

BWD-63/80/100**

ELECTRICAL TURRETS

INSTRUCTION FOR USE AND MAINTENANCE

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1 GENERAL RULES

1.1 The tool turret YAXING design are provided for being incorporated in numerical controlled turning machines, and they must be used only for this purpose. The maximum performances of the are shown on of the turret relieves YAXING of any responsibility for possible injury to persons and damage to property to and will also invalid any obligation for warranty.

1.2 Befory installing and commissioning the turret, technician and the operator must have read carefully this instruction Manual.

1.3 Commissioning adjustment and repair of the turret must be carride out by skilled and authorized personnel who must follow the instructions in this Manual for all necessary steps.

1.4 YAXING declines any responsibility for any accident or injuries to persons or damages to property due to non observance of the respective safety rules and to the instruction shown in this Manual.

2 Application

This turret is a core of economic and advanced NC lathe. It make sure the workpiece can be automatically processed from turning internal, external and turning surface, arc to threading, groove just by once clamping, and widely used for machine tool, auto, gear, bearing, metallurgy industry etc.

3 Model identification

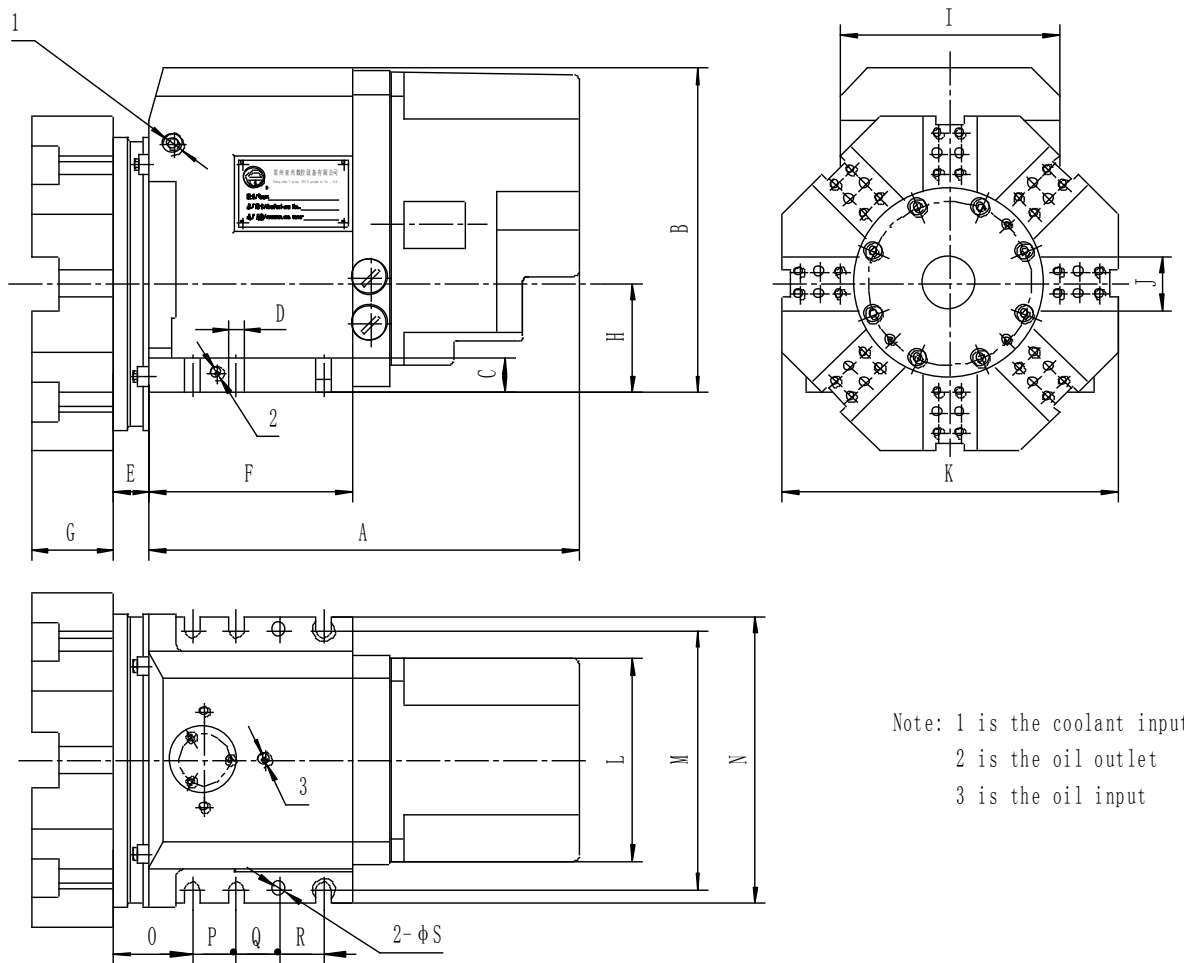
BWD						
Model	position	code	installing method		Centre H	order number
when the turret indexing the disc needn't in axial motion	Nr. 6. pos	6	F	back	63	standard
	Nr. 8. pos	8	other	front	80	01 other 1
					100	

