

JIS

JAPANESE INDUSTRIAL STANDARD

Single point tools--Vocabulary

JIS B 0107-1991

Translation without guarantee
In the event of any doubt arising, the original
standard in Japanese is to be evidence

Translated
by
Japanese Standards Association

1-24, Akasaka 4, Minato-ku
Tokyo 107 Japan

© JSA, 1992

1. Scope

This Japanese Industrial Standard specifies the terms and definitions thereof relating to single point tools ⁽¹⁾ generally used mainly for metal cutting.

Note ⁽¹⁾ The tools, having cutting edges at the ends of the shanks or bodies which are used in a lathe, boring machine, planer, shaper, slotter, etc.

Remarks: The applicable standards to this Standard are the following:

JIS B 4105-Single Point Tools with Cemented Carbide Tips

JIS B 4151-Ground High Speed Steel Tool Bits

JIS B 4152-High Speed Steel Tipped Tools

2. Classification

The classification of terms for single point tools shall be in accordance with the following:

(1) Types of single point tools

(1.1) Classification by cutting-part materials and surface treatments

(1.2) Classification by structures

(1.3) Classification by machine tools used

(1.4) Classification by shapes of shank (attaching part)

(1.5) Classification by functions or uses

(a) Classification by workpieces and shapes

(b) Classification by shapes near cutting parts

(c) Classification by elements

(d) Classification by uses

(2) Elements of single point tools

(3) Angles of single point tools

(4) Accuracies of single point tools

(5) Damage at cutting parts of single point parts

(6) Terms relating to cutting actions of single point tools

3. Names of single point tools

The names expressing the types of single point tools shall be those which have been combined of equivalent terms in the order of numbers of types of single point tools.

Example

Name	Cutting part material	Structure	Machine tool used	Feature of shank	Function or use
Tool bit with square shank	(High speed tool steel)	(Solid)	(For lathe)	(Square shank)	Tool bit with square shank
High speed steel tipped straight turning tool with point corner	High speed (tool) steel	Tipped	(For lathe)	(Square shank)	Straight turning tool with point corner
High speed steel tipped right handed offset turning tool for planer	High speed (tool) steel	Tipped	(For planer)	(Square shank)	Right handed off-set turning tool
Dovetail turning tool	(High speed tool steel)	(Solid)	(For lathe)	Dovetail (shank)	(Formed) turning tool
Circular turning tool	(High speed tool steel)	(Solid)	(For lathe)	(With attaching hole)	Circular (formed) turning tool
Carbide tipped cut-off tool	Cemented carbide (alloy)	Tipped	(For lathe)	(Rectangular shank)	Cut-off tool

Remark: Terms or those of a part of which are given in () may be omitted of the letters in ().

4. Terms and definitions

The terms and definitions of the single point tools shall be in accordance with the following:

Furthermore, quantity symbols, unit symbols and equivalent English are given for informative reference.

- Remarks:
1. For those terms, a part of which are given in (), the letter given in () may be omitted.
 2. Terms underlined in the definitions of terms shall be those which have been compiled in this Standard.
 3. Numbers in round parentheses "()" in definition columns and Diagrams are the term numbers in this Standard.

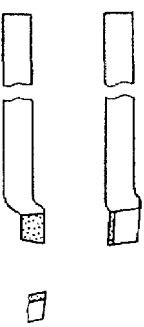
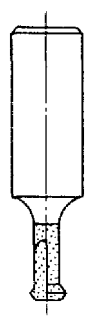
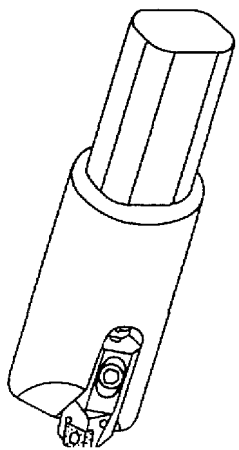
(1) Types of single point tools

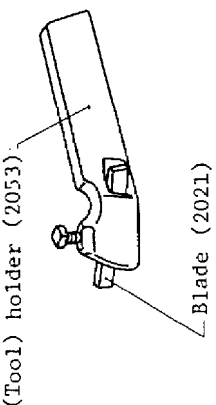
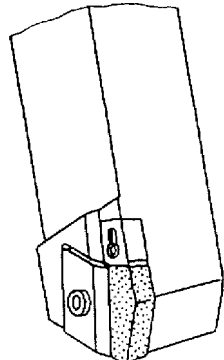
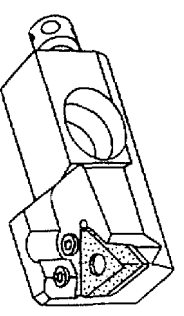
(1.1) Classification by cutting-part material and surface treatment

