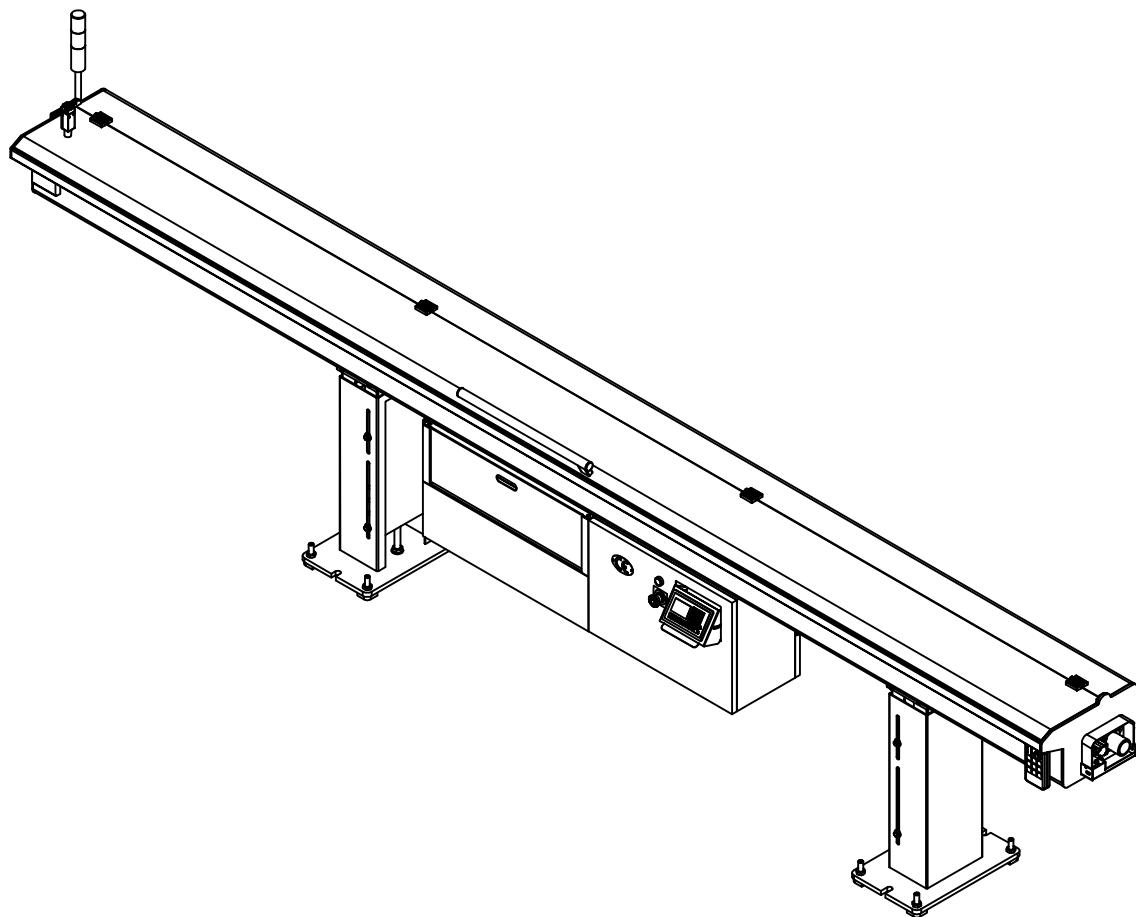


*SCOUT 320
Operation Manual*



*High loading speed
Special development of design*

11600 Adie Road Maryland Heights , MO 63043

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**SCOUT 320
HYDRODYNAMIC AUTOMATIC BAR FEEDER
SCOUT 320/37 EXT / SCOUT 320/37R EXT**

**MANUAL FOR USE AND MAINTENANCE
REV. 2 DATE : 2016/05/10 COD : BS0104032**
S/H

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1. GENERAL INFORMATION



Please read the Manual carefully before operating bar feeder.

1.1 Contents of manual

The feeder manufacturer provides this manual, which is an essential part of the integrated products. Please act according to the indication of the manual in order to assure operators' safety as well as the machines', and greatly achieve economic efficiency and to get the best output of the machine's capability. The important part is printed in boldface, and included the following marks:



Warning :

Hazard! It is possible to hurt you seriously, please be careful.



Watch out-Precautions :

For preventing the accident or the loss of property, you should take precautions.



Important information :

Special important know-how information

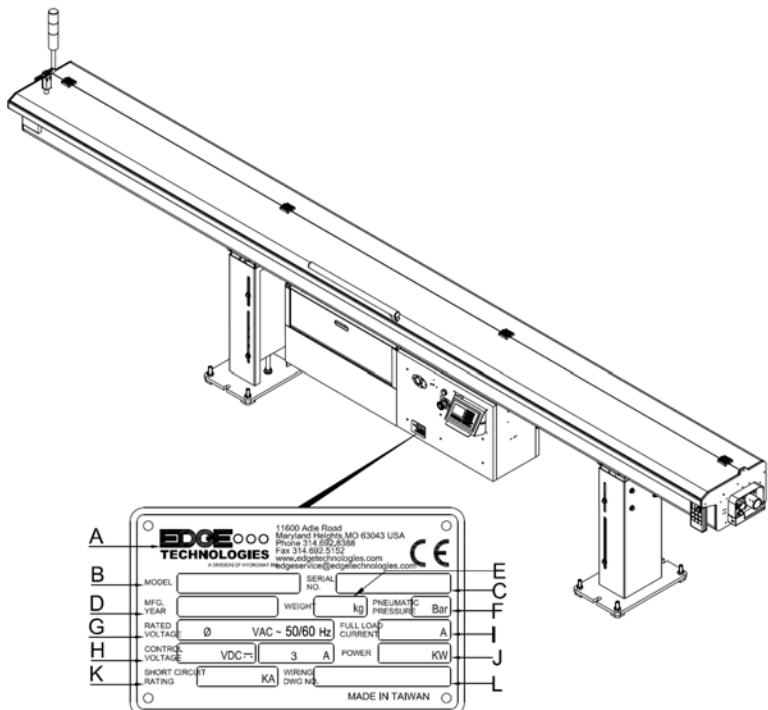
Please take use of the table of contents, you will quickly find the information you need.



The mark shown in the manual means that the machine should be operated by a qualified and expert operator. As to the other operation shall be handled by a qualified personnel or professional operator of bar feeder.

1.2 The label of manufacturer and bar feeder

- A. Name of manufacturer
- B. Model(Type)
- C. Serial Number
- D. Manufacture Date
- E. Weight of Machine
- F. Pneumatic Pressure
- G. Rated Voltage
- H. Control voltage
- I. Full Load Current
- J. Power
- K. Short Circuit Rating
- L. Wiring Drawing Number



INFORMATION :

When inquiring or ordering the parts, please notify the manufacturer the above-mentioned in each standards.

1.3 Support of technique

If you need any support of technique, you can inquire the service center in the appendix at anytime.



INFORMATION :

When you need the support of technique, please refer to the label on the bar feeder. Tell us the data of the bar feeder.

2. DATA OF TECHNIQUE

2.1 Instruction

The hydrodynamic automatic bar feeder is designed for full automatic lathe to auto feed material, the bar feeder is suitable for digital control sliding headstock lathe and fixed headstock lathe.

The program of the PLC system can control the bar feeder running with the lathe. The remote control box is easily to be operated.

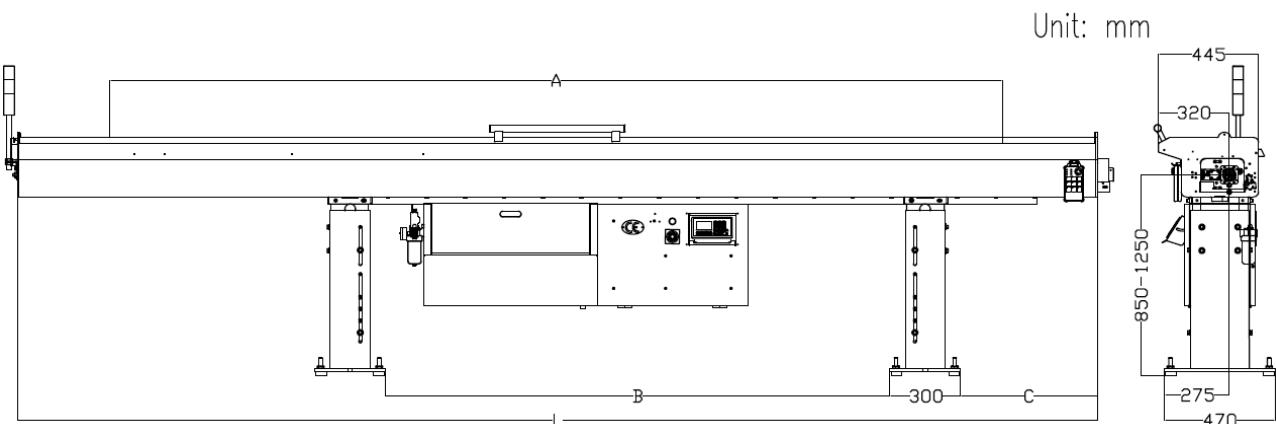
The bar feeder can feed circular material, cannular material and any other forms of material. While the lathe is running, the guide channel is closed completely, at the same time; lubricating oil into the guide channel so that the noise and vibration can be reduced while the material is rotating in high speed.

Furthermore, lubricating oil also can reduce the temperature resulted from friction so that the surface of the material can't be damaged.

The remnant material will be pushed out of the guide channel by the push bar or the next material.

The descriptions and legends of the manual are according to the operator stands at the left side of the lathe to be edited.

2.2 Machine size



MOD	37
L	4599
A (Max.Bar Length)	3800
B	2150
C	584
Weight	420 kg

2.3 General Specification

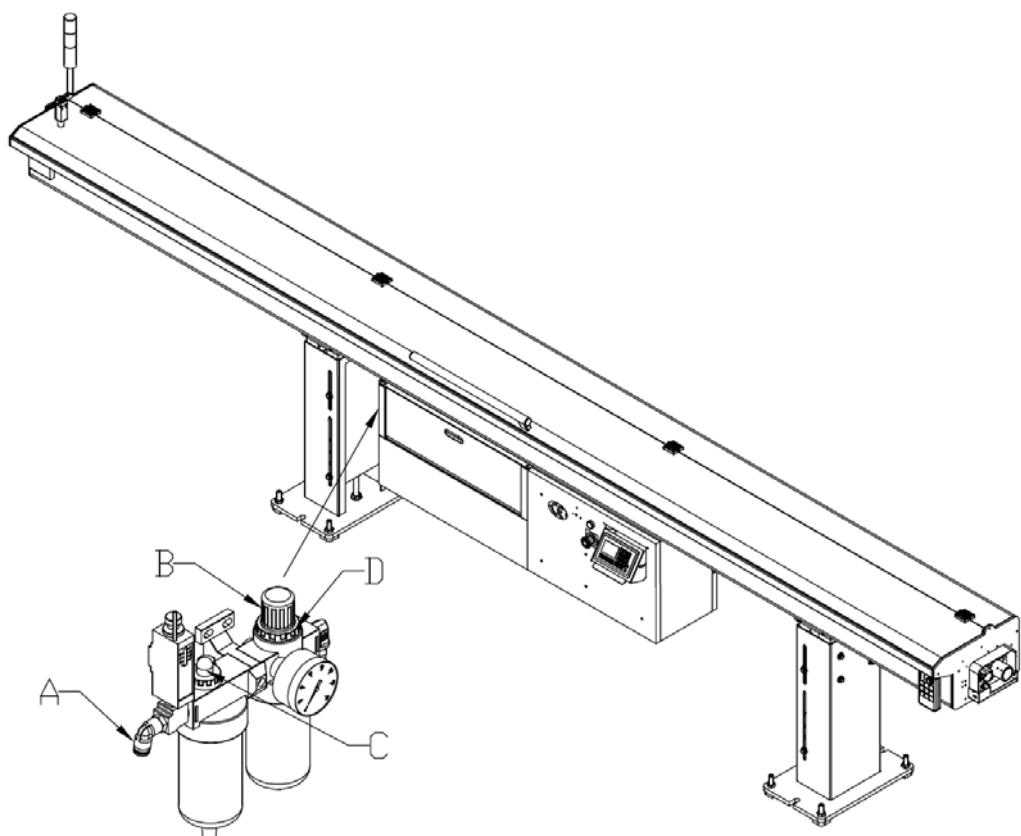
Bar Diameter	<input type="radio"/> 3mm (1/8") ~ 26 mm (1")
	<input type="radio"/> 4 mm (3/16") ~ 21 mm (13/16")
Channel Size	08 / 11 / 14 / 16 / 18 / 20 / 22 / 24 / 28
Bar Loading Capacity	220mm Ø10 x 22mm round bar
Lubricant Specification	40 (L) ISO CKB 100
Power Supply	220 / 380V 0.4A 50 / 60Hz
Pneumatic Supply	5 - 7 kg/cm ²

2.4 Compressed air supply and power supply

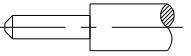
- 2.4.1** Tube for compressed air supply unit must be bigger than 8mm. Pressure must be over 5~7kg / cm² , Consumption about 50L/H .
- 2.4.2** Put the air supply tube into (A) . Then pull and turn around the knob (B) and set the pressure at 6kg / cm² .
- 2.4.3** Control air lubrication from cylinder , adjust (C) , 1-2 drops／1000 L air if necessary.
- 2.4.4** Lubricate (D) , viscosity 32 Cat , temperature 40°C , ISO VG type

Adaptive lubricant

BP ENERGOL HLP32	AGIP OSO 32	MOBIL DTE 24	ESSO NUTO H32
------------------	-------------	--------------	---------------



2.5 Specification of the guide channel

TYPE	Diameter of guide channel (mm)	Diameter of bar pusher (mm)	Diameter of bar (mm)		
			Min.	Max.	
					
