwise.	Application of ISO 7000–3586
24.33		**Rotating clamp, clamp and rotate anti-clockwise** To identify the control that closes the rotating clamp to simultaneously grasp the drill string and rotate anti-clockwise.	Application of ISO 7000–3587
24.34		**Rotating clamp, unclamp and rotate anti-clockwise** To identify the control that opens the rotating clamp to simultaneously release the drill string and rotate anti-clockwise.	Application of ISO 7000–3588
24.35		**Stationary clamp** To identify the equipment that grasps the drill string to prevent movement.	Application of ISO 7000–3589
24.36		**Stationary clamp, close** To identify the control that closes the stationary clamp to grasp the drill string.	Application of ISO 7000–3590

	Graphical symbol	Symbol title and description	ISO/IEC registration number
24.37		**Stationary clamp, open** To identify the control that opens the stationary clamp to release the drill string.	Application of ISO 7000–3591
24.38		**Tool joint, connect** To identify the control that connects two portions of the tool.	ISO 7000–3592
24.39		**Tool joint, disconnect** To identify the control that disconnects two portions of the tool.	ISO 7000–3593
24.40		**Horizontal directional drilling machine, left track, forward** To identify the control that causes the left track of the horizontal directional drilling machine to rotate in the forward direction. This symbol is viewed from the perspective of a person looking at the tracks from above the machine.	ISO 7000–3594
24.41		**Horizontal directional drilling machine, left track, rearward** To identify the control that causes the left track of the horizontal directional drilling machine to rotate in the rearward (reverse) direction. This symbol is viewed from the perspective of a person looking at the tracks from above the machine.	ISO 7000–3595
24.42		**Horizontal directional drilling machine, right track, forward** To identify the control that causes the right track of the horizontal directional drilling machine to rotate in the forward direction. This symbol is viewed from the perspective of a person looking at the tracks from above the machine.	Mirror image of ISO 7000–3594

	Graphical symbol	Symbol title and description	ISO/IEC registration number
24.43		**Horizontal directional drilling machine, right track, rearward** To identify the control that causes the right track of the horizontal directional drilling machine to rotate in the rearward (reverse) direction. This symbol is viewed from the perspective of a person looking at the tracks from above the machine.	Mirror image of ISO 7000–3595
24.44		**Horizontal directional drilling machine, drill pipe loader, move in** To identify the control that moves the loader of the HDD machine to move in to receive the next section of drill pipe.	ISO 7000–3596
24.45		**Horizontal directional drilling machine, drill pipe loader, move out** To identify the control that moves the loader of the HDD machine to move out with the next section of drill pipe.	ISO 7000–3597
24.46		**Horizontal directional drilling machine, drill pipe rack, unload/load, first position** To identify the first position for unloading or loading drill pipe to or from the storage rack. To indicate that drill pipe is unloading from or loading to the first position of the storage rack.	ISO 7000–3566
24.47		**Horizontal directional drilling machine, drill pipe rack, unload/load, second position** To identify the second position for unloading or loading drill pipe to or from the storage rack. To indicate that drill pipe is unloading from or loading to the second position of the storage rack.	ISO 7000–3567
24.48		**Horizontal directional drilling machine, drill pipe rack, unload/load, third position** To identify the third position for unloading or loading drill pipe to or from the storage rack. To indicate that drill pipe is unloading from or loading to the third position of the storage rack.	ISO 7000–3568

25 Counterweight symbols

	Graphical symbol	Symbol title and description	ISO/IEC registration number
25.1		**Counterweight** To identify the control for operation of the counterweight on the machine.	ISO 7000–3598

Bibliography

[1] ISO 7000[1)], *Graphical symbols for use on equipment — Registered symbols*

[2] IEC 60417[1)], *Graphical symbols for use on equipment*

[3] ISO 80416-4, *Basic principles for graphical symbols for use on equipment — Part 4: Guidelines for the adaptation of graphical symbols for use on screens and displays (icons)*

1) The graphical symbol collections of ISO 7000 and IEC 60417 can be previewed and purchased on the Online Browsing Platform (OBP), www.iso.org/obp.

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