BATTERY-POWERED STRAPPING TOOL

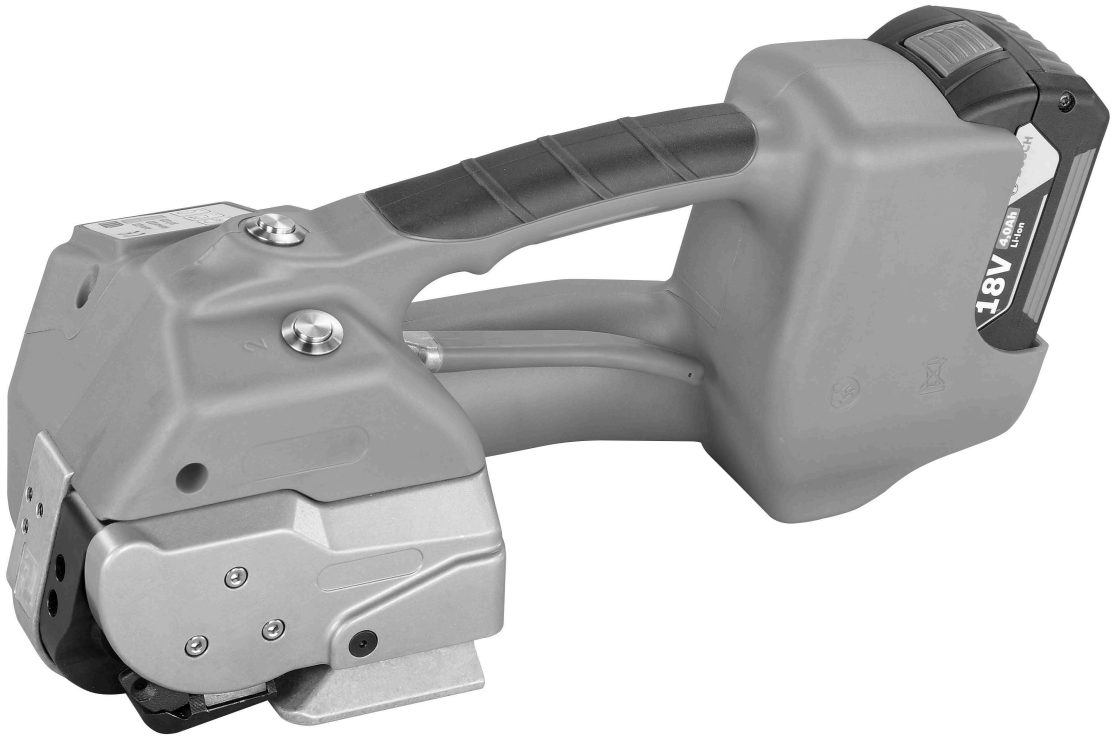
KRONOS

H-46

IMPORTANT
Keep it

OPERATION, SAFETY & SPARE PARTS MANUAL

H-46A
H-46B



Made in Taiwan

Read All Instructions Before Operating This Product

Original Instruction

02/2018

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PART I

1. General Safety Rules

⚠ Warning:

DO NOT attempt to operate the tool until you have read and understood all instructions and safety rules contained in this manual. Failure to comply may result in accidents involving fire, electric shock, or serious personal injury. Save this owner's manual for future reference and review it frequently for safe operation.

Work Area

a. **Keep work area clean and well lit.** Cluttered and dark areas invite accidents.

b. **Do not operate Power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.

c. **Keep bystanders, children and visitors away while operating a tool.** Distractions can cause you to lose control.

Electrical Safety

a. **Charger's plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

b. **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.

c. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

d. **Do not abuse the cord of charger. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.

e. **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

Personal Safety

a. **Stay alert, watch what you are doing and use common sense when operating a tool. Do not use a tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.

b. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

c. **Avoid accidental starting. Ensure the switch is in the off-position before insert Battery.** Carrying tools with your finger with the switch on invites accidents.

d. **Remove any adjusting key or wrench before operation the tool.** A wrench or a key left attached to a rotating part of the tool may result in personal injury.

e. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the tool in unexpected situations.

f. **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.

Power Tool Use and Care

a. **Do not use the tool if the switch does not turn it on and off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.

b. **Take off the battery pack from the tool before making any adjustments, changing accessories, or storing tools.** Such preventive safety measures reduce the risk of starting the tool accidentally.

c. **Store idle tools out of the reach of children and do not allow persons unfamiliar with the tool or these instructions to operate the tool.** Tools are dangerous in the hands of untrained users.

d. **Maintain tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the tool's operation. If damaged, have the tool repaired before use.** Many accidents are caused by poorly maintained tools.

e. **Use the tool, accessories and tool bits etc. In accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the tool for operations different from those intended could result in a hazardous situation.

Battery Use and Care

a. Ensure the switch is in the off position before inserting the battery pack. Inserting the battery pack into power tools that have the switch on invites accidents.

b. Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

c. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.

d. When the battery pack is not in use, keep it away from other metal objects like paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.

e. Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

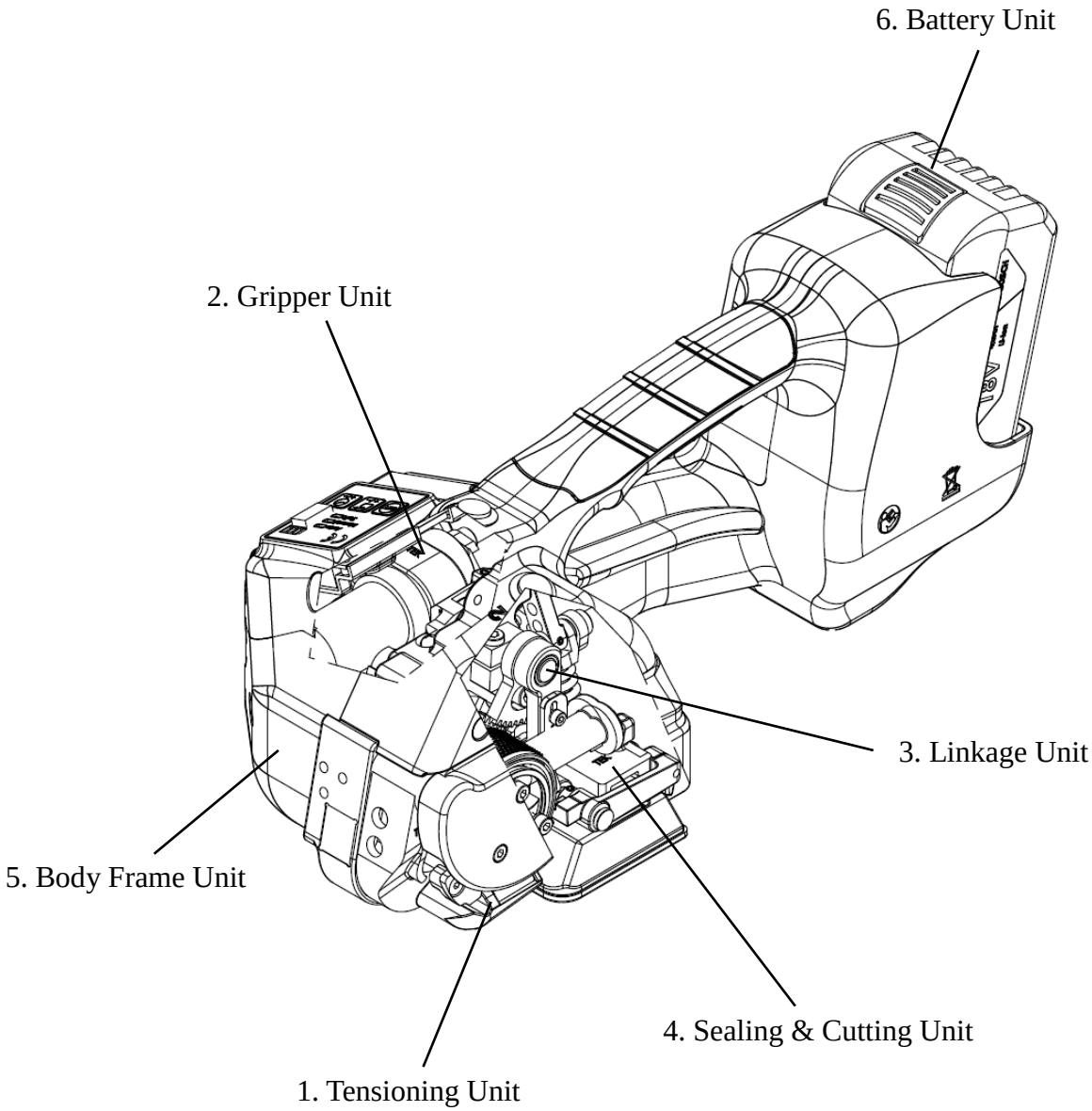
Service

a. Have your power tool serviced by a qualified trained person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

b. **Tool service must be performed only by qualified trained personnel.** Service or maintenance performed by unqualified personnel may result in a risk of injury.

c. When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual. Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of shock or injury.

2. Functional Unit



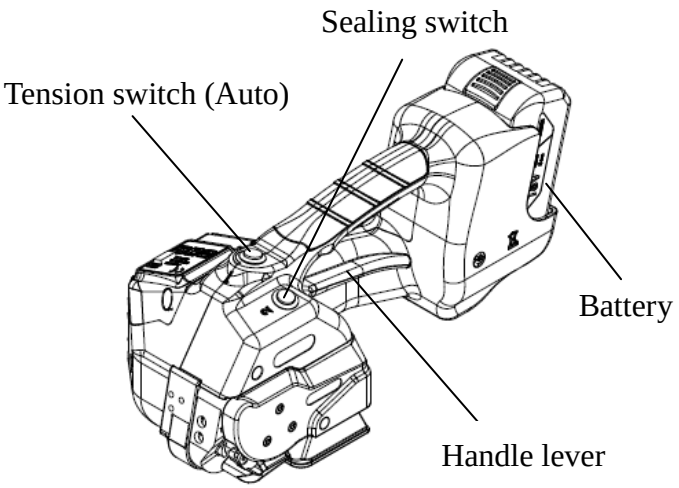
3. Technical Data

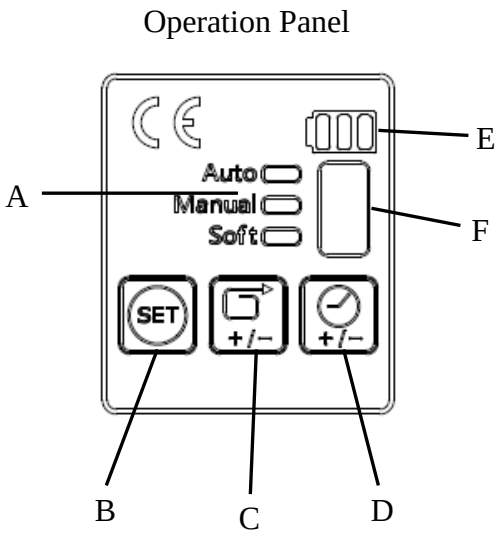
Model number	H-46A-12	H-46A-16	H-46B-16	H-46B-19
Battery Type [remarks]	BOSCH Li-Ion , 18Vdc 4.0Ah			
Charging Time	About 40 minutes (after 20 minutes, approx. 70% charge capacity)			
Strapping Speed	5 sec/cycle (Auto)			
Strap Width	11-13mm	15-16mm	15-16mm	19mm
Strap Type	PET, PP			
Strap Thickness	PP：0.6mm -1.05mm PET : 0.5mm -1.05mm		PP : 0.75mm - 1.3mm PET：0.6mm - 1.3mm	
Sealing Joint	friction weld			
Vibration	7.77m/s^2			
Noise emission	sound pressure level: 82dB(A) sound power level: 92dB(A)			
Tension (max)	250 kg (551 lbs)		400kg(881lbs)	
Dimensions (L)×(W)×(H)	358mm × 143mm × 167mm			
Weight	4.3 kg (9.5 lbs)		4.4 kg(9.7lbs)	
Working Temperature	The ambient temperature should be between -5℃ and 45℃ (23 ℉ and 113℉) The best performance is achieved between 15℃ and 20℃ (59℉ and 68℉)			

