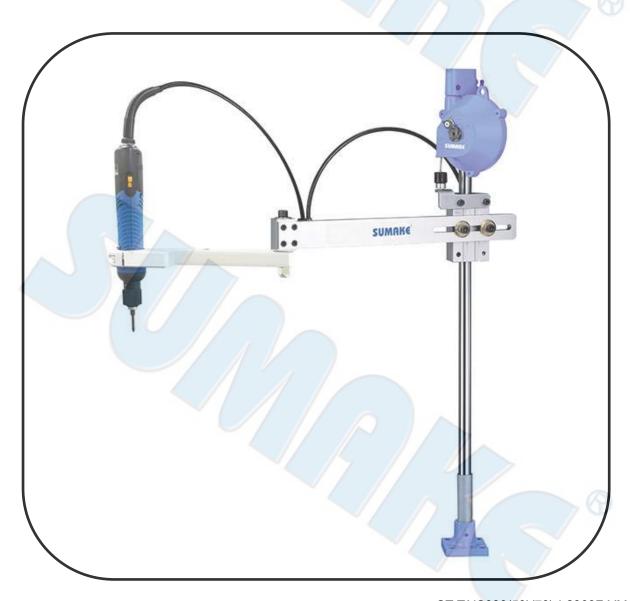




# **INSTRUCTION MANUAL**

ITEM NO.: ST-TAIS030(50)(70) series FOLDED TORQUE REACTION ARM





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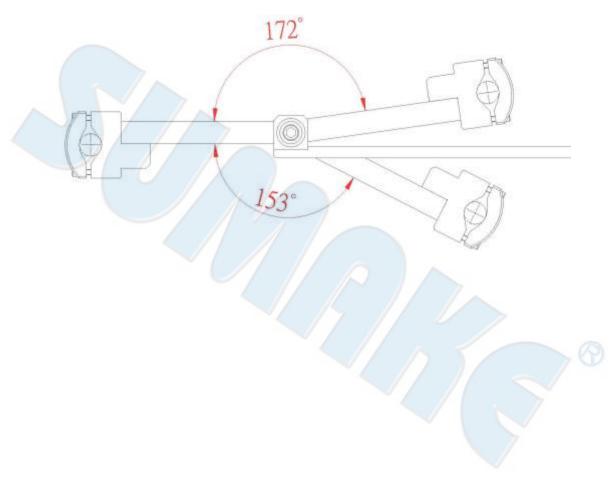


#### I. Feature

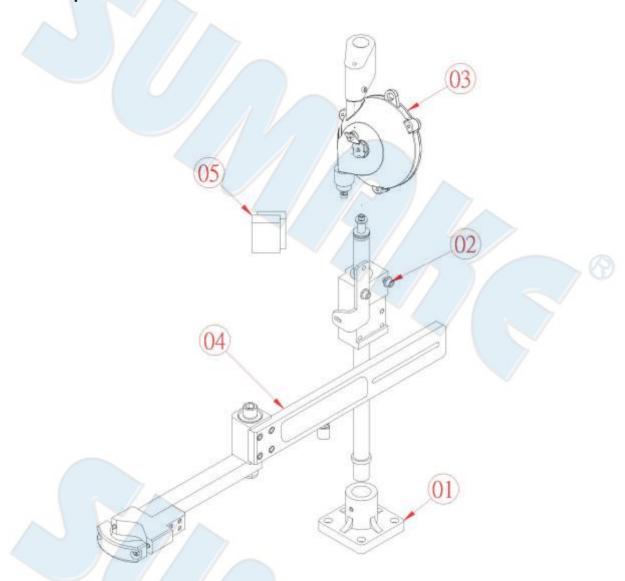
This torque reaction arm is applicable to absorb the reaction from electric/pneumatic screwdriver directly after working. To prevented injury for operator after working continuously.

### II. Specification

The spindle can swivel 360° and front arm can swivel around 330° for horizontal and the vertical height can make electric/pneumatic screwdriver to the specific position. It convinces operator to work quickly and stable also hence efficiency and avoid human injury.



### III. Item Inspection



### > Comparison

	Description	Q'TY	Remark
1	Base plate	1set	
2	Linear bearing set	1set	
3	Hanger set	1set	
4	Arm set	1set	
5	Accessories bag	2pack	
	Screw x4 pcs, set screw x2set		
	6mmm allen key x 1pcs, plug x1pcs		



#### **IV. Safety Precautions**

For the proper use of this product, avoid jeopardizing personal and property safety of the lives of others, to prevent the occurrence of danger and be sure to read the instructions carefully

< Please be sure to follow instruction >

#### 1. Warning:

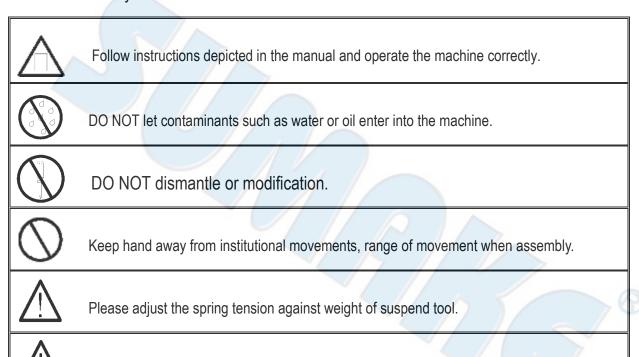


[Prohibition Sign], it will occur personal injury or product damaged if didn't follow instruction.



