



# ATC ALIGNMENT TOOL SET

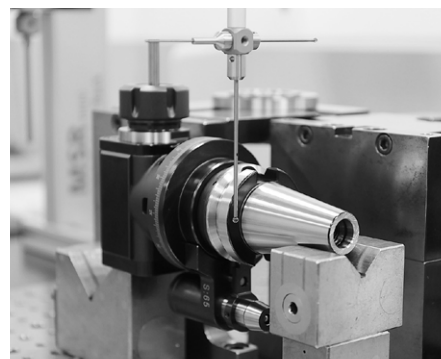
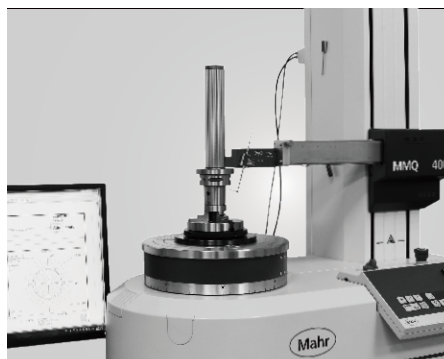
NO.2020-08



[www.syic.com](http://www.syic.com)



# COMPANY INTRODUCTION



APP Store



Android



Facebook



Instagram



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Weibo

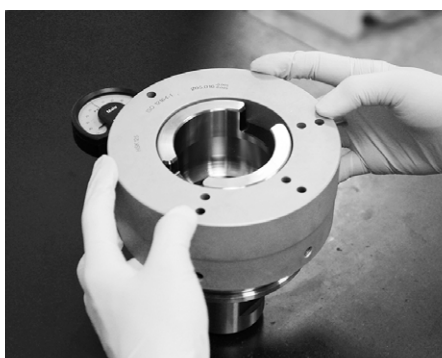


## About SYIC

Established in 1979, SYIC is a professional manufacturer of precise tool holders, cutting tools, angel heads, boring series and collets with more than 500 employees. The taper types of tool holders we manufacture include BT (MAS403), CAT (ANSI B5.50), DAT (DIN69871-A), HSK (DIN69893), PSC (ISO26623-1), VDI (DIN ISO10889) and straight shank holders.

SYIC is certified to ISO9001 and ISO14001. With contribution to the design, production and sale of high accuracy and inventive products, SYIC has over 300 pieces of patents worldwide. SYIC keeps investing in high-end equipment and measuring instruments from Japan and Europe to implement excellent quality control and manufacturing capability.