4 Technical data

ITEM		parameter	ITEM		parameter
Center high	mm	63/80/100	Max unbalancing torque	Nm	10/12/25

Positions	N	6; 8	Repeatability accuracy	mm	≤ 0.005
Indexing time 45°	S	1.8/1.8/2.1	Dividing		$\pm 7''$
Indexing time 180°	S	2.9/2.9/3.2	Power of the motot	W	90/150/150
Max tangential torque	KNm	0.8/1.5/3.0	Motor rps	r/min	900/1400/1400
Max axial torque	KNm	0.4/0.6/1.5	Mass(without tooldisc)	Kg	35/50/80

5 Dimension



Model	H	A	B	C	D	E	F	G	I	J
BWD**-63	63	323	205	20	11	26	145	55	140	40
BWD**-80	80	315	238	25	11	26	149	65	160	40
BWD**-100	100	350	280	32	13	32	172	80	205	50
Model	K	L	M	N	O	P	Q	R	S	T
BWD**-63	190	134	165	185	50	30	30	30		G1/4"
BWD**-80	240	149	190	210	58	32	32	32	11	G3/8"
BWD**-100	300	188	220	250	66	40	30	30		G3/8"

Note:Can be made according to your demands

6 Turret indexing sequence

Indexing signal-----motor rotating in CW-----NC received locating signal from turret ----stoped motor in CW and restarted motor in CCW----clamping ----stoped motor----detected the clamping signal and response signal ----working.

