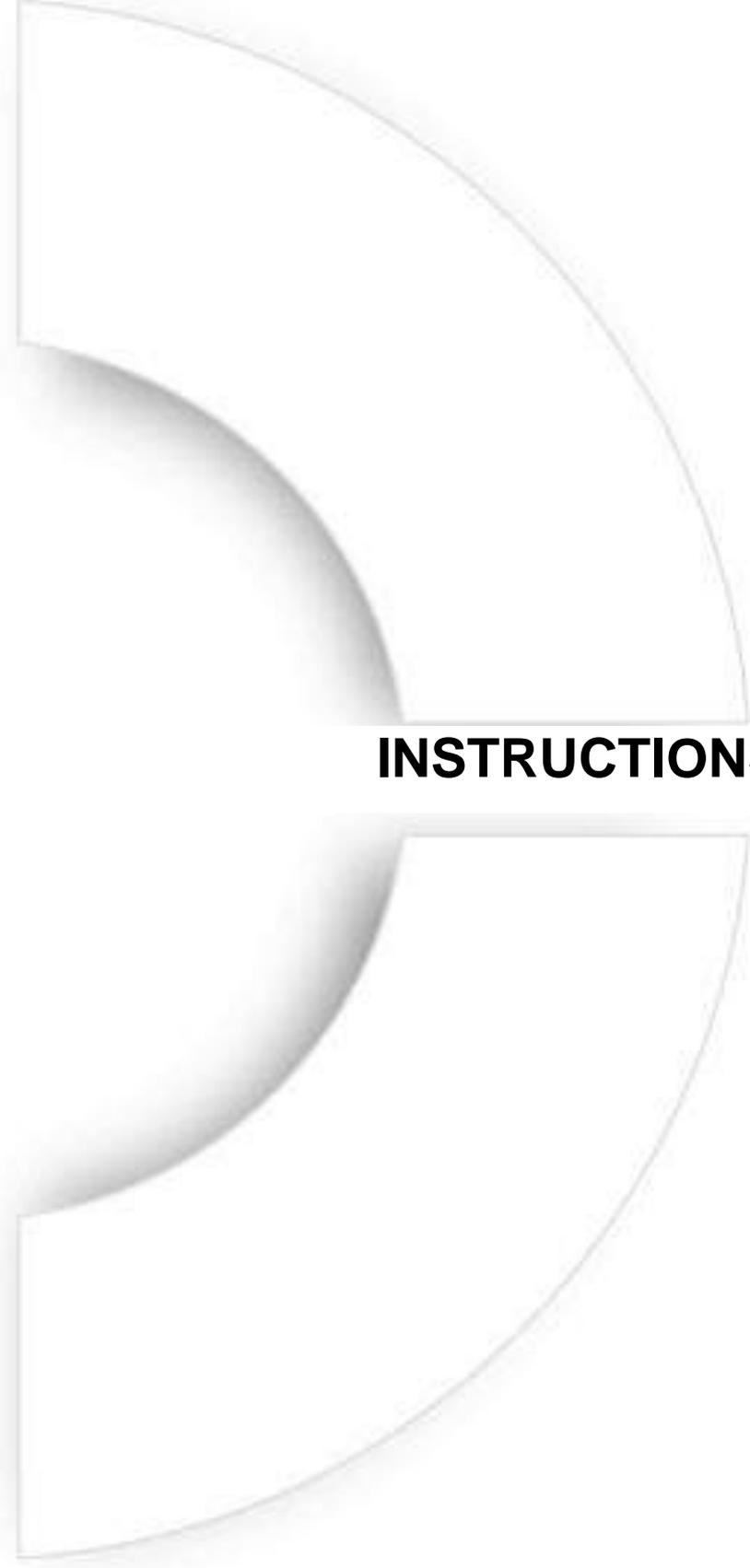




*GX-H Screwdrivers  
GXA-H Screwdrivers  
(40 Volts)*

A large, light gray, stylized letter 'S' is positioned on the left side of the page, partially overlapping the 'INSTRUCTIONS MANUAL' text. The 'S' has a subtle gradient and a slight shadow, giving it a three-dimensional appearance.

**INSTRUCTIONS MANUAL**

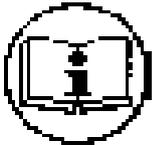
# IMPORTANT

The tool delivered with this manual may have been modified for specific needs.

In that case, please give us the tool code number written on our shipping note or the approximate tool delivery date when you place an order for a new similar tool or for spare parts.

In that way, you will be sure to get the required tool and/or spare part.

# WARNING



This information has to be kept in a location known by all users.



Each operator has to read carefully this manual before installing, using, and mending the product.

Be sure that the operator has understood using recommendations and the meaning of signs put on the product.

Most accidents could be avoided respecting this Manual Instructions. As a matter of fact, they were created according to European laws and norms regarding products.

In each case, please respect and follow safety national norms. Do not take off nor damage the stickers or advise put on the product and above all the details imposed by the law.

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## 1. GENERAL SAFETY RULES

**WARNING! Read and understand all instructions.** Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury

### SAVE THESE INSTRUCTIONS

#### 1.1 Work Area

- **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
- **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.
- **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

#### 1.2 Electrical Safety

- **Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
- **Avoid body contact with grounded surface ad pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
- **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock
- **Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
- **When operating a power tool outside, use an outdoor extension cord marked W-A or W.** These cords are rated for outdoor use and reduce the risk of electric shock.

#### 1.3 Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools may result in personal injury.
- **Remove adjusting keys or switches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
- **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

#### 1.4 Tool use and Care

- **Use clamps or other practical way to secure and support the workplace to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
- **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
- **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety

- **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
- **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
- **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

### **1.5 SERVICE**

- **Tool service must be performed only by qualified personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury
- **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 electric shock or injury.

## **2. SPECIFIC SAFETY RULES**

### **2.1 Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.**

Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

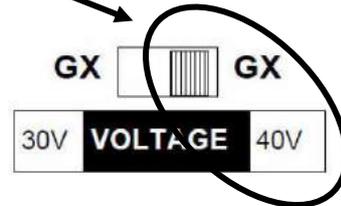
### **2.2 Never lubricate aerosol oil on to the electrical part.**

### 3. Electric specification

Items	Power controller	Screwdriver
Model	XS-40D (same as GX-G)	GX150-H, GX220-H, GX450-H, GX150P-H, GX220P-H, GX450P-H
Input	110 / 230VAC (selectable)	DC40V
Output	30/40VDC (selectable)	
Rated power	2.5A 95W	
Maximum output current	8 A	
Intermittent operation	10s On / 30s Off	
Safety system	CE certified ( Class I )	Class III
		 Detailed specification article 6 on page 4

### 4. Mechanical specification of XS-40D

Size: 98 x 158 x 55H (mm)  
 Weight: 850gr  
 Power cord: 1.5 m  
 Fuse: 10 A 250V

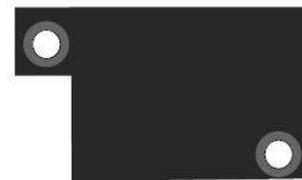


### 5. Input Power select

By replacing the position of cover as below, the input power can be selected for 110V or 230V.



for 110VAC



for 230VAC

## 6. Screwdriver Specification



### ■ Specification

Modèle	Démarrage	Torque (Kgf.cm)	Rotation Speed (Rpm)	Options			
				Clutch**		Software*	
				Standard	Soft Stop	Standard	T
GX 150/ESD-H	LEVER	3~15	800~1700	○		○	
GX 220/ESD-H		6~22	600~1200	○		○	
GX 450/ESD-H		10~45	300~600	○		○	
GX 150P/ESD-H	PUSH	3~15	800~1700	○		○	
GX 220P/ESD-H		6~22	600~1200	○		○	
GX 450P/ESD-H		10~45	300~600	○		○	
GXS 150/ESD-H	LEVER	3~15	800~1700		○	○	
GXS 220/ESD-H		6~22	600~1200		○	○	
GXS 450/ESD-H		10~45	300~600		○	○	
GXT 150/ESD-H	LEVER	3~15	800~1700	○			○
GXT 220/ESD-H		6~22	600~1200	○			○
GXT 450/ESD-H		10~45	300~600	○			○
GXA 150-H	REMOTE	3~15	800~1700	○		○	
GXA 220-H		6~22	600~1200	○		○	
GXA 450-H		10~45	300~600	○		○	

GX-H main specifications are identical to GX-G.

Total length is different from previous version.(refer chapter 12 for dimensions)

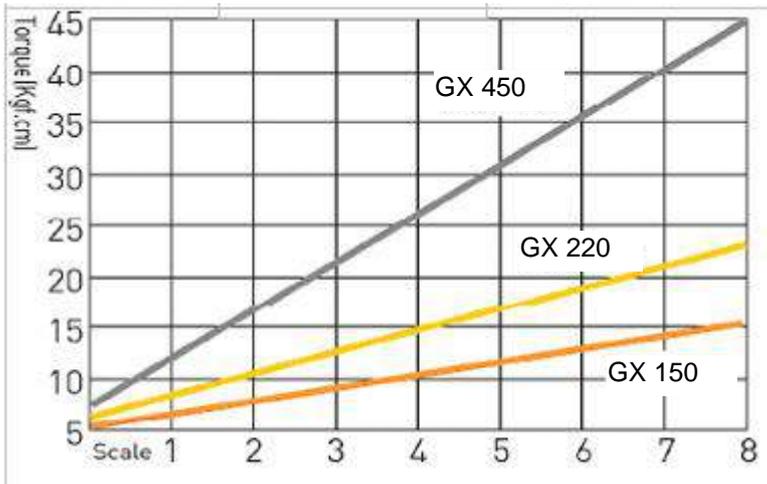
### \* Software :

- Standard = Speed Control + Soft Start (soft start not available on GXA models)
- T = Speed & Angle Control + Auto Reverse

### \*\* Clutch :

Clutch type	Models
Clutch mechanism is symmetric (torque is equal in forward and reverse modes)	GX_450-H GXT_450-H GXA_450-H
Clutch mechanism is asymmetric (higher torque on reverse ~+20%)	GX_150-H / GX_220-H GXT_150-H / GXT_220-H GXA_150-H / GXA_220-H
Clutch mechanism is asymmetric (motor full power on reverse)	GXS 150-H / GXS 220-H/GXS 450-H

### 7. Torque curve (No load - Max. speed)

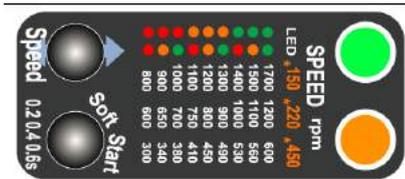


Scale on screwdriver

### 8. Panel of each model

#### GX-H / GXS-H /GXA-H

Standard (Speed control & Soft Start)