【Alarm Sign】 Damage of properties, or injury of personal may occur if not observed.

#### 2. Safety information:

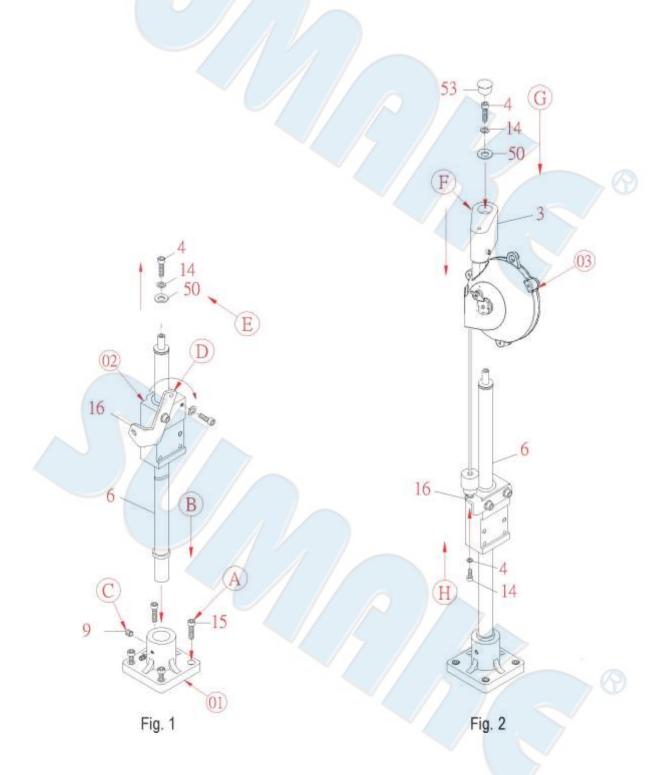


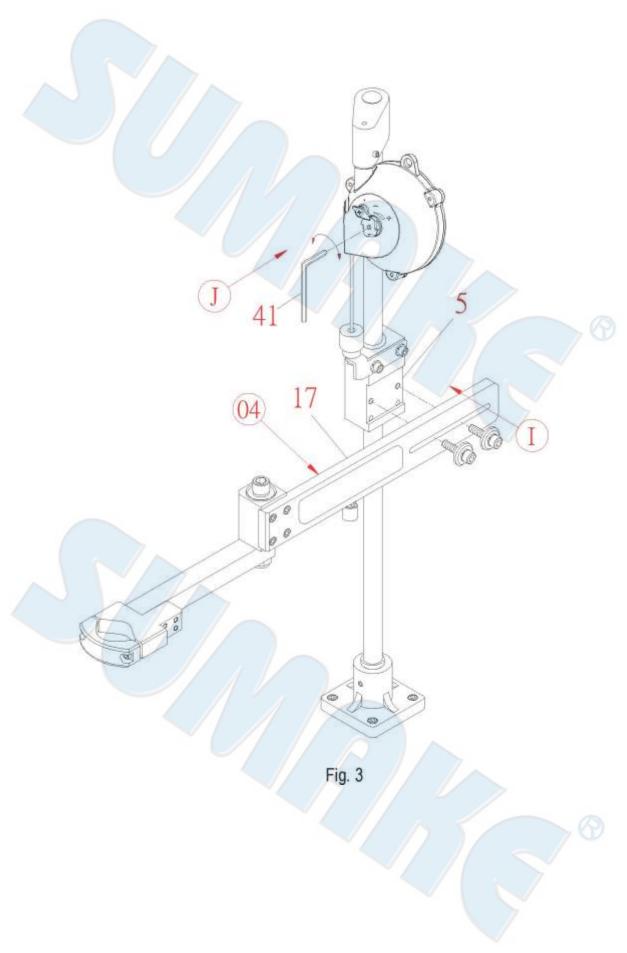
Please maintain and clean the component regularly.

### V. Description

### 1. Assembly:

Please follow the steps below to assemble the five major parts (as shown in the pictures):





- (A). Take 4PCS M6\*25 screw (#15) from the (05) accessories bag to install the base (01) on a stable work table. See FIG.1
- (B). Insert the spindle linear bearing set (02) into the base (01) until the bottom end touches the table.
- (C). Tighten the set screw x2pcs (#9).
- (D). Loosen the 2 pcs screw include washer, turn the board (#16) clockwise and align 2 screw holes then tighten.
- (E). Remove screw(#4), washer(#14)(#50) from spindle (#6).
- (F). Insert the Hanger set (03) to top of spindle (#6).