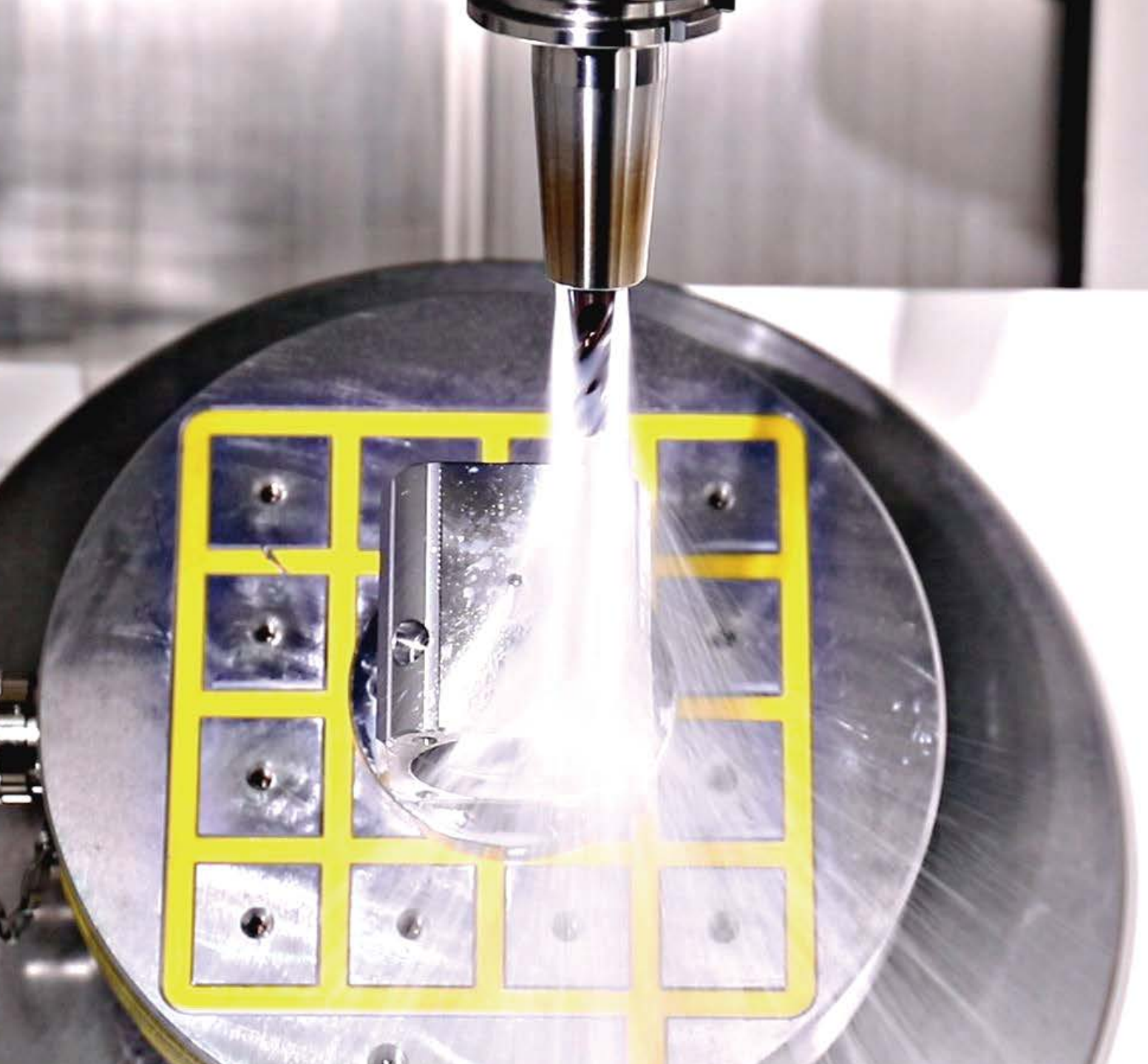
SYIC keeps the core value "Quality creates reputation; reputation ensures quality" to impress our customers, possessing professional technical skills to provide comprehensive solutions for customers, improving customers' machining efficiency, and enhancing the mutual competitiveness with customers. Based on the mission of "Excellent service, supreme quality," SYIC will continue to launch more high precision products to customers.



Youku







### **Innovation is our mission!**

SYIC is committed to developing high precision products to optimize the machining process and offering professional technical service. With experienced technical professionals, our products are developed in response to different types of industries. We aim to achieve customers' demands from different industries including machining industry, mold and die industry, aerospace industry, automotive industry, and energy industry. We offer the most professional and technical service, effectively resolve your machining problems to create maximum production efficiency.



# ATC ALIGNMENT TOOL SET



## Guardian of Machine Accuracy

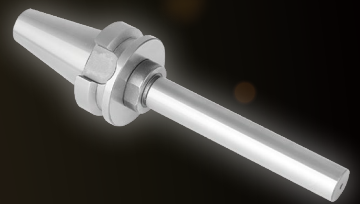
Used for checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.