#### GXT-H

Speed & Angle control & Auto reverse



Model	LED	Description	Color
GX-H	Left	Motor run	● Green continuous
GX-H	Left	Torque up	● Orange continuous
GXT-H	Right	Motor run	● Green continuous
GXT-H	Left	Torque up	● Green continuous

### 9. Alarm display by LED

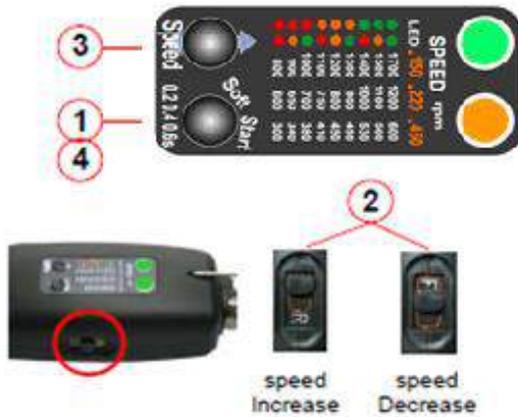
no	Alarm	Description	Reset
1	Over Voltage (over 44V)	●● ↔ ●● <b>Green &amp; Red</b> lights blinks	Auto reset under 44V
2	Overload (4A/0.5s)	●● Two <b>Red</b> lights blinks.	Auto reset after 5s
3	Overheat(over 80°C_motor)	●● Two <b>Orange</b> light blinks	Auto reset lower than 80°C
4	Driver Lock by ext. signal	●● Two <b>Green</b> lights blinks	Auto reset by signal off

## 10. Operation

Functions remain same as GX-G version

### 10.1 Speed & Soft Start setting (GX-H) (GXS-H) (GXA-H)

#### Speed Selection:



1) Press the Speed button for 2 seconds to visit to PROGRAM mode. Then the two LED lights will display colours depending on the set speed.

2) Select "Reverse" on F/R switch for increasing speed or select "Forward" on F/R switch for increasing speed.

3) Press the Speed button and select the target speed.

The set speed can be recognized by the colors of two LED as below.

4) Press the Speed button for 2 seconds to go back to operating (work) mode.

#### ■ Speed display by two LED color (Standard model)

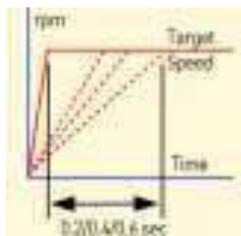
Model	LED	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●
	Button	1th	2nd	3rd	4th	5th	6th	7th	8th	9th
GX150-H	RPM	800	900	1000	1100	1200	1300	1400	1500	1700
GX220-H	RPM	600	650	700	750	800	900	1000	1100	1200
GX450-H	RPM	300	340	380	410	450	490	530	560	600
GXA150-H	RPM	800	900	1000	1100	1200	1300	1400	1500	1700
GXA220-H	RPM	600	650	700	750	800	900	1000	1100	1200
GXA450-H	RPM	300	340	380	410	450	490	530	560	600

#### Soft Start Setting:

1) Press the Soft Start button for 2 seconds to enter setting mode.

2) Press and hold the Soft Start button to increase the Soft Start duration. As shown below, 3 steps are available. Selected color will remain lighten.

- Green: 0.2 second
- Red: 0.4 second
- Orange: 0.6 second



**10.2 Speed/Angle control & Auto reverse (GXT-H)**

Model: GXT150-H, GXT220-H, GXT450-H

One triggering by the lever can make 3 steps operation sequence in a cycle

**■ Start, Stop and Direction in a cycle**

Step	1	→	2	→	3
Sequence	first RUN		stop HOLD		reverse RUN
Rotating direction	Clockwise or Counterclockwise by F/R switch				Reverse
Activating	Screwdriver run to the target angle and stops. It always stops at the set torque, even it does not reach the target angle.		delay for set time		Screwdriver run reverse to the target angle and stops. It always stops at the set torque, even it does not reach the target angle.
Angle run & Time delay	29 steps 1/4 to 30 turns		14 steps 0.2 to 3 sec		29 steps 1/4 to 30 turns

- Screwdriver stops Immediately when the lever is released in any sequence.
- Sliding F/R switch works for increasing or decreasing of setting

**■ Operating (Work) mode**

- ① Rotating direction (FOR-REV)

**■ PROGRAM mode**

- ① First run angle (Increase / Decrease) together with "First Run(Speed)" button
- ② Time (Increase / Decrease) together with "Stop(Reverse)" button
- ③ Rotation speed (Increase / Decrease) together with "Speed(First Run)" button
- ④ Reverse run angle (Increase / Decrease) together with "Reverse(Stop)" button

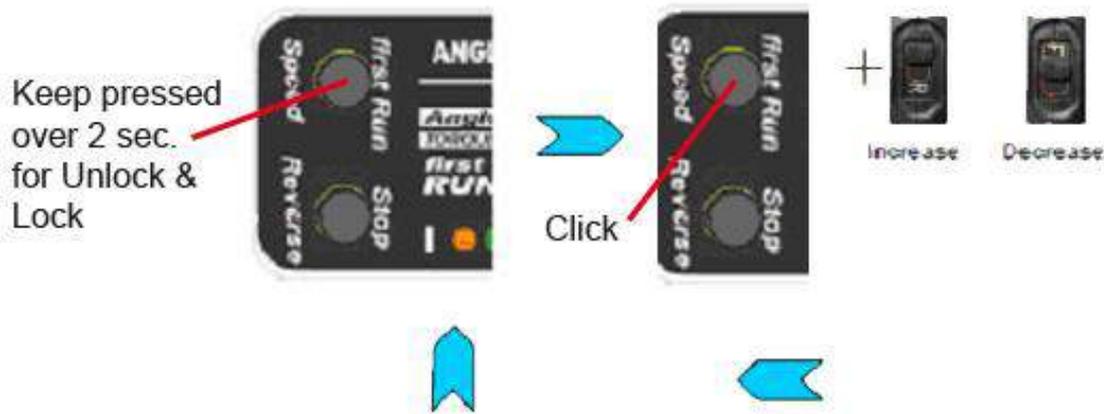


■ Angle setting for first RUN

- ① Keep the first Run button pressed over 2 sec. for angle setting. Then press one by one for the desired rotating angle
- ② Select the R position of F/R switch for increasing set angle or F position for decreasing set angle
- ③ Keep the first Run button pressed over 2 sec. for Lock & operating mode.

Click	0	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Turns	Off	1/4	2/4	3/4	1	5/4	6/4	7/4	2	9/4	10/4	11/4	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	28	30
LED	O	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	O

Off : stops on torque up without angle control

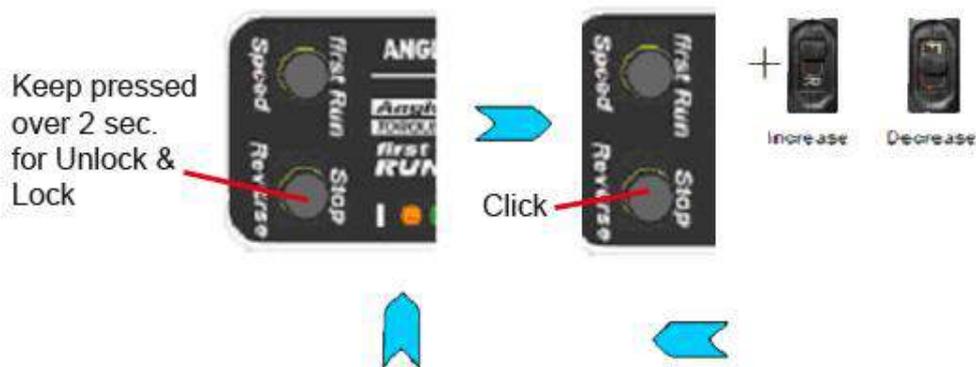


■ Time setting for stop HOLD

- ① Keep the **stop time** button pressed over 2 sec. Then click the stop time button one by one for desired stop holding time
- ② Select the R position of F/R switch for increasing set time or F position for decreasing set time
- ③ Keep the **stop time** button pressed over 2 sec. for Lock & operating mode.

Click	0	1 <sup>th</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>
Time (second)	Off	0	0.2	0.4	0.6	0.8	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3
LED	Orange	R	G	R	G	R	G	R	G	R	G	R	G	R	O

Off : no Reverse RUN

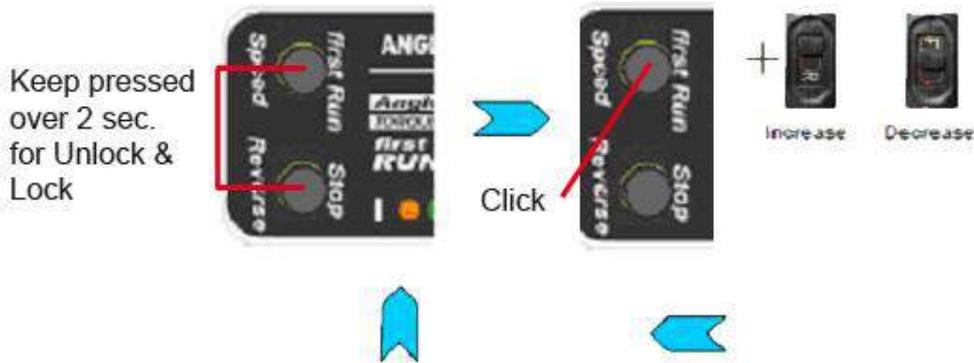


**Rotating speed setting**

- ① Keep both **first Run & stop time** buttons pressed over 2 sec. to unlock. Then click one by one for the desired rotating speed.
- ② Select the R position of F/R switch for increasing speed or F position for decreasing speed
- ③ Keep the **first Run** button pressed over 2 sec. to Lock & operating mode.