Remarks:

If the tool will be idle for a long time, be sure to take out the battery to avoid reducing the battery's life span.

4. Operating Elements





A ：Operation mode indicator

B ：Operation mode set button

C ：Tension force adjustment button

D ：Sealing time adjustment button

E ：Battery power indicator

F ：Digital display for Tension , Sealing time, error code….

5. Operation

5.1 Charging the Battery

When you receive battery, its capacity may not be sufficient. Please charge fully before using.

Insert battery into battery charger slot. The charging process and error functions are indicated by a green and a red light . For detailed information, refer to the operating instructions for the battery and battery charger.

Charging times:
Recharging of empty battery: approx. 20 to 45 minutes

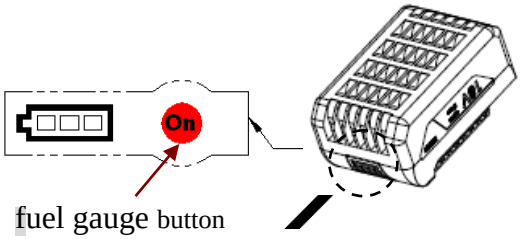
Battery is equipped with fuel gauge . Press button to check the status of capacity, as shown on Fig. a


70-100 % capacity


40-69% capacity


10-39% capacity


lower than 10%



(Fig-a)

Caution!

Remove battery from charger upon charging process is completed. Otherwise, it may shorten battery's service life due to over-charging.

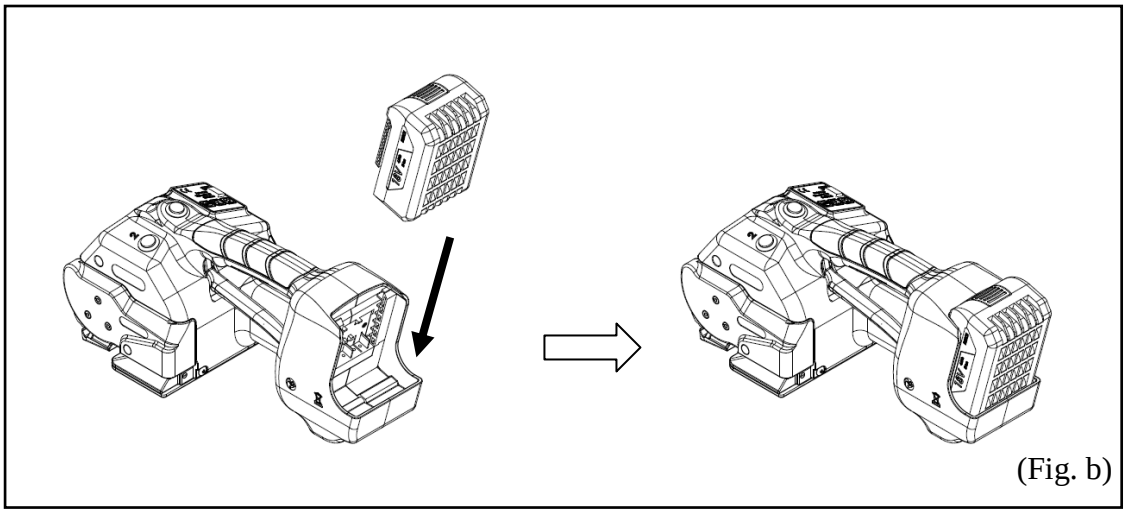
In order to achieve the best charging capacity, after tool exhausted battery power, please wait until the battery has cooled down before recharging.
Remove battery from tool when tool is not in use.

Storage Notice:

Battery does not require a full charge before storage，every 6 months under normal temperature and environment, check the fuel gauge if only one LED lights up, please charge about 10 min. until two LEDs light up.

5.2 Inserting the Battery

Insert the battery from the top downward to the bottom into the battery slot of the tool until hear the “click” sound. (refer to Fig. b).



(Fig. b)

Removing the Empty Battery

If the Battery power indicator on Operation Panel is flash, that means the battery is exhausted.

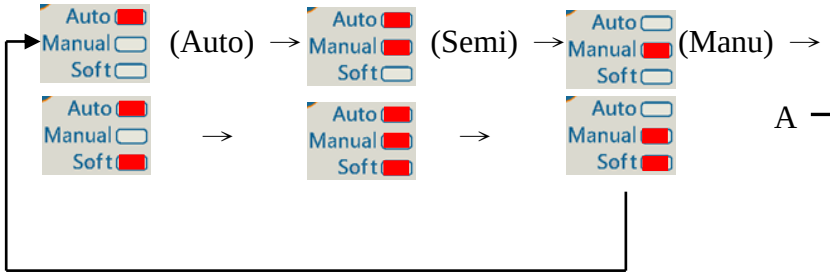
Please push the unlatching buttons (red color) on the top of the battery to take off the battery.

Warning!

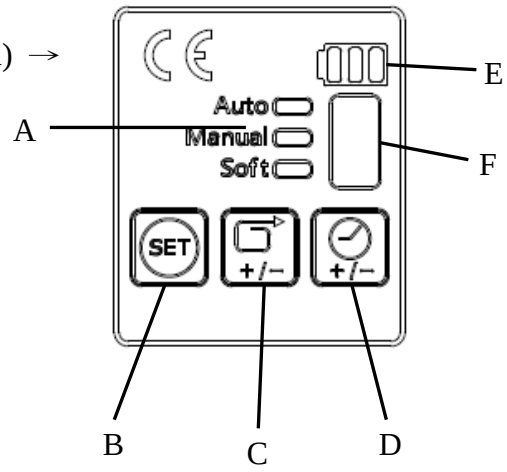
The last welding on the package might not have sufficient seal efficiency
and you would need to do it again after recharging the battery.

5.3 Adjustments

5.3.1 Adjusting the Operation mode



Operation Panel



Press and hold the button “B” for 1 sec, if the tool beeps and flashes the indicator, the tool is for adjusting the operation mode now. Press then release the button “B” to change the mode, and the mode sequence is as the cycle above. Or press and keep holding the button “B”, then the mode will be changed automatically with the sequence.

Caution!

If the soft indicator is light on, the current tension setting is in low force range, and it takes longer to complete tensioning as the tensioning wheel is slower. This mode is suitable for fragile product or while using PP straps.

5.3.2 Adjusting the strap Tension force

Press and hold the button “C” for 1 sec, if the tool beeps, the tool is for adjusting the tension force now. The digital display shows the current setting. Press then release the button “C” to change the tension force range, and the mode sequence is as the cycle below. Or press and keep holding the button “C”, then the tension force range will be changed automatically with the sequence.

Strap Tension Force Correspondence Table:

H-46A		1	2	3	4	5	6	7	8	9
normal	kg	90	110	130	150	170	190	210	230	250
	lbs	198	242	286	330	375	418	463	507	551
soft	kg	40	52	64	76	88	100	112	124	136
	lbs	88	114	141	167	194	220	247	273	300

H-46B		1	2	3	4	5	6	7	8	9
normal	kg	120	155	190	225	260	295	330	365	400
	lbs	264	342	419	496	573	650	727	805	882
soft	kg	40	55	70	85	100	115	130	145	160
	lbs	88	121	154	187	220	253	286	319	353

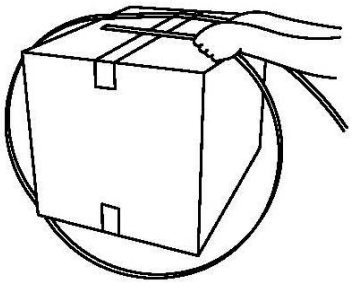
5.3.3 Adjusting the Sealing Time

Press and hold the button “D” for 1 sec, if the tool beeps, the tool is for adjusting the sealing time now. The “F” Digital display will show the current sealing time setting. Press then release the button “D” to change the sealing time range, and the mode sequence is as the cycle below. Or press and keep holding the button “D”, then the sealing time range will be changed automatically with the sequence.

1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9

5.4 Feeding the Strap Around the Package

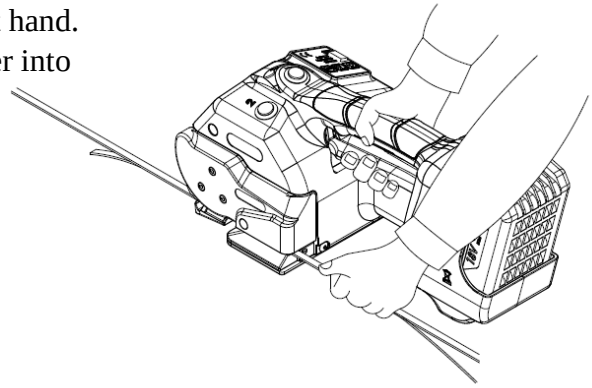
The strapping is fed around the package as illustrated.



Warning! The plastic strap which will be welded must be free from oil, grease and other dirt.
Dirty plastic straps can't be welded correct!