SCOUT 320	8	7	1.5	5.5	7
	11	10	2	8	10
	14	12	3	10	12
		12.7			
	16	15	3	13	14
	18	16	3	13	16
		17			
	22	20	3	17	20
		21			
	24	23	3	19	22
	28	25	5	22	25
		27			26



Note ! Outer diameter of the collet must be smaller 0.5 mm than diameter of bar pusher at least

3. TRANSPORTATION



Hazard – warning :

Transportation and hoist (please refer to the item 3.2.1 of following weight table)

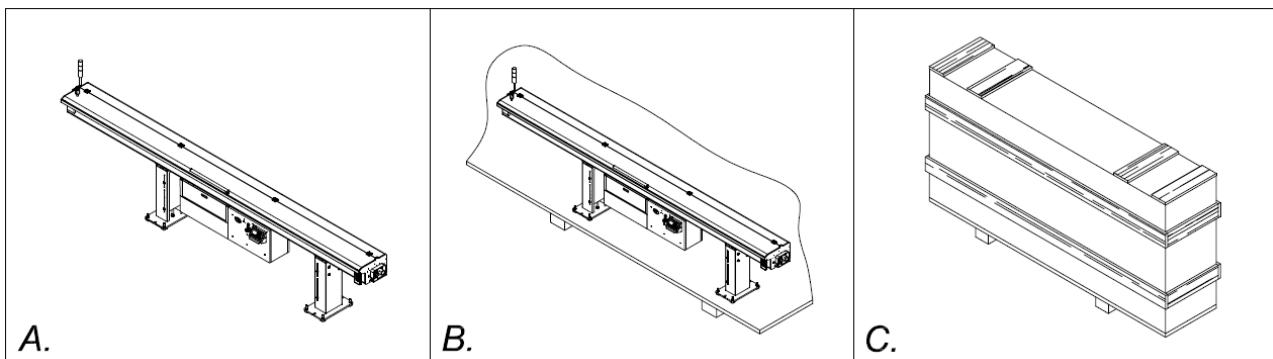
You have to sure the crane; forklift or other related tools could take the weight.

Using the proper equipment to move and hoist the machine should be led by the expert personnel.

3.1 Packing the Feeder

There are three kinds of packing Feeder :

- A. Unpacking.
- B. On the pallet: Put the feeder on the pallet and wrap PE membrane around the feeder.
- C. Packing with wooden box: The Feeder was packed with wooden box and wrap PE membrane around the box.



3.2 Transportation and hoist

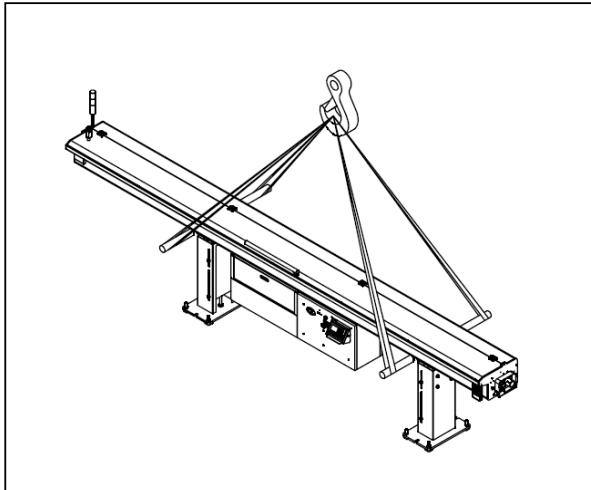


3.2.1 Unpacking

Putting two steel bars (Diameter : 30mm, length: 1M) under the bar feeder, using suitable steel ropes which are able to bear the weight to hoist.

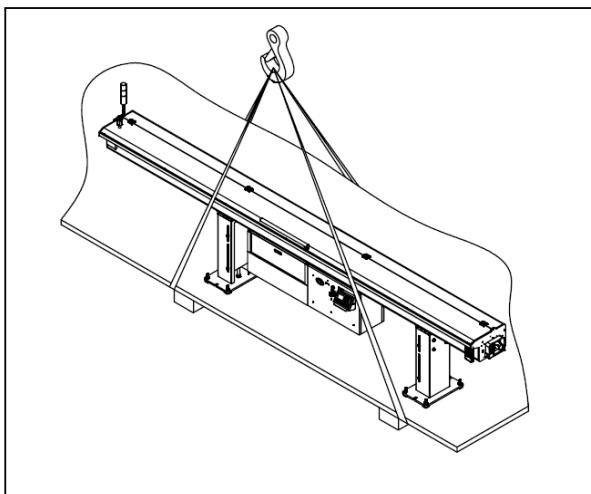
SCOUT 320-37

420KG (NET)



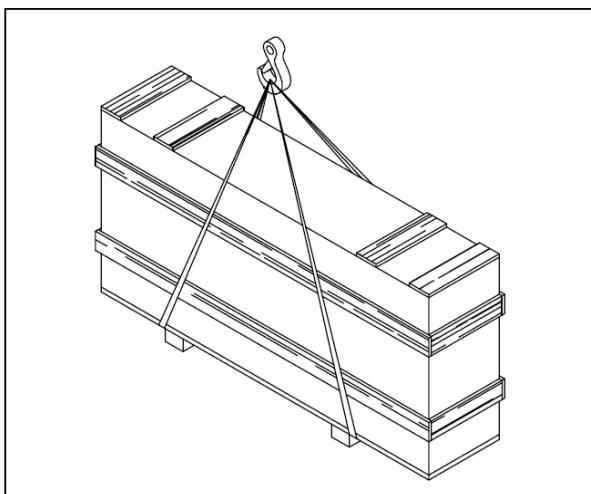
3.2.2 On the pallet

Using suitable steel ropes which is able to bear the weight to hoist the bar feeder.



3.2.3 Packing with wooden box

Using suitable steel ropes which is able to bear the weight to hoist the bar feeder.



3.3 Installation area

In order to fix the feeder securely, the floor must be flat and firm.

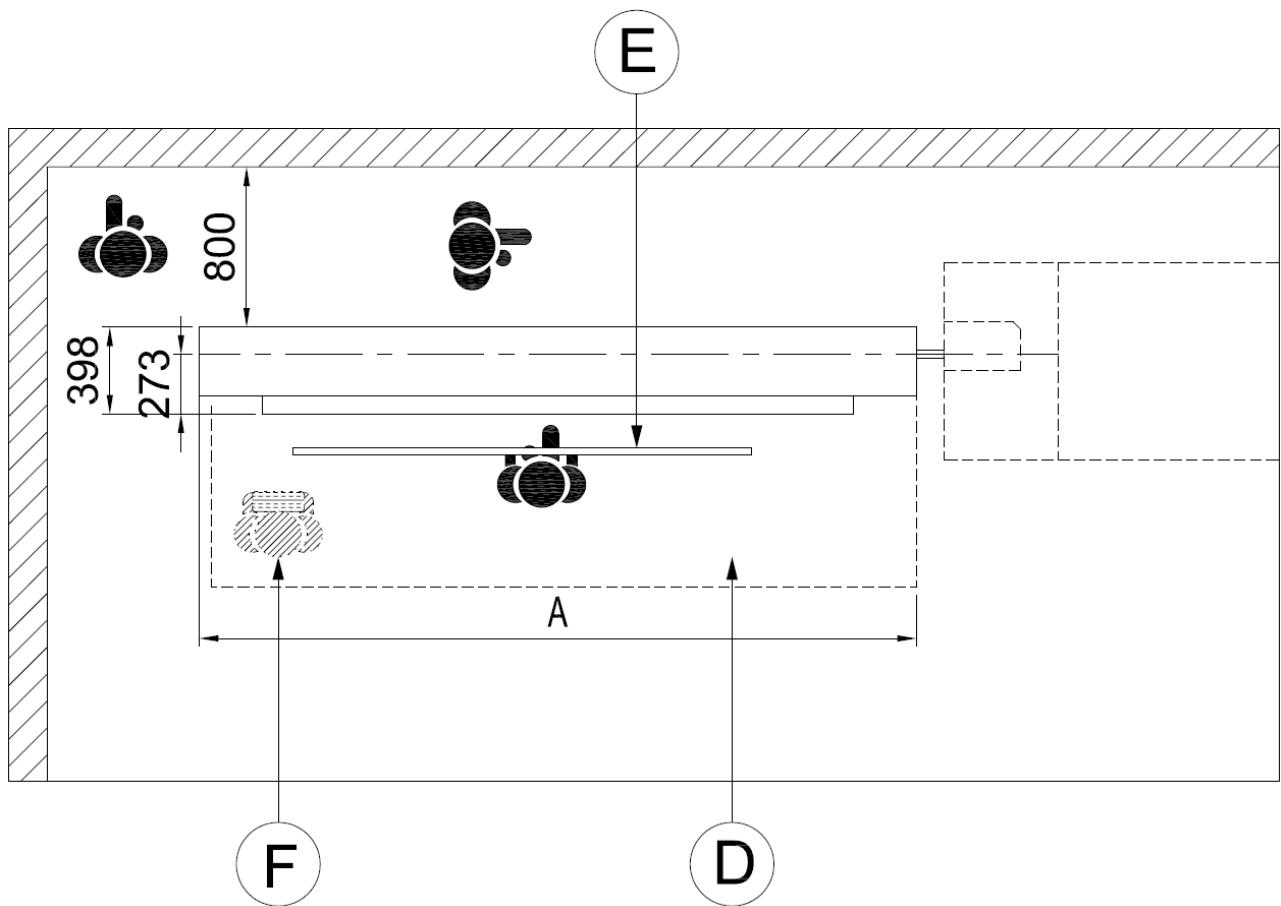
According to the operation of the feeder to reserve a suitable area in advance.

Area : (D-operator area) , (E-supply area) , (F-remnant material area)

The space must be enough to avoid the feeder caused crashed by the operator.

The area of installation needs to have suitable lighting, outlet and compressed air joint.

The feeder can't adapt to explosive surrounding.



List 1.—Size of appearance

Type	Size	A (mm)
SCOUT 320	37	4599

4. INSTALLATION

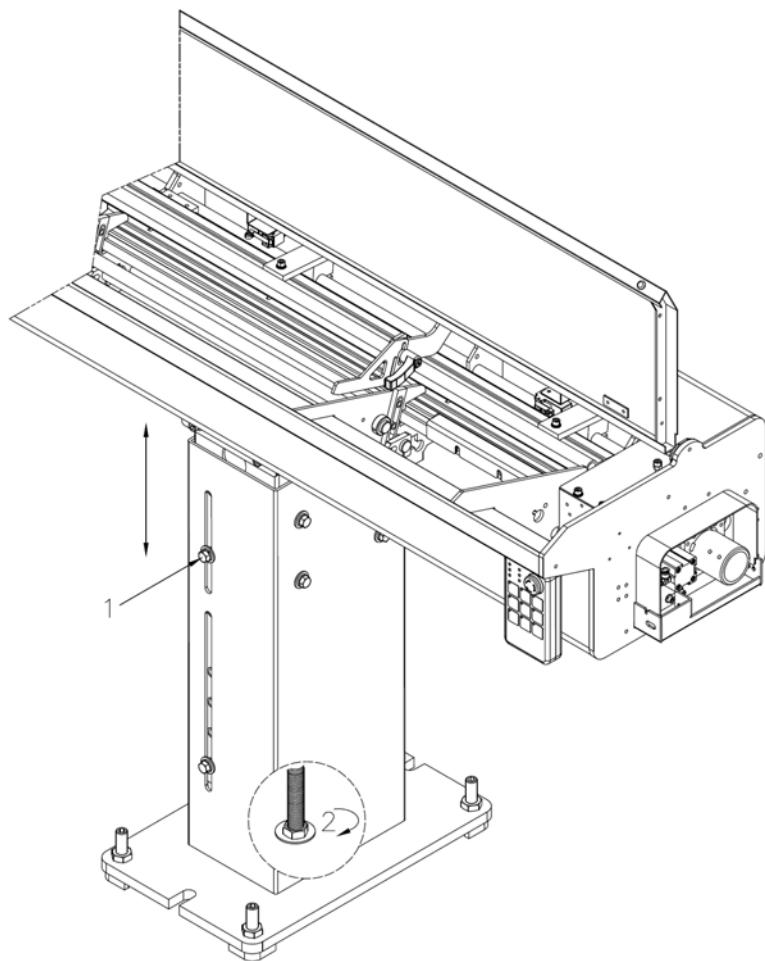
4.1 Bar feeder — Installation

Before installing the bar feeder, the spindle of the lathe must be horizontal and the lathe is fixed on the ground strongly.

4.2 Adjustment of height

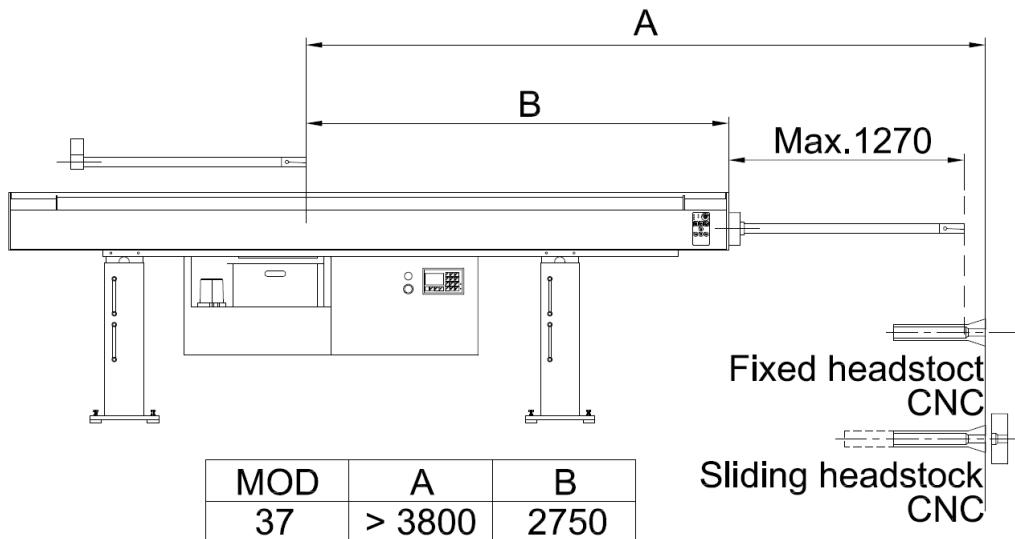
4.2.1 Disengage the screw (1).

