

The saga of cross recess machine JCIS #0 screws

By M.Vettore

JCIS means Japan Camera Industrial Standard, the standards established by JCIA (Japan Camera Industry Association) now Camera and Imaging Products Association (CIPA) <http://www.cipa.jp/english/>.

The screws are referred as JCIS #0; there are 3 kinds of head: PAN, FLAT, OVAL COUNTERSUNK and 3 dimensional types (1, 2, and 3).

The screws are metric threaded because Japan uses the metric system.

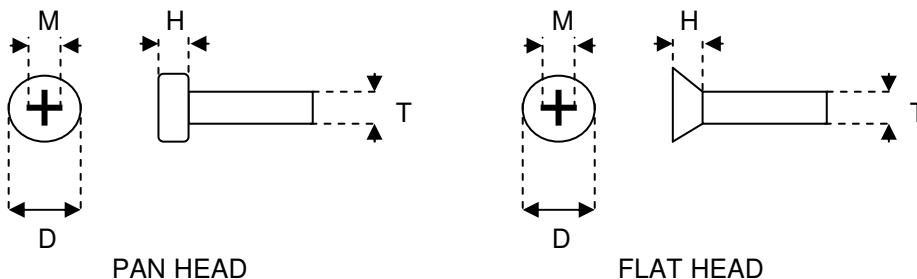
The drive is JCIS style head (Philips head could be used).

The most common screws are pan and flat head type 1 and 3.

Usually the screws are steel made and zinc plated or zinc black plated

JCIS #0	T	Type 1			Type 2			Type 3			DRV #
		D	H	M	D	H	M	D	H	M	
PAN	M1.0	1,8	0,5	1,3							00
	M1.2	1,8	0,5	1,3							00
	M1.4	2	0,5	1,55	2,5	0,5	1,5	2,5	0,8	1,65	0 *
	M1.6	2,4	0,5	1,65				2,8	0,85	1,8	0
	M1.7	2,5	0,5	1,7	3	0,5	1,7	3	0,9	1,9	0
	M2.0	3	0,6	2	3,5	0,6	2	3,5	0,9	2,1	0
	M2.3	3,5	0,7	2,2				4	1	2,2	0
	M2.5	3,8	0,8	2,3				4,3	1,1	2,3	0
	M2.6	4	0,8	2,4				4,5	1,1	2,4	0
FLAT	M1.4	2	0,5	1,55				2,5	0,7	1,65	0 *
	M1.6	2,3	0,5	1,65				2,8	0,8	1,8	0
	M1.7	2,5	0,5	1,7				3	0,8	1,9	0
	M2.0	3	0,6	2				3,5	0,9	2,1	0
	M2.3	3,5	0,7	2,2				4	1	2,2	0
	M2.5	3,8	0,8	2,3				4,3	1,1	2,3	0
	M2.6	4	0,8	2,4				4,5	1,1	2,4	0

* For Type 1 DRV # 00



Standard lengths (including head on Flat type but excluding on Pan type) are:
 1.4, 1.5, 1.6, 1.8, 2, 2.2, 2.5, 2.8, 3, 3.2, 3.5, 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12
 Not all the standard lengths are available for each thread size.

All dimensions are in millimeters.

Q and A

Q: Are JCIS #0 screws compatible with DIN/ISO counterparts?

A: No, although DIN/ISO and JCIS #0 have both the same metric threads, only a small set of JCIS #0 threads are really available as DIN/ISO counterparts, furthermore the head dimensions are different. DIN standards for counterparts Phillips drive screws are DIN 965/ISO 7046 and DIN 7985/ISO 7045. The DIN/ISO slotted counterparts have a little more choice but again they lack some thread sizes and the head dimensions are different. DIN standards for counterparts slotted drive screws are DIN 85/ISO 1580 and DIN 963/ISO 2009. The following table summarizes the differences:

T		JCIS #0 Type 1		JCIS #0 Type 2		JCIS #0 Type 3		DIN 7985		DIN 965		DIN 85 Slotted		DIN 963 Slotted	
		D	H	D	H	D	H	D	H	D	H	D	H	D	H
PAN	M1.0	1,8	0,5												
	M1.2	1,8	0,5												
	M1.4	2	0,5	2,5	0,5	2,5	0,8								
	M1.6	2,4	0,5			2,8	0,85	3,2	1,3			3,2	1		
	M1.7	2,5	0,5	3	0,5	3	0,9	4	1,6			4	1,3		
	M2.0	3	0,6	3,5	0,6	3,5	0,9								
	M2.3	3,5	0,7			4	1								
	M2.5	3,8	0,8			4,3	1,1	5	2			5	1,5		
FLAT	M1.0													1,9	0,6
	M1.2													2,3	0,72
	M1.4	2	0,5			2,5	0,7							2,6	0,84
	M1.6	2,3	0,5			2,8	0,8			3	0,96			3	0,96
	M1.7	2,5	0,5			3	0,8								
	M2.0	3	0,6			3,5	0,9			3,8	1,2			3,8	1,2
	M2.3	3,5	0,7			4	1								
	M2.5	3,8	0,8			4,3	1,1			4,7	1,5			4,7	1,5
M2.6	4	0,8			4,5	1,1									