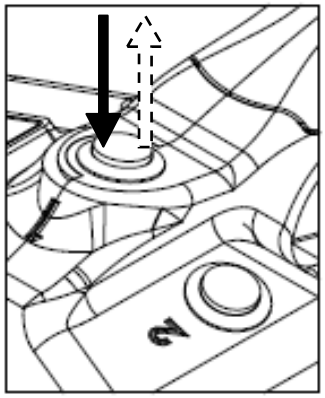
5.5 Inserting the Strap

Pull up the handle lever firmly with your right hand.
Insert the two straps well aligned on each other into the strap guide using your left hand.
Release the handle lever.



5.6 Tensioning and Sealing the Straps

5.6.1 Auto mode  or 



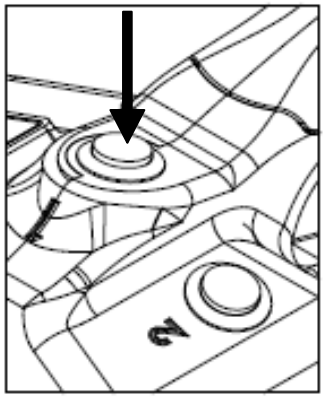
Press down the tension switch “1” ，hold on or leave the tension switch，the tool will tensioning till desired tension is reached. Then the tool will do sealing and cutting by itself. After the audible signal sound, cycle is finished.

Caution!

In some case want to stop tool work, just push down Tension or sealing switch.

Max tensioning time is 4 second. That is Press down the tension switch “1” ，after 4 seconds still nor reach desired tension, tool will stop tensioning.

5.6.2 Semi-Auto mode  or 

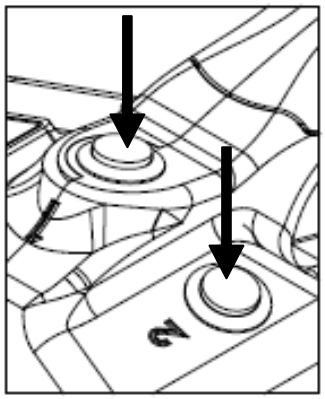


Press down the tension switch “1” until the desired tension is reached. The tool will do sealing and cutting by itself.

The tensioning process can be stopped at any time and continued again. since release tension switch “1” tensioning process will stop, press down again and again till the desired tension is reached, The tool will do sealing and cutting by itself.

After the audible signal sound, cycle is finished.

5.6.3 manual mode  or 



Press down the tension switch “1” till desired tension is reached, tool will have “be” sound . or release it, and press down again and again till the desired tension is reached.

Press down the sealing switch “2” for sealing and cutting straps.

After the audible signal sound, cycle is finished.

5.7 Removing the Tool

Pull up the handle lever, pull the tool right / backwards and off the strapping.

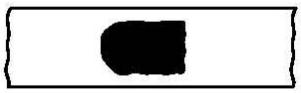
5.8 Seal - Control

A regular control of the seal is necessary. The seal can be examined visually.
Make a seal, peel it apart and examine it as follows：

Correct Seal

The seal must be completely welded over the whole width of the strap on a length.
Minor quantities of fused plastic may overflow on sides.

Welding Time Too Short



The plastic strap is not welded over the whole width of the strap.
The seal efficiency is insufficient.
Warning! Straps with insufficient seal strength must be removed from the package!
Adjust the welding time. (see Page A9　5.3.3 Adjusting the Sealing Time)

Welding Time Too Long

If the welding time is too long the straps are overheated.
The fused plastic overflows on both sides of the straps.
The seal efficiency is affected.
Warning! Straps with insufficient seal strength must be removed from the package!
Adjust the welding time.(see Page A9　5.3.3 Adjusting the Sealing Time

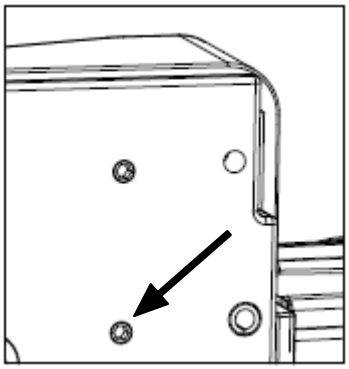
Caution!

During use of various width strap, it can happen that the welding is not uniform. If this happens you can set the welding area adjustment the screw (pic.**D1 -D2**)

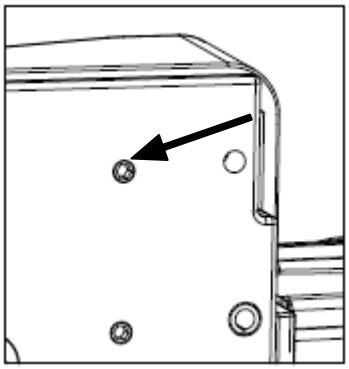
If welding is mostly on the external strap side (pic.**D3**) to unscrew slightly the external set screw and if it need screw slightly the internal set screw to have a uniform welding (pic.**D4**)

If welding is mostly on the internal strap side (pic.**D5**) to unscrew slightly the internal set screw and if it needs screw slightly the external set screw to have a uniform welding (pic.**D6**)

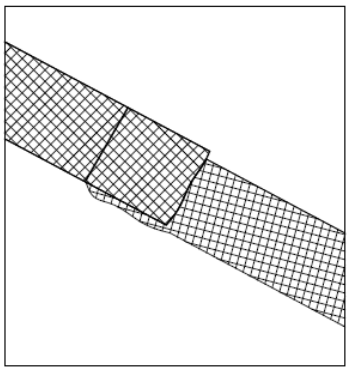
(D1)



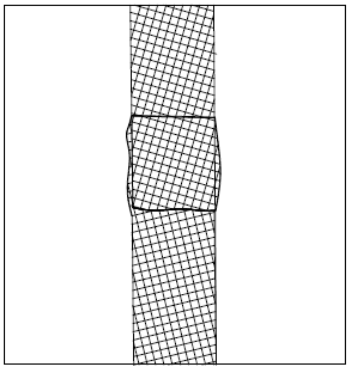
(D2)



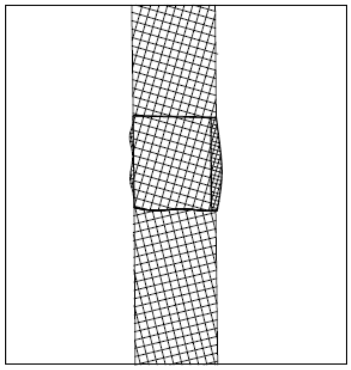
(D3)



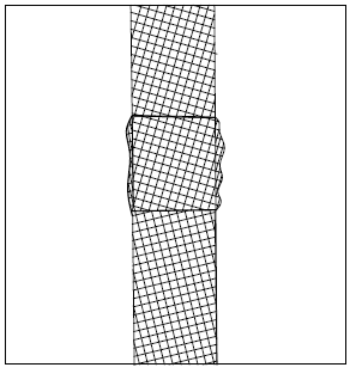
(D4)



(D5)



(D6)



5.9 others

5.9.1 Battery power on operation panel

 70-100%

 40-69%

 1-39%

 Empty

5.9.2 Cycle counter

Press and hold sealing switch and “SET” for 1 second, the digital display will show the strapping cycle. The counter number contains 6 digits which are displayed orderly from millions digit to one digit after showing the “-” symbol, and each digit displays 1 second with a 0.5-second blank interval. Then cycle counter number will display again after the “-” symbol, then the tool will go to standby mode.
For example, “- 0 0 0 1 3 8 –“ means the tool has performed strapping 138 times.

5.9.3 Panel function lock

Press and keep holding tension switch and sealing switch , then insert the battery, and the display will show letter “L” (Lock) for 1 second and all setting will be locked. In this situation, all the value indicates your set up before locking.

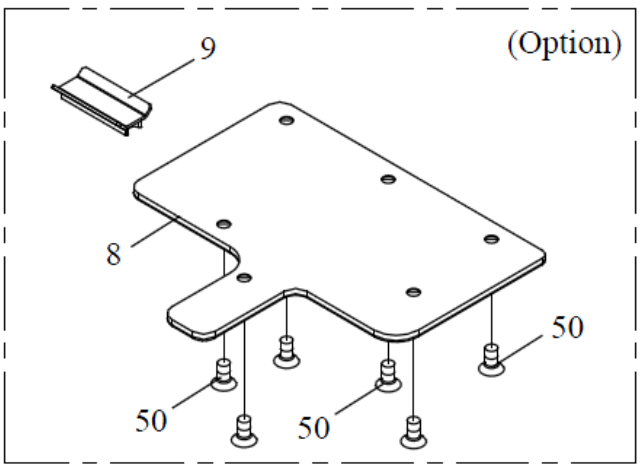
If the user wants to change the mode to operation mode, tension force setting mode or sealing time setting mode, the display will show letter “L” only. The cycle counter is still accessible in this situation.

The procedure to unlock panel function is the same as the procedure to lock panel function.

5.10 Options install

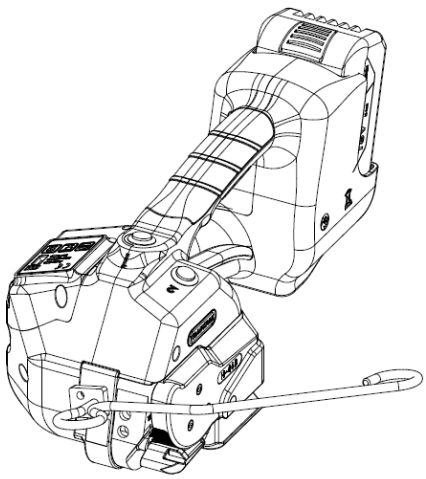
5.10.1 WEARING PLATE

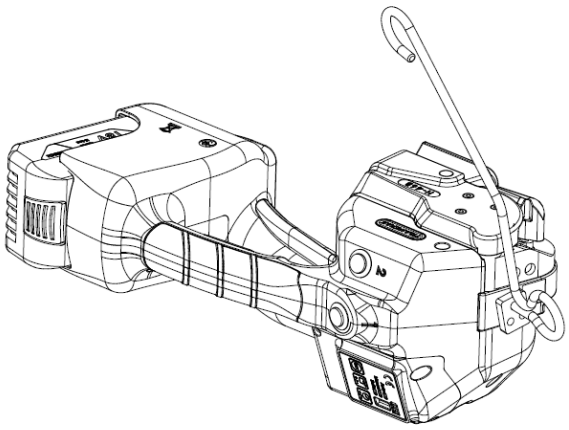
The tool can be equipped with a stainless steel plate to protect the base against excessive wear when using it on abrasive surfaces like bricks, concrete, stones, etc ...
The kit can be ordered with item H46-52100