4.2.2 Adjust the screw (2) and shift from up to down. Adjust the height to a straight line center of the bar feeder and the center of the lathe.



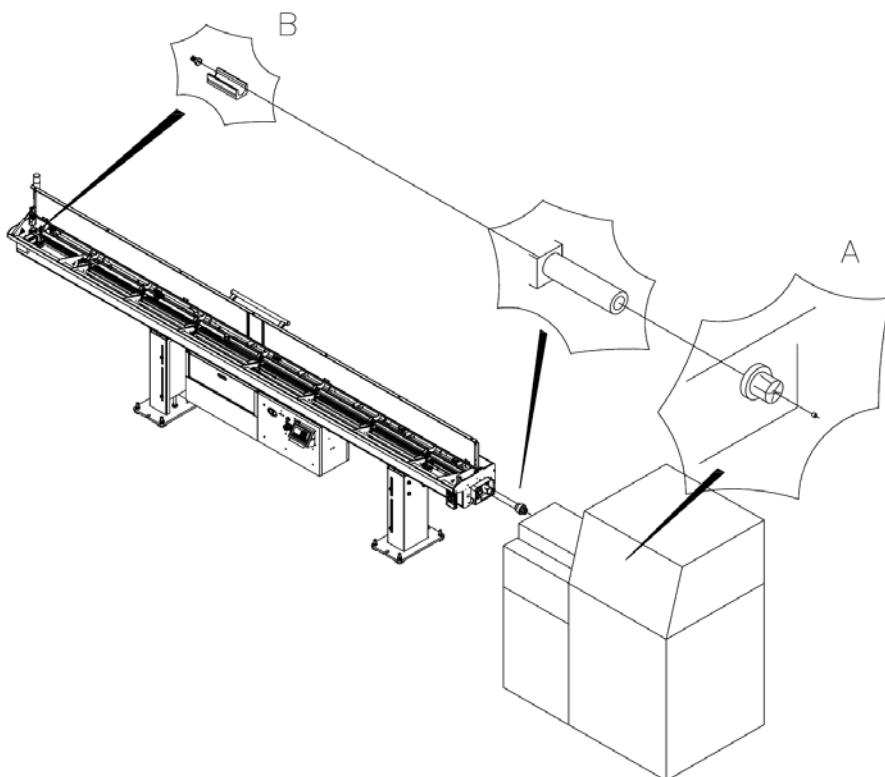
4.3 Initial position

The bar feeder is to place at the back of lathe. The distance is as below :



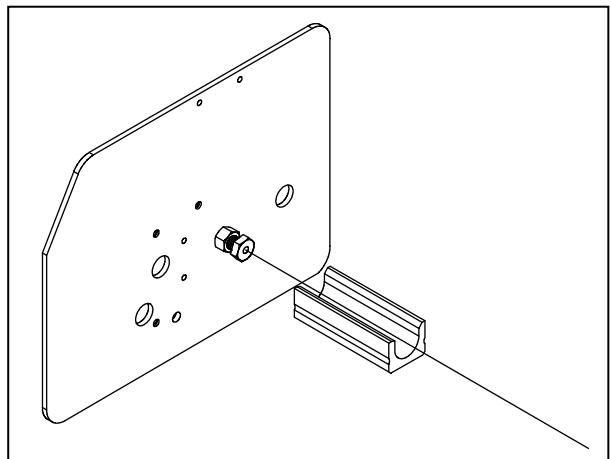
4.4 Adjustment of center

The bar feeder should be as near as possible to the lathe. When installing. In order to have a perfect matching line, prepare a nylon thread (1mm). Pull the nylon thread from the lathe (A) to the end of the bar feeder (B).



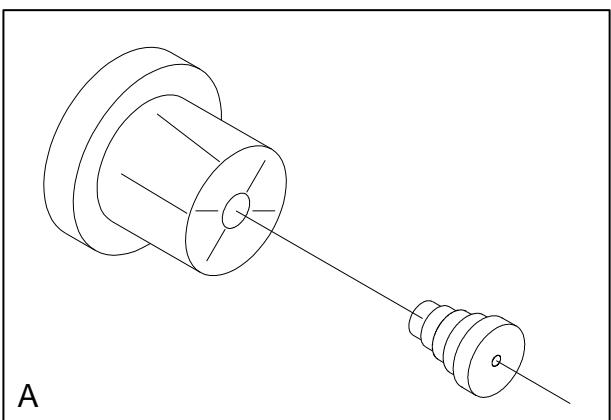
4.4.1

Secure nylon thread on to the axis screws (B point) of bar feeder, then pull the thread through spindle hole.



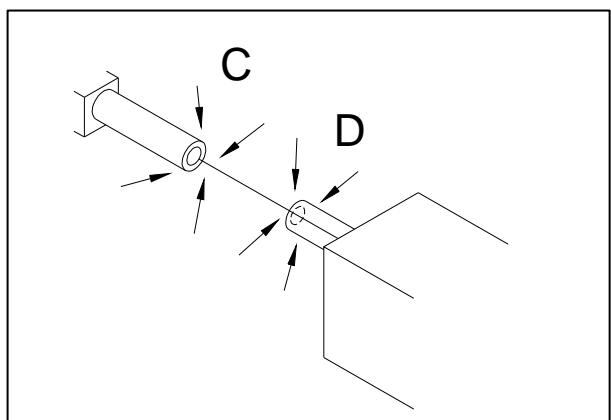
4.4.2

Choose proper ladder bar and insert the chuck, pull the nylon thread and secured.



4.4.3 Directional adjusting

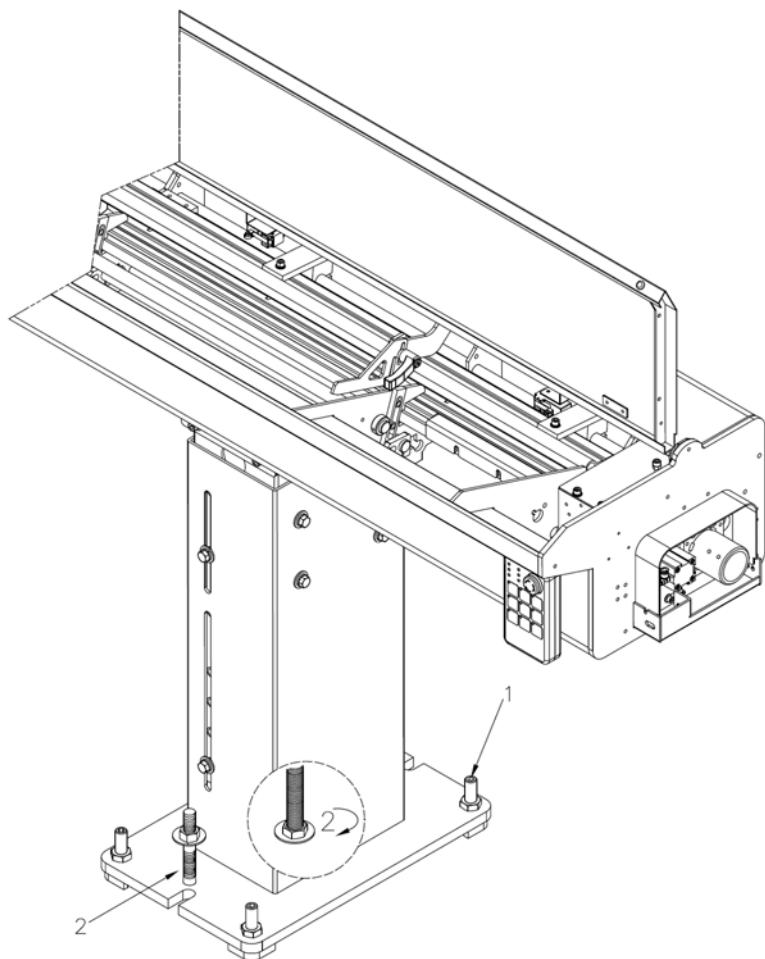
Use the ruler to check the center of the nylon thread, guide(C), and spindle (D). The distance of the four directions is to be within 0.15 mm.



4.5 Securing and fastening of the bar feeder

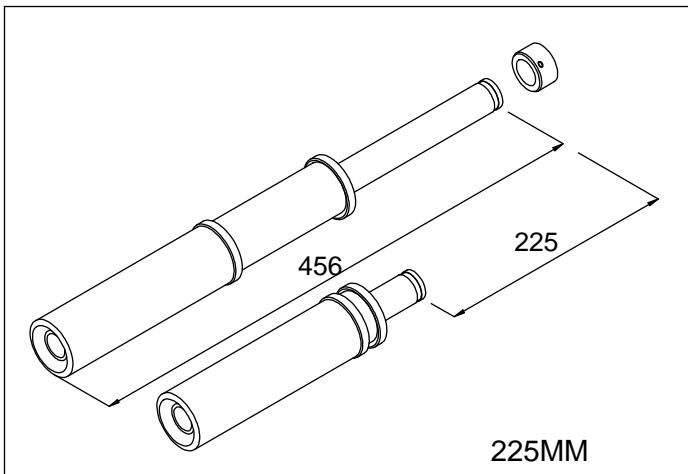
4.5.1 Rotate the 4 ground-screws (1) to touch the ground, and fix the nuts.

4.5.2 Drill ground (2) with Ø19mm ($\frac{3}{4}$ ") of bit, and fix the spindle-screw.

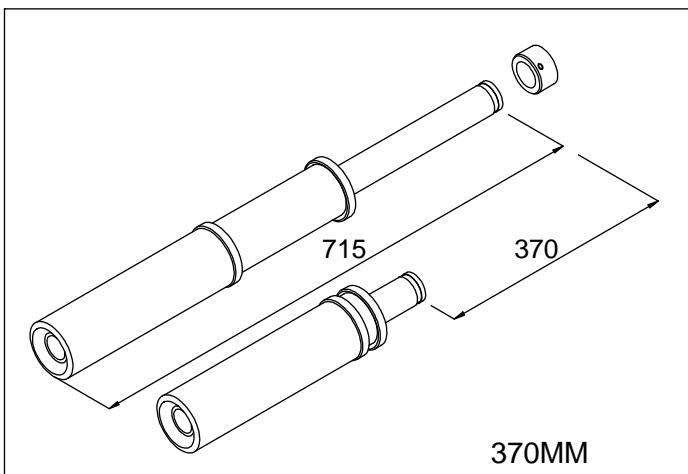


4.6 Installation accessories

- 4.6.1 Movable anti-vibration :** The anti-vibration device is fixed at the end of the spindle of the lathe, using a bar to adjust the center of the anti-vibration.
- 4.6.2 Synchronization connecting rod :** Fix the connecting rod at the movable anti-vibration and makes it move smoothly.
- 4.6.3 Fixed front nose :** Fix it at the support of nose which is in front of the bar feeder.
- 4.6.4 Telescopic front nose :** End of the telescopic front nose fix at the front of the telescopic front nose connects with the plate of the lathe.



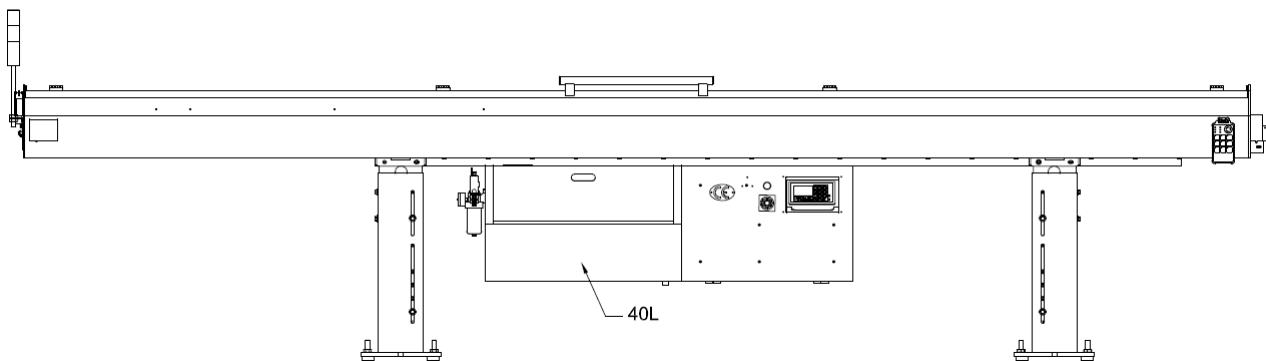
Type	ØA
7	8
10	11
12	14
16	18
20	22
23	24
26	28



- 4.6.5 Oil ring :** Fix the oil ring in front of the fixed front nose or telescopic front nose.