Model	LED	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●
	Button	1th	2nd	3rd	4th	5th	6th	7th	8th	9th
GXT150-H	RPM	800	900	1000	1100	1200	1300	1400	1500	1700
GXT220-H	RPM	600	650	700	750	800	900	1000	1100	1200
GXT450-H	RPM	300	340	380	410	450	490	530	560	600

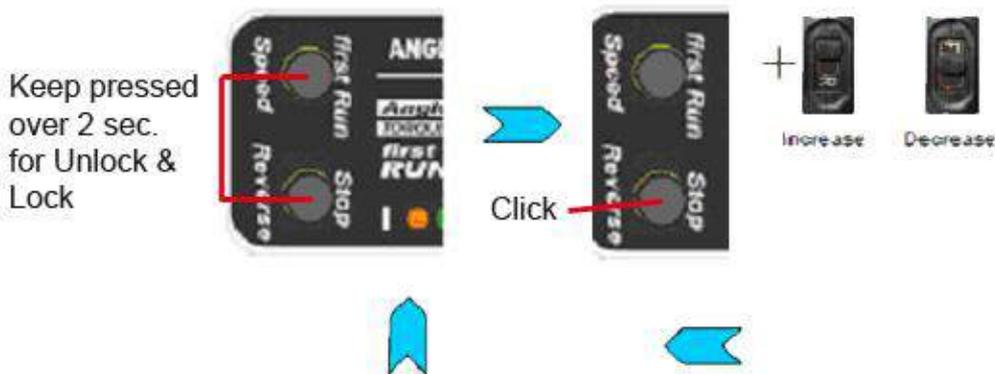
Off : stops on torque up without angle control



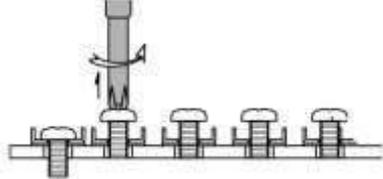
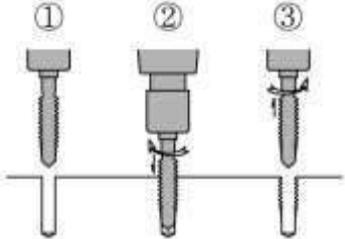
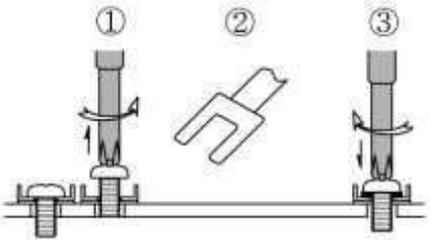
**Angle setting for Reverse RUN**

- ① Keep both first Run & stop time buttons pressed over 2 sec. to unlock. Then click stop time button one by one for the desired angle
- ② Select the R position of F/R switch for increasing set angle or F position for decreasing set angle
- ③ Keep the stop time button pressed over 2 sec. to Lock & operating mode.

Click	0	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Turns	Off	1/4	2/4	3/4	1	5/4	6/4	7/4	2	9/4	10/4	11/4	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	28	30
LED	O	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	O



■ Application Example

	First RUN Angle	Stop HOLD Time	Auto Reverse Angle	Applications with different sequence in a cycle
Normal screwdriver (F/R)	off	off	off	Normal screwdriver It stops at the set torque
Angle control (F or R)	ON(1)	off	off	 It stops at set angle(1)
Insert fastening (F/R)	Off(1)	ON(2)	ON(3)	It stops at set torque(1) and waits for set time(2), and makes reverse rotation to the set angle(3)
Tapper (F/R)	ON(1)	ON(2)	ON(3) or off	 It stops at set angle(1) and waits for set time(2), and makes reverse rotation to the set angle(3) or until the lever is released
Wire inserting on terminal block (F/R)	ON(1)	ON(2)	off	 It stops at set angle(1) and waits for set time(2), and makes reverse rotation and stops at set torque

### 11.GXT output signals timing

Effective from GXT-G, S/N: 1805080168.

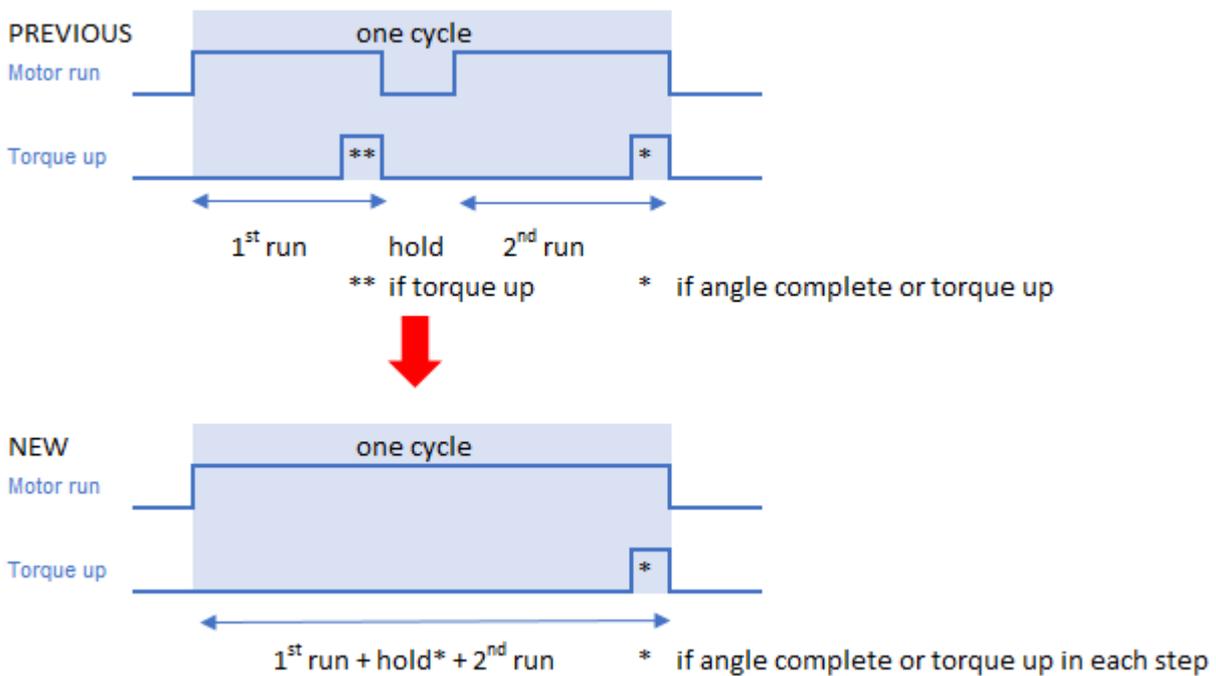
Concerns feature of out signals : run and torque up

**- Complete Motor Run Signal Out During One Cycle**

If the user set 1st run-stop-reverse turn as a complete cycle, motor run signal will last for a cycle. In the same way, if just 1st run is set, motor run signal comes out just once.

**- One Torque-up Count for One Complete T Cycle with SCOUTII**

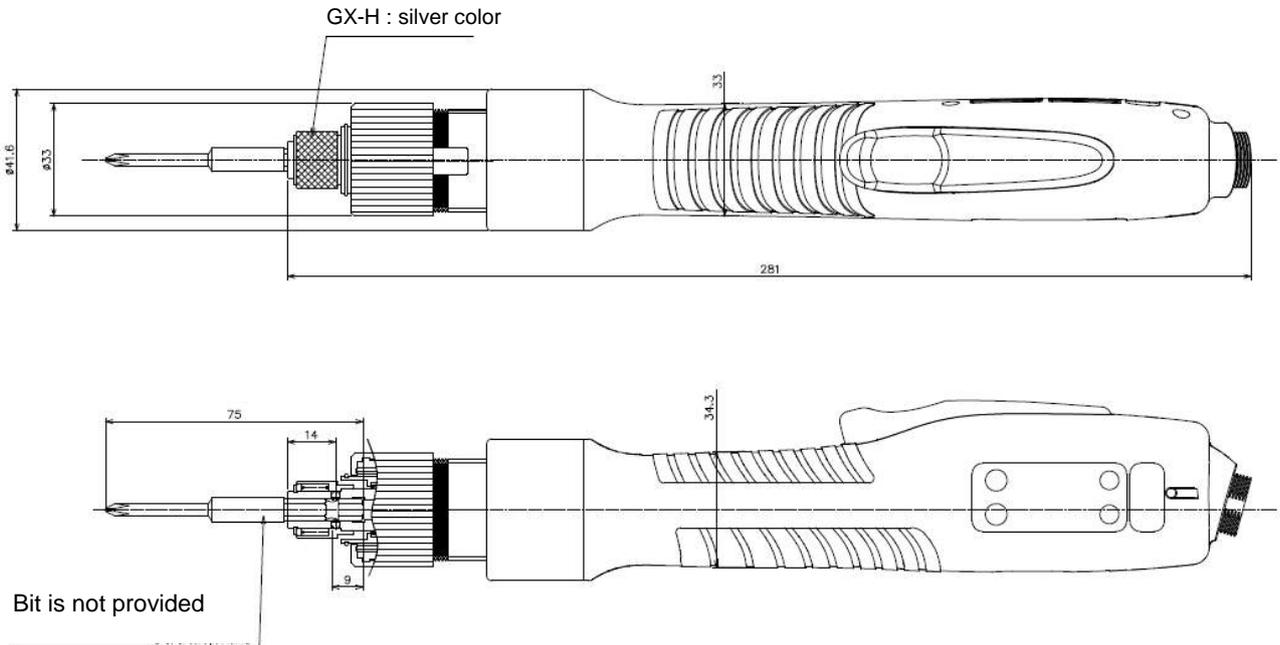
1<sup>st</sup> and 2<sup>nd</sup> run are either torque or angle control  
Torque up signal means complete cycle Ok