5.10.2 SUSPENSION HOOK

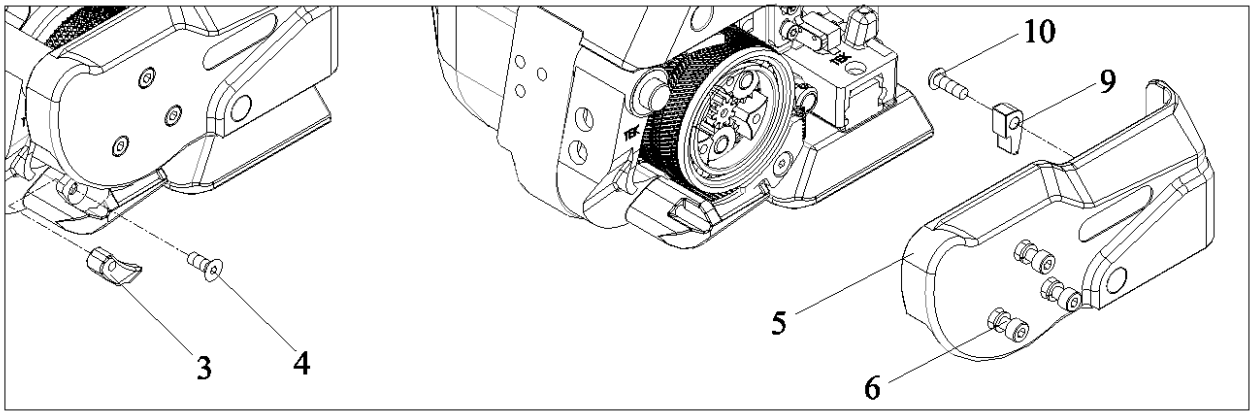
The tool could be equipped with a suspension hook(H46-50300). The hook must be fixed to the tool by two screws (included) in vertical or horizontal position





5.11 Change strap width

	Strap stop (Front) (#3)	Strap stop (Rear) (#9)
H-46A-12	H46-10610	H46-12510
H-46A-16/H-46B-16	H46-10600	H46-12500
H-46B-19	-	-



5.11.1 Remove battery from tool. Remove three screws #6.

5.11.2 Remove End Cover #5.

5.11.3 Remove screw #4 and strap stop(front) #3. Install the selected strap stop. Tighten the screw #4 after applying sealants such as Loctite222.

5.11.4 Remove screw #10 and strap stop(front) #9. Install the selected strap stop. Tighten the screw #10 after applying sealants such as Loctite222.

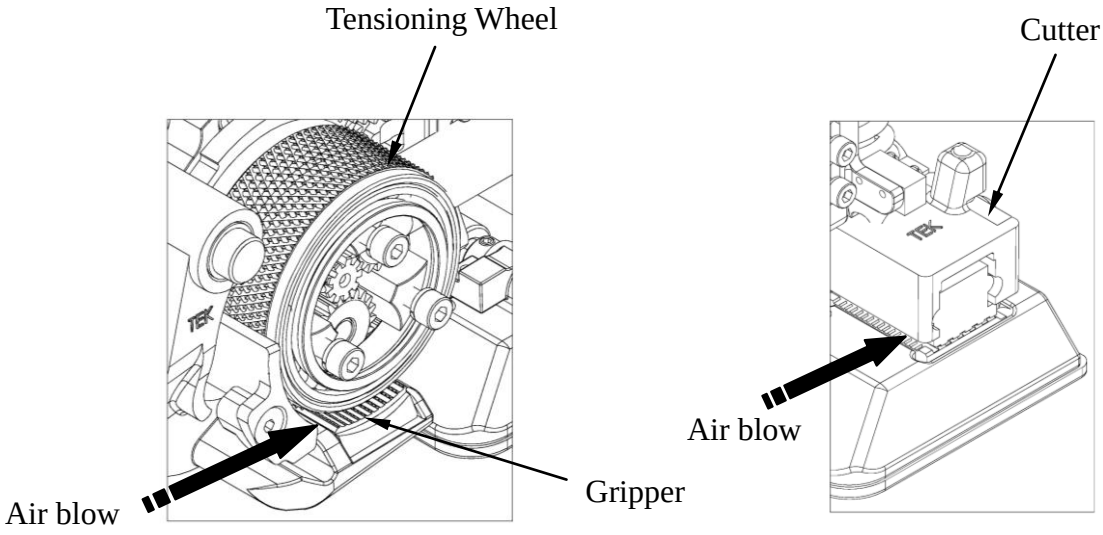
5.11.5 Fit end cover #5, Tighten the screw #6 after applying sealants such as Loctite222.

6. Maintenance

Please take off the battery before doing maintenance.

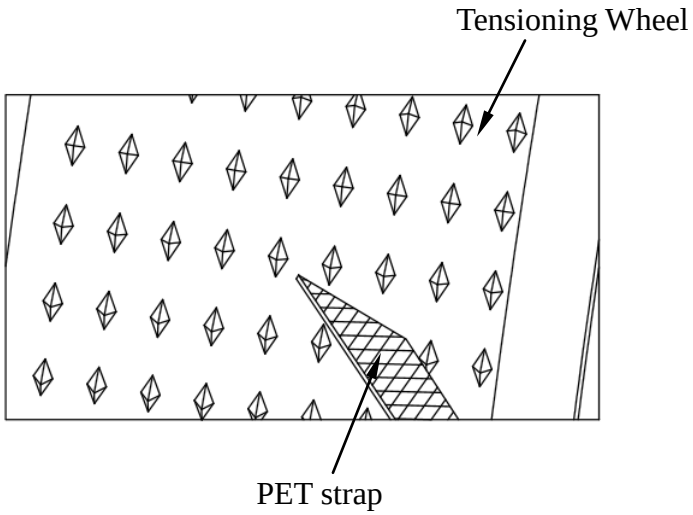
Daily：

Use air gun to clean the area around Tensioning Wheel (H46-10700/H46-10710) and Gripper (H46-10900) and the area around Cutter (H46-40900) daily. Be sure to use the air gun by blowing the debris from the left side to avoid any debris blowing to inside of the tool.



If air gun could not dislodge the debris between the teeth of Tensioning Wheel (H46-10700/H46-10710) , it is suggested to sharp the tip of PET (or other plastic) strap and use it as a tool to clean the strap debris.

Please do not use any metal material or hard material to clean the teeth to avoid any damage to the teeth.



DISPOSAL

The power tool, accessories and packaging materials should be sorted for environmental-friendly recycling.

Do not dispose of power tools into household waste!

According the European Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national right, power tools that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

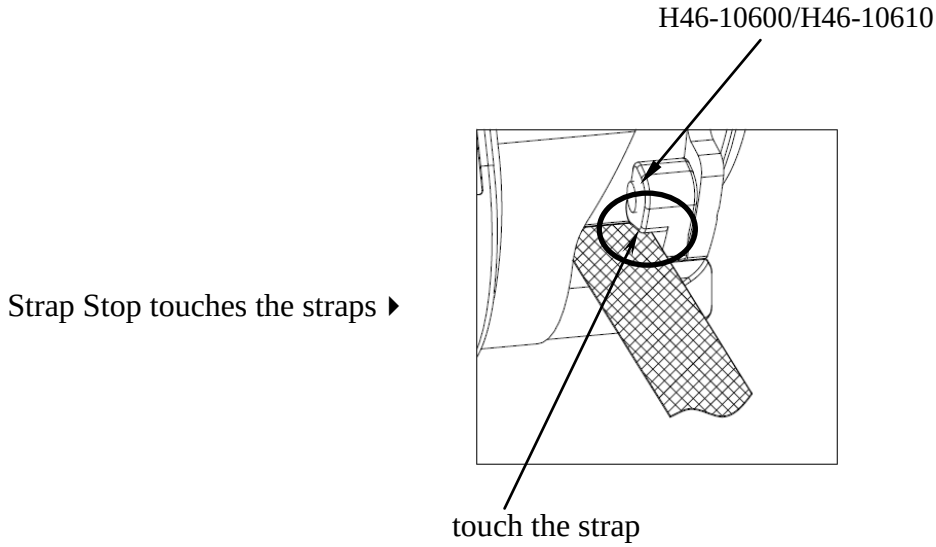
7. Troubleshooting

(1) The strap slips while tensioning

a. Tension force setting is higher than the Strap Strength. Please reduce the tension (refer to Page no.8 in Part I of Manual).

b. There is too much strap debris on the teeth of the Tensioning Wheel (H46-10700/H46-10710) or Gripper (H46-10900)

c. Strap Stop (H46-10600 /H46-10610) touches the straps. (shown as following drawing). Please clean the Tensioning Wheel (H46-10700/H46-10710) and feed the strap appropriately until the Strap Stop won't affect the strap while tension.



d. The Tensioning Wheel (H46-10700/H46-10710) or Gripper (H46-10900) teeth is worn and need replacement.

(2) The strap can not be cut completely

a. The sealing time might be set too short.
b. The strap is not thread correctly so a small part of the strap is not cut completely.
c. The Cutter (H46-40900) is worn.

(3) Error Code

E01：M1 over load.

E02：M2 cannot back to home position.
The SQ1 sensor could be damaged or the connection is loose.