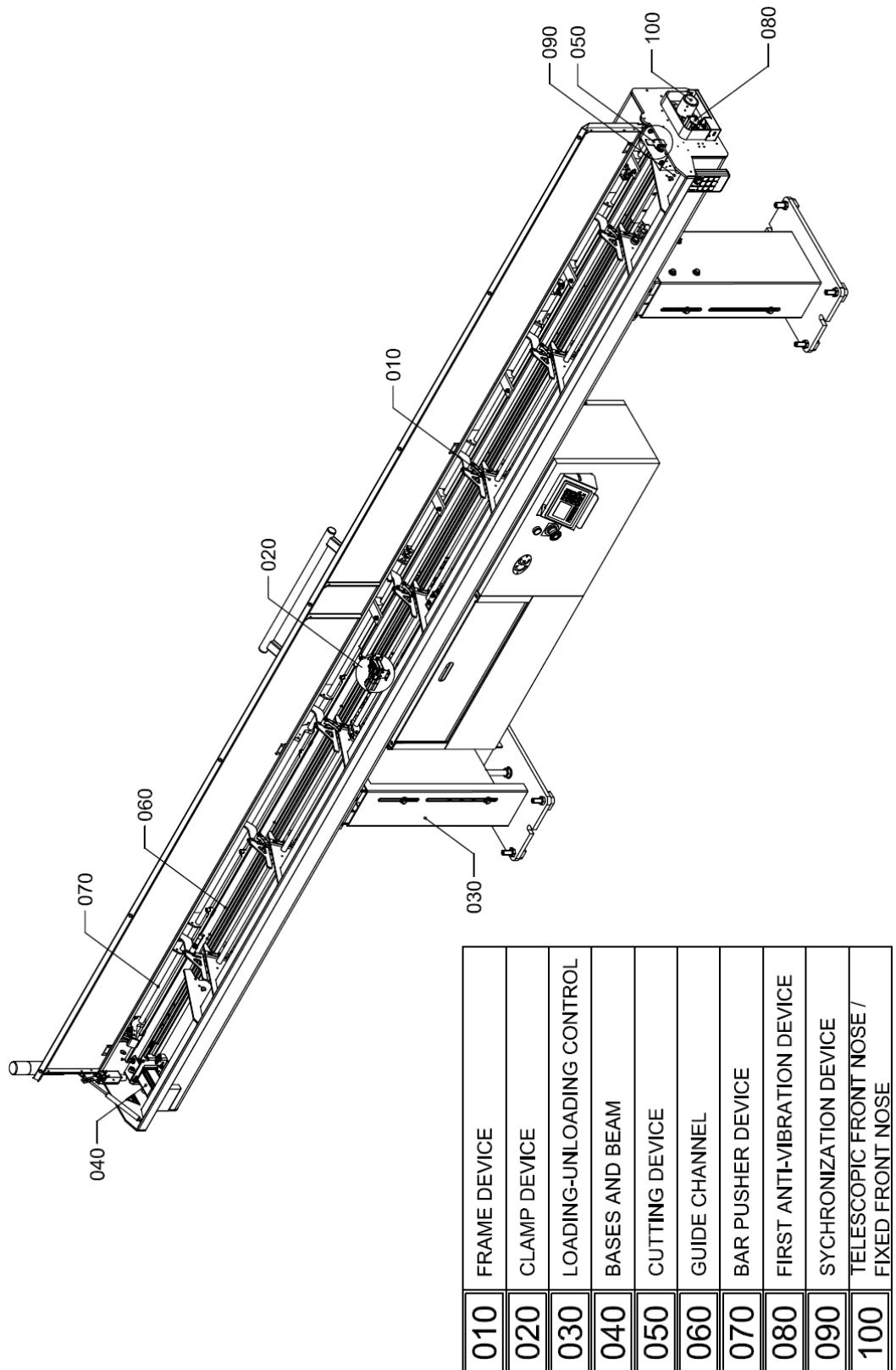
4.7 To lubricate—Guide channel

ISO and UNI brand	Brand	Description
CKB 100	Agip	Acer 100
	Api	Api Cis 100
	BP	Energol CS 100
	Castrol	Magna 100
	Chevron	Circulating Oil 100
	Elf	Movixa 100
	Esso	Nuto 100
	Fina	Solna 100
	IP	IP Hermea 100
	Kluber	Crucolan 100
	Mobil	Vectra Oil Heavy
	Olio FIAT	Daphne LPN 100
	Roloil	Arm V 100
	Shell	Vitreia 100 Tellus C 100
	Tamoil	Tellus C 100
	Texaco	Industrial Oil 100
	Total	Cortis 100
	Q8	Azolla ZS 100



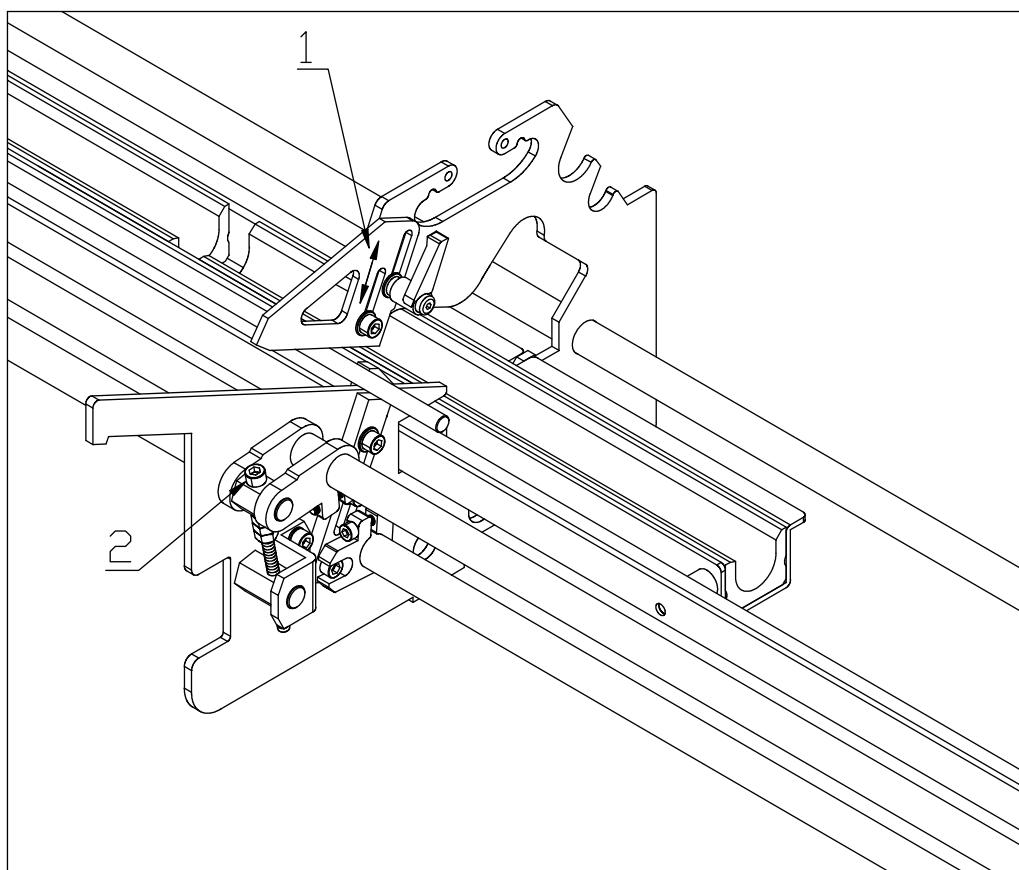
5. ADJUSTMENTS AND SETTING

5.1 Structure of the bar feeder



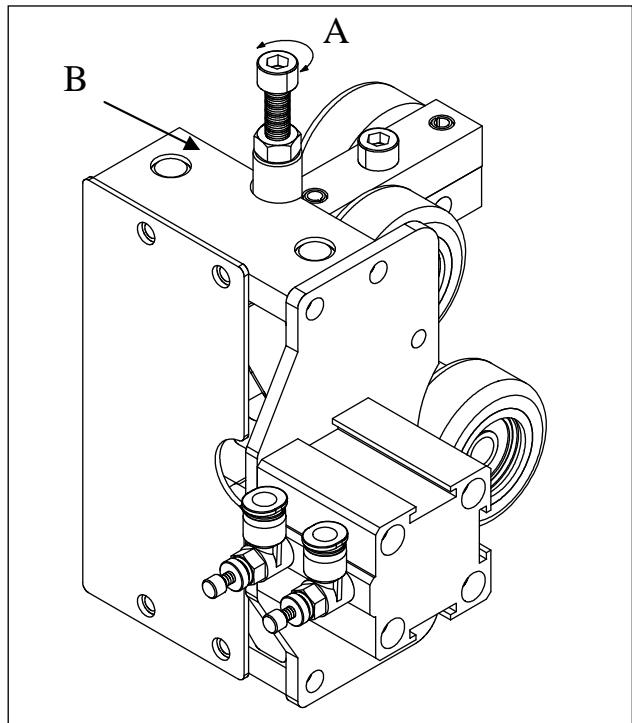
5.2 Adjust the loading device

- 5.2.1 Adjust the plate (1) on the highest position and tighten.
- 5.2.2 Put down the bar on the feeder frame.
- 5.2.3 Rotate the screw (2) so that only the magazine is lifted into the guide channel.
- 5.2.4 Loosen the screws. Adjust the plate until the bar is in place. Then tighten the screws.



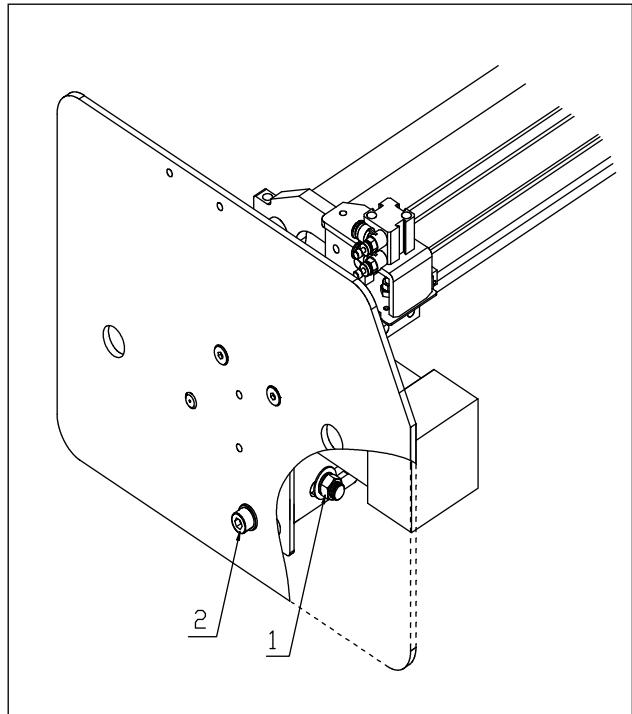
5.3 Adjust and fix the anti-vibration device

- 5.3.1** The collet chuck the bar then sent it into the anti-vibration device. After that, pressing the manual auto.
- 5.3.2** To adjust the screw (A) .
Turn clockwise→
The space become larger ⚡
Turn anti-clockwise→
The space become smaller
- 5.3.3** To adjust the foul wheel of the anti-vibration until the distance between the wheel and bar is 2~3mm.
After that,fix the screw (B) .



5.4 Feeding Chain

- 5.4.1** First loosen screw (1) , then tighten screw (2) to give suitable tension to the feeding chain.
- 5.4.2** After the feeding chains have been adjusted then finish by tightening screw (1) .



6. OPERATIONS AND DESCRIPTION

6.1 Par storage distinction and preparation



CAUTION

Please don't put the material out of standard.

The max length of material

Type	Mod	Max length mm (ft)
SCOUT 320	37	4599

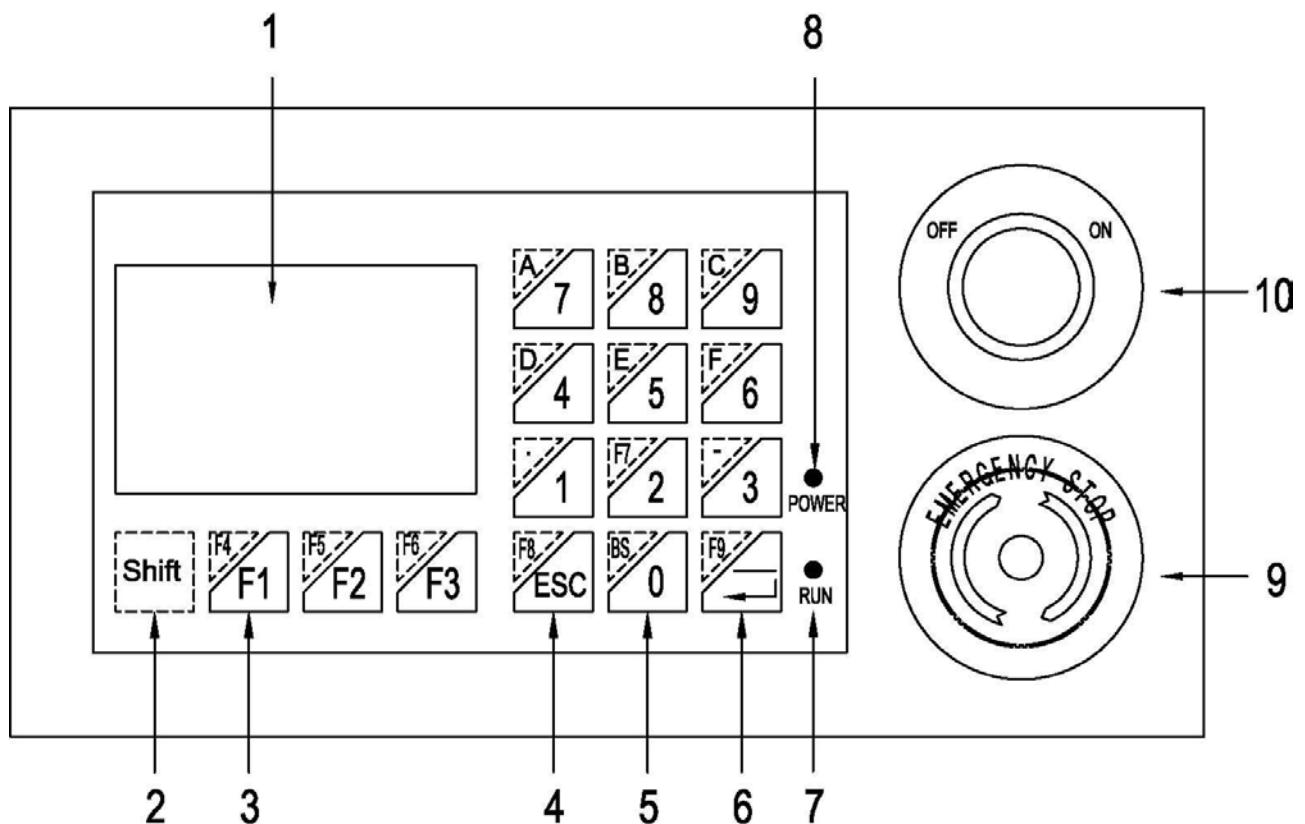


INFORMATION

The flatness of material must be within 0.5mm/M.