7 Sequence diagram

8 Electrical connection

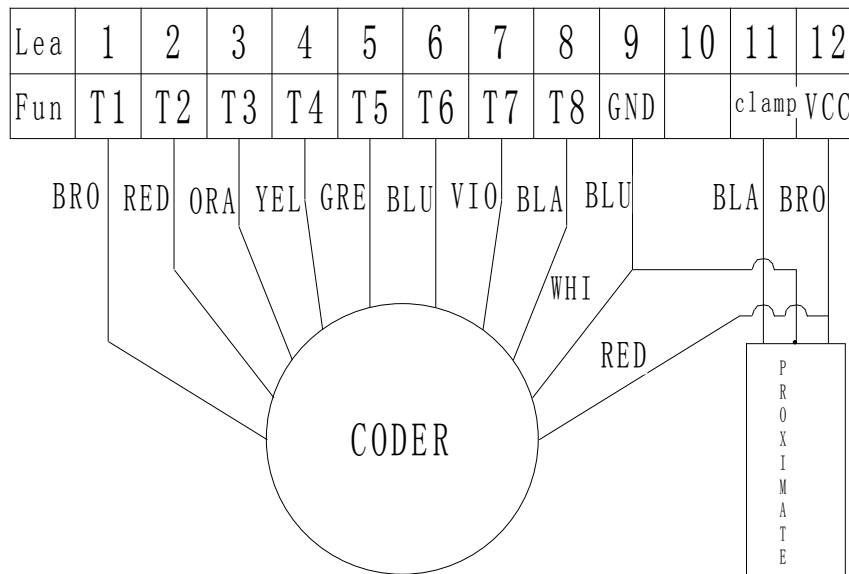
8.1 Motor connection

Lea	1	2	3
Fun	U	V	W

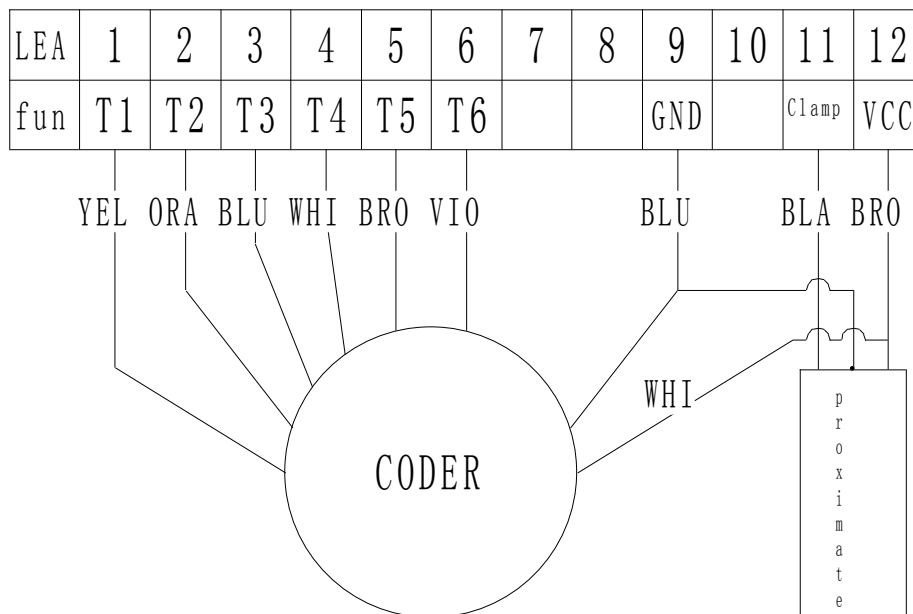
8.2 The connection of the coder and proximity switch.

The signaling device composed of hall coder and optical coder

8.2.1 The connection of the hall coder

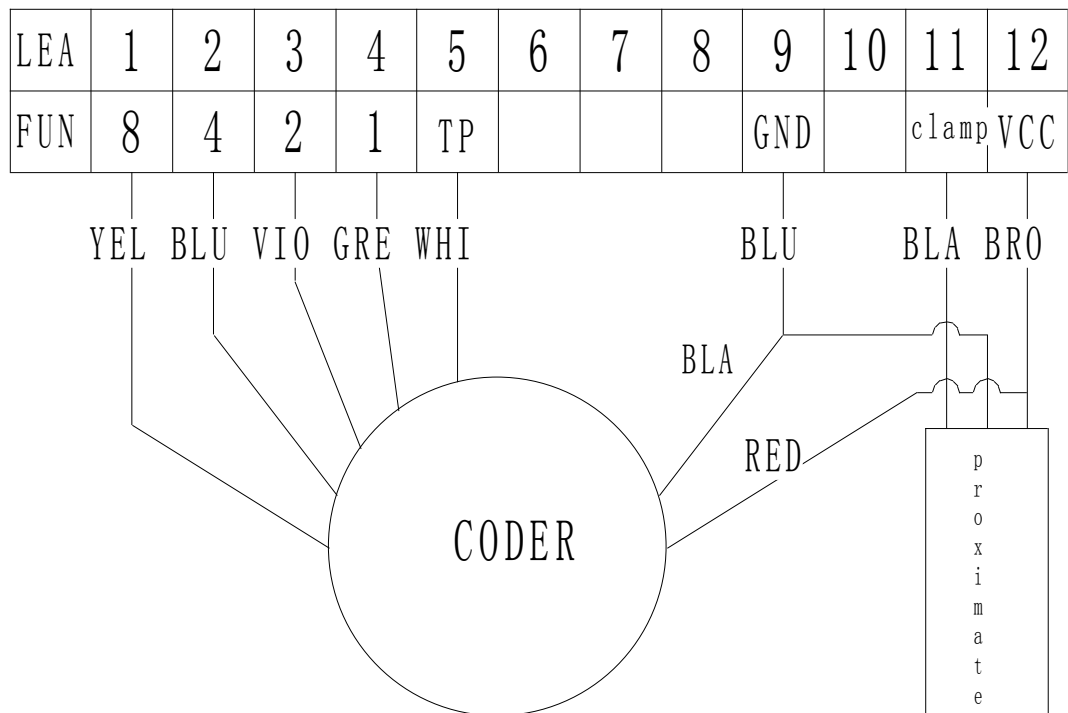


8 STATION TURRET



6 STATION TURRET

8.2.2 The connection of the 8421 coder



8.2.3 explain

8.2.3.1 The clamping signal is from the clamping proximate of the turret and the clamping proximate is the NC PNP switch and it is high lever effective and it's output current is 200mA.

8.2.3.2 Hall coder: it is composed of A1104 BiCMOS Hall-effect switches and lower lever effective.

8.2.3.3 Signaling disc: There are two signaling disc in our company one is the high lever effective signaling disc and it is used for high lever effective CNC system and other is the lower lever effective signaling disc and it is used for lower lever effective CNC system.