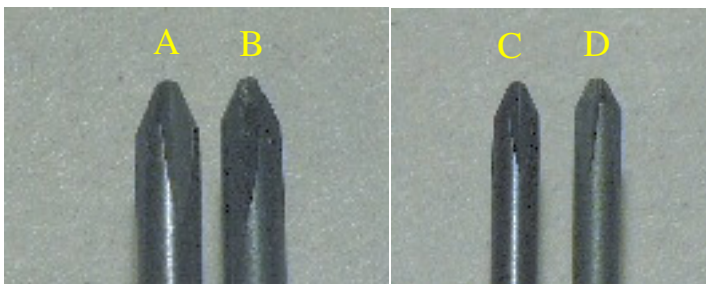
D = Head diameter

H = Head height

Dimensions are in millimeters.

Q: Are the JCIS #0 and American/European screwdrivers the same?

A: No, Japanese Phillips and American/European Phillips screw heads and screwdriver tips have different engineering specifications that makes the interchange of the two problematic. JCIS standard comes out from Japanese Industrial Standard (JIS) for Phillips heads and tips, which has a different shape than the original Phillips design. The JIS standard is designed to not cam-out, while the original Phillips standard has a cruciform-recessed shape that is designed to cam-out.



A – JCIS screwdriver 0 tip.

B - Phillips screwdriver 0 tip.

C - JCIS screwdriver 00 tip.

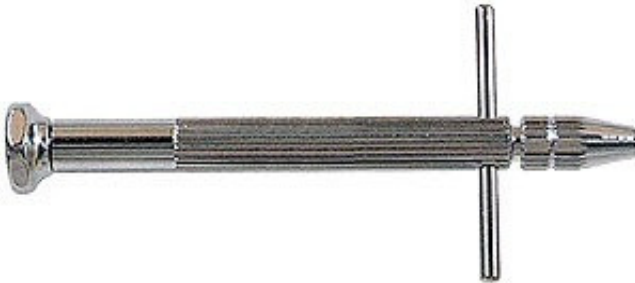
D - Phillips screwdriver 00 tip.

The picture above shows the different shapes of JCIS versus American/European Phillips screwdriver tips. The shape angles are different.

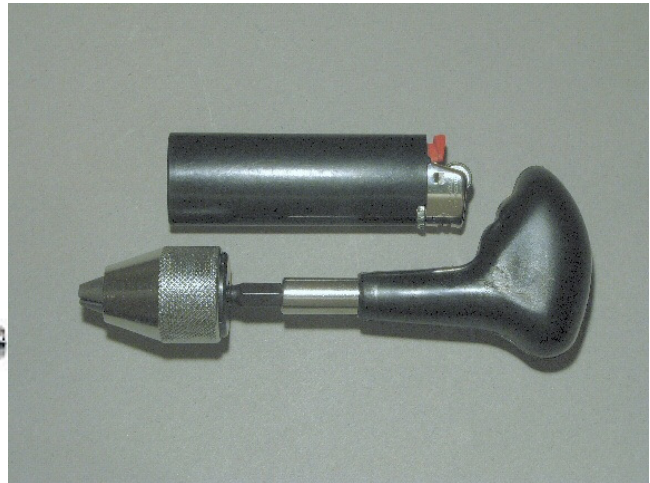
To prevent cam-outs, the slipping that strips the heads of Japanese Phillips screws, use JCIS-JIS screwdrivers.

You can find them at Micro-Tools (www.micro-tools.com) or at ASG: <http://www.asg-jergens.com>, or at Central Hobbies (<http://www.centralhobbies.com/Tools/jis.html>).

In case you can't get them try for JCIS screws requiring drive 0 first a good and shaped Phillips #0 screwdriver if you cannot succeed try with a #00 screwdriver or bit but with a handle you can pushing and rotating at the same time like these.



Micro-Tools T handle



1/4" bit handle with a drill chuck