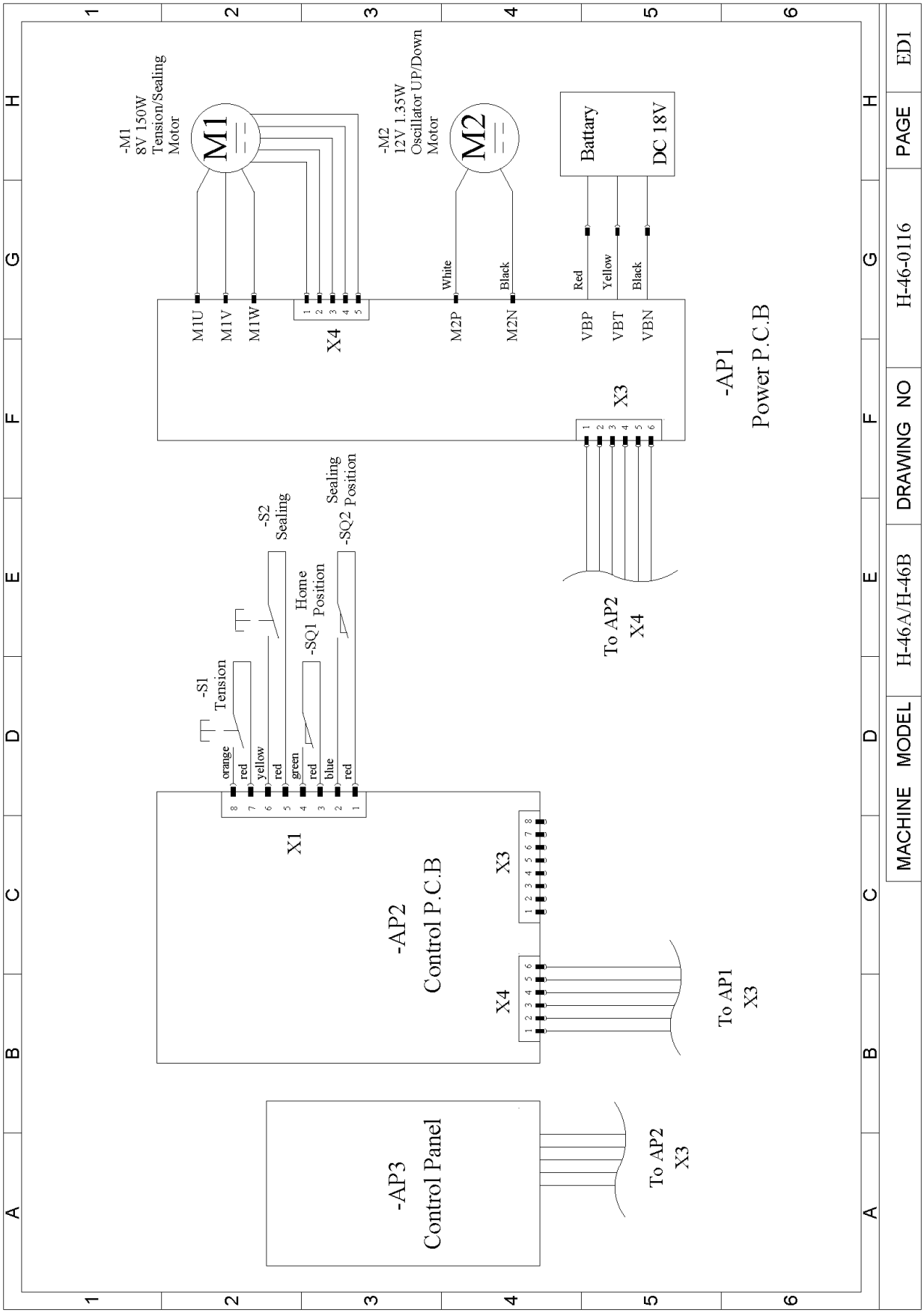
E04：M2 over load.
The strap could be too thick or the H46-40200 Swivel Bracket is not moving smoothly.

E05：PCB overheats.
The tool needs stop working until the PCB cool down to normal temperature.

E07：M1 cannot run.
The wire connection of M1 could be loose or the mechanism is stuck.

PART II

1 Wiring Diagram

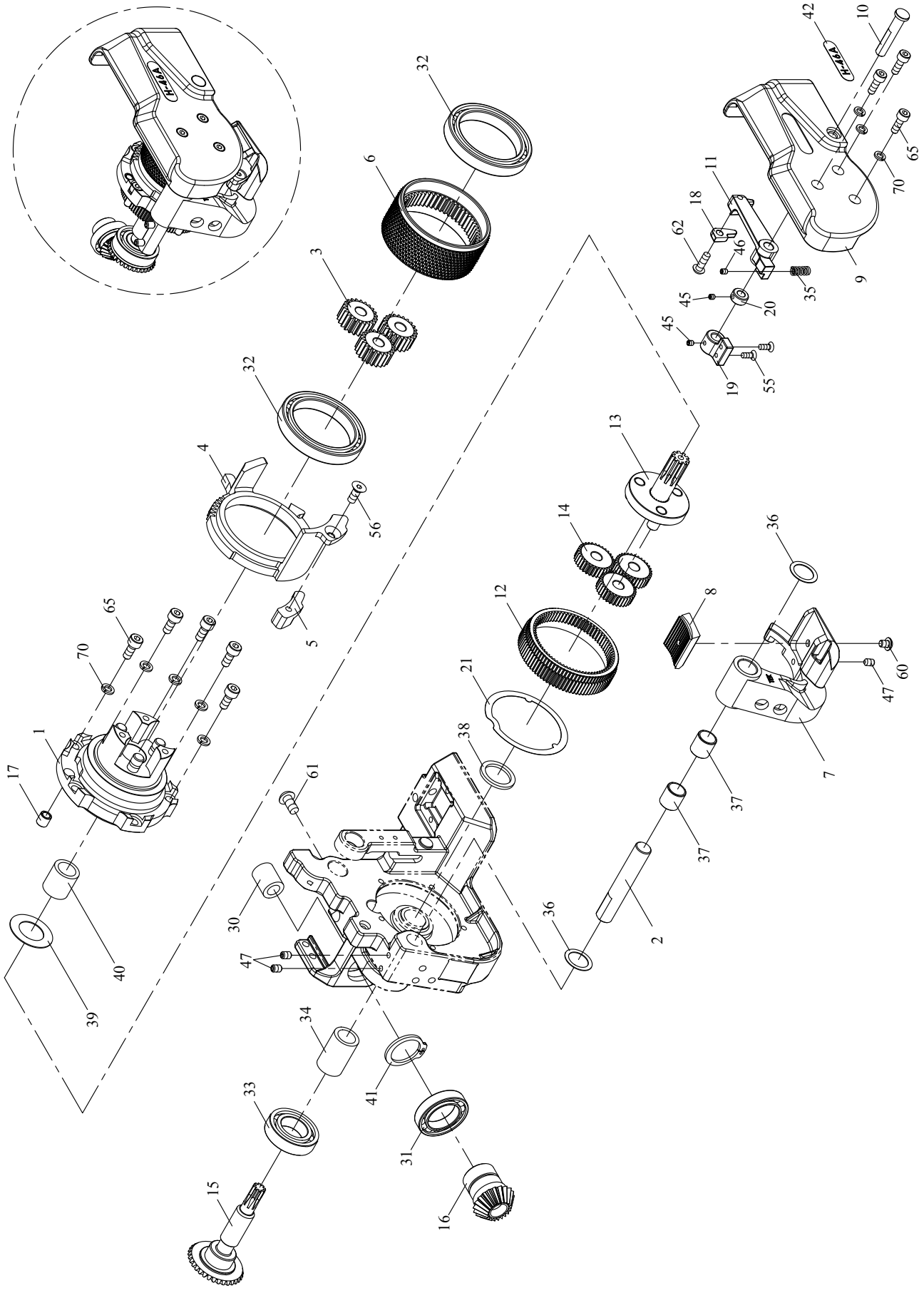


shape	classification		shape	classification
	HBS			ER
	TMS			RR
	PMS			SR
	FMS			SP
	HB			BR
	THS			MB
	HSS			KYA
	CAP			KYB
	HN			KYC
	WN			HBW
	FLG			PWA ϕ 8x ϕ 12~ ϕ 16x0.8~1.2t ϕ 6x ϕ 13~ ϕ 14x0.8~1.2t
	NTE			PWB ϕ 8x ϕ 14~ ϕ 16x1.2~1.5t ϕ 6x ϕ 15~ ϕ 16x1.2~1.5t
	PN			PWC ϕ 8x ϕ 20~ ϕ 23x2.0t ϕ 6x ϕ 16~ ϕ 19x2.0t
	PW			PWD
	SW			DS
	TW			TTP
	BWW			FTP

PART III

1 **TENSIONING UNIT** **H46-10000**

a. **(For H-46A)** **H46-10010**



1 TENSIONING UNIT H46-10000
a. (For H-46A) H46-10010

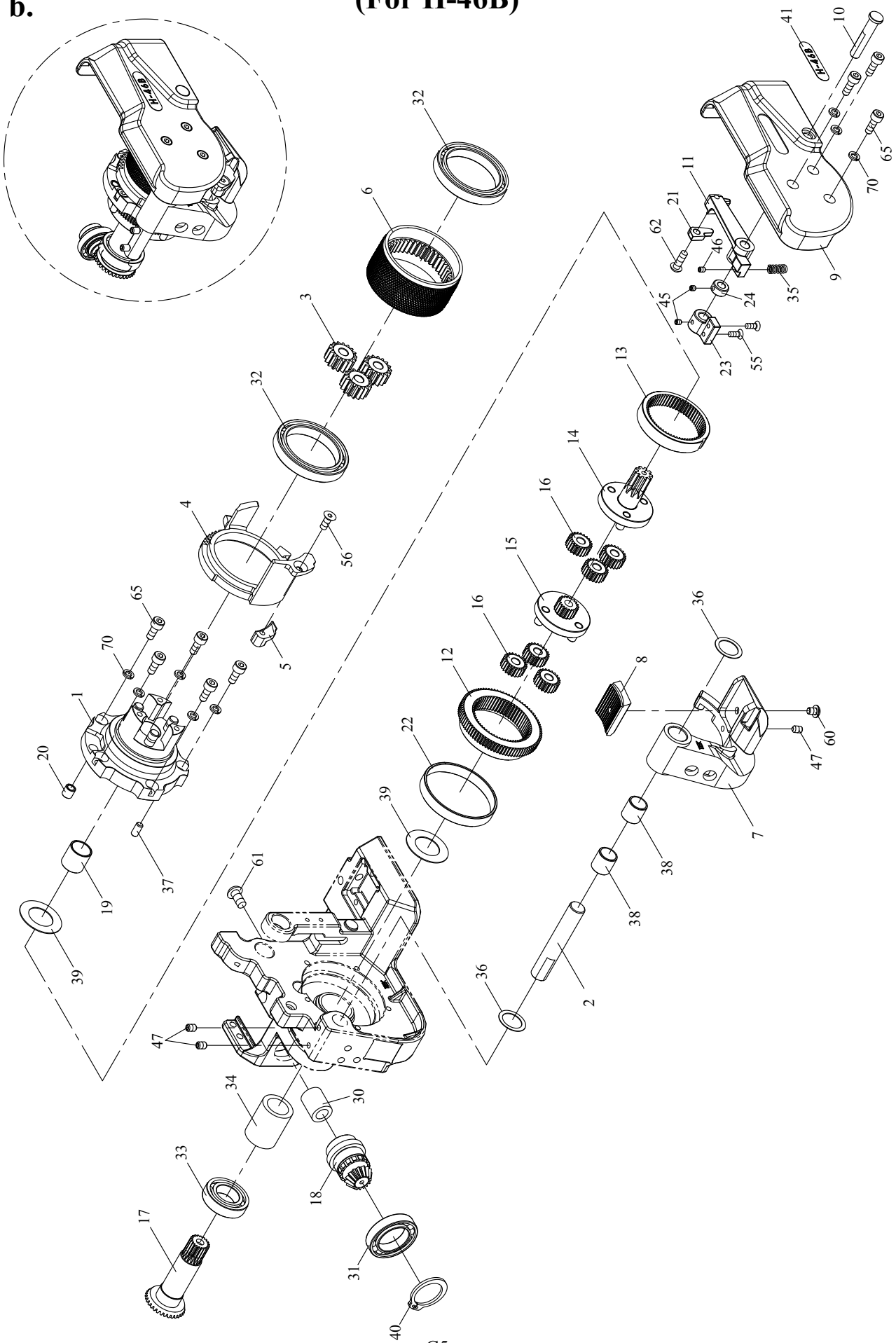
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	H46-10000	Tensioning Unit (For H-46A, 12mm)	1	
	H46-10010	Tensioning Unit (For H-46A, 16mm)	1	
1	H46-10200	Bracket A	1	
2	H46-10300	Swivel Shaft	1	
3	H46-10400	Front Gear A	3	
4	H46-10500	Cam Disk	1	
5	H46-10600	Strap Stop (For 16mm)	1	
	H46-10610	Strap Stop (For 12mm)	1	
6	H46-10700	Tensioning Wheel A	1	
7	H46-10800	Tensioning Body	1	
8	H46-10900	Gripper	1	
9	H46-11010	End Cover	1	
10	H46-11100	Shaft	1	
11	H46-11200	Strap Stop	1	
12	H46-11300	Spur Wheel A	1	
13	H46-11500	Tensioning Wheel Shaft A	1	
14	H46-11700	Rear Gear A	3	
15	H46-12000	Bevel Gear A	1	
16	H46-12100	Bevel Gear A	1	
17	H46-12400	Bushing	1	
18	H46-12500	Strap Stop (For 16mm)	1	
	H46-12510	Strap Stop (For 12mm)	1	
19	H46-13100	Collar	1	
20	H46-21410	Collar (φ6)	1	
21	H46-51900	Washer	1	
30	BRFC0612	Bearing, FC0612	1	
31	BR6802ZZ	Bearing, 6802ZZ	1	
32	BR6807Z	Bearing, 6807Z	2	
33	BR6902-2RS	Bearing, 6902 2RS	1	
34	HFL1022	Bearing, 10×14×22	1	
35	H42-1212	Spring	1	
36	H44-10070	Washer	2	
37	MB1010	Metal Bushing, 1010	2	
38	MCO-A-183200	Spacer	1	
39	MWA-A-140050	Washer	1	
40	TLA1015	Needle Bearing, 1015	1	
41	SR15	Snap Ring, S-15	1	
42	LA-60100	Label	1	