  NOTE: The direction of spring balancer base plate must be spindle direction. See FIG. 2
- (G). Then assemble the screw (#4), washer (#14)(#50) to hanger (#3). And ensure the hanger can swivel smoothly. Using the plug (#53) from accessories pack (05) to top of hanger.
- (H). Please assemble the cable of spring balancer to screw (#14) and washer (#4) and through hanger hole (#16) of linear bearing set (02).

#### NOTE:

- \* The cable needs pull downward.
- \* The tooth at the front end of the cable must be inserted into the hanger hole (#16)
- (I). Install the Rear arm (#17) of arm set groove by screw from accessories bag (05).

2pcs M8x35 hex screw for ST-TAIS030 include washer.

2pcs M10x40 include washer.

NOTE: The label direction must be outward and edge of rear arm (#17) needs match groove of Linear bearing (#5). See FIG.3

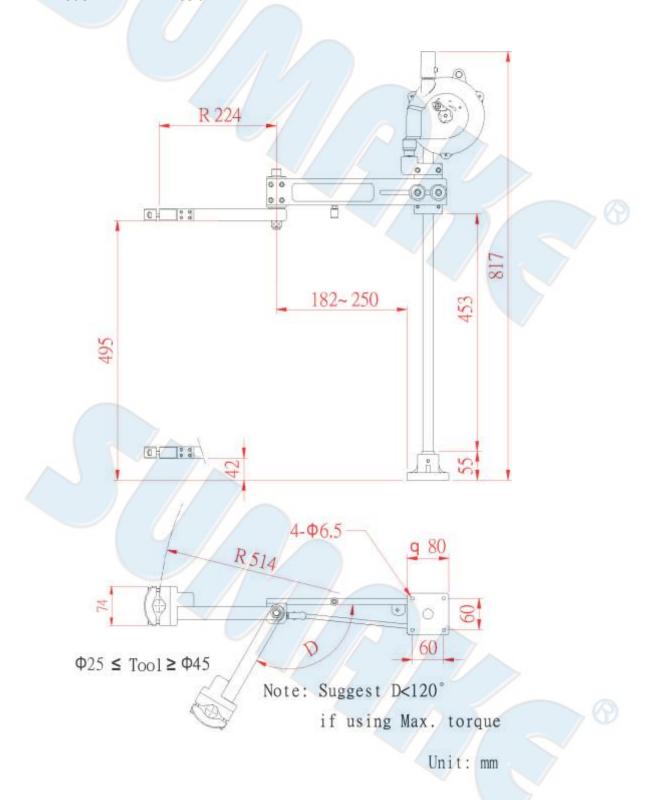
(J). Please insert 6mm allen key (#41) from accessories bag (05) into spring balancer to adjust spring tension.

Please refer to page 11 for spring tension adjustment.

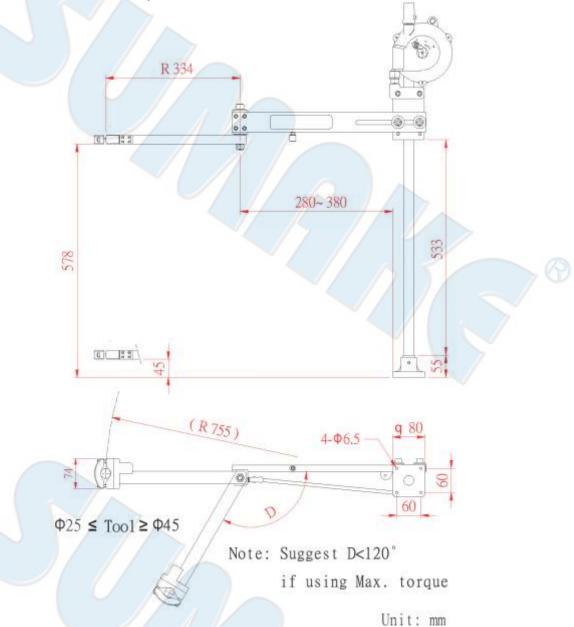


### 2. Dimension:

♦ Model: ST-TAIS030







### 3. Working environment:

Area		indoor	Max. torque
ST-TAIS030 ST-TAIS050 ST-TAIS070 Net Weight		Approx. 6.3 kg / 6 kg	150 kgf-cm (14.7Nm)
		Approx.9.2 kg / 8.9 kg	250 kgf-cm (24.5Nm)
		Approx.9.2 kg / 8.9 kg	250 kgf-cm (24.5Nm)
Air pressure		5 ~ 6kg/cm²	
Temperature		-5°C ~ 60°C (No freezing)	
Humidity		20% ~ 90% ( No condensation )	