## 12. Dimensions drawings

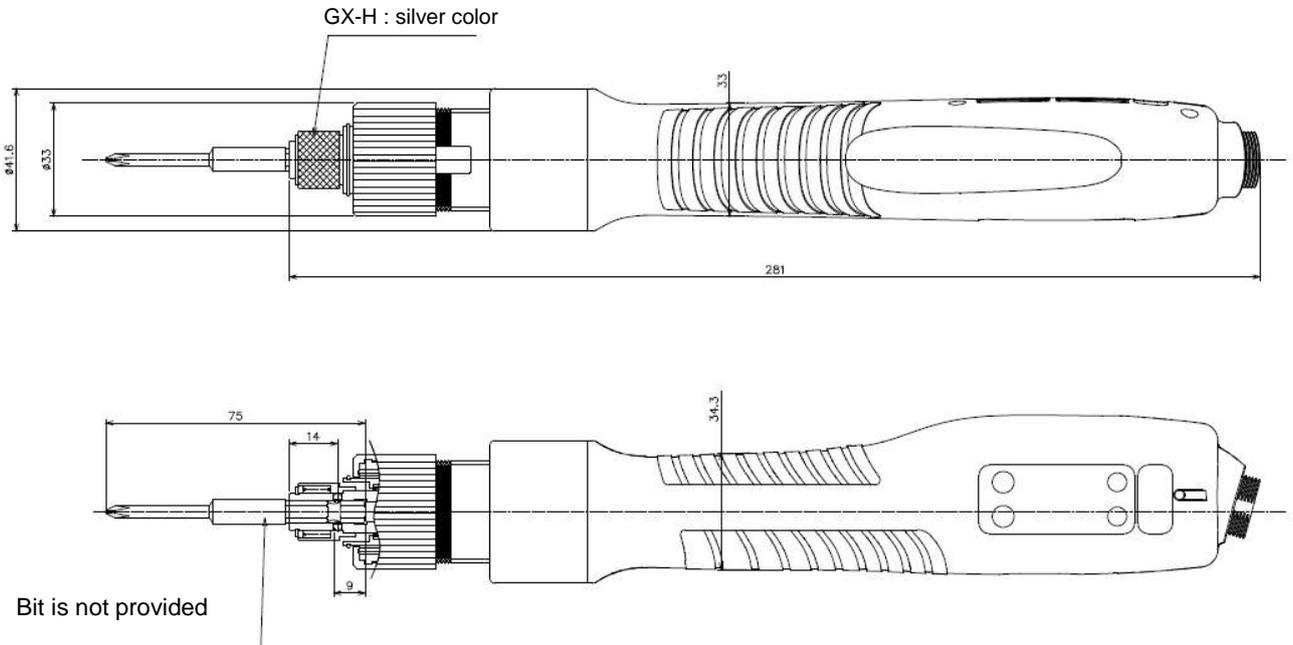
### 12.1 GX150/220-H + GXS150/220-H

(R00 2019.02.01)

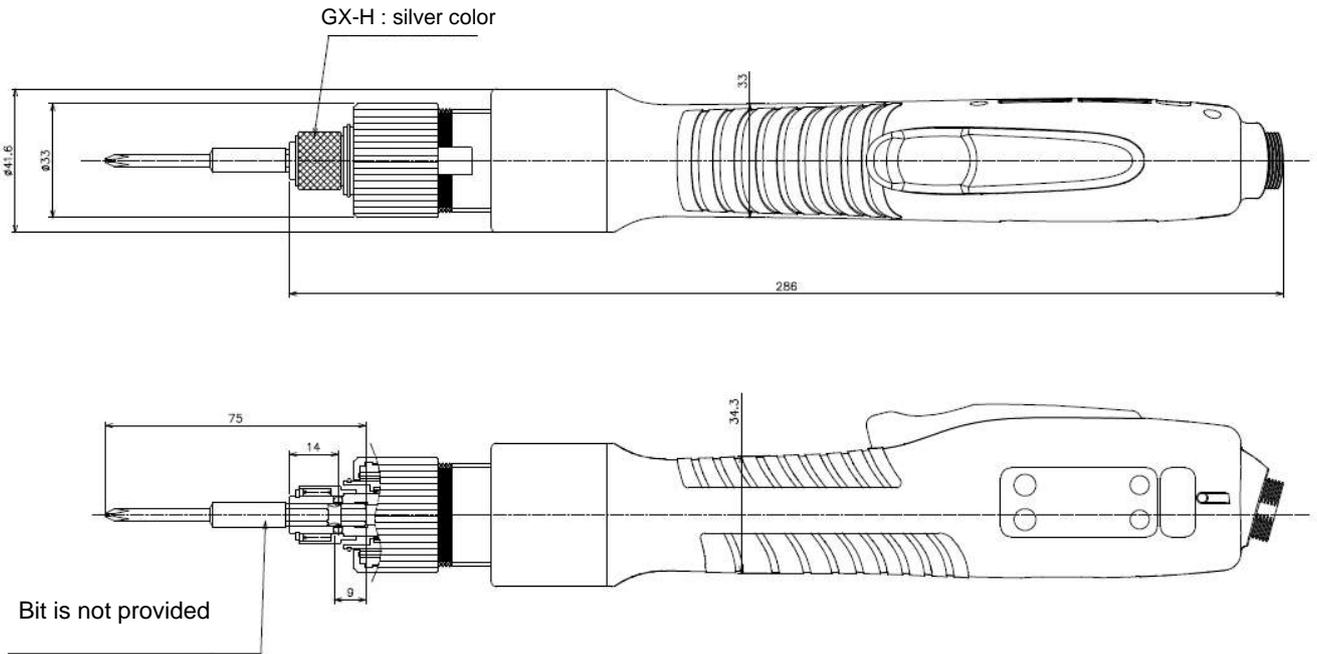


### 12.2 GX150/220P-H + GXS150/220P-H

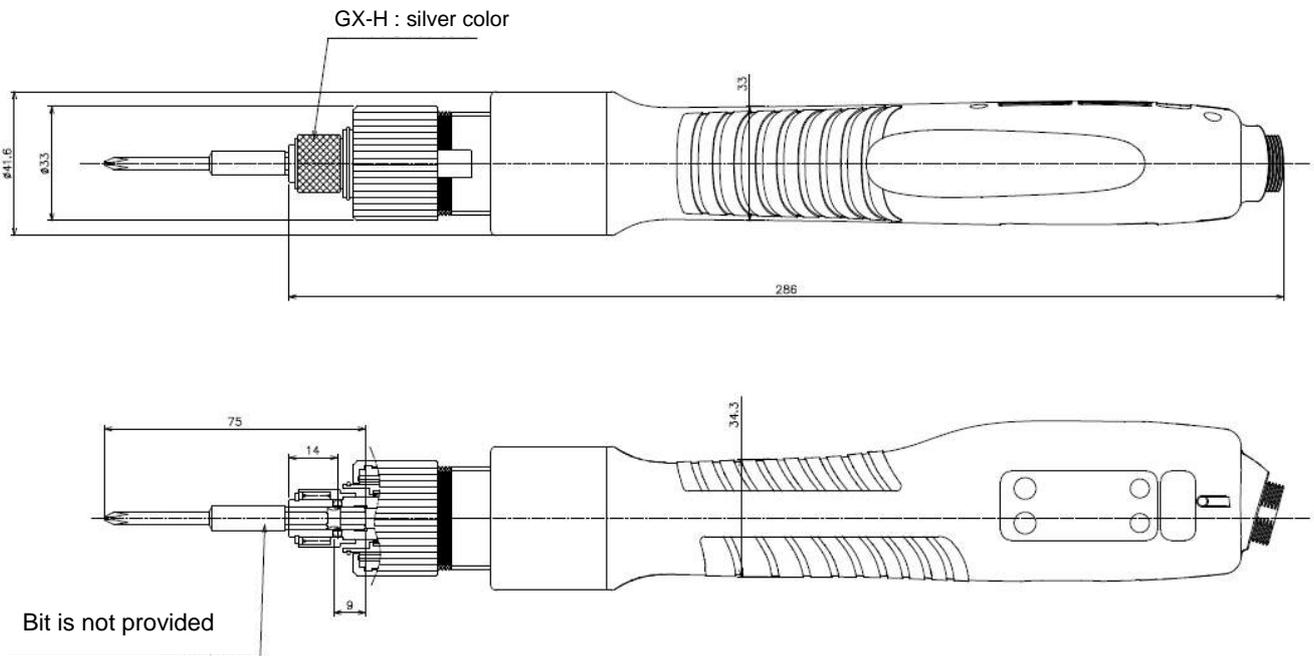
(R00 2019.02.01)



**12.3 GX450-H**  
(R00 2019.02.01)

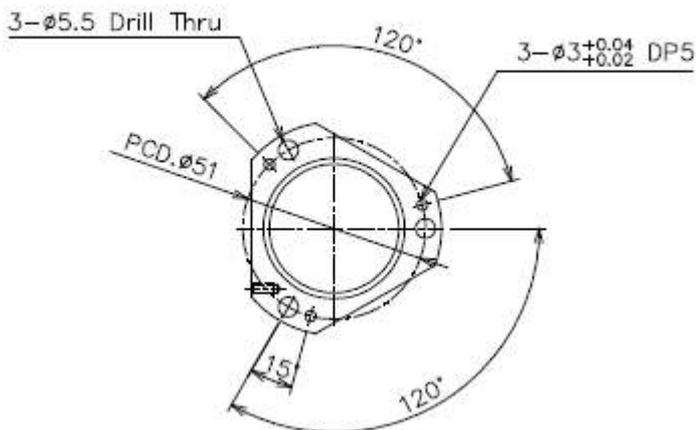
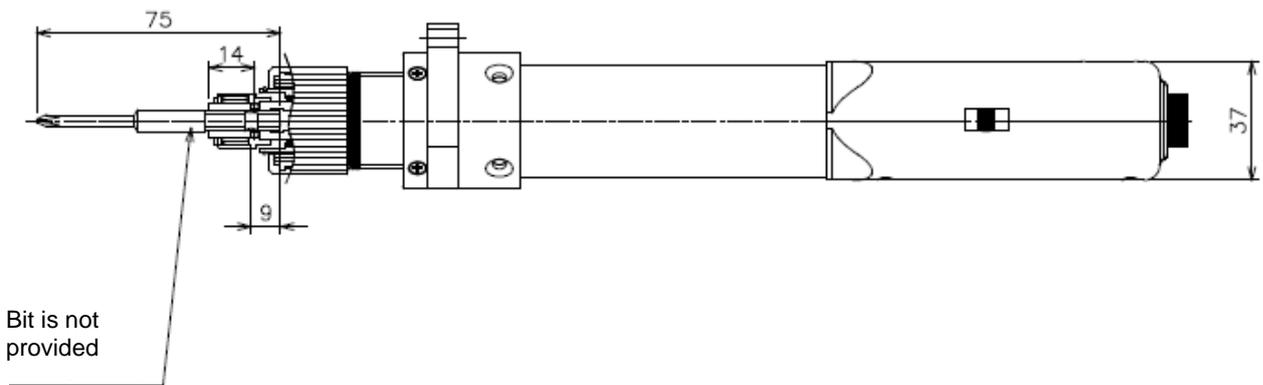
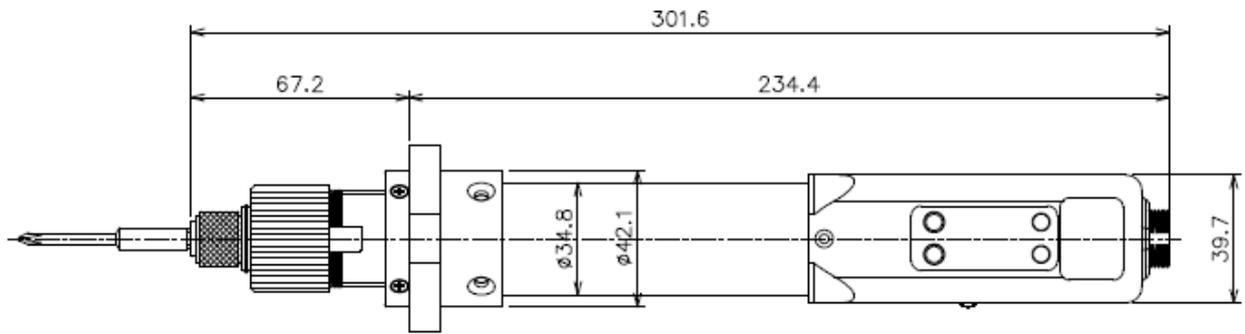