1 **TENSIONING UNIT** **H46-10000**
a. **(For H-46A)** **H46-10010**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
45	HSS0303N	HSS, M3×3 (N)	2	
46	HSS0305	HSS, M3×5	1	
47	HSS0406GN	HSS, M4×6 (G)(N)	3	
55	FHS0308N	FHS, M3×8 (N)	2	
56	FHS0410N	FHS, M4×10 (N)	1	
60	THS0405N	THS, M4×5 (N)	1	
61	THS0408N	THS, M4×8 (N)	1	
62	THS0412N	THS, M4×12 (N)	1	
65	HBS0412N	HBS, M4×12 (N)	8	
70	SW04	SW, M4	8	

1 **TENSIONING UNIT** **H46-10020**
H46-10030

b. **(For H-46B)**

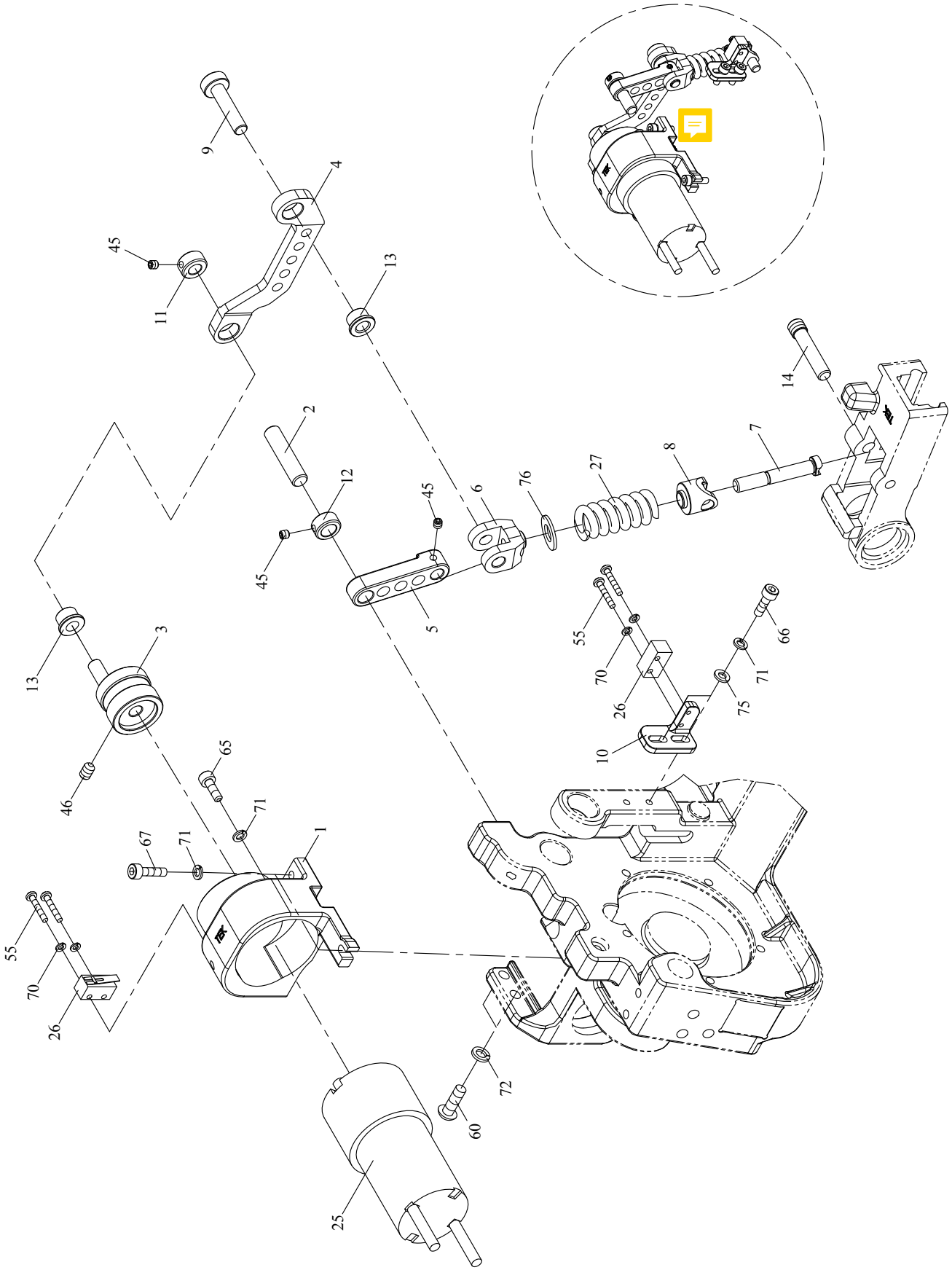


1 TENSIONING UNIT H46-10020
b. (For H-46B) H46-10030

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	H46-10020	Tensioning Unit (For H-46B, 16mm)	1	
	H46-10030	Tensioning Unit (For H-46B, 19mm)	1	
1	H46-10210	Bracket B	1	
2	H46-10300	Swivel Shaft	1	
3	H46-10410	Front Gear B	3	
4	H46-10500	Cam Disk	1	
5	H46-10600	Strap Stop (Only 16mm)	1	
6	H46-10710	Tensioning Wheel B	1	
7	H46-10800	Tensioning Body	1	
8	H46-10900	Gripper	1	
9	H46-11000	End Cover	1	
10	H46-11100	Shaft	1	
11	H46-11200	Strap Stop	1	
12	H46-11310	Spur Wheel B	1	
13	H46-11320	Tension Gear	1	
14	H46-11510	Tensioning Wheel Shaft B	1	
15	H46-11520	Tension Shaft	1	
16	H46-11710	Rear Gear B	6	
17	H46-12010	Bevel Gear B	1	
18	H46-12110	Bevel Gear B	1	
19	H46-12300	Bushing	1	
20	H46-12400	Bushing	1	
21	H46-12500	Strap Stop (Only 16mm)	1	
22	H46-12700	Bushing	1	
23	H46-13100	Collar	1	
24	H46-21410	Collar (φ6)	1	
30	BRFC0612	Bearing, FC0612	1	
31	BR6802ZZ	Bearing, 6802ZZ	1	
32	BR6807Z	Bearing, 6807Z	2	
33	BR6902-2RS	Bearing, 6902 2RS	1	
34	HFL1426	Bearing, 14×20×26	1	
35	H42-1212	Spring	1	
36	H44-10070	Washer	2	
37	H44-10710	Lock Pin, 4×8	1	
38	MB1010	Metal Bushing, 1010	2	
39	MWA-A-140050	Washer	2	
40	SR15	Snap Ring, S-15	1	
41	LA-60110	Label	1	