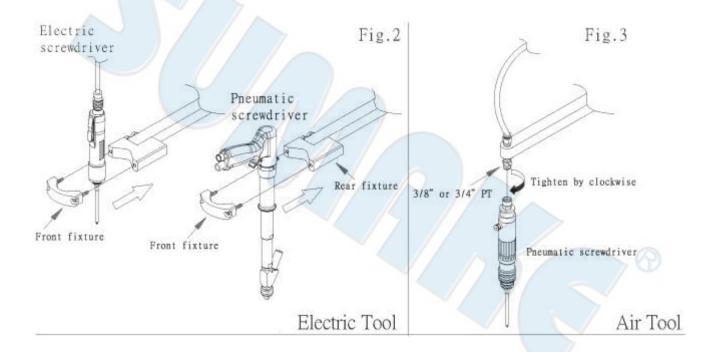
#### VI. Installation

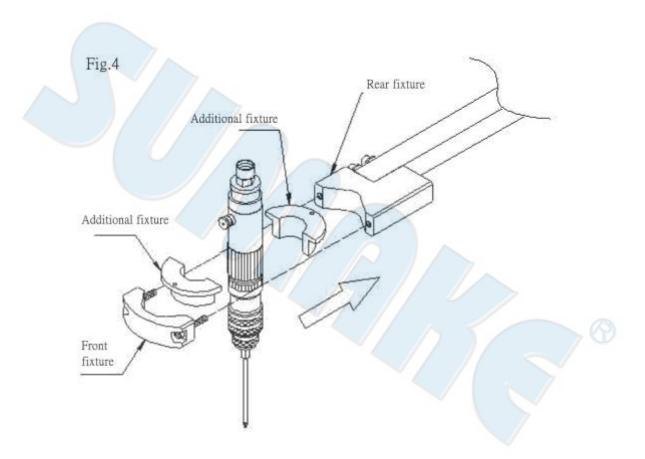
#### Installation Instruction :

- Electric Tool: Please install the tool and tighter front fixture with screws. See FIG. 2
- ♦ Air Tool: Please install the tool and aim to <u>1/4" joint</u> then tighten clockwise. See FIG. 3

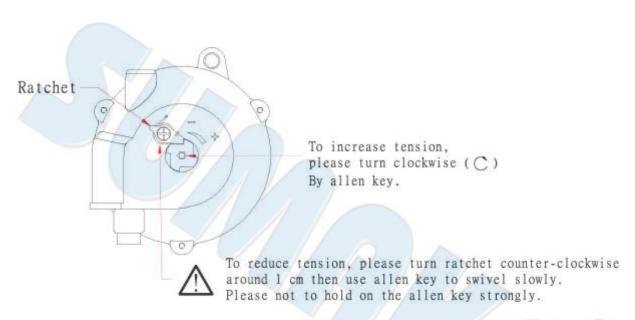
NOTE: **If the clamping OD is less than Φ25**, then please install the tool with additional fixture. See FIG. 4

- (1) Please ensure before installing tool.
  - a. Check if arm set is in bottom position.
  - b. Check if the spring tension of spring balancer is proper. The cable will be curve if spring tension is too weak. Please adjust the spring tension.
- (2) Please tighten the tool for Front fixture and Rear fixture by M6x50 2pcs screw. The available clamp diameter is  $\Phi$ 25  $\sim$  $\Phi$ 45  $\circ$
- (3) Please follow (1) step if needs change tool. Or the spring balancer will rebound suddenly after removing tool and may cause personal injury.





### 2. Spring tension adjustment



Never adjust spring tension to be under min. capacity.

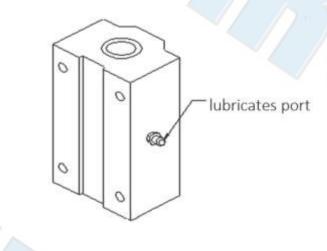


#### VII. Maintenance

To make sure the component of Torque Reaction Arm is durable, please clean and lubricate it regularly.

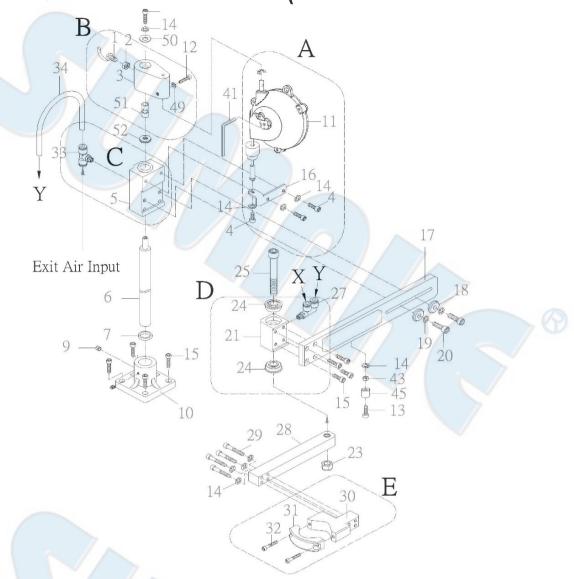
- 1. Daily maintenance: Please clean and wipe the dirty surface of component frequently and friction parts (each sliding spindle), Using by protective oil (WD-40 or similar product) to cleaning and lubrication.
- 2. Weekly maintenance: Remove dust from the outside of each component. Linear axis lubricates by grease

If the operating environment with frequent or severe, please shorten the maintenance of the time.