### **BT / SBT**

MAS 403  
DualDRIVE+



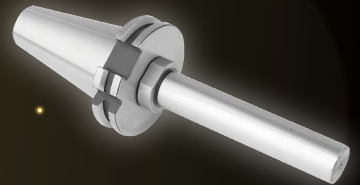
### **CAT / SCAT**

ANSI B5.50  
DualDRIVE+



### **DAT / SDAT**

DIN 69871-A  
DualDRIVE+



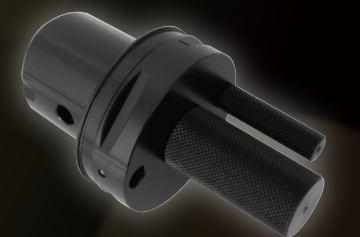
### **HSK**

DIN 69893  
A, E, F Type



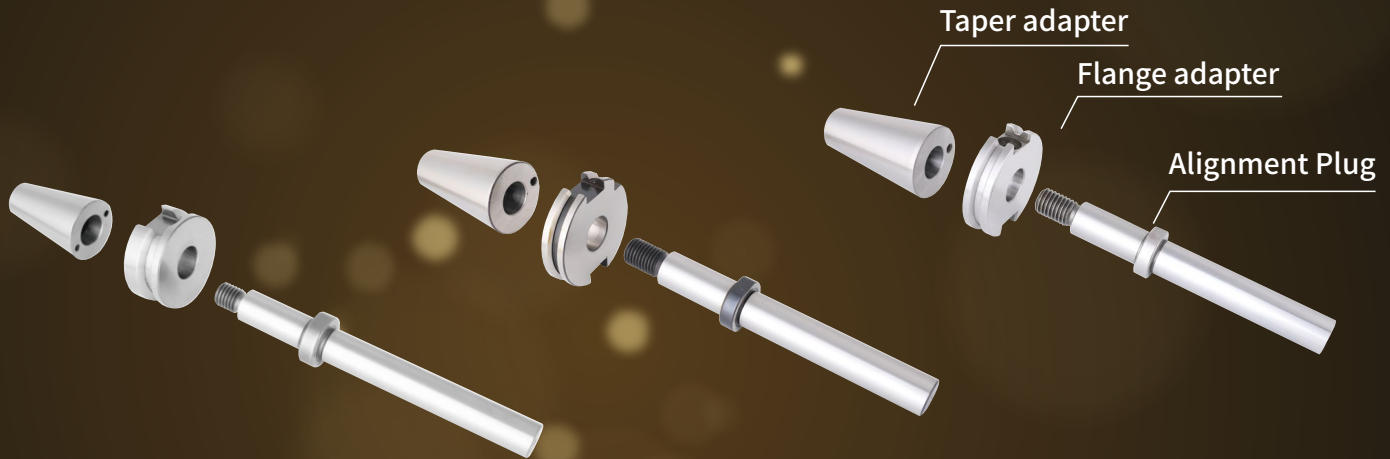
### **PSC**

ISO 26623-1



# INSTRUCTIONS FOR USE

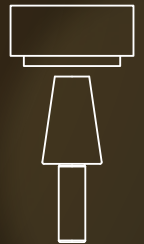
## ( BT/CAT/DAT & SBT/SCAT/SDAT SERIES)



**01**

Clean machine spindle by spindle wiper.

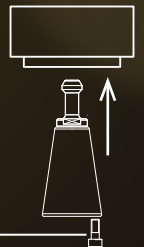
**1**



**02**

Assemble the taper adapter with pull stud and screw, insert taper adapter into spindle manually with screw and push machine controller button to clamp taper adapter, then loosen the screw.

**2**



M4x0.7P (#30)  
M6x1.0P (#40 & #50)

**03**

Install the flange adapter into gripper of ATC arm and press machine controller button to move ATC arm to align with machine spindle.

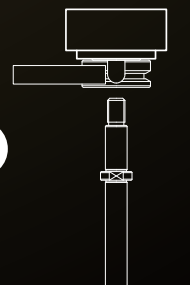
**3**



**04**

Insert alignment plug into the holes of flange adapter and taper adapter for alignment. If alignment plug can be inserted with ease and the movement is smooth, the alignment is done. If alignment plug can't be inserted into the holes of flange adapter and taper adapter, or it is hard to be inserted, please contact your machine supplier to inspect and adjust the positioning accuracy of ATC arm.

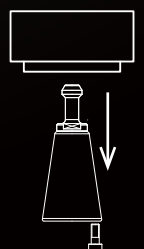
**4**



**05**

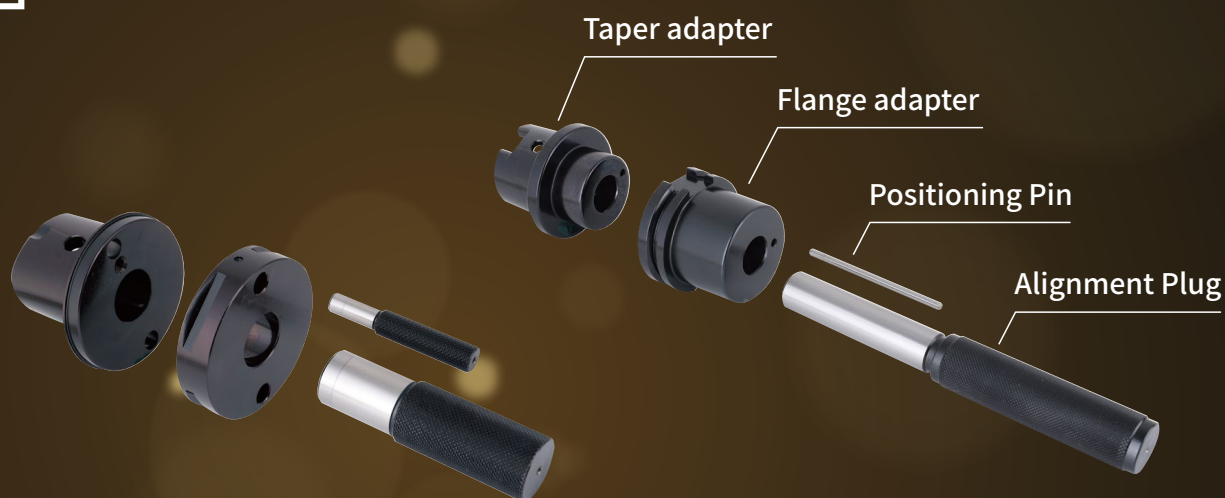
After completing alignment, unload alignment plug and flange adapter. Hold the taper adapter manually with screw and release it from spindle by pressing release button.