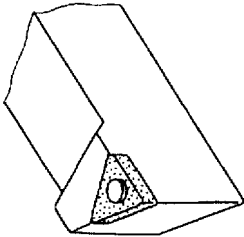
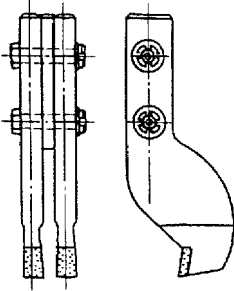
No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1101	高速度 (工具) 鋼バ イト	KŌSOKUDO (KŌGU) KŌ BAITO	That single tool which has used high speed tool steel as the <u>cutting-part material</u> .	high speed (tool) steel turning tool	
1102	超硬バイト	TYŌKO BAITO	That single point tool which has used cemented carbide alloy (sintered material composed mainly of tungsten carbide) as the <u>cutting-part material</u> (See JIS B 4105).	carbide turning tool, cemented carbide turning tool	
1103	サーメットバイト	SĀMETTO BAITO	That single point tool which has used cermet (sintered material and that similar to this composed mainly of titanium, carbide of tantalum, carbonaceous nitride and nitride) as the <u>cutting-part material</u> .	cermet turning tool	
1104	セラミックバイト	SERAMIKKU BAITO	That single point tool which has used ceramic (sintered material and that similar to this composed mainly of aluminium oxide) as the <u>cutting-part material</u> .	ceramic turning tool	
1105	CBNバイト	CBN BAITO	That single point tool which has used sintered body of polycrystalline cubic boron nitride as the <u>cutting-part material</u> .	polycrystalline cubic boron nitride turning tool	
1106	ダイヤモンドバイト	DAIYAMONDO BAITO	That single point tool which has used diamond as the <u>cutting-part material</u> .	diamond turning tool	

No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1107	PCDバイト	PCD BAITO	That single point tool which has used sintered body of polycrystalline diamond as the cutting-part material.	polycrystalline diamond turning tool	
1108	コーティングバイト	KŌTINGU BAITO	That single point tool of which surface of cutting part has been adhered with carbide, nitride, oxide, diamond or the like in single or multilayer chemically or physically. It is also called HIHUKU BAITO.	coated turning tool	

(1.2) Classification by structures

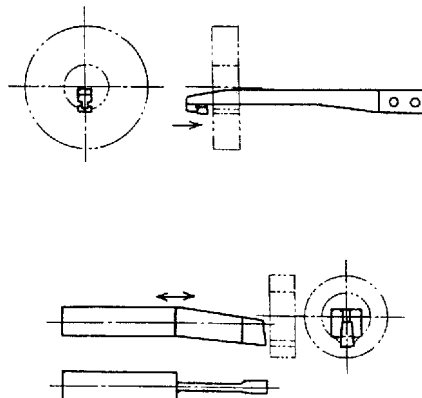
No.	Term	Reading	Definition	Informative reference
				Equivalent English
1201	むくバイト	MUKU BAITO	That single point tool which is composed of an integrated material of the <u>cutting part</u> with the <u>shank</u> or <u>body</u> .	solid turning tool
1202	付刃バイト	TSUKEHA BAITO	That single point tool of which the tip has been brazed with the <u>body</u> (See JIS B 4105 and JIS B 4152). 	tipped turning tool
1203	溶接バイト	YŌSETU BAITO	That single point tool of which the <u>cutting-part</u> material has been butt welded with the <u>shank</u> material. 	butt welded turning tool
1204	組立バイト	KUMITATE BAITO	Generic term of single point tools of which <u>cutting parts</u> have been assembled with the <u>shanks</u> or <u>bodies</u> . 	built-up turning tool, constructed turning tool