Our company reserves the right to modify the product without prior notice.

# ST-TAIS030SD FOLDED TORQUE REACTION ARM (FOR AIR & ELECTRIC TOOL)



**PARTS LIST** 

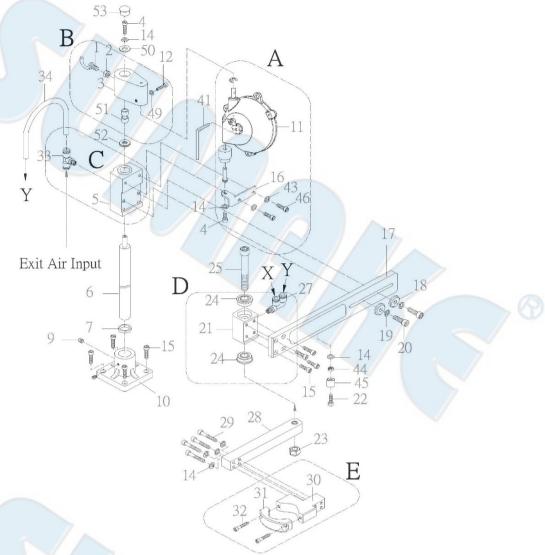
No.	Parts No.	Description	Q'ty
1	YMTA300-003	Screw	1
2	YMNT080	Nut	1
3	YMTA300-002	Hanger	1
4	YMSWR2005	Screw	4
5	YMTR350-005	Linear Bearing	1
6	YMTA300-005	Spindle	1
7	YMTA300-029	Spindle Pad	1
9	YMSWN2001	Screw	2
10	YMTA300-007	Base Plate	1/
11	SA-22030	Spring Balancer	1
12	YMSWR2031	Screw	1
13	YMSWR2002	Screw	1
14	YMWRS060	Washer	9
15	YMSWR2018	Screw	8
16	YMTR350-016	Board	1
17	YMTR350-017	Rear Arm	1
18	YMWR080C	Washer	2
19	YMWRS080	Washer	2
20	YMSWR2052	Screw	2
21	YMTR350-021	Connect Block	1

No.	Parts No.	Description	Q'ty	
23	YMNT1/2	Nut	1	
24	YMBG034	Bearing	2	
25	YMSWR2076	Hex Screw	1	
27	YMJOPQ063	Multi Joint	1	
28	YMTR350-028	Front Arm	1	
29	YMSWR2042	Screw	4	
30	YMTR350-0302	Rear Fixture (S) Φ25~45	1	
31	YMTR350-0311	Front Fixture (S) Φ25~45	1	
32	YMSWR2086	Screw	2	
33	YMJOPQ064	Joint	1	
34	YMPE034	PU Hose	1	
41	YMSK6	Allen Key 6m/M	1	
43	YMNT060	Nut	1	
45	YMTR350-045	Cushion	1	
49	YMWRS050	Spring Washer	1	
50	YMWR060A	Washer	1	
51	YMBG042	Bearing	2	
52	YMBG043	Bearing	1	
53	YMOE063	Plug	1	

ST-TAIS030-P-2309C-YM

# ST-TAIS050SD

# FOLDED TORQUE REACTION ARM (FOR AIR & ELECTRIC TOOL)



#### **PARTS LIST**

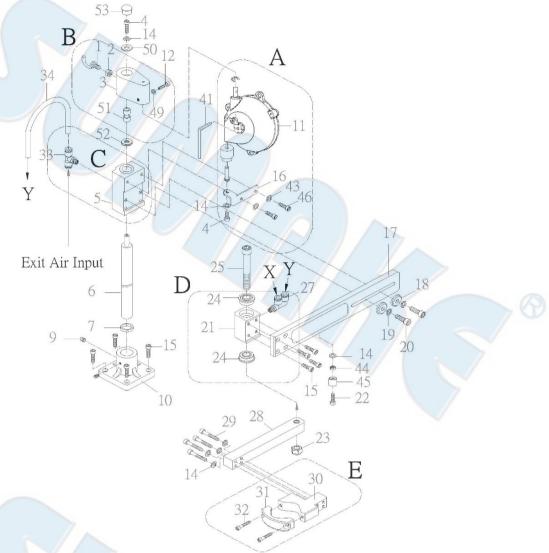
No.	Parts No.	Description	Q'ty
1	YMTA300-003	Screw	1
2	YMNT080	Nut	1
3	YMTA300-002	Hanger	1
4	YMSWR2005	Screw	2
5	YMTR650-005	Bearing	1
6	YMTA600-006	Spindle	1
7	YMTA600-007	Spindle Pad	1
9	YMSWN2001	Screw	2
10	YMTA600-009	Base Plate	1
11	SA-22050	Spring Balancer	1
12	YMSWR2031	Screw	1
14	YMWRS060	Washer	7
15	YMSWR2018	Screw	8
16	YMTR650-016	Board	1
17	YMTR650-017	Rear Arm	1
18	YMWR100A	Washer	2
19	YMWRS100	Washer	2
20	YMSWR2075	Screw	2
21	YMTR350-021	Connect Block	1
22	YMSWR2002	Screw	1
23	YMNT1/2	Nut	1