**12.4 GX450P-H (R00 2019.02.01)**



**12.5 GXA150/220/450(P) -H**

(R00 2019.02.01)



GXA 40V - PUSHING FORCE MAX. **25KG**

Min center to center distance : 46 mm

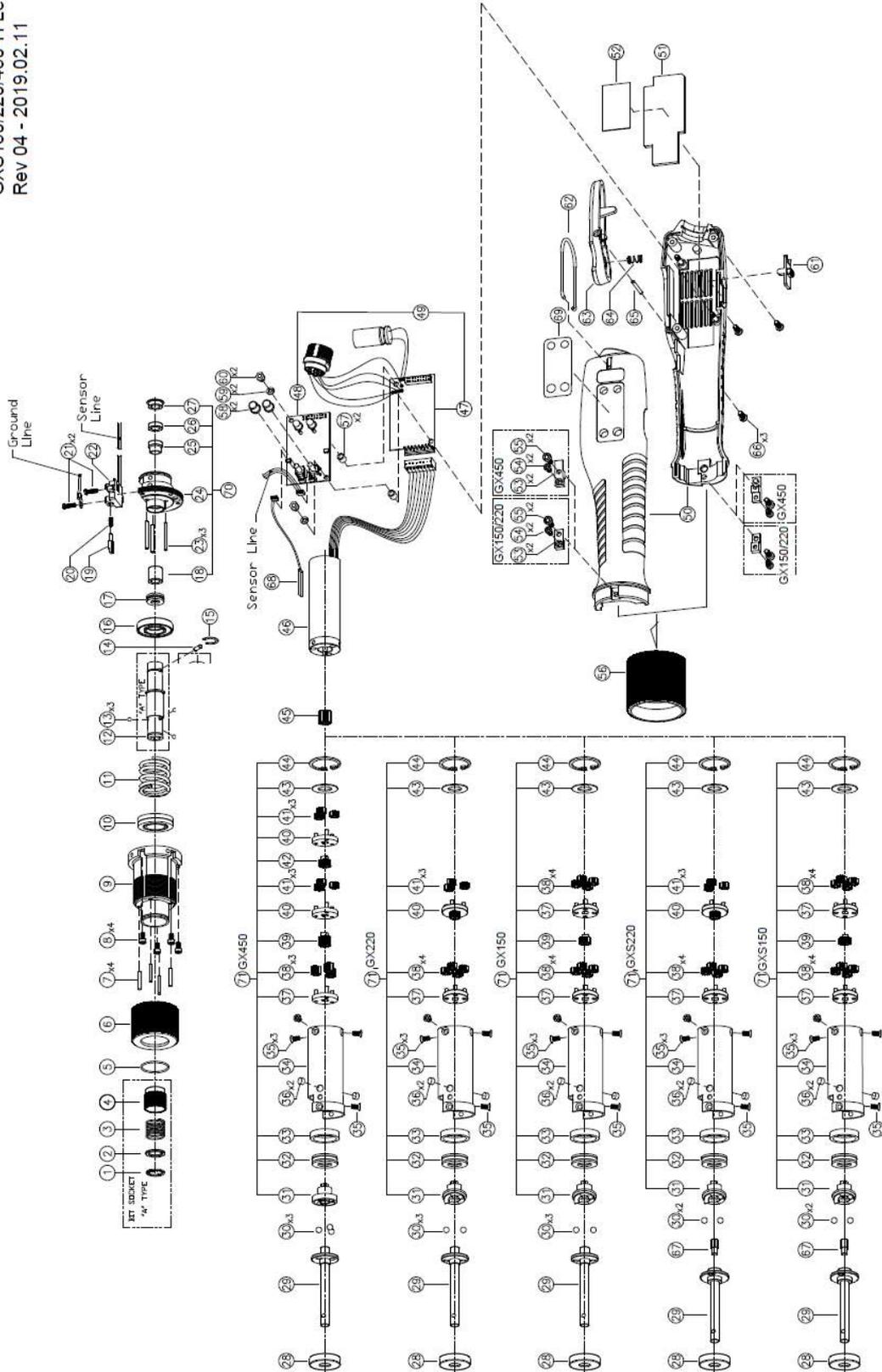
Centering diameter : 42mm +/-0.15mm

13.Exploded views and part list

13.1 GX150/220/450-H + GXT150/220/450-H + GXS150/220/450-H

- Exploded view

GX150/220/450-H Lever  
 GXT150/220/450-H Lever  
 GXS150/220/450-H Lever  
 Rev 04 - 2019.02.11



• Part list

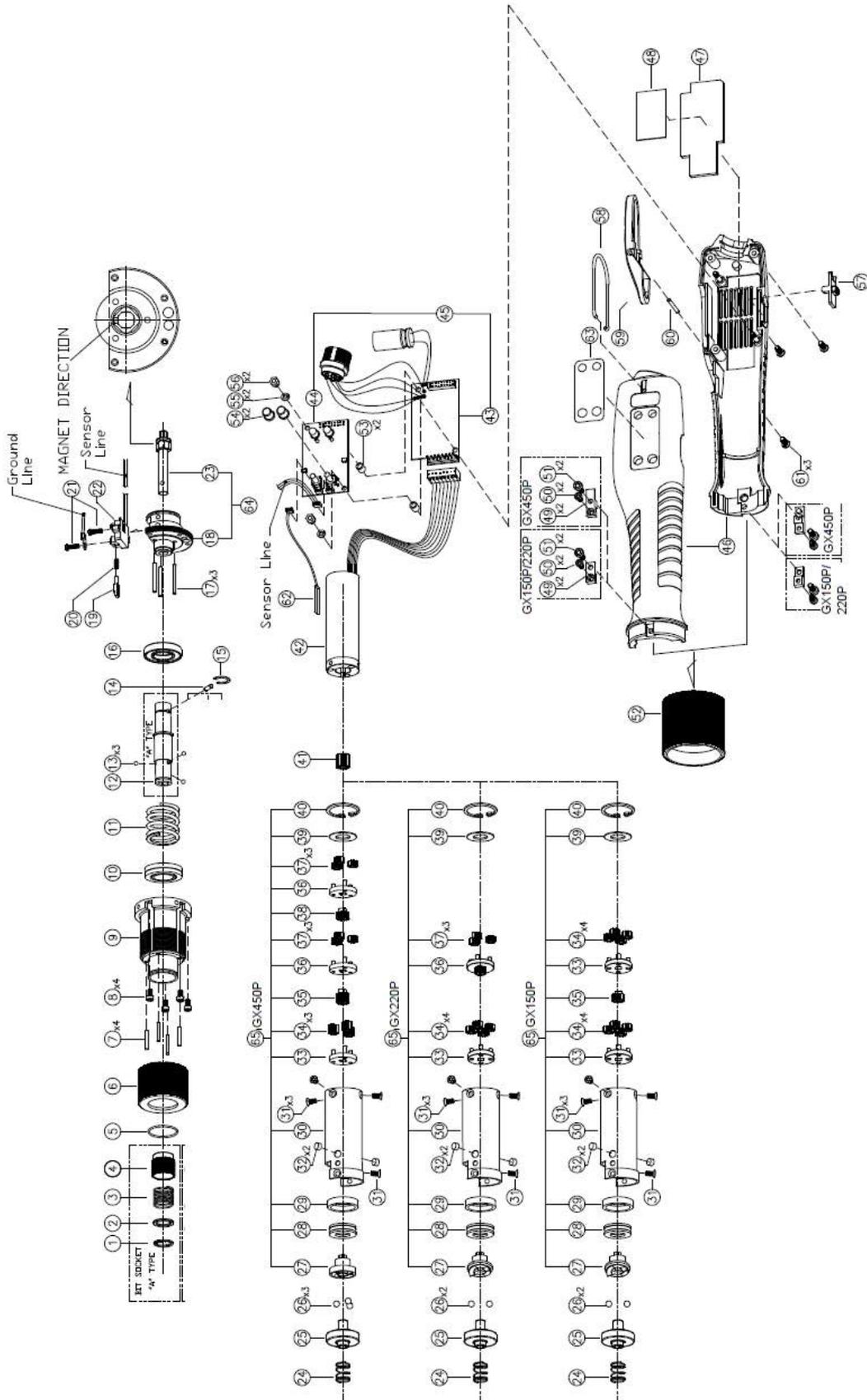
DATE		2019.02.11		Part List For "(GX_GXT -H)(GXS -H)-LEVER" Series					
REV		4							
NO.	CODE		Description	-H					REF
	OLD	NEW		GX150 GXT150	GXS150	GX220 GXT220	GXS220	GX450 GXT450	
				-A	-A	-A	-A	-A	
1	5000945	579-0002	SNAP RING	1	1	1	1	1	
	PAL1973	527-0017	C-RING [BIT SOCKET]						
2	5000914	582-0006	SUPPORTER [COLLAR SPRING]	1	1	1	1	1	
3	5000903	581-0026	SPRING [COLLAR]	1	1	1	1	1	
4	-	524-0024	COLLAR [A]	1	1	1	1	1	
5	5000904	527-0023	C-RING [STOP]	1	1	1	1	1	
6	5000888	505-0002	ADJUSTER	1	1	1	1	1	
7	5000899	557-0003	PIN [ADJUST]	4	4	4	4	4	
8	PSW2204	515-0009	WRENCH BOLT	4	4	4	4	4	
9	-	316-0028	TOP COVER ASSY	1	1	1	1	1	
10	-	343-0003	RETAINER ASSY	1	1	1	1	1	
11	-	581-0094	SPRING [TORQUE]	1	1				
	-	581-0095	SPRING [TORQUE]			1	1		
	-	581-0096	SPRING [TORQUE]					1	
12	-	514-0038	BIT SOCKET [A]	1	1	1	1	1	
13	PAL1929	507-0002	BALL	3	3	3	3	3	
14	PAL1231	557-0017	PIN [GEAR HOLDER ]	1	1	1	1	1	
15	PSK1954	527-0006	C-RING	1	1	1	1	1	
16	-	582-0044	SUPPORTER [TORQUE SPRING]	1	1	1	1	1	
17	PSK1921	509-0035	BEARING [THRUST]	1	1	1	1	1	
18	5000077	509-0028	BEARING [OILLESS]	1	1	1	1	1	
19	3000076	349-0001	SLIDE BAR ASSY	1	1	1	1	1	
20	5000064	581-0043	SPRING [LIMIT]	1	1	1	1	1	
21	PSW2211	571-0012	SCREW	2	2	2	2	2	
22	3000077	346-0007	SENSOR ASSY [LEVER]	1	1	1	1	1	
23	5000901	557-0029	PIN [NEEDLE]	3	3	3	3	3	
24	-	304-0025	BEARING COVER ASSY	1	1	1	1	1	
25	5000297	582-0002	SUPPORTER [BEARING]	1	1	1	1	1	
26	5000376	509-0001	BEARING [BALL]	1	1	1	1	1	
27	5000377	509-0002	BEARING [BALL]	1	1	1	1	1	
28	-	569-0017	RING [SLIDE]	1		1		1	
	PFF1319	569-0011	RING [SLIDE]		1		1		
29	-	573-0051	SHAFT [LEVER]	1		1			
	-	573-0052	SHAFT [LEVER]					1	
	-	347-0028	SHAFT ASSY [LEVER]		1		1		
30	PAL1932	507-0005	BALL	2	2	2	2		
	5000300	507-0004	BALL					3	
31	-	523-0039	CLUTCH	1		1			
	-	523-0040	CLUTCH					1	
	-	523-0041	LOW SHOCK CLUTCH		1		1		
32	-	509-0053	BEARING [THRUST]	1	1	1	1	1	
33	-	582-0045	SUPPORTER [BEARING]	1	1	1	1	1	
34	-	536-0116	GEAR [CASE]	1	1				
	-	536-0117	GEAR [CASE]			1	1		
	-	536-0118	GEAR [CASE]					1	
35	5000665	571-0001	SCREW [FL TORX]	4	4	4	4	4	
36	-	557-0044	PIN [FIXED]	2	2	2	2	2	
37	-	325-0049	HOLDER ASSY [GEAR]	2	2				
	-	325-0050	HOLDER ASSY [GEAR]			1	1		
	-	325-0051	HOLDER ASSY [GEAR]					1	