**5**



# INSTRUCTIONS FOR USE

## (PSC & HSK SERIES)



**01**

Clean machine spindle by spindle wiper.

**1**



**02**

Insert the taper adapter into spindle manually and push machine controller button to clamp the taper adapter.

**2**



**03**

Install the flange adapter into gripper of ATC arm and press machine controller button to move ATC closer to machine spindle. Use positioning pin to adjust flange adapter to align position hole with taper adapter and spindle.

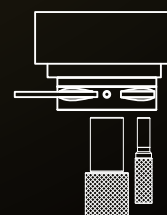
**3**



**04**

Insert alignment plug and positioning pin into the holes of flange adapter and taper adapter for alignment. If alignment plug and positioning pin can be inserted with ease and the movement is smooth, the alignment is done. If alignment plug and positioning pin can't be inserted into the holes of flange adapter and taper adapter, or it is hard to be inserted, please contact your machine supplier to inspect and adjust the positioning accuracy of ATC arm.

**4**



**05**

After completing alignment, unload alignment plug, positioning pin and flange adapter. Hold the taper adapter by hand and remove it from spindle by pressing releasing button.

**5**



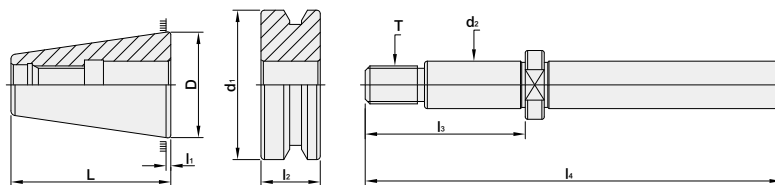


# ATC ALIGNMENT TOOL SET

BT ATC ALIGNMENT TOOL SET	9
CAT ATC ALIGNMENT TOOL SET	10
DAT ATC ALIGNMENT TOOL SET	11
SBT ATC ALIGNMENT TOOL SET	12
SCAT ATC ALIGNMENT TOOL SET	13
SDAT ATC ALIGNMENT TOOL SET	14
HSK ATC ALIGNMENT TOOL SET	15
PSC ATC ALIGNMENT TOOL SET	16

# BT / ATC ALIGNMENT TOOL SET

## BT / ATC 校刀三件組





MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	D	d <sub>1</sub>	d <sub>2</sub>	T
10.09	BT30	50.4	2	20	50.4	158.4	31.75	46	16	M12 x 1.75P
11.09	BT40	67.4	2	25	67.5	175.5	44.45	63	20	M16 x 2.0P
12.09	BT50	104.8	3	35	120	320	69.85	100	25	M24 x 3.0P

### Features:

- ▶ For checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

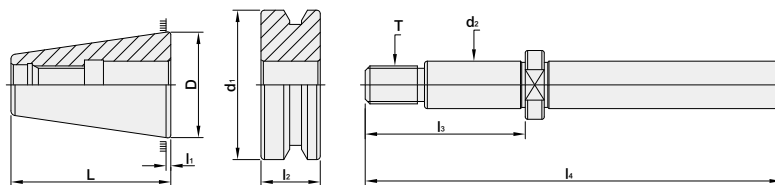
### Advantages of using ATC Alignment Tool Set:

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.

Pull Stud	Spanner (Pull Stud)
	
P.20~21	P.W-24

# CAT / ATC ALIGNMENT TOOL SET

## CAT / ATC 校刀三件組



MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	D	d <sub>1</sub>	d <sub>2</sub>	T
31.09	CAT40	71.424	3.175	15.875	67.5	175.5	44.45	63.5	20	5/8-11UNC
32.09	CAT50	104.775	3.175	15.875	125	325	69.85	98.425	25.4	1-8UNC

### Features:

- ▶ For checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

### Advantages of using ATC Alignment Tool Set:

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.