No.	Parts No.	Description	Q'ty	
24	YMBG034	Bearing	2	
25	YMSWR2076	Screw	1	
27	YMJOPQ063	Multi Joint	1	
28	YMTR650-028	Front Arm	1	
29	YMSWR2085	Screw	4	
30	YMTR350-0302	Rear Fixture (S) Φ25~45	1	
31	YMTR350-0311	Front Fixture (S) Φ25~45	1	
32	YMSWR2086	Screw	2	
33	YM JOPQ064	Joint	1	
34	YMPE034	PU Hose	1	
35	YMPE034	PU Hose	1	
41	YMSK6	Allen Key 6m/M	1	
43	YMWRS080	Spring Washer	2	
44	YMNT060	Nut	1	
45	YMTR350-045	Cushion	1	
46	YMSWR2043	Screw	2	
49	YMWRS050	Spring Washer	1	
50	YMWR060A	Washer	1	
51	YMBG042	Bearing	2	
52	YMBG043	Bearing	1	
53	YMOE063	Plug	1	

ST-TAIS050-P-2309C-YM

# ST-TAIS070SD

# FOLDED TORQUE REACTION ARM (FOR AIR & ELECTRIC TOOL)



#### PARTS LIST

No.	Parts No.	Description	Q'ty
1	YMTA300-003	Screw	1
2	YMNT080	Nut	1
3	YMTA300-002	Hanger	1
4	YMSWR2005	Screw	2
5	YMTR650-005	Bearing	1
6	YMTA600-006	Spindle	1
7	YMTA600-007	Spindle Pad	1
9	YMSWN2001	Screw	2
10	YMTA600-009	Base Plate	1
11	SA-22070	Spring Balancer	1/
12	YMSWR2031	Screw	1
14	YMWRS060	Washer	7
15	YMSWR2018	Screw	8
16	YMTR650-016	Board	1
17	YMTR650-017	Rear Arm	1
18	YMWR100A	Washer	2
19	YMWRS100	Washer	2
20	YMSWR2075	Screw	2
21	YMTR350-021	Connect Block	1
22	YMSWR2002	Screw	1
23	YMNT1/2	Nut	1

No.	Parts No.	Description	Q'ty	
24	YMBG034	Bearing	2	
25	YMSWR2076	Screw	1	
27	YMJOPQ063	Multi Joint	1	
28	YMTR650-028	Front Arm	1	
29	YMSWR2085	Screw	4	
30	YMTR350-0302	Rear Fixture (S) Φ25~45	1	
31	YMTR350-0311	Front Fixture (S) Φ25~45	1	
32	YMSWR2086	Screw	2	
33	YM JOPQ064	Joint	1	
34	YMPE034	PU Hose	1	
35	YMPE034	PU Hose	1	
41	YMSK6	Allen Key 6m/M	1	
43	YMWRS080	Spring Washer	2	
44	YMNT060	Nut	1	
45	YMTR350-045	Cushion	1	
46	YMSWR2043	Screw	2	
49	YMWRS050	Spring Washer	1	
50	YMWR060A	Washer	1	
51	YMBG042	Bearing	2	
52	YMBG043	Bearing	1	
53	YMOE063	Plug	1	