8.2.3.4 8421 coder: it is NO PNP output device and it is used 24VDC power and its output current is 25mA.

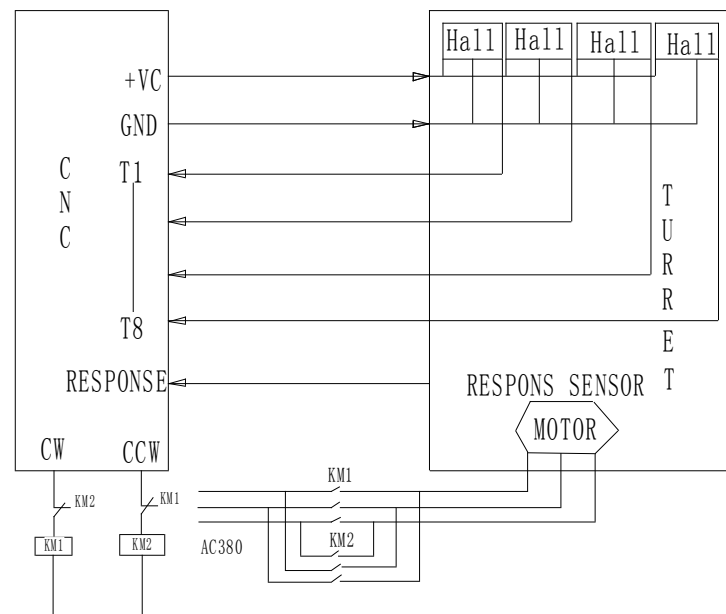
8.2.4 NOTE:

8.2.4.1 Do not short the signaling output terminal or proximate output terminal and electrode of the power short-circuiting.

8.2.4.2 It must be closed the power switch when you connect the coder terminal and the proximate output terminal

8.2.4.3 Because the output device is used CMOS device so when you connect from turret to CNC system the ground connecting of the electric iron must be good.

8.2.4.4 15T diagram



9 Installing and adjusting

9.1 Installing:when the turret is installing at first the assemblies must be coating oil and the driving system must be lubrication.make sure the fixing surface is clean and squared to ensure a proper tool alignment.align the front surface of the disc in order to have it perpendicular to the spindle axis.

9.2 Adjusting

The electric connection must be carried out according to the 15T diagram,The connection cable must be provided with fittings and gasket in order to penetration of water into the turret.When the turret can not indexing at this first must be cutoff the power switch and detected phase of the motor and then restarted,when the turret indexing the turret must be agile and no abnormal sound.

10 Use and maintenance

10.1 The back cap do not removed and every assembly do not changed.

10.2 Indexing frequency < 6 cycle min.

10.3 The CCW clamping time is equal to 0.6-0.8s.

10.4 Maintenance

10.4.1 Every day must be lubricating the mechanical part

of the turret, and after three months must be changed lubricate and coating the oil for the tool disc.