1 TENSIONING UNIT H46-10020
b. (For H-46B) H46-10030

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
45	HSS0303N	HSS, M3×3 (N)	2	
46	HSS0305	HSS, M3×5	1	
47	HSS0406GN	HSS, M4×6 (G)(N)	3	
55	FHS0308N	FHS, M3×8 (N)	2	
56	FHS0410N	FHS, M4×10 (N)(Only 16mm)	1	
60	THS0405N	THS, M4×5 (N)	1	
61	THS0408N	THS, M4×8 (N)	1	
62	THS0412N	THS, M4×12 (N)(Only 16mm)	1	
65	HBS0412N	HBS, M4×12 (N)	8	
70	SW04	SW, M4	8	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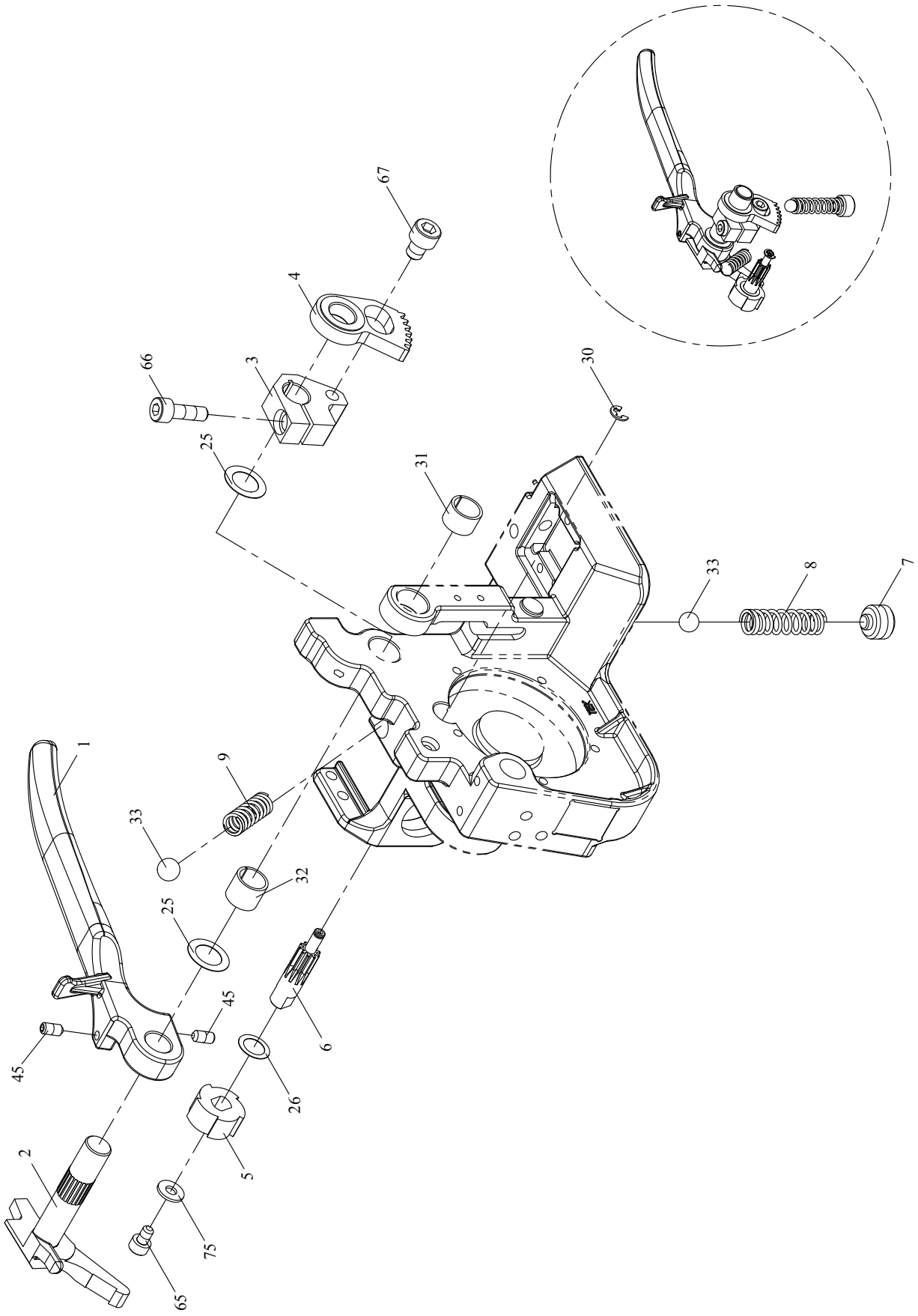
2 GRIPPER UNIT H46-20000

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	H46-20200	M2 Bracket	1	
2	H46-20300	Shaft	1	
3	H46-20400	Eccentric Shaft	1	
4	H46-20500	Lever	1	
5	H46-20600	Lever	1	
6	H46-20700	Upper Linkage	1	
7	H46-20800	Shaft	1	
8	H46-21000	Lower Linkage	1	
9	H46-21100	Shaft	1	
10	H46-21310	Bracket	1	
11	H46-21400	Collar (φ5)	1	
12	H46-21410	Collar (φ6)	1	
13	H46-21600	Bushing	2	
14	H46-40600	Pin	1	
25	H45-20080	M2 Motor	1	
26	H45-20090	Micro Switch	2	
27	MSP-F-3514001	Spring	1	
45	HSS0303N	HSS, M3×3 (N)	3	
46	HSS0406GN	HSS, M4×6 (G)(N)	1	
55	PMS0210N	PMS, M2×10 (N)	4	
60	THS0412N	THS, M4×12 (N)	2	
65	HBS0308N	HBS, M3×8 (N)	1	
66	HBS0310N	HBS, M3×10 (N)	2	
67	HBS0312N	HBS, M3×12 (N)	2	
70	SW02	SW, M2	4	
71	SW03	SW, M3	5	
72	SW04	SW, M4	2	
75	PW03	PW, M3	2	
76	PW06A	PW, M6 (A)	1	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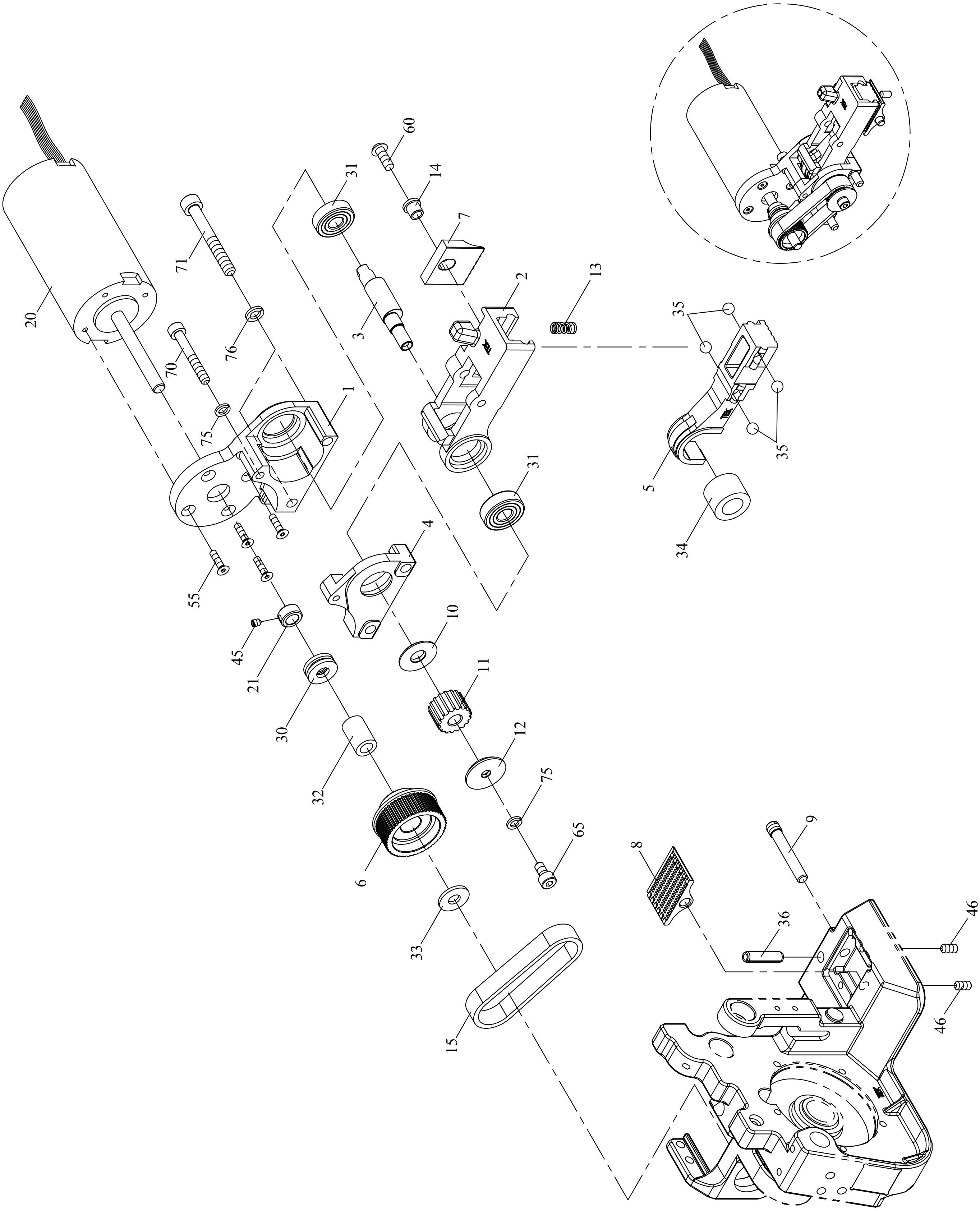
3 LINKAGE UNIT H46-30000

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	H46-30100	Handle Lever	1	
2	H46-30200	Handle Cam	1	
3	H46-30300	Block	1	
4	H46-30400	Toothed Lever	1	
5	H46-30600	Pawl Wheel	1	
6	H46-30700	Pawl Shaft	1	
7	H46-30800	Set Screw	1	
8	H46-30900	Spring	1	
9	H46-31000	Spring	1	
25	H44-10070	Washer	2	
26	H45-10250	Washer	1	
30	ER03	Snap Ring, E-3	1	
31	MB1008	Metal Bushing, 1008	1	
32	MB1010	Metal Bushing, 1010	1	
33	SB07	Ball, φ7	2	
45	HSS0408GN	HSS, M4×8 (G)(N)	2	
65	HBS0406N	HBS, M4×6 (N)	1	
66	HBS0516N	HBS, M5×16 (N)	1	
67	HBS0608N	HBS, M6×8 (N)	1	
75	PW04	PW, M4	1	