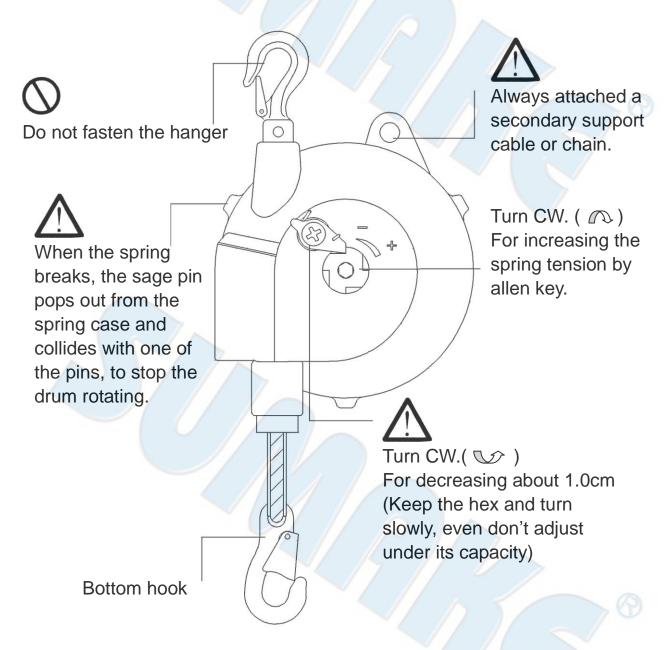
ST-TAIS070-P-2309C-YM



# **Operation Manual**

### SA-22030, SA-22050, SA-22070

Read this manual before use



# **△**Caution

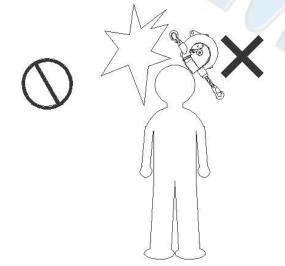
# **⊘**Prohibition



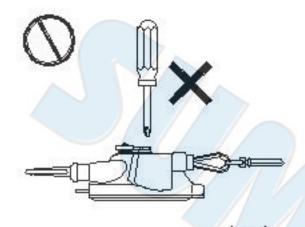


Incorrect use of the spring balancer could cause personal injury.

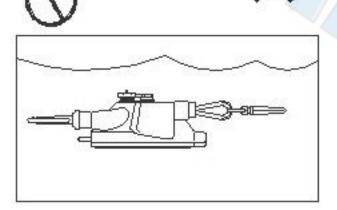
Observe instruction in the manual and use the balancer correctly.



Never stand under the spring balancer.

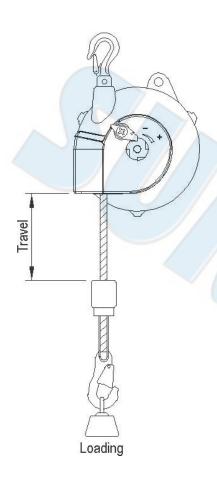


Prohibition of disassembly.



Never put the spring balancer in fluid.





Don't twist and rub the cordage with cable during travel.

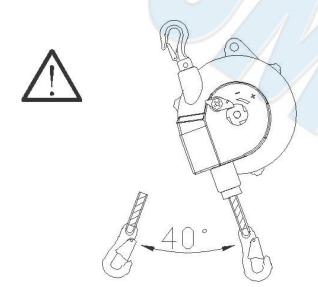
Don't load over its capacity.



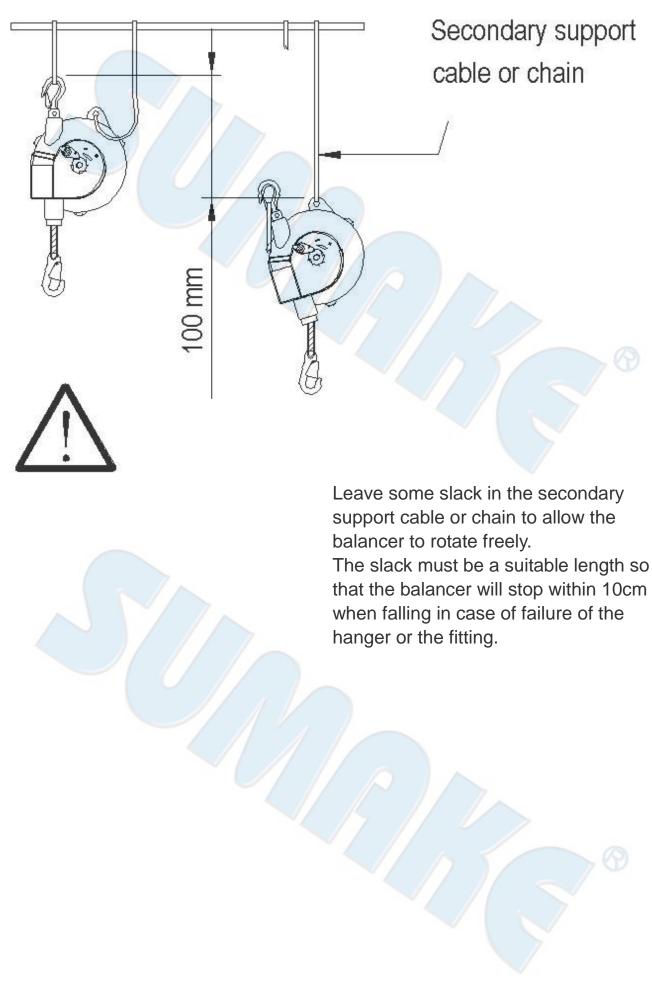
- Take the tools off while remove the spring balancer, prevent the devise drop down.
- Please remove the spring balancer and tools if rest for a long time.
- Remove the spring balancer and devise before arranging the tension. 3.