6.2 Operation description

6.2.1 H/M function description

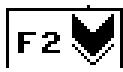


NO.	Function
1	LCD Display area
2	Shift
3	Function
4	ESC
5	Number
6	Enter
7	Run light
8	Power light

6.2.1.1 H/M Program selection :

Press the key according to the indication on the display.

(1)  : Page up

(2)  : Page down

(3)  : Back to the main menu

6.2.1.2 Value of parameter selection :

(1) Input numbers as your request from 0 ~ 9.

(2) Press  again, the input is finished. If you want to give up the input that

you set, press  to give up.

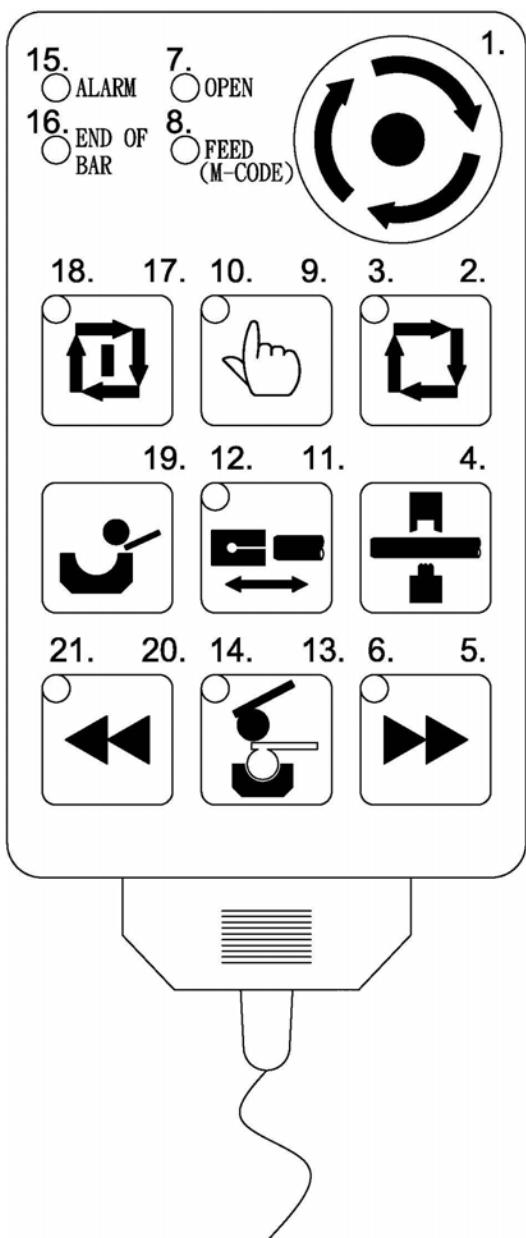
6.2.1.3 F1~F9 Function description :

(1) Select F1 ~ F3, please press these three keys directly.

(2) Select F4 ~ F9, please press and hold  key, and then select other keys as you want.

6.2.2 Description of remote control pendant

6.2.2.1 Description of button and indication light



NO.	Code	Function
1.	ES2	Emergency STOP
2.	DS6	Automatic mode
3.	LDS6	Automatic mode light
4.	DS10	Manual clamping
5.	DS1	Manual advance(Right) Manual retreat(Left)
6.	LDS1	Origin point light(left)
7.	L3	Chuck open light
8.	L4	Allow feeding on
9.	DS7	Manual mode
10.	LDS7	Manual mode light
11.	DS3	Manual clamping in/out
12.	LDS3	Clamping in light
13.	DS4	Manual bar-pusher rise/down
14.	LDS4	Bar pusher down light
15.	L2	Alarm light
16.	L1	Bar end
17.	DS5	Automatic start
18.	LDS5	Automatic start light
19.	DS9	Manual loading
20.	DS2	Manual advance(Right) Manual retreat(Left)
21.	LDS2	+Z light(left)

6.2.2.2 Operation description

(1) Advance / retreat at low-speed

(When the lathe on the left, the motion of  and  are opposite)

Advance at low-speed , press  and .

Retreat at low-speed , press  and .

(2) Automatic work operation (self-motion)

While  and  the guiding light to twinkle, press  and 

start to work automatically. Or while  and  guiding light off, and

either  or  is on, press  and  start to work automatically.

(3) Resetting the Bar Feeder Home Position

When  guide channel up/down light on, press  and 

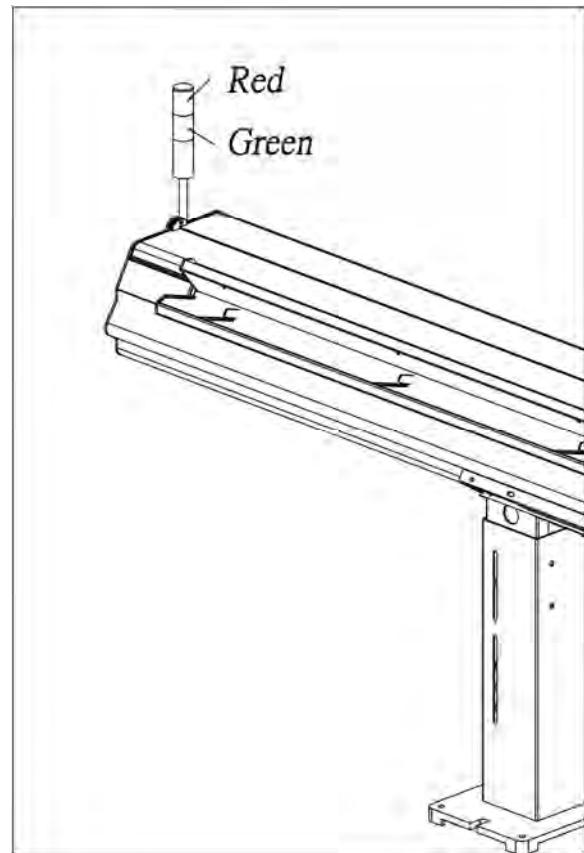
simultaneously for 3 seconds to begin resetting the bar feeder home position.

6.2.3 Indicator Light

When Red light is on, bar feeder is in Emergency stop.

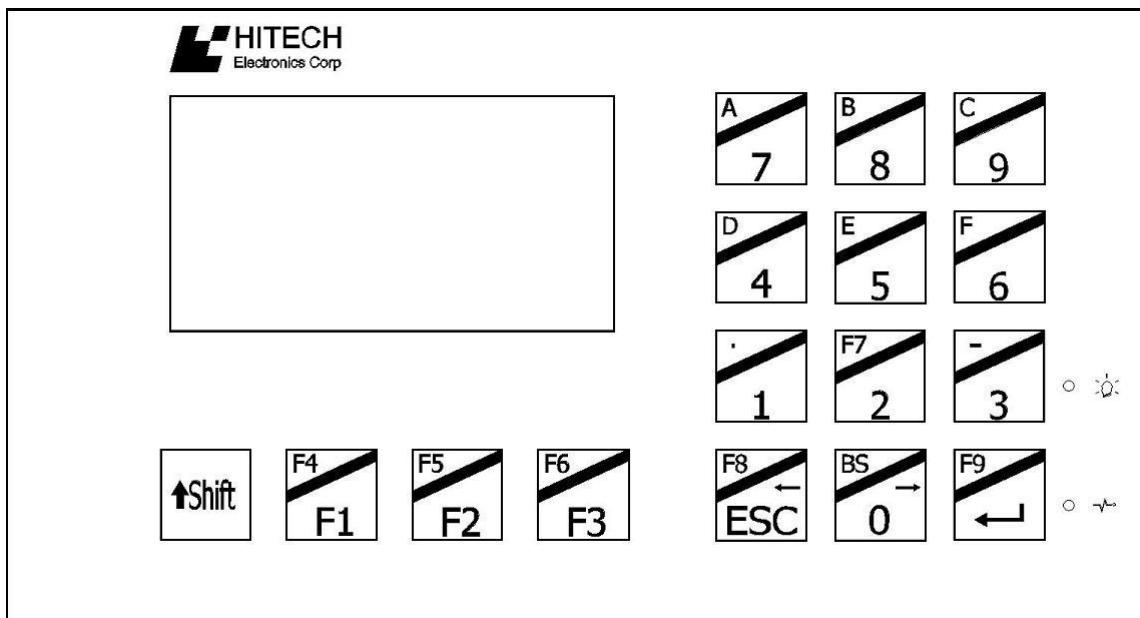
When Green light is on, bar feeder is in machining mode.

When Green light is flashing, bar feeder is in bar change operation.



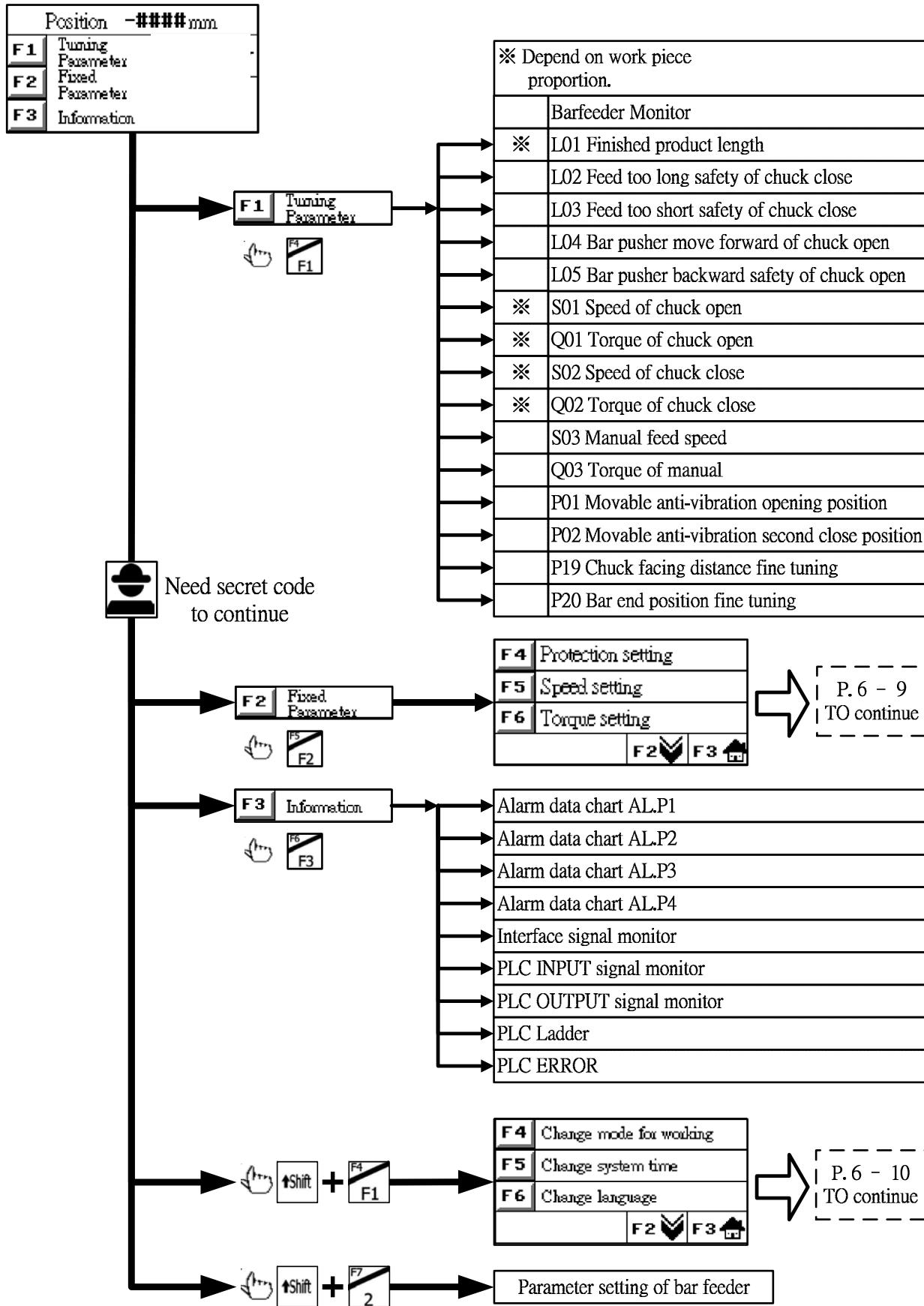
6.3 Description of settings and parameter