NO.	CODE		Description	-H					REF
	OLD	NEW		GX150 GXT150	GXS150	GX220 GXT220	GXS220	GX450 GXT450	
				-A	-A	-A	-A	-A	
38	-	536-0121	GEAR[IDLE]	8	8				
	-	536-0129	GEAR[IDLE]			4	4		
	-	536-0124	GEAR[IDLE]					3	
39	-	536-0122	GEAR[PINION]	1	1				
	-	536-0125	GEAR[PINION]					1	
40	-	325-0053	HOLDER ASSY [GEAR]			1	1		
	-	325-0052	HOLDER ASSY [GEAR]					2	
41	-	536-0130	GEAR[IDLE]			3	3		
	-	536-0126	GEAR[IDLE]					6	
42	5000029	536-0021	GEAR[PINION]				1	1	
43	-	590-0048	WASHER	1	1	1	1	1	
44	PFE1903	578-0004	SNAP RING	1	1	1	1	1	
45	-	536-0123	GEAR[MOTOR PINION]	1	1				
	-	536-0131	GEAR[MOTOR PINION]			1	1		
	-	536-0128	GEAR[MOTOR PINION]					1	
46	-	330-0065	BLDC MOTOR ASSY	1	1	1	1	1	
47	3000161	331-0012	AMP PCB ASSY [SET]	1	1	1	1	1	
48	-	796-0011	CONTROL PCB ASSY [OS]	1	1	1	1	1	
49	-	903-0188	PCB SET	1	1	1	1	1	
50	3000912	903-0048	NF HOUSING SET	1	1	1	1	1	
51	5000135	539-0005	HEAT SINK	1	1	1	1	1	
52	5000143	903-0067	THERMAL SILICONE PAD	1	1	1	1	1	
53	5001027	547-0003	KEY	2	2	2	2		
	-	547-0008	KEY					2	
54	5001028	515-0024	WRENCH BOLT	2	2	2	2	2	
55	5001045	515-0025	WRENCH BOLT	2	2	2	2	2	
56	5000894	544-0022	HOUSING NUT	1	1	1	1		
	-	544-0029	HOUSING NUT					1	
57	PFF1842A	582-0016	SUPPORTER [PCB]	2	2	2	2	2	
58	5000070	520-0005	CAP	2	2	2	2	2	
59	PSW2803	590-0021	WASHER	2	2	2	2	2	
60	PFF1824	555-0001	NUT	1	1	1	1	1	
61	PFF1130	316-0012	COVER ASSY [SWITCH]	1	1	1	1	1	
62	PAL1803	541-0003	HOOK	1	1	1	1	1	
63	3000160	329-0014	LEVER ASSY	1	1	1	1	1	
64	PFE1841	581-0037	SPRING [LEVER]	1	1	1	1	1	
65	PSK1327	557-0032	PIN [NEEDLE]	1	1	1	1	1	
66	PSW2602	571-0025	SCREW	3	3	3	3	3	
67	5000568	573-0019	SHAFT [CAM CLUTCH]		1		1		
68	3000623	353-0001	THERMISTOR ASSY	1	1	1	1	1	
69	5000659	548-0114	LABEL [WINDOW] GX standard	1	1	1	1	1	
	5000661	548-0116	LABEL [WINDOW] GXT version						
70	-	304-0037	BEARING COVER + BEARING	1	1	1	1	1	
71	-	901-0160	GEAR BOX	1					
71	-	901-0161	GEAR BOX			1			
71	-	901-0162	GEAR BOX					1	
71	-	901-0163	GEAR BOX		1				
71	-	901-0164	GEAR BOX				1		

13.2 GX150P/220P/450P-H

- Exploded view

GX150P/220P/450P-H Push  
Rev 04 - 2019.02.11



• Part list

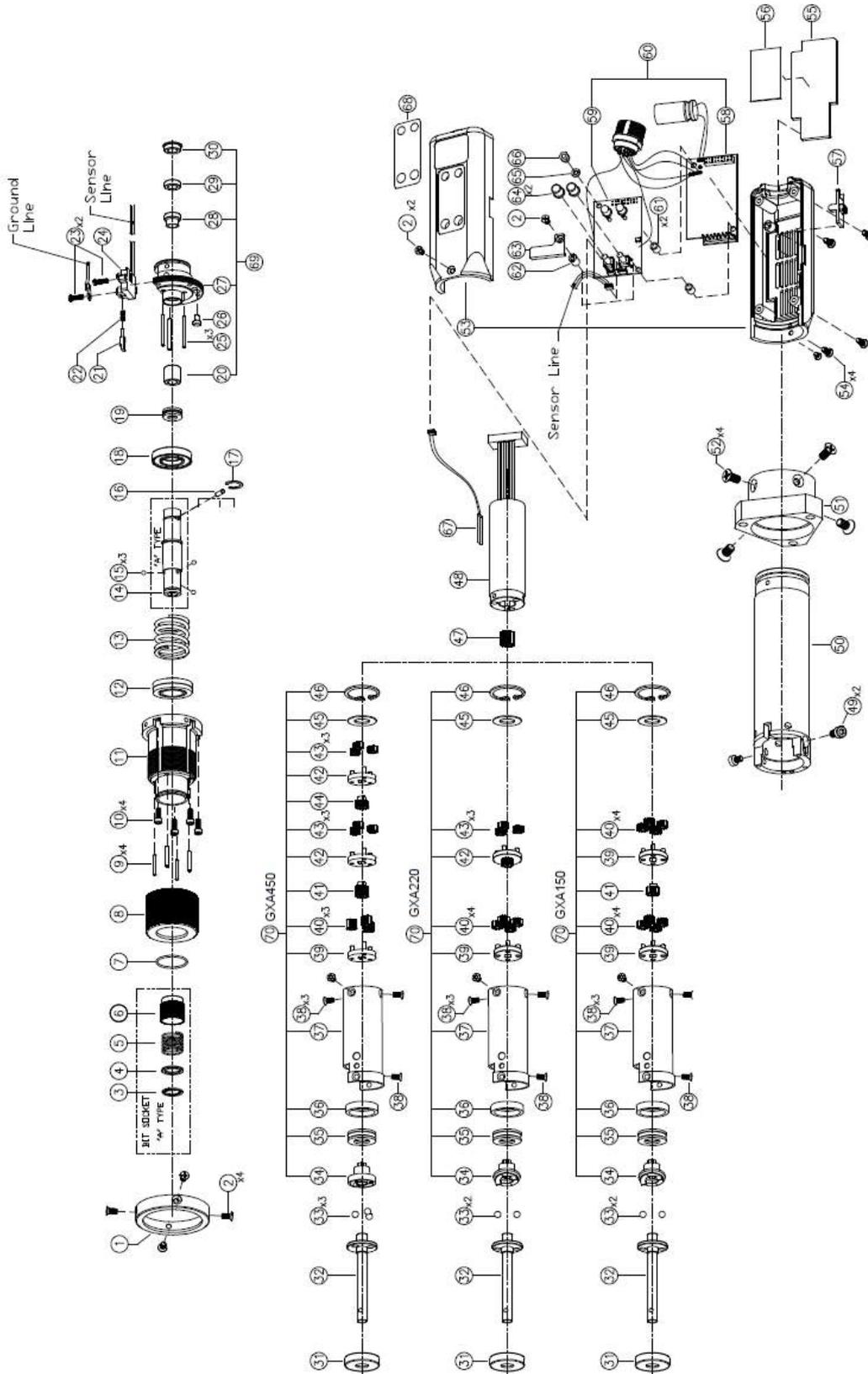
		Part List For "GX-H-PUSH" Series					
DATE	2019.02.11						
REV	4						
NO.	CODE		Description	-H			REF
	OLD	NEW		GX150P	GX220P	GX450P	
				-A	-A	-A	
1	5000945	579-0002	SNAP RING	1	1	1	
2	5000914	582-0006	SUPPORTER [COLLAR SPRING]	1	1	1	
3	5000903	581-0026	SPRING [COLLAR]	1	1	1	
4	-	524-0024	COLLAR [A]	1	1	1	
5	5000904	527-0023	C-RING [STOP]	1	1	1	
6	5000888	505-0002	ADJUSTER	1	1	1	
7	5000899	557-0003	PIN [ADJUST]	4	4	4	
8	PSW2204	515-0009	WRENCH BOLT	4	4	4	
9	-	316-0028	TOP COVER ASSY	1	1	1	
10	-	343-0003	RETAINER ASSY	1	1	1	
11	-	581-0094	SPRING [TORQUE]	1			
	-	581-0095	SPRING [TORQUE]		1		
	-	581-0096	SPRING [TORQUE]			1	
12	-	514-0038	BIT SOCKET [A]	1	1	1	
13	PAL1929	507-0002	BALL	3	3	3	
14	PAL1231	557-0017	PIN [GEAR HOLDER ]	1	1	1	
15	PSK1954	527-0006	C-RING	1	1	1	
16	-	582-0044	SUPPORTER [TORQUE SPRING]	1	1	1	
17	5000901	557-0029	PIN [NEEDLE]	3	3	3	
18	-	304-0026	BEARING COVER ASSY	1	1	1	
19	3000076	349-0001	SLIDE BAR ASSY	1	1	1	
20	5000064	581-0043	SPRING [LIMIT]	1	1	1	
21	PSW2211	571-0012	SCREW	2	2	2	
22	3000086	346-0017	SENSOR ASSY [PUSH]	1	1	1	
23	-	347-0024	SHAFT ASSY [A, PUSH]	1	1		
24	5000299	581-0047	SPRING [PUSH]	1	1	1	
25	-	347-0026	SHAFT ASSY [B, PUSH]	1	1		
	-	347-0027	SHAFT ASSY [B, PUSH]			1	
26	PAL1932	507-0005	BALL	2	2		
	5000300	507-0004	BALL			3	
27	-	523-0039	CLUTCH	1	1		
	-	523-0040	CLUTCH			1	
28	-	509-0053	BEARING [THRUST]	1	1	1	
29	-	582-0045	SUPPORTER [BEARING]	1	1	1	
30	-	536-0116	GEAR [CASE]	1			
	-	536-0117	GEAR [CASE]		1		
	-	536-0118	GEAR [CASE]			1	
31	5000665	571-0001	SCREW [FL TORX]	4	4	4	
32	-	557-0044	PIN [FIXED]	2	2	2	
33	-	325-0049	HOLDER ASSY [GEAR]	2			
	-	325-0050	HOLDER ASSY [GEAR]		1		
	-	325-0051	HOLDER ASSY [GEAR]			1	
34	-	536-0121	GEAR[IDLE]	8			
	-	536-0129	GEAR[IDLE]		4		
	-	536-0124	GEAR[IDLE]			3	