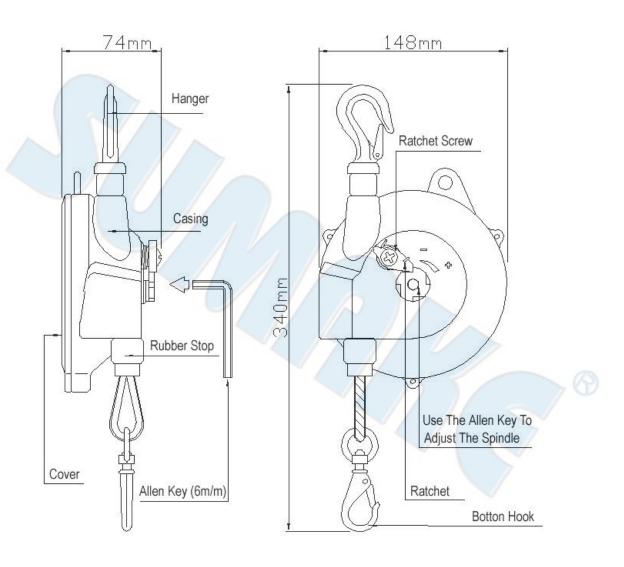
#### **Application area:**

Indoor and normal atmospheric conditions. Temperature range : -10 $^{\circ}$ C ~ +40 $^{\circ}$ C



Large angle using will debase the wire rope's life, Under ±20° is better.





1	Model	Capacity	Weight	Travel
١	SA-22030	1.5 – 3.0 kg	1.73 kg	1.3 m
	SA-22050	3.0 – 5.0 kg	1.82 kg	1.3 m
	SA-22070	5.0 – 7.0 kg	1.85 kg	1.3 m

#### 1. Installation

- (1) Attached the spring balancer to the steady place.
- (2) Please attached a secondary support cable and install to the steady position.
- (3) Install the devise within the capacity to the bottom hook.
- (4) Please adjust the tension within the capacity after install the devise.

#### 2. Checks before use

- (1) The hanger and bottom hook is steady and turn swivel.
- (2) The cable is complete.
- (3) The ratchet spring and spindle is steady.
- (4) The appearance is complete, no any damage.



### **EC** DECLARATION OF CONFORMITY

We: SUMAKE INDUSTRIAL CO., LTD.

4F, No. 351, Yangguang St., Neihu District, Taipei City, Taiwan

declare in sole responsibility that the equipment

**Equipment: SPRING BALANCER** 

Model/ Serial No.: SA-22030(22050)(22070)

to which this declaration applies, complies with these normative documents:

• Machinery Directive: 2006/42/EC

and conforms to the following EN standard,

• EN ISO 12100: 2010

Name and Signature/Position

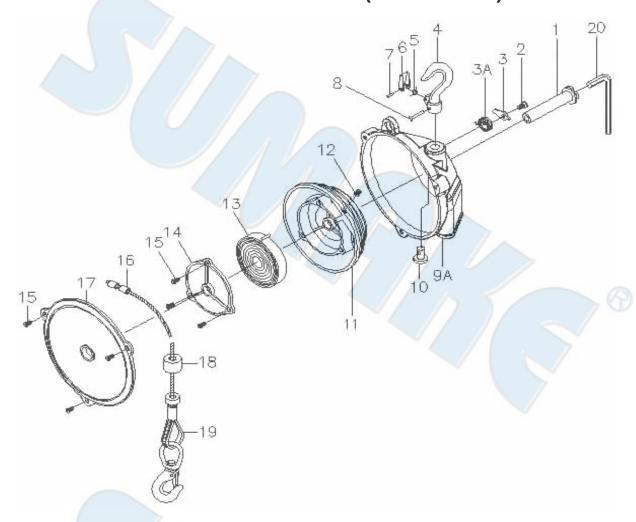
Date and Place

2013/2/22

Mike Su – Managing Director

Taipei, Taiwan

SA-22030 SA-22050 SA-22070 SPRING BALANCER (1.5-3KG) SPRING BALANCER (3-5KG) SPRING BALANCER (5.0-7.0KGS)



#### PARTS LIST

No.	Parts No.	Description	Q'ty
1	SA22030-01	Spindle	1
2	SA22030-02	Screw	1
3	SA22030-03	Ratchet	1
3A	SA22030-03A	Ratchet Spring	1
4~10	SA22030-09AS	Casing Set [Incl. 4, 5, 6, 7, 8, 9A, 10]	1
	SA22030-13S	Spring Plate Set [Incl. 11, 13] [SA-22030]	1
11&13	SA22050-13S	Spring Plate Set [Incl. 11, 13] [SA-22050]	1
	SA22070-13S	Spring Plate Set [Incl. 11, 13] [SA-22070]	1
12	SA22030-12	Screw	1
14	SA22030-14	Spring Cover	1
15	SA22030-15	Screw	6
16~19	SA22030-19S	Cable Set [Incl. 16(2), 18, 19]	1
17	SA22030-17	Cover	1
20	SA22030-20	Hex Spanner / rod	1

### **NOTE**



www.SUMAKE.com www.AIRCOMPRESSOR.com.tw