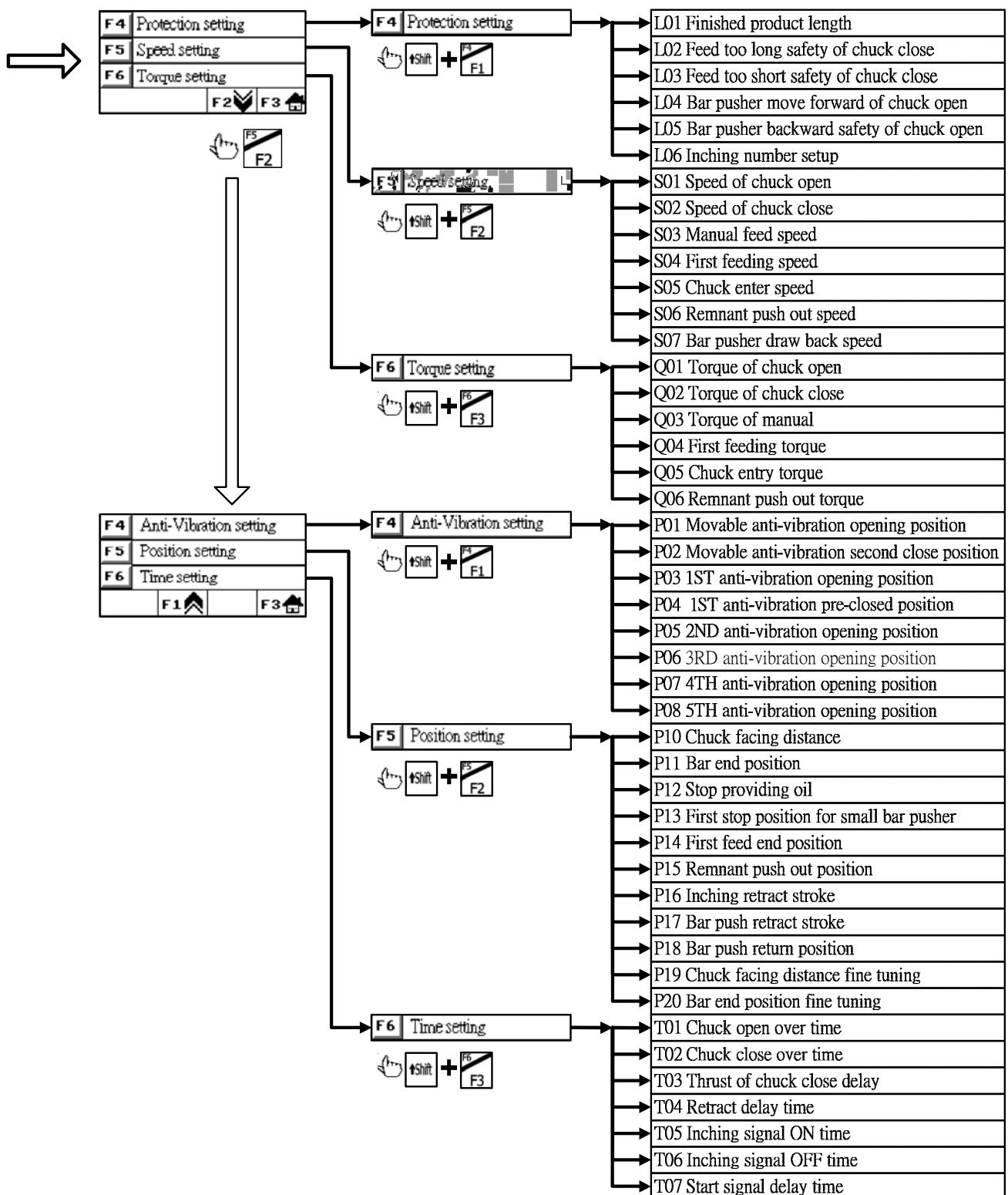
6.3.1 HMI Program selection

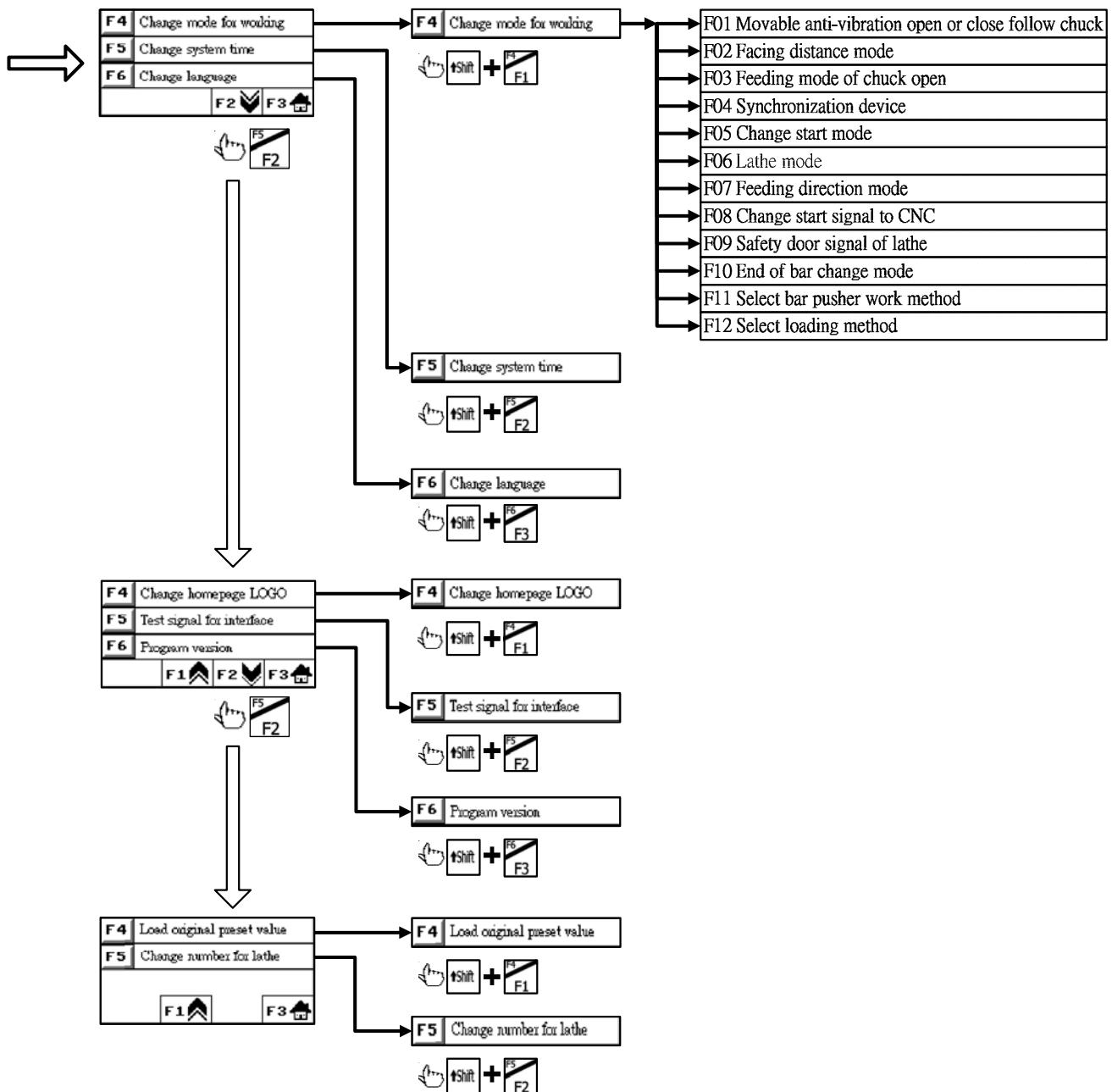


1. **F1** **Press the key :**
2. **F2** **Press the key :**
3. **F3** **Press the key :**
4. **F4** **Press the key :** +
5. **F5** **Press the key :** +
6. **F6** **Press the key :** +
7. **F7** **Press the key :** +
8. **F8** **Press the key :** +
9. **F9** **Press the key :** +

6.3.2 Parameter picture driftage







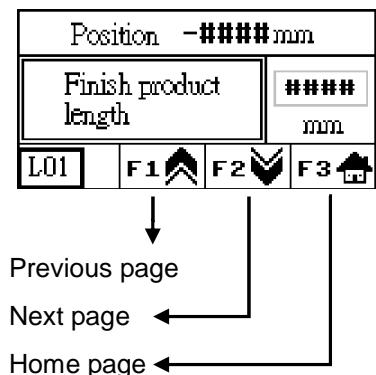
6.3.3 Description of settings and parameter

F1 Turning parameter 【User parameter】

Parameter NO	Parameter name	Parameter description
	Barfeeder Monitor	
L01	Finished product length	Use the Bar end position to generate a signal for bar end.
L02	Feed too long safety of chuck close	Prevents bars from feeding over the length of finished product. To disable parameter function, please set the value to zero.
L03	Feed too short safety of chuck close	Prevents bars from feeding length less than finished product. To disable parameter function, please set the value to zero.
L04	Bar pusher move forward of chuck open	Under automatic mode, the bar pusher move forward and the distance is large than the setting value during chuck opened.
L05	Bar pusher backward safety of chuck open	Under automatic mode, when the bar pusher move backward and the distance is large than the setting value during chuck opened.
S01	Speed of chuck open	The speed of the bar pusher move forward under automatic mode and the chuck is opened.
Q01	Torque of chuck open	The torque of the bar pusher move forward when the chuck is opened under automatic mode.
S02	Speed of chuck close	The speed of the bar pusher move forward under automatic mode and the lathe chuck is closed.
Q02	Torque of chuck close	The torque of the bar pusher moves forward when the chuck is closed under automatic mode.
S03	Manual feed speed	The motor turning speed when the bar pusher move forward under manual mode.
Q03	Torque of manual	The motor torque of the bar pusher moves forward or backward under manual mode.
P01	Movable anti-vibration opening position	The position of the movable anti-vibration device opened under automatic operation.
P02	Movable anti-vibration second close position	The Second close position of movable anti-vibration device stands for the position of bar pusher is over the value of parameter, P01 , the anti-vibration can operate the second close function to clamp bar pusher.
P19	Chuck facing distance fine tuning	Fine tuning for chuck facing position as the datum of chuck facing distance P10 . If the adjustment quantity is less than 200 or large than 200, please adjust the value of chuck facing distance P10 .
P20	Bar end position fine tuning	Fine tuning for the bar end position. If the fine tuning quantity is less than 200 or large than 200, then adjust the parameter P11 , bar end position value.

6.3.4 Parameter application

6.3.4.1 Fixed parameter / enter password “258”

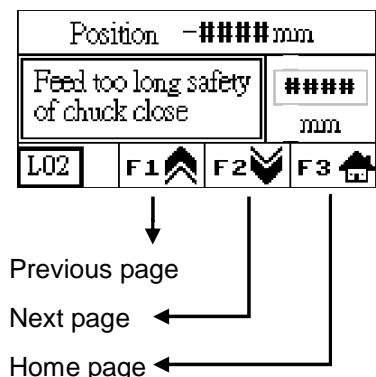


Parameter description : The finished product length will be the workpiece length adding the cutter thickness. This parameter setting may affect the bar end setting.

Setting method : Input the required length.

For example : Workpiece 47mm + thickness of cutter 3mm = The finished product length 50mm . So we will set finished product Length to be 50mm.

3.7LL Generally value :	Setting range : 0~2000
	Setting value :



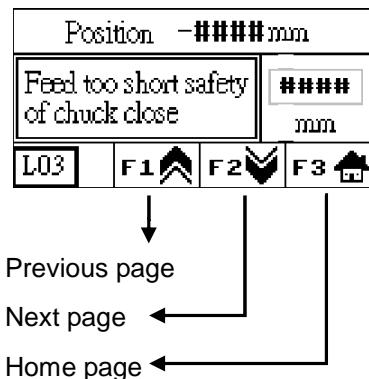
Parameter description : This parameter setting will let feed material more stable and ensure the material to be sent to request location. But if no need to use this function that you can set it to be “0” directly.

Setting method : This parameter will be finished product length to add 5 mm automatically after finished product length setting. This parameter can also be set finished product length to add tolerance.

Ex : Finished product length + Tolerance = Long feed safety

Refer to figure 1 :

3.7LL Generally value :	Setting range : 0~2200
	Setting value :



Parameter description : This parameter setting will let feed material more stable and ensure the material to be sent to request location. But if no need to use this function that you can set it to be "0" directly.

Setting method :

This parameter will be finished product length to deduct 5 mm automatically after finished product length setting. This parameter can also be set finished product length to deduct tolerance.

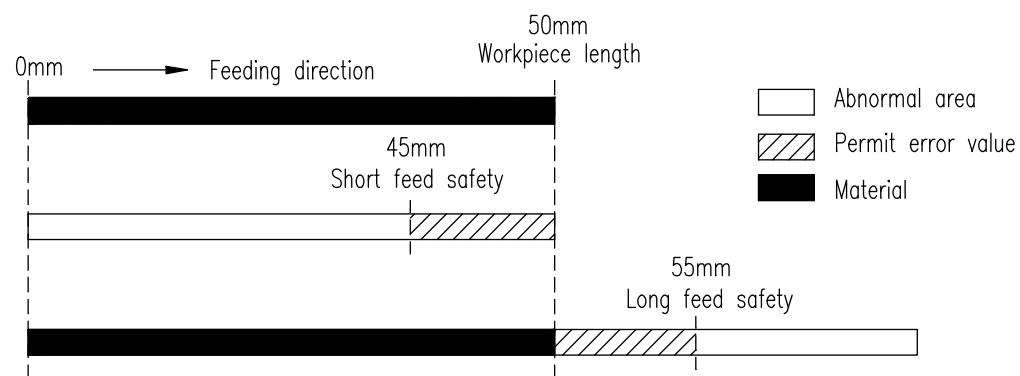
Ex :

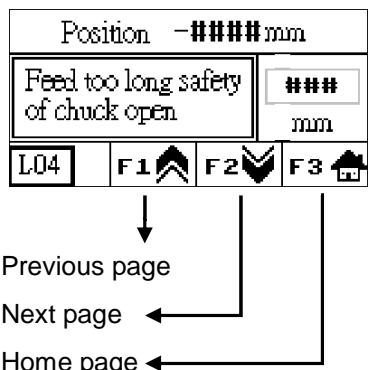
Finished product length - Tolerance = Short feed safety

Refer to figure 1 :

3.7LL Generally value :	Setting range : 0~2200
	Setting value :

(Figure 1)





Parameter description : In automatic mode to set the pusher safety distance during chuck open. If pusher exceeds distance longer than this safety distance that the bar feeder will alarm.

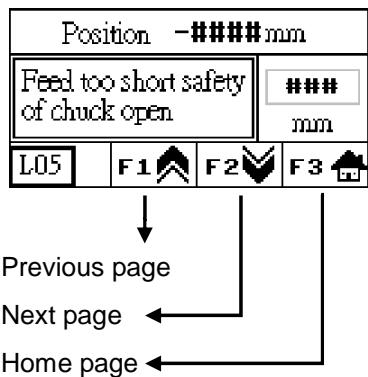
Setting method :

Input the required length.

Note :

The parameter is disabled if set to zero.