#### Pull Stud



P.22

#### Spanner (Pull Stud)

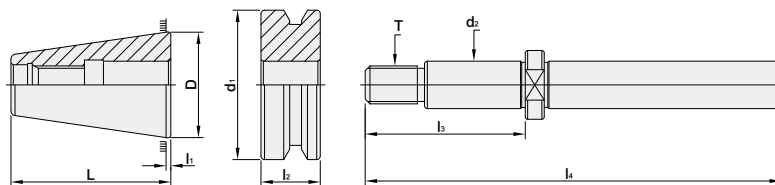


P.W-24



# DAT / ATC ALIGNMENT TOOL SET

## DAT / ATC 校刀三件組





MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	D	d <sub>1</sub>	d <sub>2</sub>	T
51.09	DAT40	71.6	3.2	15.9	67.5	175.5	44.45	63.55	20	M16x2.0P
52.09	DAT50	104.95	3.2	15.9	120	320	69.85	97.5	25	M24x3.0P

### Features:

- ▶ For checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

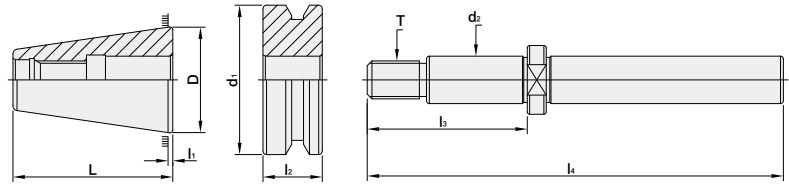
### Advantages of using ATC Alignment Tool Set:

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.

Pull Stud	Spanner (Pull Stud)
	
P.23	P.W-24

# SBT / ATC ALIGNMENT TOOL SET

## SBT / ATC 法蘭加厚型校刀三件組





MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	D	d <sub>1</sub>	d <sub>2</sub>	T
25.09	SBT30	49.4	1	21	50.4	158.4	31.75	46	16	M12x1.75P
26.09	SBT40	66.4	1	26	67.5	175.5	44.45	63	20	M16x2.0P
27.09	SBT50	103.3	1.5	36.5	120	320	69.85	100	25	M24x3.0P

### Features:

- ▶ For checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

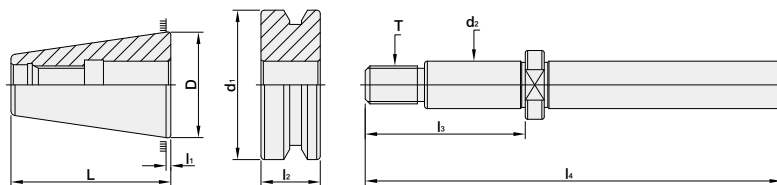
### Advantages of using ATC Alignment Tool Set:

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.

Pull Stud	Spanner (Pull Stud)
	
P.20~21	P.W-24

# SCAT / ATC ALIGNMENT TOOL SET

## SCAT / ATC 法蘭加厚型校刀三件組





MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	D	d <sub>1</sub>	d <sub>2</sub>	T
43.09	SCAT40	69.199	0.95	18.1	67.5	175.5	44.45	63.5	20	5/8-11UNC
44.09	SCAT50	103.05	1.45	17.6	125	325	69.85	98.425	25.4	1-8UNC

### Features:

- ▶ For checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

### Advantages of using ATC Alignment Tool Set:

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.

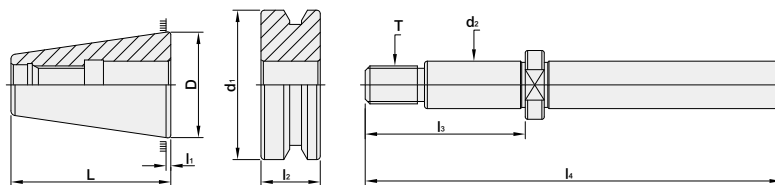
Pull Stud	Spanner (Pull Stud)
	
P.22	P.W-24





# SDAT / ATC ALIGNMENT TOOL SET

## SDAT / ATC 法蘭加厚型校刀三件組





MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	D	d <sub>1</sub>	d <sub>2</sub>	T
66.09	SDAT40	69.4	1	18.1	67.5	175.5	44.45	63.55	20	M16x2.0P
67.09	SDAT50	103.25	1.5	17.6	120	320	69.85	97.5	25	M24x3.0P

### Features:

- ▶ For checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

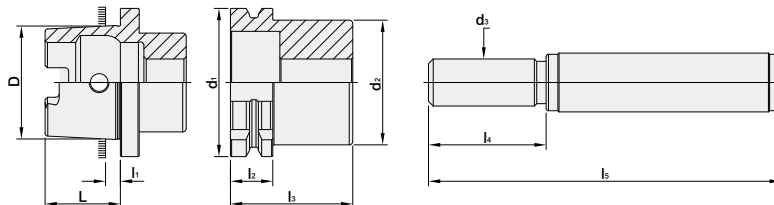
### Advantages of using ATC Alignment Tool Set:

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.