SEALING & CUTTING UNIT



4 SEALING & CUTTING UNIT H46-40000

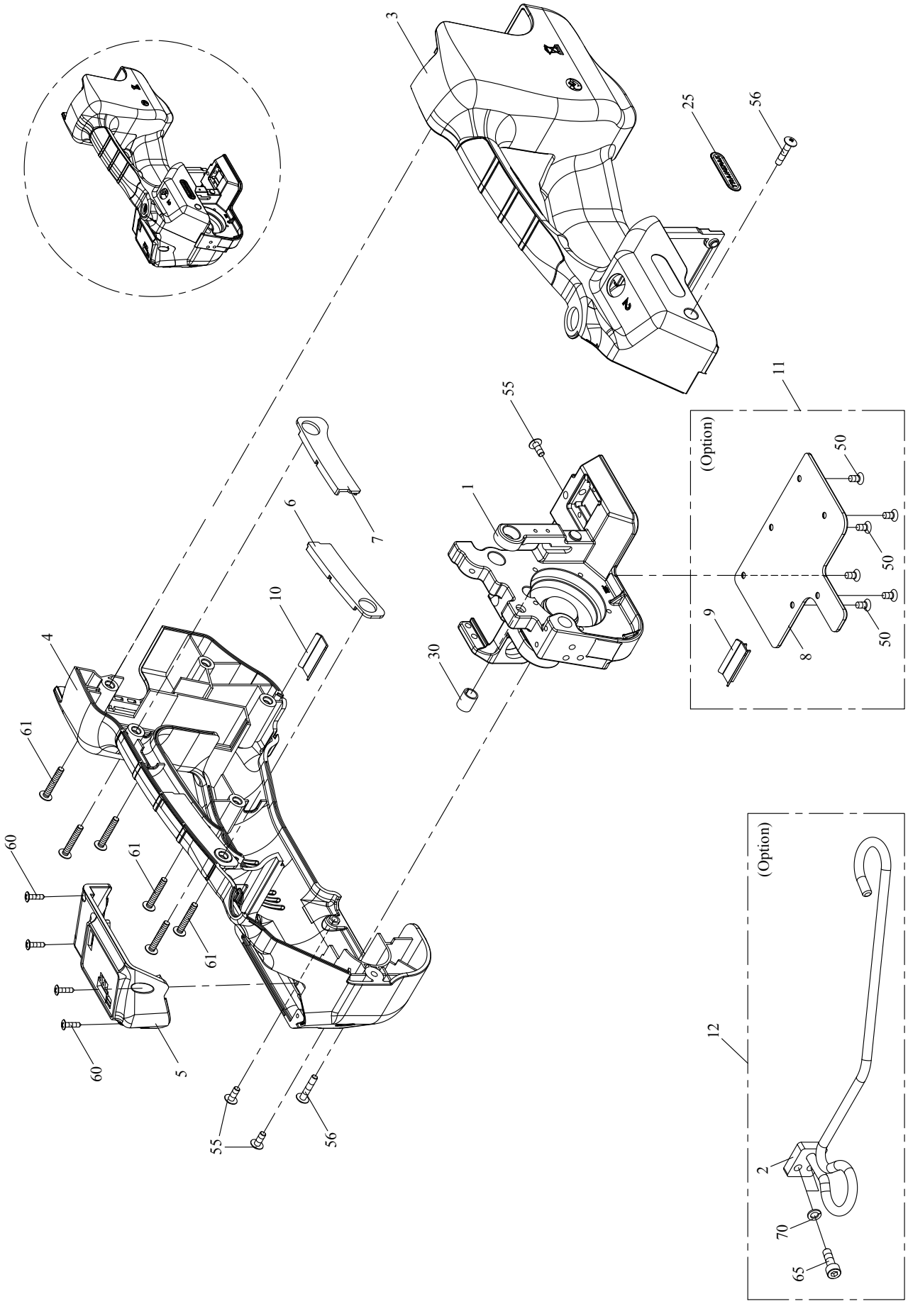
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	H46-40100	Motor Support	1	
2	H46-40200	Swivel Bracket	1	
3	H46-40300	Welding Eccentric	1	
4	H46-40400	Motor Support	1	
5	H46-40500	Welding Shoe	1	
6	H46-40800	Pully	1	
7	H46-40900	Cutter	1	
8	H46-41000	Welding Stop Gripper	1	
9	H46-41100	Bolt	1	
10	H46-41500	Washer	1	
11	H46-41600	Gear	1	
12	H46-41700	Washer	1	
13	H46-42000	Spring	1	
14	H46-42200	Cutter Bushing	1	
15	H46-42300	Belt	1	
20	H46-10120	M1 Motor A'ssy	1	
21	H46-21410	Collar (φ6)	1	
30	BRF6-14M	Thrust Bearing, F6-14M	1	
31	BR607ZZ	Bearing, 607ZZ	2	
32	HFL0615-I	Bearing, 6×10×15	1	
33	JTM-0615-015	Thrust Washer	1	
34	TA1012	Needle Bearing, 1012	1	
35	SB05	Ball, φ5	4	
36	SP0520	Spring Pin, 5×20	1	
45	HSS0303N	HSS, M3×3 (N)	1	
46	HSS0408GN	HSS, M4×8 (G)(N)	2	
55	FHS0310N	FHS, M3×10 (N)	4	
60	THS0410N	THS, M4×10 (N)	1	
65	HBS0410N	HBS, M4×10 (N)	1	

4 SEALING & CUTTING UNIT H46-40000

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
70	HBS0430HN	HBS, M4×30 (H)(N)	1	
71	HBS0545HN	HBS, M5×45 (H)(N)	2	
75	SW04	SW, M4	2	
76	SW05	SW, M5	2	

5 BODY FRAME UNIT

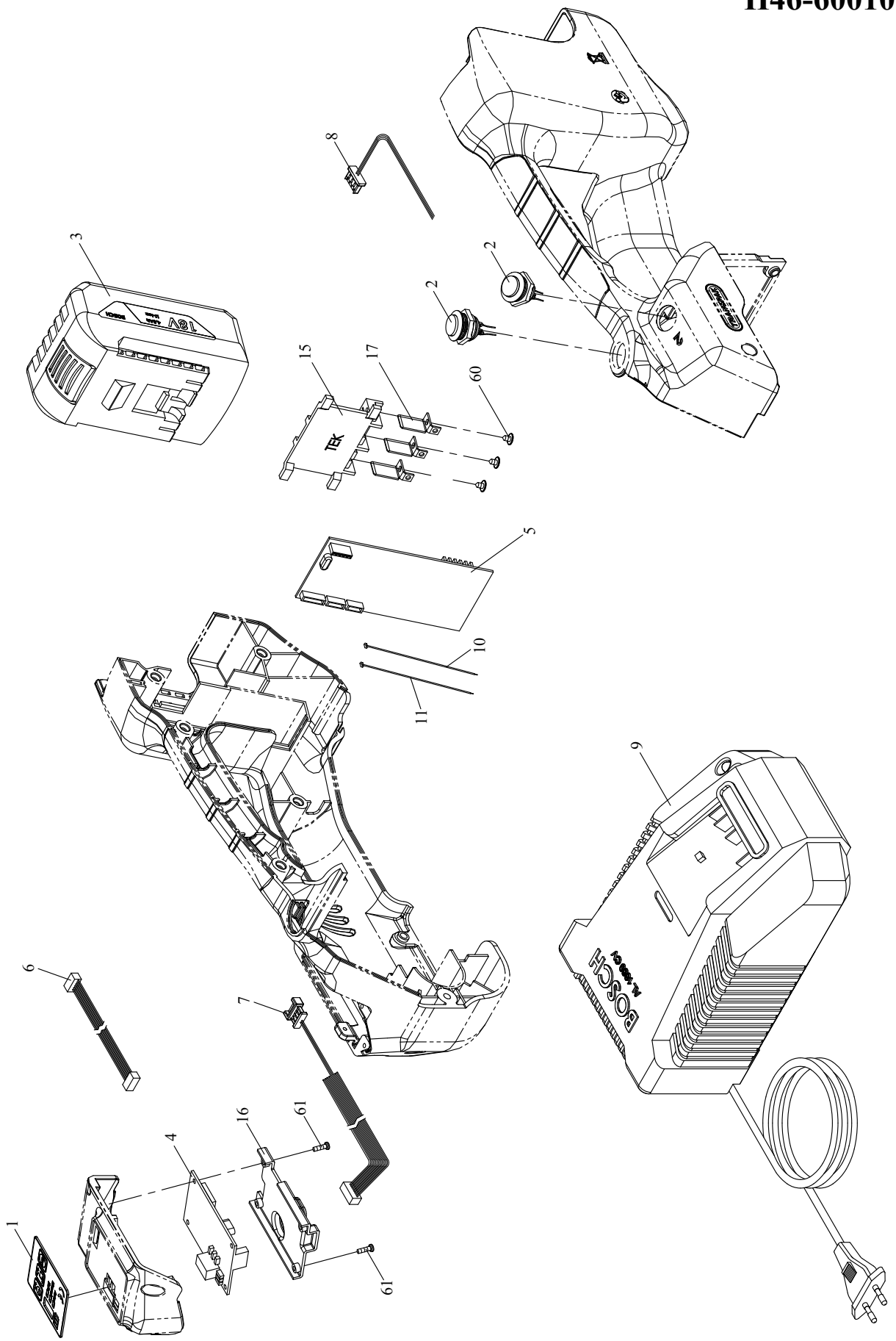
H46-50000
H46-50010



5 BODY FRAME UNIT H46-50000 H46-50010

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	H46-50000	Body Frame Unit (For H-46A)	1	
	H46-50010	Body Frame Unit (For H-46B)	1	
1	H46-50100	Body Frame (For H-46A)	1	
	H46-50110	Body Frame (For H-46B)	1	
2	H46-50300	Suspension Bracket (Option)	1	
3	H46-50800	Cover Front	1	
4	H46-50900	Cover Rear	1	
5	H46-51000	M1 Cover Upper	1	
6	H46-51200	Cover	1	
7	H46-51210	Cover	1	
8	H46-51500	Bottom Base Wearing Protection Plate (Option)	1	
9	H46-51800	Bottom Base Protection Plate (Option)	1	
10	H46-52000	Bottom Base Protection Plate	1	
11	H46-52100	Bottom Base Wearing Protection Plate Set (Option)	1	
12	H46-52200	Suspension Bracket Set (Option)	1	
25	LA-60120	Label	1	
30	MB0810	Metal Bushing, 0810 (For H-46A)	1	
	MB0812	Metal Bushing, 0812 (For H-46B)	1	
50	FHS0410N	FHS, M4×10 (N)(Option)	6	
55	TMS0410N	TMS, M4×10 (N)	3	
56	TMS0420N	TMS, M4×20 (N)	2	
60	TTP0312BN	TTP, M3×12 (B)(N)	4	
61	TTP0425BN	TTP, M4×25 (B)(N)	6	
65	HBS0516N	HBS, M5×16 (N)(Option)	2	
70	SW05	SW, M5 (Option)	2	

6 **BATTERY UNIT** **H46-60000**
H46-60010



6 BATTERY UNIT H46-60000 H46-60010

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	H46-60000	Battery Unit (For H-46A, 220V/230V/240V)	1	
	H46-60010	Battery Unit (For H-46A, 110V)	1	
	H46-60020	Battery Unit (For H-46B, 220V/230V/240V)	1	
	H46-60030	Battery Unit (For H-46B, 110V)	1	
1	H46-60100	Control Panel	1	
2	H46-60200	Push Button Switch	2	
3	H46-60300	Battery	1	
4	H46-60400	Control P.C.B (For H-46A)	1	
	H46-60410	Control P.C.B (For H-46B)	1	
5	H46-60500	Power P.C.B	1	
6	H46-60600	Wire Ass'y	1	
7	H46-60800	Position Wire	1	
8	H46-60900	Switch Wire	1	
9	H45-60280	Li-Ion Battery Charger (For 110V)	1	
	H46-61010	Li-Ion Battery Charger (For 220V/230V/240V)	1	
10	H46-61100	Wire For M2 (Black)	1	
11	H46-61110	Wire For M2 (White)	1	
15	H46-51100	Adapter Frame	1	
16	H46-51300	Cover	1	
17	H46-51400	Adapter Pole	3	
60	TTP0306	TTP, M3×6	3	
61	TTP2.510N	TTP, M2.5×10 (N)	2	