3.7LL Generally value :	Setting range : 0~550
	Setting value :



Parameter description : In automatic mode to set the pusher safety distance during chuck open. If pusher retreat distance is longer than this safety distance that the bar feeder will alarm.

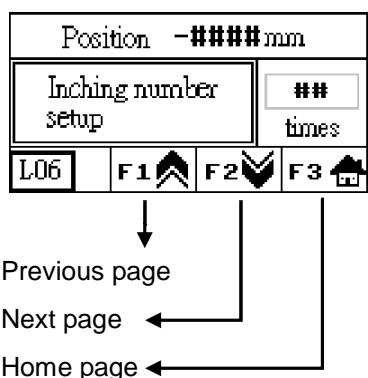
Setting method :

Input the required length.

Note :

The parameter is disabled if set to zero.

3.7LL Generally value :	Setting range : 0~500
	Setting value :

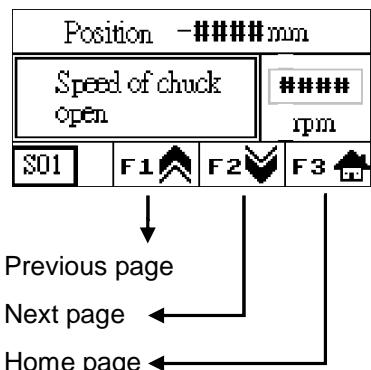


Parameter description : During changing the new bar and the bar pusher stocks or cannot push the new bar toward to the chuck facing position, bar pusher will start the inching movement and the frequency according to this setting value. If the new bar fails to reach chuck facing position and inching frequency exceeds the setting value then bar feeder will show **Alarm16**.

Setting method :

Input the number of required inching movement times.

3.7LL Generally value :	Setting range : 0~50
	Setting value :

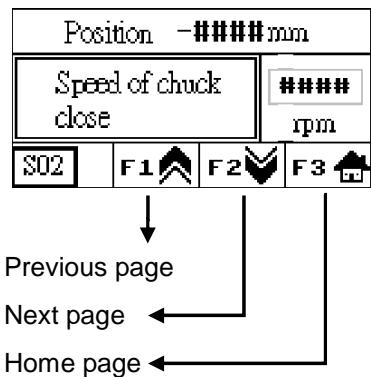


Parameter description : The speed of the pusher during in automatic mode when lathe chuck open.

Setting method : According to the bar material size and torque of chuck close to adjust speed.

Note : When setting value is too high it could cause servo failure.

3.7LL Generally value :	Setting range : 0~500
	Setting value :

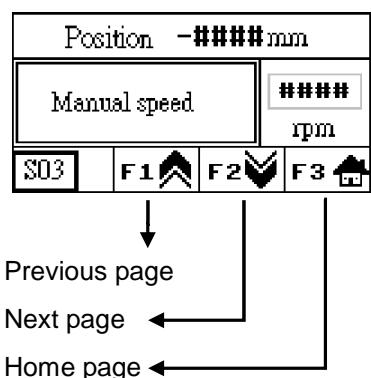


Parameter description : The speed of the pusher during in automatic mode when lathe chuck close.

Setting method : According to the bar material size and torque of chuck open to adjust speed.

Note : When setting value is too high it could cause servo failure.

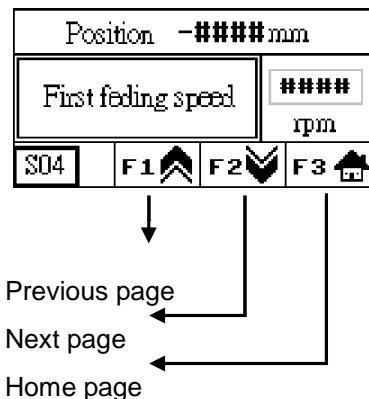
3.7LL Generally value :	Setting range : 0~500
	Setting value :



Parameter description : The pusher speed of manual operation.

Setting method : According to the required speed and manual operation torque to adjust speed.

3.7LL Generally value :	Setting range : 0~500
	Setting value :



Parameter description : The first bar material feeding means guide channel open and bar pusher raising up. The first bar material feeding speed is the pre-feeding pusher speed as the pusher rising up.

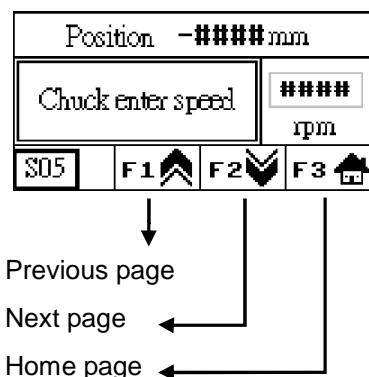
Setting method :

Input the required speed to be the first bar material feeding speed parameter.

Note :

If the speed of pusher is too fast that bar material will pass clamping device to let clamping device miss bar material.

3.7LL Generally value :	Setting range : 0~500
	Setting value :



Parameter description : The speed of pusher entering chuck means that the speed of pusher pushes the new bar material to lathe chuck facing position.

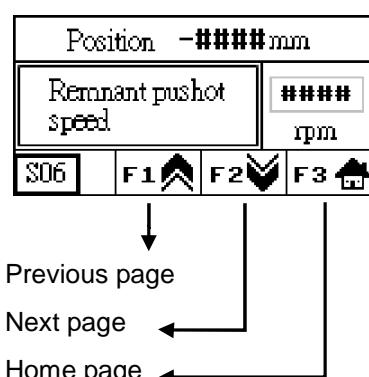
Setting method :

According to required speed and torque of entering chuck to adjust speed.

Note :

Set actual speed to avoid crashing.

3.7LL Generally value :	Setting range : 0~500
	Setting value :



Parameter description : The speed of the bar pusher pushes out remnant when receiving bar end signal.

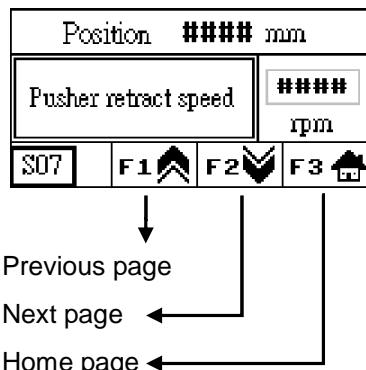
Setting method :

Input the required speed.

Note :

Set actual speed to avoid crashing.

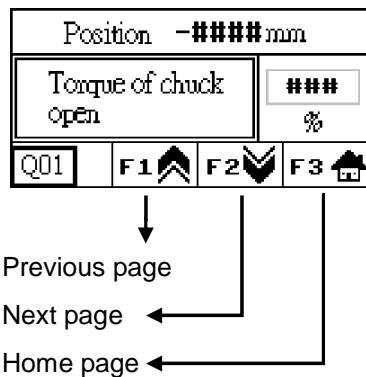
3.7LL Generally value :	Setting range : 0~500
	Setting value :



Parameter description : Retracting speed of the bar pusher in manual or automatic mode.

Setting method : Input the required speed.

3.7LL Generally value :	Setting range : 0~1000
	Setting value :

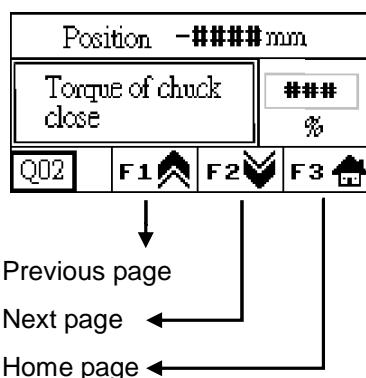


Parameter description : The torque of pusher moves forward when automatic mode and lathe chuck open.

Setting method : According to the bar material size and speed of chuck open to adjust torque.

Note : When setting value is too high it could cause servo failure.

3.7LL Generally value :	Setting range : 0~800
	Setting value :

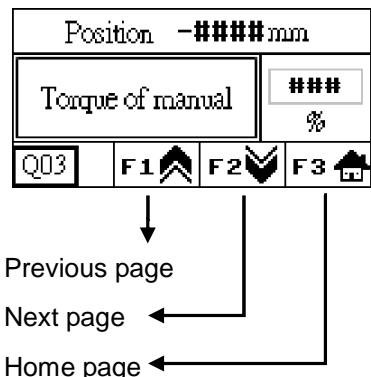


Parameter description : The torque of pusher moves forward when automatic mode and lathe chuck close.

Setting method : According to the bar material size and speed of lathe chuck close to adjust torque .

Note : When setting value is too high it could cause servo failure.

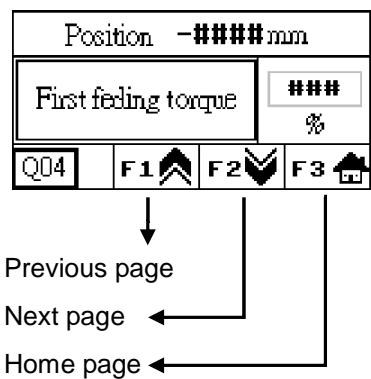
3.7LL Generally value :	Setting range : 0~800
	Setting value :



Parameter description : The torque of bar pusher moves forward in manual operation mode.

Setting method : According to required torque and speed of manual operation mode to adjust torque.

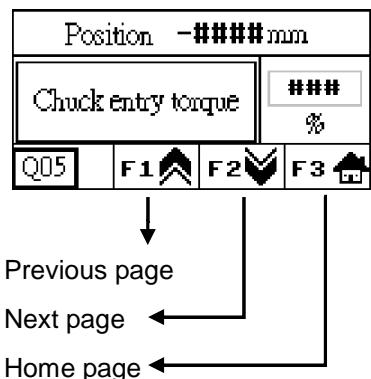
3.7LL Generally value :	Setting range : 0~800
	Setting value :



Parameter description : The torque of pusher entering chuck means the torque of pusher when pushing the new material to chuck facing.

Setting method : According to required torque and speed of manual mode to adjust torque.

3.7LL Generally value :	Setting range : 0~800
	Setting value :

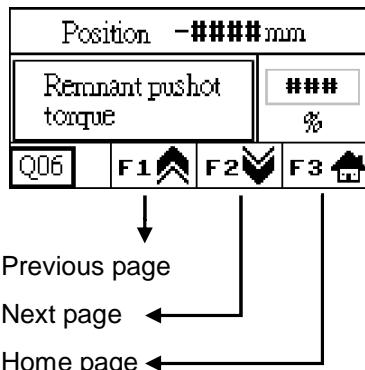


Parameter description : The torque of pusher entering chuck means torque of pusher when loading new bar material and pushing to facing position.

Setting method : According to required torque and speed of entering chuck to adjust torque.

Note : The setting value is too large will cause crashing.

3.7LL Generally value :	Setting range : 0~800
	Setting value :



Parameter description : The torque of the bar pusher pushes out remnant when receiving bar end signal.

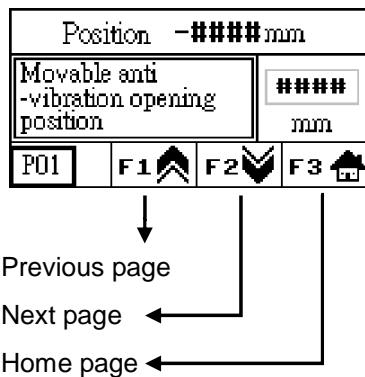
Setting method :

Input the required torque.

Note :

The setting value is too large will cause crashing.

3.7LL Generally value :	Setting range : 0~800
	Setting value :



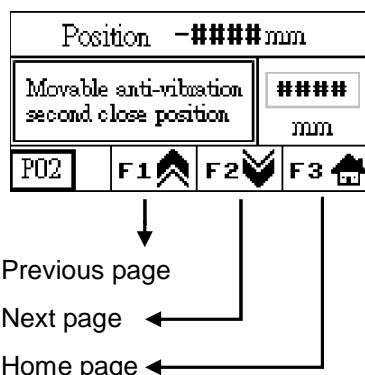
Parameter description : In automatic mode anti-vibration device open position.

Setting method :

There are two open positions as following.

1. Let lathe spindle move to Z limit position and pusher move forward nearby anti-vibration .Then input the current position.
2. Let lathe spindle move to spindle retreating position when working mode and lathe chuck open. Then move pusher forward nearby anti-vibration .Then input the current position.

3.7LL Generally value :	Setting range : 0~5000
	Setting value :



Parameter description : Move-antivibration device will do the second close action to clamp bar pusher when bar pusher passed anti-vibration open position.

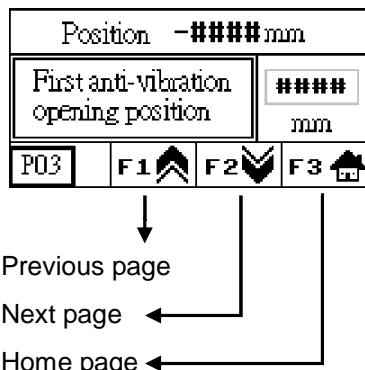
Setting method :

This position will be movable anti-vibration open position to add 150 mm.

Note :

To disable this parameter function, set the value to zero.

3.7LL Generally value :	Setting range : 0~5000
	Setting value :

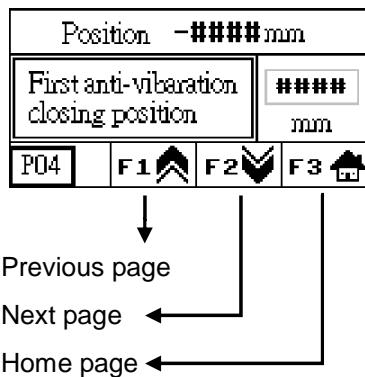


Parameter description : In automatic mode setting 1st Anti-Vibration Device open position.

Setting method : In manual mode collet will be pushed forward until 30~50mm before 1st anti vibration device. Then input the current position.

Note : First anti-vibration should be opened before the collet will be arrived to avoid the material was separated from the collet.