Pull Stud	Spanner (Pull Stud)
	
P.23	P.W-80

# HSK / ATC ALIGNMENT TOOL SET

## HSK / ATC 校刀三件組



MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	D	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>
69.09	HSK25A	13	2.5	7	17	22	70	19.006	25	20	8
70.09	HSK32A	16	3.2	14	30	50	100	24.007	32	26	8
71.09	HSK40A	20	4	14	37	61	141	30.007	40	34	12
72.09	HSK50A	25	5	18	43	74	174	38.009	50	42	15
73.09	HSK63A	32	6.3	18	52	90	190	48.010	63	53	20
74.09	HSK80A	40	8	18	54.5	100.5	200.5	60.012	80	68	20
75.09	HSK100A	50	10	19	67	125	275	75.013	100	88	24
76.09	HSK125A	63	12.5	19	74	145	295	95.016	125	111	30
97.09	HSK25E	13	2.5	7	17	22	70	19.006	25	20	8
98.09	HSK32E	16	3.2	14	30	50	100	24.007	32	26	8
99.09	HSK40E	20	4	14	37	61	141	30.007	40	34	12
100.09	HSK50E	25	5	18	43	74	174	38.009	50	42	15
101.09	HSK63E	32	6.3	18	52	90	190	48.010	63	53	20
102.09	HSK50F	20	4	18	43	61	141	30.007	50	42	12
103.09	HSK63F	25	5	18	52	71	174	38.009	63	53	15
105.09	HSK80F	32	6.3	18	54.5	90	190	48.010	80	68	20

### Features:

- ▶ For checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

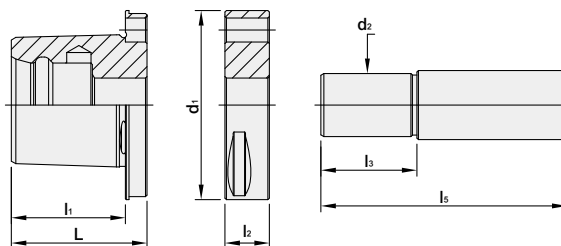
### Advantages of using ATC Alignment Tool Set:

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.



# PSC / ATC ALIGNMENT TOOL SET

## PSC / ATC 校刀三件組



MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>5</sub>	d <sub>1</sub>	d <sub>2</sub>
140.09	PSC32	22	19	12	20	60	32	8
141.09	PSC40	28	24	16	28	78	40	12
142.09	PSC50	35	30	15	29	79	50	16
143.09	PSC63	45.2	38	14.8	32	82	63	21
144.09	PSC80	54.2	48	23.8	49	109	80	21
145.09	PSC80X	54.2	48	25.8	52	110	100	21
146.09	PSC100	66.2	60	29.8	56	115	100	24

### Features:

- ▶ For checking ATC positioning accuracy between ATC arm and machine spindle, and between ATC arm and tool magazine.

### Advantages of using ATC Alignment Tool Set:

- ▶ Prevent tool holder tapers from abnormal wear.
- ▶ Detect the potential problems of machines and decrease the probability of machine breakdown.
- ▶ Prolong the use life of machine spindle.