NO.	CODE		Description	-H			REF
	OLD	NEW		GX150P	GX220P	GX450P	
				-A	-A	-A	
35	-	536-0122	GEAR[PINION]	1			
	-	536-0125	GEAR[PINION]			1	
36	-	325-0053	HOLDER ASSY [GEAR]		1		
	-	325-0052	HOLDER ASSY [GEAR]			2	
37	-	536-0130	GEAR[IDLE]		3		
	-	536-0126	GEAR[IDLE]			6	
38	5000029	536-0021	GEAR[PINION]			1	
39	-	590-0048	WASHER	1	1	1	
40	PFE1903	578-0004	SNAP RING	1	1	1	
41	-	536-0123	GEAR[MOTOR PINION]	1			
	-	536-0131	GEAR[MOTOR PINION]		1		
	-	536-0128	GEAR[MOTOR PINION]			1	
42	-	330-0065	BLDC MOTOR ASSY	1	1	1	
43	3000161	331-0012	AMP PCB ASSY [SET]	1	1	1	
44	-	796-0002	CONTROL PCB ASSY [OS]	1	1	1	
45	-	903-0189	PCB SET	1	1	1	
46	3000912	903-0048	NF HOUSING SET	1	1	1	
47	5000135	539-0005	HEAT SINK	1	1	1	
48	5000143	903-0067	THERMAL SILICONE PAD	1	1	1	
49	5001027	547-0003	KEY	2	2		
	-	547-0008	KEY			2	
50	5001028	515-0024	WRENCH BOLT	2	2	2	
51	5001045	515-0025	WRENCH BOLT	2	2	2	
52	5000894	544-0022	HOUSING NUT	1	1		
	-	544-0029	HOUSING NUT			1	
53	PFF1842A	582-0016	SUPPORTER [PCB]	2	2	2	
54	5000070	520-0005	CAP	2	2	2	
55	PSW2803	590-0021	WASHER	2	2	2	
56	PFF1824	555-0001	NUT	1	1	1	
57	PFF1130	316-0012	COVER ASSY [SWITCH]	1	1	1	
58	PAL1803	541-0003	HOOK	1	1	1	
59	5000144	506-0012	ATTACHMENT	1	1	1	
60	PSK1327	557-0032	PIN [NEEDLE]	1	1	1	
61	PSW2602	571-0025	SCREW	3	3	3	
62	3000623	353-0001	THERMISTOR ASSY	1	1	1	
63	5000659	548-0114	LABEL [WINDOW]GX standard	1	1	1	
64	-	304-0038	BEARING COVER + SHAFT ASSY	1	1	1	
65	-	901-0160	GEAR BOX	1			
65	-	901-0161	GEAR BOX		1		
65	-	901-0162	GEAR BOX			1	

13.3 **GXA 150/220/450-H**

- Exploded view

GXA150/220/450-H  
Rev 02 - 2019.02.11



- Part list

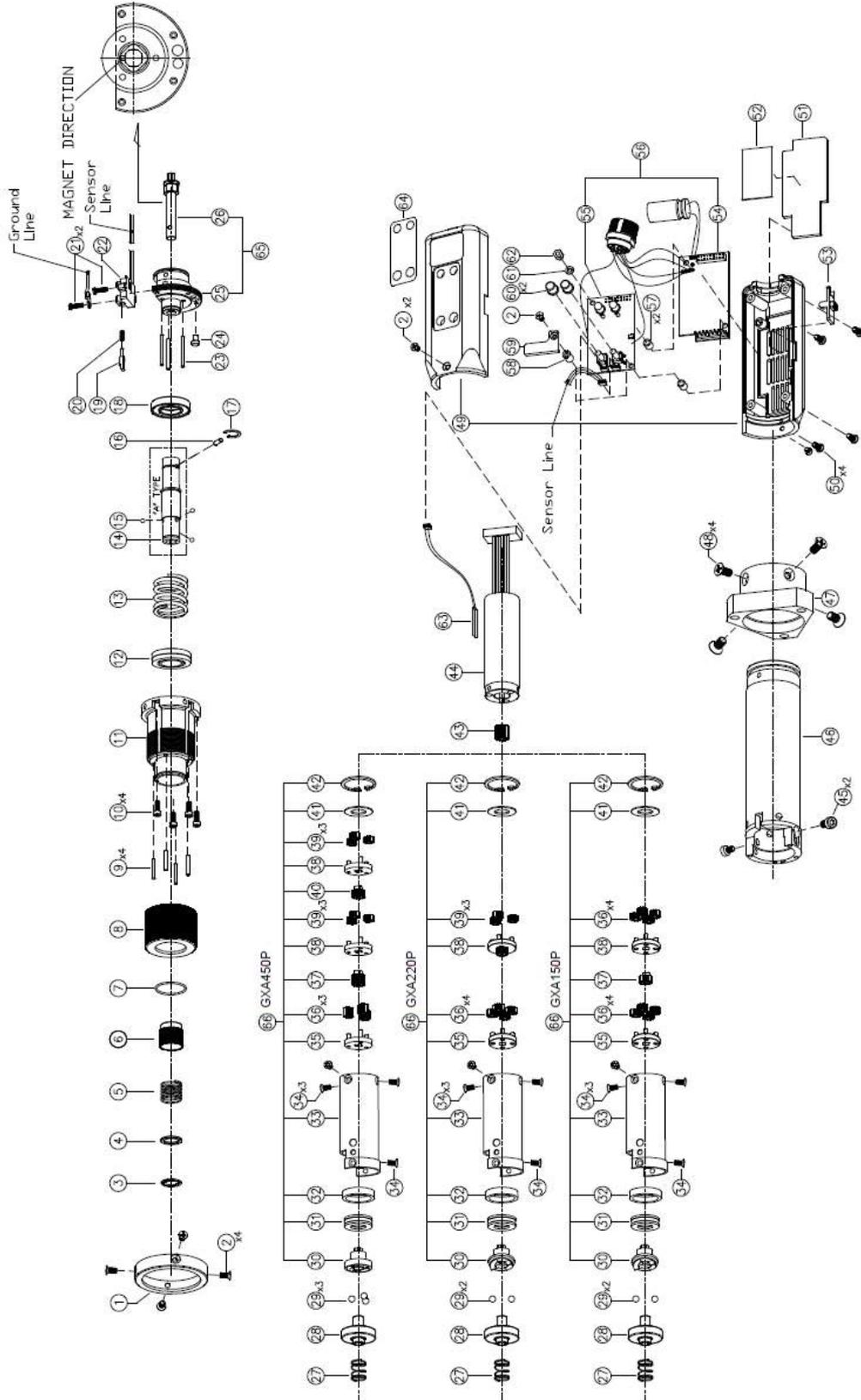
		Part List For "GXA-H" Series					
DATE	2019.02.11						
REV	2						
NO.	CODE		Description	-H			REF
	OLD	NEW		GXA150	GXA220	GXA450	
				-A	-A	-A	
1	5001029	526-0036	COVER [DUST]	1	1	1	
2	PSW2207	571-0010	SCREW	7	7	7	
3	5000945	579-0002	SNAP RING	1	1	1	
4	5000914	582-0006	SUPPORTER [COLLAR SPRING]	1	1	1	
5	5000903	581-0026	SPRING [COLLAR]	1	1	1	
6	5000912	524-0007	COLLAR [A]	1	1	1	
	5000913	524-0010	COLLAR [B]				
7	5000904	527-0023	C-RING [STOP]	1	1	1	
8	5000888	505-0002	ADJUSTER	1	1	1	
9	5000899	557-0003	PIN [ADJUST]	4	4	4	
10	PSW2204	515-0009	WRENCH BOLT	4	4	4	
11	-	316-0028	TOP COVER ASSY	1	1	1	
12	-	343-0003	RETAINER ASSY	1	1	1	
13	-	581-0094	SPRING [TORQUE]	1			
	-	581-0095	SPRING [TORQUE]		1		
	-	581-0096	SPRING [TORQUE]			1	
14	-	514-0038	BIT SOCKET [A]	1	1	1	
15	PAL1929	507-0002	BALL	3	3	3	
16	PAL1231	557-0017	PIN [GEAR HOLDER ]	1	1	1	
17	PSK1954	527-0006	C-RING	1	1	1	
18	-	582-0044	SUPPORTER [TORQUE SPRING]	1	1	1	
19	PSK1921	509-0035	BEARING [THRUST]	1	1	1	
20	5000077	509-0028	BEARING [OILLESS]	1	1	1	
21	3000076	349-0001	SLIDE BAR ASSY	1	1	1	
22	5000064	581-0043	SPRING [LIMIT]	1	1	1	
23	PSW2211	571-0012	SCREW	2	2	2	
24	3000528	346-0008	SENSOR ASSY [LEVER]	1	1	1	
25	5000901	557-0029	PIN [NEEDLE]	3	3	3	
26	5000291	557-0009	PIN [FIXED]	1	1	1	
27	-	304-0025	BEARING COVER ASSY	1	1	1	
28	5000297	582-0002	SUPPORTER [BEARING]	1	1	1	
29	5000376	509-0001	BEARING [BALL]	1	1	1	
30	5000377	509-0002	BEARING [BALL]	1	1	1	
31	-	569-0017	RING [SLIDE]	1	1	1	
32	-	573-0051	SHAFT [LEVER]	1	1		
	-	573-0052	SHAFT [LEVER]			1	
33	PAL1932	507-0005	BALL	2	2		
	5000300	507-0004	BALL			3	
34	-	523-0039	CLUTCH	1	1		
	-	523-0040	CLUTCH			1	
35	-	509-0053	BEARING [THRUST]	1	1	1	
36	-	582-0045	SUPPORTER [BEARING]	1	1	1	
37	-	536-0116	GEAR [CASE]	1			
	-	536-0117	GEAR [CASE]		1		
	-	536-0118	GEAR [CASE]			1	