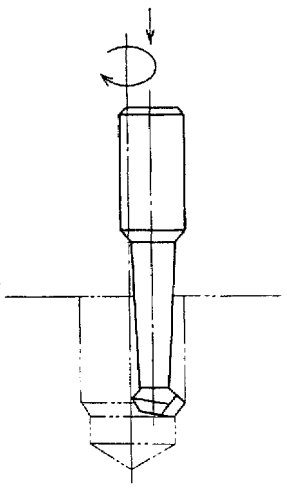
No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1205	差し込みバイト	SASIKOMI BAITO	The built-up turning tool to be used by inserting and clamping the <u>blade</u> into the <u>holder</u>. 	inserted turning tool	
1206	クランプバイト	KURANPU BAITO	Generic term of the built-up turning tools to be used by clamping the <u>tips</u> or <u>blades</u> mechanically with the <u>holders</u> or <u>bodies</u>. 	clamped turning tool	
1207	カートリッジ	KĀTORIZZI	The small size <u>clamped turning tool</u> which is generally capable of <u>adjusting the</u> attaching position accurately. 	cartridge	

No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1208	スロ-アウェイバイト	SURŌAUEI BAITO	That clamped turning tool which uses the <u>throw-away tip as the tip.</u> 	throw-away turning tool	
1209	組合セバイト	KUMIAWASE BAITO	That tool which has been integrated by combining a plural number of single point tools. 	combination turning tool, combined turning tool	

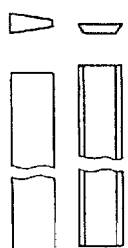
(1.3) Classification by machine tools used

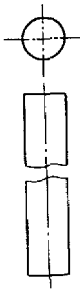
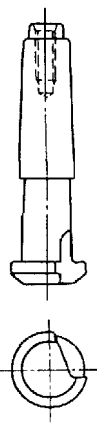
No.	Term	Reading	Definition	Informative reference
				Equivalent English
1301	(旋盤用) バイト	(SENBAN YŌ) BAITO	Generic term of single point tools to be used mainly for lathe.	turning tool
1302	平削り盤用 バイト	HIRAKEZURIBAN YŌ BAITO	Generic term of single point tools to be used mainly for planer, shaper and the like.	planing tool, shaping tool
1303	立削り盤用 バイト	TATEKEZURIBAN YŌ BAITO	Generic term of single point tools to be used mainly for slotter and the like. It is also called a SUROTTA BAITO.	slotting tool

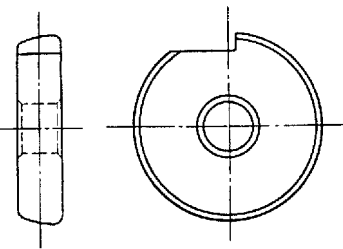
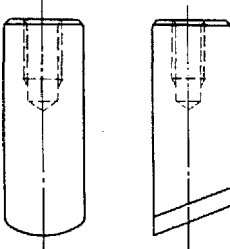


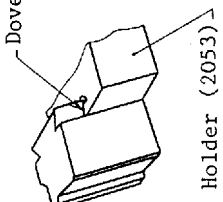
No.	Term	Reading	Definition	Informative reference Equivalent English
1304	中ぐり盤用バイト	NAKAGURIBANYŌ BAITO	Generic term of single point tools to be used mainly for boring machine and the like. 	boring tool

(1.4) Classification by features of shank (Attaching part)

No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1401	方形シャンクバイト	HŌKEI SYANKU BAITO	That single point tool of which section vertical to the tool axis of shank is of square shape (See JIS B 4105, JIS B 4151 and JIS B 4152). 	square shank turning tool	
1402	長方形シャンクバイト	TYŌHŌKEI SHANKU BAITO	That single point tool of which section vertical to the tool axis of shank is of rectangular shape (See JIS B 4105, JIS B 4151 and JIS B 4152). 	rectangular shank turning tool	
1403	台形シャンクバイト	DAIKEI SHANKU BAITO	That single point tool of which section vertical to the tool axis of shank is of trapezoidal shape (See JIS B 4151). 	trapezoidal shank turning tool	

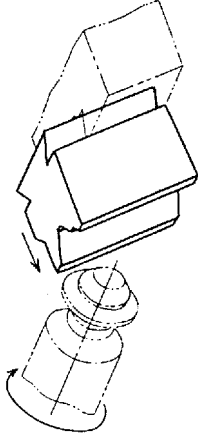
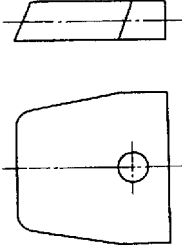
No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1404	丸シャンクバイト	MARU SYANKU BAITO	That single point tool of which shank is of cylindrical shape (See JIS B 4151). 	cylindrical shank turning tool	
1405	テーパシャンクバイト	TĒPĀ SYANKU BAITO	That single point tool of which shank is of circular conical shape. 	taper shank turning tool	
1406	三角形シャンクバイト	SANKAKUKEI SHANKU BAITO	That single point tool of which section vertical to the tool axis of shank is of triangular shape. 	triangular shank turning tool	
1407	ひし形シャンクバイト	HISIGATA SHANKU BAITO	That single point tool of which section vertical to the tool axis of shank is rhombic shape. 	rhombic shank turning tool	