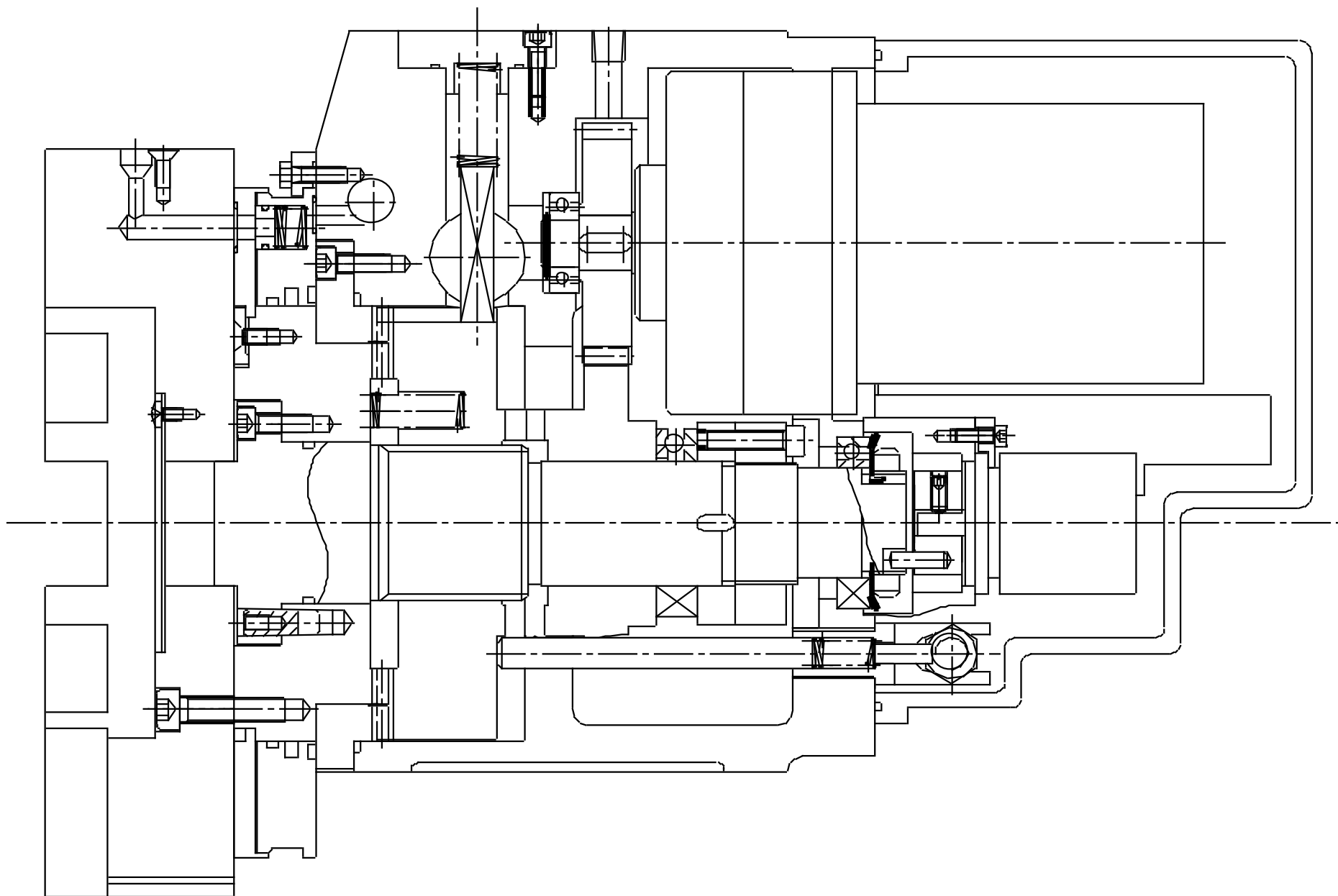
11 Fault finding list correction

Fault	finding	correction
Motor can't start or upper body can't rotation.	1) phase inversion voltage is too low	Cut off the power at once adjust the phase and voltage of the motor then start again.
Upper body rotating continually and can't stop	1) signalling disc bad contact 2) signalling disc fault 3) hall unit is broken or short 4) pole of magnet steel is inversion. 5. the position of the magnet steel and hall unit is relative departure. 6. the hall unit or magnet is bad	Unload cover, checking signalling disc and supply, adjust the position of the magnet and hall unit or replace hall unit
After having correctly performed the indexing cycle the disk still unlocked	1) the time of the CCW is so short. 2) bad contact. 3) with the locking signal cutoff the CCW rotating signal.	Adjusting the time of CCW, checking wire if the turret can't with the locking signal for the motor in CCW
The disc goes on rotating without stopping or over	1) the position of the magnet and hall unit is not good. delay between the CW and CCW is so long	Adjust the position of the magnet and hall unit and delay time between the CW and the CCW.
The face of the workpiece presents some ripple	1) the turret is not clamping. 2) fault of the mechanical system	Adjusted clamping time (must be according to the instruction of the turret)

Note : when adjusting the relative position of the hall unit and magnet the carrier must be locked and the position of hall unit must be 1/3 ahead magnet steel.

12 Disassembly and Installation(Assembly)

12.1 Structure



12.2 Note:

12.2.1 when you dismantling the turret must be marked relatively position of the assembly and do not attained sealed ring of the turret.

12.2.2 when you reassembling the turret it is must be makesure the fixing surface is clean and haven' t dust or other material.

12.2.3 when you adjusted coder at first must be lock the turret at any position and set an approximate positioning by rotating the unit to get the corresponding position code or the signal passes from 1to 0 and mark this new position and tighten the screws of the fixing pieces. .

13 Discard

13.1 Disassemble the tool carrier into parts, clean the greasy dirt of all parts.

13.2 Remove all the seals in the tool carrier .

13.3 Sorting each part.

13.4 Dispose or reuse in accordance with the local resources recycling or disposal regulation.