**MEMO**

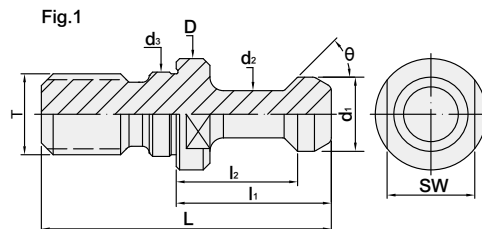
**MEMO**

# ACCESSORIES CATEGORY

BT PULL STUD	20-21
CAT PULL STUD	22
DAT PULL STUD	23
SPANNER FOR PULL STUD	24

# BT PULL STUD

## BT 螺栓拉頭



### W/O Coolant

MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	D	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	θ	T	SW	Fig.	WEIGHT (KGS)
17801	BT30 - 45°	43	23	18	16.5	11	7	12.5	-	45°	M12	13	1	0.04
17803	BT40 - 45°	60	35	28	23	15	10	17	-	45°	M16	19	1	0.10
17805	BT50 - 45°	85	45	35	38	23	17	25	-	45°	M24	30	1	0.30
17806	BT30 - 60°	43	23	18	16.5	11	7	12.5	-	60°	M12	13	1	0.04
17808	BT40 - 60°	60	35	28	23	15	10	17	-	60°	M16	19	1	0.10
17810	BT50 - 60°	85	45	35	38	23	17	25	-	60°	M24	30	1	0.30
17812	BT30 - 90°	43	23	18	16.5	11	7	12.5	-	90°	M12	13	1	0.04
17814	BT40 - 90°	60	35	28	23	15	10	17	-	90°	M16	19	1	0.10
17816	BT50 - 90°	85	45	35	38	23	17	25	-	90°	M24	30	1	0.30

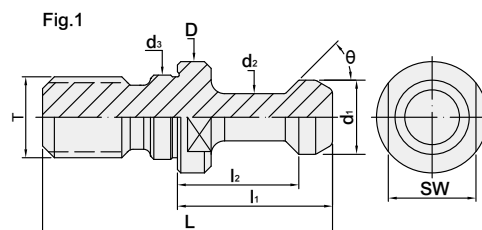
### Features:

- ▶ Please make sure the pull stud conforms to the machine type.

# BT PULL STUD

with ground thread

BT 研磨螺栓拉頭



## W/O Coolant

MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	D	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	θ	T	SW	Fig.	WEIGHT (KGS)
17801 - G	BT30 - 45°G	43	23	18	16.5	11	7	12.5	-	45°	M12	13	1	0.04
17803 - G	BT40 - 45°G	60	35	28	23	15	10	17	-	45°	M16	19	1	0.10
17805 - G	BT50 - 45°G	85	45	35	38	23	17	25	-	45°	M24	30	1	0.30
17806 - G	BT30 - 60°G	43	23	18	16.5	11	7	12.5	-	60°	M12	13	1	0.04
17808 - G	BT40 - 60°G	60	35	28	23	15	10	17	-	60°	M16	19	1	0.10
17810 - G	BT50 - 60°G	85	45	35	38	23	17	25	-	60°	M24	30	1	0.30
17812 - G	BT30 - 90°G	43	23	18	16.5	11	7	12.5	-	90°	M12	13	1	0.04
17814 - G	BT40 - 90°G	60	35	28	23	15	10	17	-	90°	M16	19	1	0.10
17816 - G	BT50 - 90°G	85	45	35	38	23	17	25	-	90°	M24	30	1	0.30

## Features:

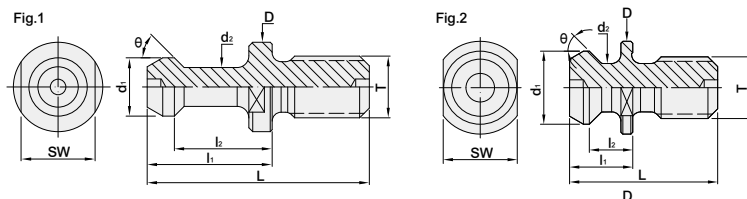
- ▶ Please make sure the pull stud conforms to the machine type.





# CAT PULL STUD

## CAT 螺栓拉頭



### W/O Coolant

MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	D	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	θ	SW	T-UNC	Fig.	WEIGHT (KGS)
21003	CAT40 - ANSI	1.5	0.64	0.44	0.94	0.74	0.49	-	45°	0.75	5/8" - 11	2	0.09
21005	CAT50 - ANSI	2.3	1	0.7	1.44	1.14	0.82	-	45°	1.25	1" - 8	2	0.25
21003 - 45	CAT40 - MAS - I	2.25	1.266	0.99	0.905	0.59	0.394	-	45°	0.748	5/8" - 11	1	0.09
21003 - 60	CAT40 - MAS - II	2.25	1.266	0.99	0.905	0.59	0.394	-	60°	0.748	5/8" - 11	1	0.09
21003 - 90	CAT40 - MAS - III	2.25	1.266	0.99	0.905	0.59	0.394	-	90°	0.748	5/8" - 11	1	0.09
21005 - 45	CAT50 - MAS - I	3.346	1.772	1.378	1.496	0.906	0.669	-	45°	1.181	1" - 8	1	0.25
21005 - 60	CAT50 - MAS - II	3.346	1.772	1.378	1.496	0.906	0.669	-	60°	1.181	1" - 8	1	0.25
21005 - 90	CAT50 - MAS - III	3.346	1.772	1.378	1.496	0.906	0.669	-	90°	1.181	1" - 8	1	0.25

### Features:

- Please make sure the pull stud conforms to the machine type.