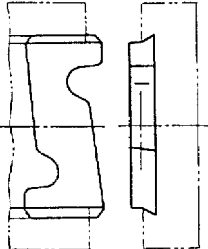
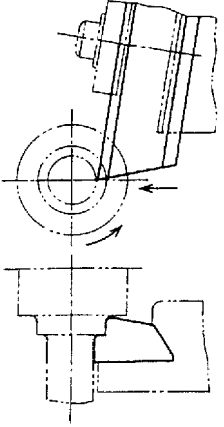
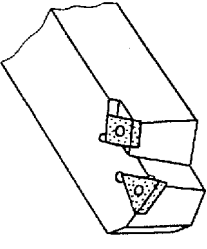
No.	Term	Reading	Definition	Informative reference Equivalent English
1408	穴付きバイト	ANATUKI BAITO	That single point tool having a hole at mounting part. 	turnign tool with mounting hole
1409	ねじ付きバイト	NEJI TUKI BAITO	That single point tool of which <u>shank</u> or mounting hole is threaded. 	turning tool with thread

No.	Term	Reading	Definition	Informative reference Equivalent English
1410	ダブテールバイト	DABUTĒRU BAITO	That single point tool of which fitting part with the <u>holder</u> of the <u>shank</u> or <u>body</u> is shaped as dovetail grooves. There is also that of a single dovetail groove. 	dovetail turning tool

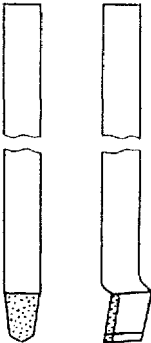
(1.5) Classification by functions or uses

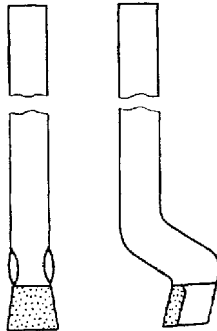
(a) Classification by workpieces and shapes

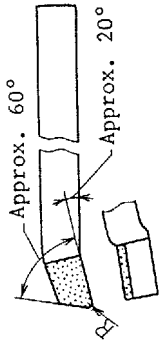
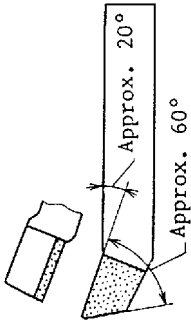
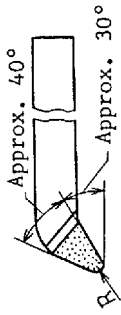
No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1501	総形バイト	SŌGATA BAITO	Generic term of single point tools which perform processing by giving copy of the outline of the tool profile on a part of the shape of a workpiece. Remarks: In regrinding, only the face is to be ground. 	formed turning tool	
1502	ロールバイト	RŌRU BAITO	That <u>formed turning tool</u> to be used for forming the <u>hole shape</u> of rolling roll by a roll lathe or the like. 	formed turning tool for roll caliber	

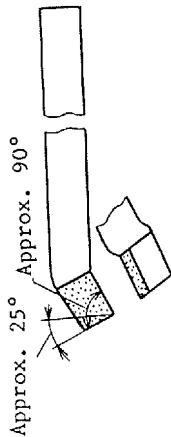
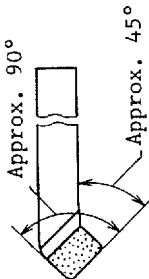
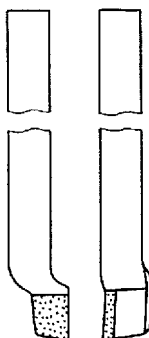
No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1503	クイヤバイト	TAIYA BAITO	That formed turning tool to be used for forming the outer periphery of wheel by a wheel lathe or the like. 	formed turning tool for wheel	
1504	クランクバイト	KURANKU BAITO	That formed turning tool to be used for cutting of the journal or pin of crank shaft. 	formed turning tool for crank shaft	
1505	多刃バイト	TAZIN BAITO	That tool of which many cutting edges perform cutting at the same time. 	multi-edged turning tool	