NO.	CODE		Description	-H			REF
	OLD	NEW		GXA150	GXA220	GXA450	
				-A	-A	-A	
38	5000665	571-0001	SCREW [FL TORX]	3	3	3	
39	-	325-0049	HOLDER ASSY [GEAR]	2			
	-	325-0050	HOLDER ASSY [GEAR]		1		
	-	325-0051	HOLDER ASSY [GEAR]			1	
40	-	536-0121	GEAR[IDLE]	8			
	-	536-0129	GEAR[IDLE]		4		
	-	536-0124	GEAR[IDLE]			3	
41	-	536-0122	GEAR[PINION]	1			
	-	536-0125	GEAR[PINION]			1	
42	-	325-0053	HOLDER ASSY [GEAR]		1		
	-	325-0052	HOLDER ASSY [GEAR]			2	
43	-	536-0130	GEAR[IDLE]		3		
	-	536-0126	GEAR[IDLE]			6	
44	5000029	536-0021	GEAR[PINION]			1	
45	-	590-0048	WASHER	1	1	1	
46	PFE1903	578-0004	SNAP RING	1	1	1	
47	-	536-0123	GEAR[MOTOR PINION]	1			
	-	536-0131	GEAR[MOTOR PINION]		1		
	-	536-0128	GEAR[MOTOR PINION]			1	
48		330-0005	BLDC MOTOR ASSY	1	1	1	
49	PSW2309	515-0016	WRENCH BOLT	2	2	2	
50	-	574-0013	SHELL	1	1	1	
51	-	532-0046	FLANGE	1	1	1	
52	-	515-0001	WRENCH BOLT	4	4	4	
53	-	327-0024	NFA HOUSING ASSY	1	1	1	
54	-	571-0025	SCREW	4	4	4	
55	5000135	539-0005	HEAT SINK	1	1	1	
56	5000143	903-0067	THERMAL SILICONE PAD	1	1	1	
57	-	316-0012	COVER ASSY [SWITCH]	1	1	1	
58	3000555	331-0007	AMP PCB ASSY [SET]	1	1	1	
59	332-0077	796-0003	CONTROL PCB ASSY [OS]	1	1	1	
60	3000529	903-0099	PCB SET	1	1	1	
61	PFF1842A	582-0016	SUPPORTER [PCB]	2	2	2	
62	PFF1824A	555-0002	NUT	1	1	1	
63	PFF1719	526-0020	COVER [CONNECTOR LOCK]	1	1	1	
64	5000070	520-0005	CAP	2	2	2	
65	PSW2803	590-0021	WASHER	2	2	2	
66	PFF1824	555-0001	NUT	1	1	1	
67	3000623	353-0001	THERMISTOR ASSY	1	1	1	
68	5000662	548-0117	LABEL [WINDOW]	1	1	1	
69	-	304-0037	BEARING COVER + BEARING	1	1	1	
70	-	901-0160	GEAR BOX	1			
70	-	901-0161	GEAR BOX		1		
70	-	901-0162	GEAR BOX			1	

13.4 GXA150P/220P/450P-H

- Exploded view

GXA150P/220P/450P-H Push  
Rev 02 - 2019.02.11



• Part list

DATE		2019.02.11		Part List For "GXA -H-PUSH" Series			
REV		2					
NO.	CODE		Description	-H			REF
	OLD	NEW		GXA150P	GXA220P	GXA450P	
1	5001029	526-0036	COVER [DUST]	1	1	1	
2	PSW2207	571-0010	SCREW	7	7	7	
3	5000945	579-0002	SNAP RING	1	1	1	
4	5000914	582-0006	SUPPORTER [COLLAR SPRING]	1	1	1	
5	5000903	581-0026	SPRING [COLLAR]	1	1	1	
6	5000912	524-0007	COLLAR [A]	1	1	1	
7	5000904	527-0023	C-RING [STOP]	1	1	1	
8	5000888	505-0002	ADJUSTER	1	1	1	
9	5000899	557-0003	PIN [ADJUST]	4	4	4	
10	PSW2204	515-0009	WRENCH BOLT	4	4	4	
11	-	316-0028	TOP COVER ASSY	1	1	1	
12	-	343-0003	RETAINER ASSY	1	1	1	
13	-	581-0094	SPRING [TORQUE]	1			
	-	581-0095	SPRING [TORQUE]		1		
	-	581-0096	SPRING [TORQUE]			1	
14	-	514-0038	BIT SOCKET [A]	1	1	1	
15	PAL1929	507-0002	BALL	3	3	3	
16	PAL1231	557-0017	PIN [GEAR HOLDER ]	1	1	1	
17	PSK1954	527-0006	C-RING	1	1	1	
18	-	582-0044	SUPPORTER [TORQUE SPRING]	1	1	1	
19	3000076	349-0001	SLIDE BAR ASSY	1	1	1	
20	5000064	581-0043	SPRING [LIMIT]	1	1	1	
21	PSW2211	571-0012	SCREW	2	2	2	
22	3000491	346-0018	SENSOR ASSY [PUSH]	1	1	1	
23	5000901	557-0029	PIN [NEEDLE]	3	3	3	
24	5000291	557-0009	PIN [FIXED]	1	1	1	
25	-	304-0025	BEARING COVER ASSY	1	1	1	
26	-	347-0024	SHAFT ASSY [A, PUSH]	1	1	1	
27	5000299	581-0047	SPRING [PUSH]	1	1	1	
28	-	347-0026	SHAFT ASSY [B, PUSH]	1	1		
	-	347-0027	SHAFT ASSY [B, PUSH]			1	
29	PAL1932	507-0005	BALL	2	2		
	5000300	507-0004	BALL			3	
30	-	523-0039	CLUTCH	1	1		
	-	523-0040	CLUTCH			1	
31	-	509-0053	BEARING [THRUST]	1	1	1	
32	-	582-0045	SUPPORTER [BEARING]	1	1	1	
33	-	536-0116	GEAR [CASE]	1			
	-	536-0117	GEAR [CASE]		1		
	-	536-0118	GEAR [CASE]			1	
34	5000665	571-0001	SCREW [FL TORX]	3	3	3	
35	-	325-0049	HOLDER ASSY [GEAR]	2			
	-	325-0050	HOLDER ASSY [GEAR]		1		
	-	325-0051	HOLDER ASSY [GEAR]			1	

NO.	CODE		Description	-H			REF
	OLD	NEW		GXA150P	GXA220P	GXA450P	
36	-	536-0121	GEAR[IDLE]	8			
	-	536-0129	GEAR[IDLE]		4		
	-	536-0124	GEAR[IDLE]			3	
37	-	536-0122	GEAR[PINION]	1			
	-	536-0125	GEAR[PINION]			1	
38	-	325-0053	HOLDER ASSY [GEAR]		1		
	-	325-0052	HOLDER ASSY [GEAR]			2	
39	-	536-0130	GEAR[IDLE]		3		
	-	536-0126	GEAR[IDLE]			6	
40	5000029	536-0021	GEAR[PINION]			1	
41	-	590-0048	WASHER	1	1	1	
42	PFE1903	578-0004	SNAP RING	1	1	1	
43	-	536-0123	GEAR[MOTOR PINION]	1			
	-	536-0131	GEAR[MOTOR PINION]		1		
	-	536-0128	GEAR[MOTOR PINION]			1	
44	-	330-0005	BLDC MOTOR ASSY	1	1	1	
45	PSW2309	515-0016	WRENCH BOLT	2	2	2	
46	-	574-0013	SHELL	1	1	1	
47	-	532-0046	FLANGE	1	1	1	
48	-	515-0001	WRENCH BOLT	4	4	4	
49	-	327-0024	NFA HOUSING ASSY	1	1	1	
50	-	571-0025	SCREW	4	4	4	
51	5000135	539-0005	HEAT SINK	1	1	1	
52	5000143	903-0067	THERMAL SILICONE PAD	1	1	1	
53	-	316-0012	COVER ASSY [SWITCH]	1	1	1	
54	3000555	331-0007	AMP PCB ASSY [SET]	1	1	1	
55	332-0077	796-0003	CONTROL PCB ASSY [OS]	1	1	1	
56	3000529	903-0099	PCB SET	1	1	1	
57	PFF1842A	582-0016	SUPPORTER [PCB]	2	2	2	
58	PFF1824A	555-0002	NUT	1	1	1	
59	PFF1719	526-0020	COVER [CONNECTOR LOCK]	1	1	1	
60	5000070	520-0005	CAP	2	2	2	
61	PSW2803	590-0021	WASHER	2	2	2	
62	PFF1824	555-0001	NUT	1	1	1	
63	3000623	353-0001	THERMISTOR ASSY	1	1	1	
64	5000662	548-0117	LABEL [WINDOW]	1	1	1	
65	-	304-0038	BEARING COVER + SHAFT ASSY	1	1	1	
66	-	901-0160	GEAR BOX	1			
66	-	901-0161	GEAR BOX		1		
66	-	901-0162	GEAR BOX			1	







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