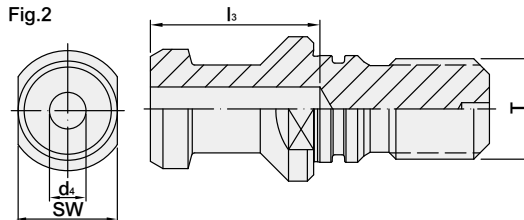
# DAT PULL STUD

DAT 螺栓拉頭

(DIN 7388 - 3)

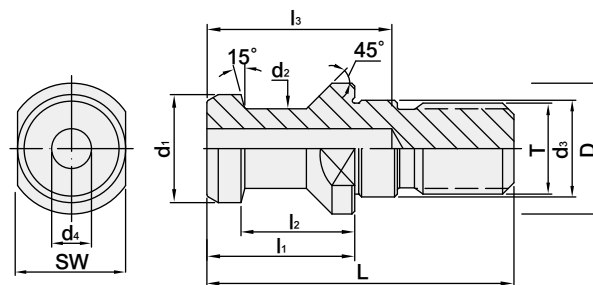


Fig.2



## W/O Coolant

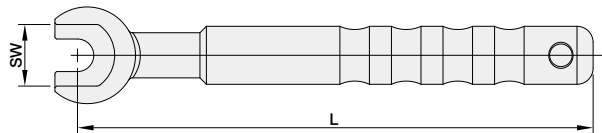
MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	D	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	θ	SW	T	Fig.	WEIGHT (KGS)
49011	DAT30 - B	44	24	19	-	17	13	9	13	-	15°	14	M12	2	0.03
49013	DAT40 - B	54	26	20	27	23	19	14	17	7	15°	19	M16	2	0.09
49015	DAT50 - B	74	34	25	37	36	28	21	25	11.5	15°	30	M24	2	0.25



MODEL NO.	TYPE	L	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	D	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	T	WEIGHT (KGS)
49017	DAT40	54	26	20	27	23	19	14	17	7	M16	0.09

# SPANNER FOR PULL STUD

拉頭扳手



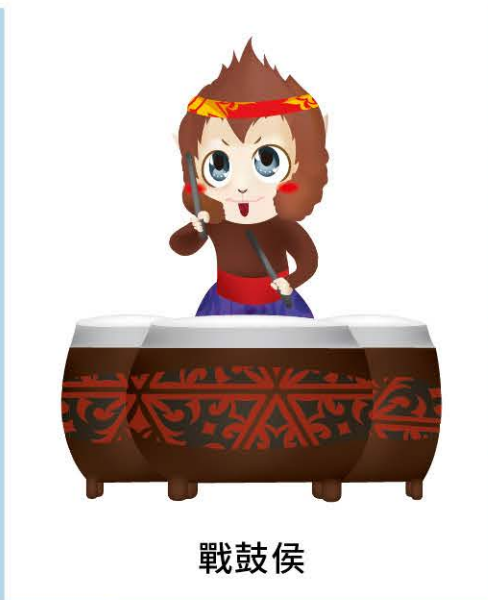
MODEL NO.	TYPE	SW	L	APPLICABLE PULL STUD		WEIGHT (KGS)
289.540.10	PSW-30B	13	140	BT30, SBT30	45°, 60°, 90°	0.23
289.540.50	PSW-30D	14	140	DAT30	A, B	0.22
289.540.11	PSW-40B	19	160	BT40, SBT40 CAT40, SCAT40	45°, 60°, 90°, MAS-I, MAS-II, MAS-III, Coolant-I, Coolant - II, Coolant -III	0.31
289.540.11M	PSW-40BM	19	157	BT40	MAZAK	0.29
289.540.31	PSW-40C	19.05	160	CAT40	ANSI	0.3
289.540.51A	PSW-40D	19	160	DAT40, SDAT40	A, B	0.3
289.540.51B	PSW-40DB	18	160	DAT40, SDAT40	B(ISO7388/2)	0.3
289.540.12	PSW-50B	30	200	BT50, SBT50 CAT50, SCAT50	45°, 60°, 90°, MAS-I, MAS- II, MAS-III, Coolant-I, Coolant - II, Coolant -III	0.75
289.540.12M	PSW-50BM	30	200	BT50	MAZAK	0.72
289.540.32	PSW-50C	31.75	200	CAT50	ANSI	0.72
289.540.52	PSW-50D	30	200	DAT50, SDAT50	A, B	0.74

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