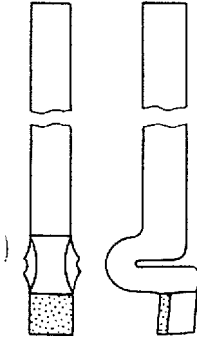
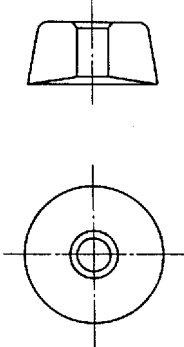
(b) Classification by shapes near cutting parts

No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1511	剣バイト	KEN BAITO	Generic term of straight shaped single point tools when seen from the <u>face</u> side, having sharp tip-end cutting edges like swords. In the case where it has cutting edges at both ends of the shank, it is called the both edged <u>straight turning tool</u> .	straight turning tool	
1512	真剣バイト	SINKEN BAITO	That <u>straight turning tool</u> having <u>cutting edges symmetrical in the left and right</u> (See JIS B 4105 and JIS B 4152). 	straight turning tool with point corner	
1513	先丸剣バイト	SAKIMARU KEN BAITO	That <u>straight turning tool</u> having <u>cutting edges symmetrical in the left and right</u> and a large <u>rounded corner</u> (See JIS B 4105). 	straight turning tool with rounded corner	

No.	Term	Reading	Definition	Informative reference Equivalent English
1514	斜刻バイト	SYAKEN BAITO	That <u>straight turning tool</u> having <u>cutting edges unsymmetrical in the left and right</u> (See JIS B 4105). 	straight turning tool with unsymmetric cutting edge
1515	平刻バイト	HIRAKEN BAITO	That <u>straight turning tool</u> of which <u>major cutting edge is approximately vertical to the tool axis of the shank</u> (See JIS B 4152). 	straight turning tool with square corner
1516	曲がりバイト	MAGARI BAITO	Generic term of single point tools having <u>cutting parts bent either in the left or in the right in respect to the tool axis of the shank</u>.	bent turning tool, cranked turning tool

No.	Term	Reading	Definition	Informative reference Equivalent English
1517	右曲がりバイト	MIGI MAGARI BAITO	That right-handed bent turning tool having the included angle of approximately 60° and the approach angle of approximately - 20° (See JIS B 4105 and JIS B 4152). 	bent turning tool with point corner (right-handed)
1518	左曲がりバイト	HIDARI MAGARI BAITO	That left-handed bent turning tool having the included angle of approximately 60° and the approach angle of approximately - 20° (See JIS B 4105 and JIS B 4152). 	bent turning tool with point corner (left-handed)
1519	先丸曲がりバイト	SAKI MARU MAGARI BAITO	That bent turning tool having the included angle of approximately 40°, approach angle of approximately - 30° and a large rounded corner (See JIS B 4105). 	bent turning tool with rounded corner

No.	Term	Reading	Definition	Informative reference	
				Equivalent English	
1520	平曲がりバイト	HIRA MAGARI BAITO	That bent turning tool having the <u>included angle</u> of approximately 90° and <u>approach angle</u> of approximately 25° (See JIS B 4152).	bent turning tool with square corner for side face	
			 Approx. 25° Approx. 90°		
1521	向きバイト	MUKI BAITO	That bent turning tool having the <u>included angle</u> of approximately 90° and <u>approach angle</u> of approximately 45° (See JIS B 4105).	bent turning tool with square corner for chamfer	
			 Approx. 90° Approx. 45°		
1522	片刃バイト	KATA HA BAITO	That single point tool having offset cutting edge either in the left or in the right approximately in parallel to the tool axis of the shank (See JIS B 4105 and JIS B 4152).	offset turning tool	
					

No.	Term	Reading	Definition	Informative reference
				Equivalent English
1523	腰折れバイト	KOSIORE BAITO	Generic term of single point tools of which <u>necks</u> have been bent so that the <u>height of the corner</u> coincides with the base of the <u>shank</u> or not exceeding the base (See JIS B 4152). 	goose-necked turning tool, swan-necked turning tool
1524	へールバイト	HĒRU BAITO	Generic term of single point tools of which <u>necks</u> have been bent so as to act as <u>springs</u> in order to avoid biting and chattering (See JIS B 4152). 	spring-necked turning tool
1525	丸こまバイト	MARUKOMA BAITO	That conical shaped single point tool to be used mechanically attaching to a holder directly or through the <u>shank</u>. 	button tool