3.7LL Generally value :	Setting range : 0~5000
	Setting value :

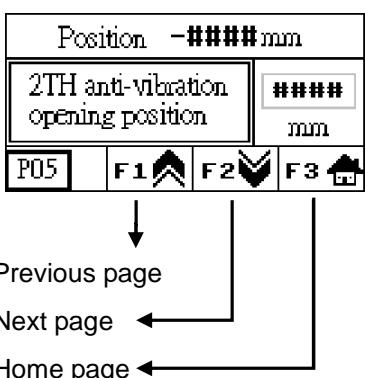


Parameter description : In automatic mode the pre-feeding pusher will push bar material when the pusher rising. Then anti vibration device will open when pusher pushes bar material to touch chuck facing sensor.

Setting method : Input the required length.

Note : To disable this parameter function, set the value to zero.

3.7LL Generally value :	Setting range : 0~5000
	Setting value :

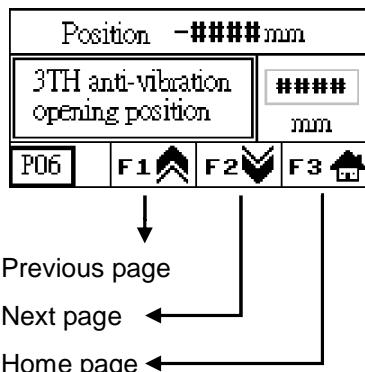


Parameter description : 2nd Anti-Vibration Device open position in working mode.

Setting method : In manual mode pusher will be pushed forward until 30~50mm before 2nd anti vibration device. Then input the current position.

Note : The Second anti-vibration should be opened before the end of the push bar will be arrived to avoid the material was separated from the collet.

3.7LL Generally value :	Setting range : 0~5000
	Setting value :

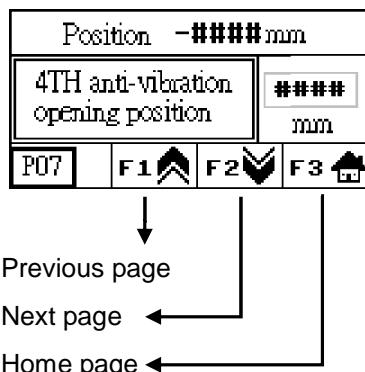


Parameter description : 3rd Anti-Vibration Device open position in working mode.

Setting method : In manual mode pusher should be pushed 30~50mm before 3rd anti vibration device. Then input the current position.

Note : The Third anti-vibration should be opened before the end of the push bar will be arrived to avoid the material was separated from the collet.

3.7LL Generally value :	Setting range : 0~5000
	Setting value :

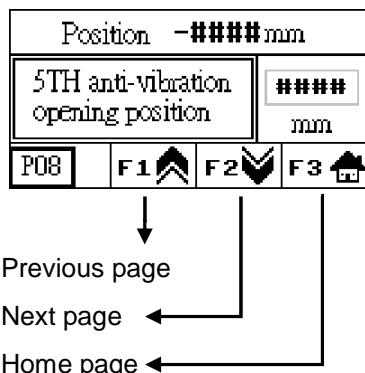


Parameter description : 4th Anti-Vibration Device open position in working mode.

Setting method : In manual mode pusher will be pushed forward until 30~50mm before 4th anti vibration device. Then input the current position.

Note : The Forth anti-vibration should be opened before the end of the push bar will be arrived to avoid the material was separated from the collet.

3.7LL Generally value :	Setting range : 0~5000
	Setting value :

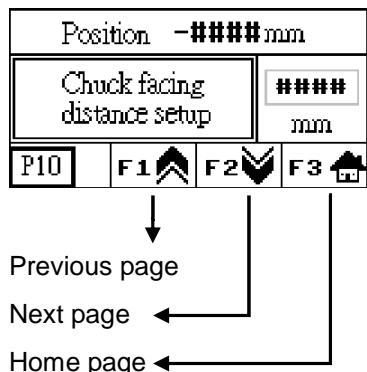


Parameter description : 5th Anti-Vibration Device open position in working mode.

Setting method : In manual mode pusher should be pushed forward until 30~50mm before 5th anti vibration device. Then input the current position.

Note : The Five anti-vibration should be opened before the end of the push bar will be arrived to avoid the material was separated from the collet.

3.7LL Generally value :	Setting range : 0~5000
	Setting value :

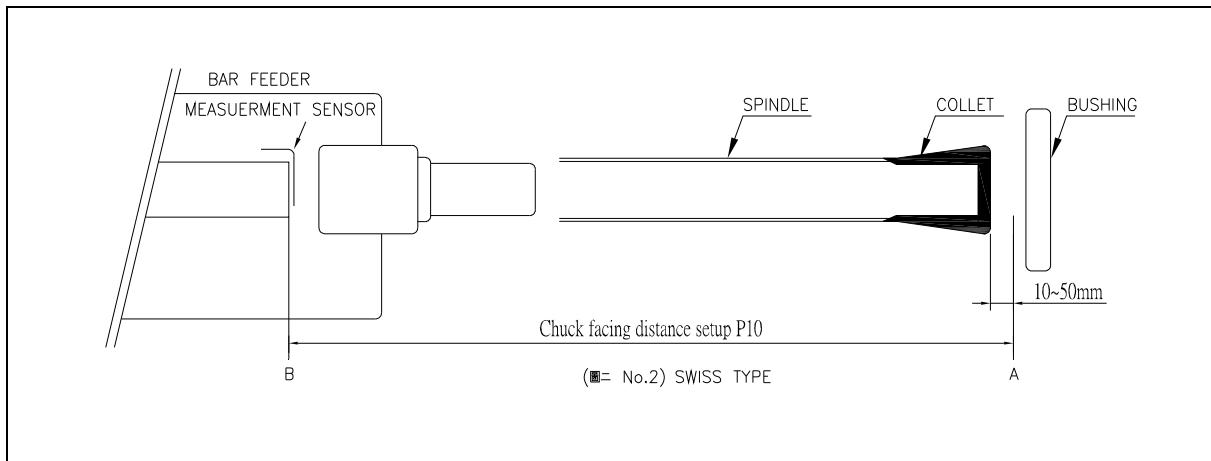
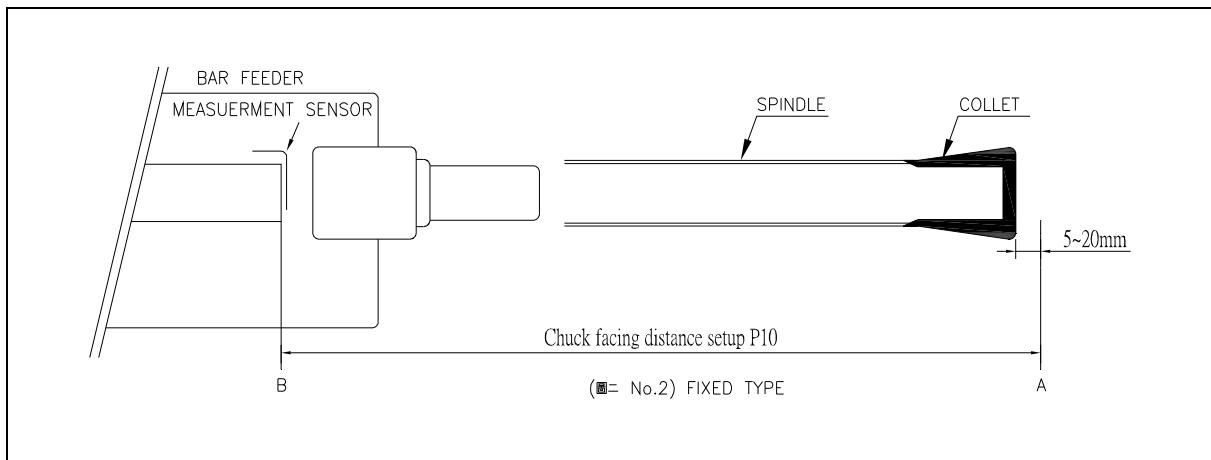


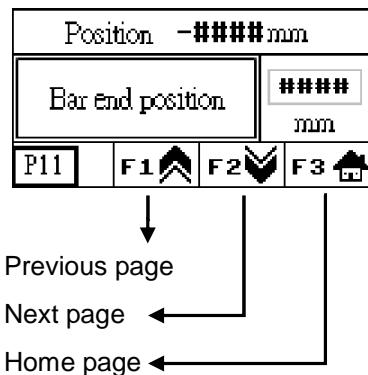
Parameter description : Chuck facing position is the distance between cutter facing detection to cutter facing position. We cannot know if the new bar material has been pushed to chuck facing position until loading a new bar material. (as picture 2)

Setting method : According to below drawings to set the distance from A - B point. In addition input it by mm unit.

3.7LL Generally value :	Setting range :	0~4000
	Setting value :	

(Figure 2)





Parameter description : This position is the maximum working limit. If pusher position value is bigger than bar end setting that bar feeder will offer a bar end signal to notice lathe to prepare loading new bar material

Setting Mode for fixed lathe : In the manual mode let pusher into lathe spindle until 5~10mm before lathe chuck . Then confirm the value of monitor to input it to be bar end position.

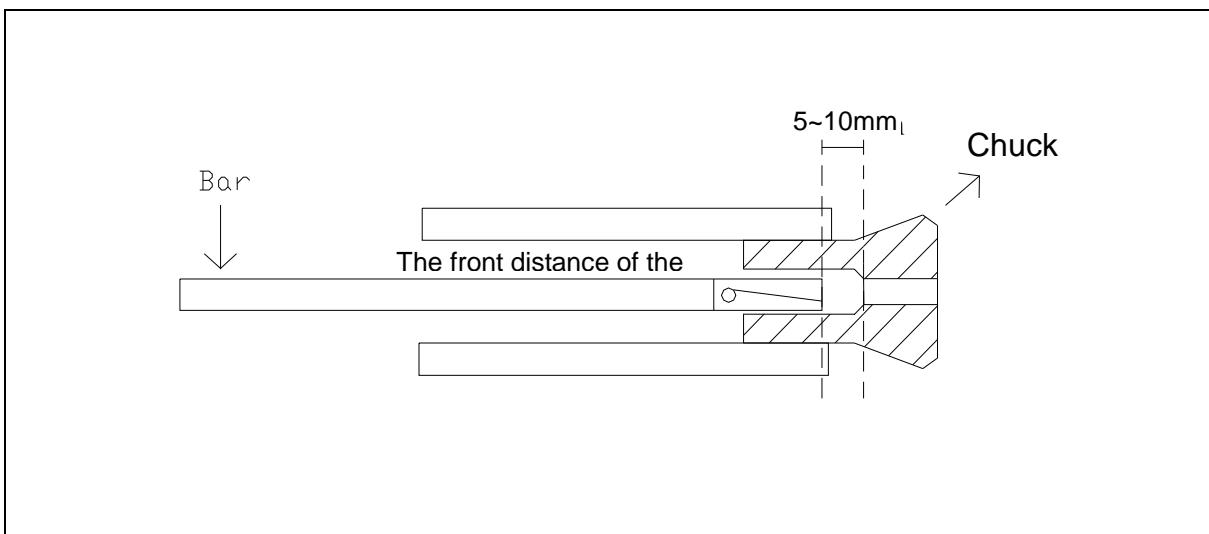
Setting Mode for sliding lathe : In the manual operation let lathe spindle move to +Z limit position and pusher move forward until 5~10mm before chuck . Then confirm the value of monitor to input it to be bar end position.

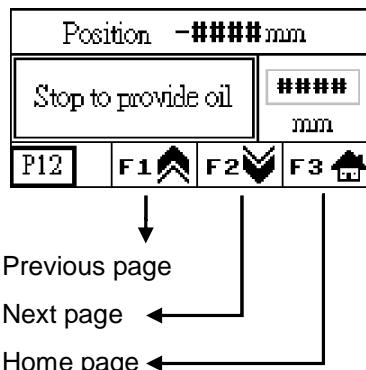
Note : Be sure to adjust distance indeed to avoid bar end longest or shortest.

Reference figure 3 :

3.7LL Generally value :	Setting range : 0~4000
	Setting value :

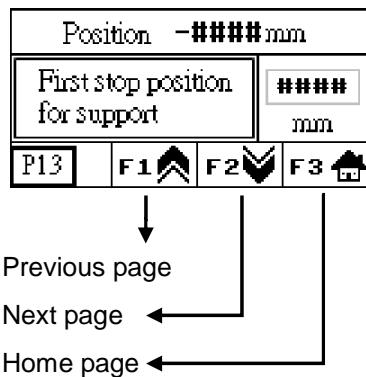
(Figure 3)





Parameter description : In auto mode the pump stops providing oil position.
Setting method : In manual mode let pusher move forward to stop providing oil position. Then input the current position.
Note : Oil pumps provide oil for lubrication and cooling.

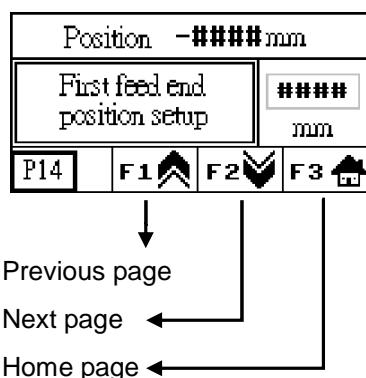
3.7LL Generally value :	Setting range : 0~4000
	Setting value :



Parameter description : This parameter is to prevent hard impact on new bar material end because of small pusher block high speed during loading a new bar material. This parameter will let the small pusher block to slow down to prevent hard impact to the new bar material.

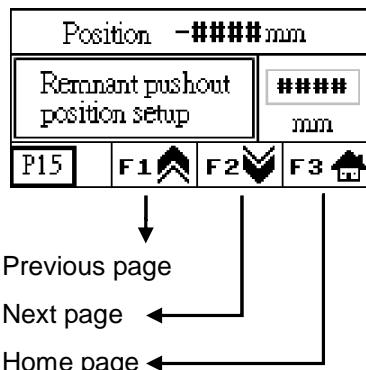
Setting method : Input the required position.

3.7LL Generally value :	Setting range : 0~4000
	Setting value :



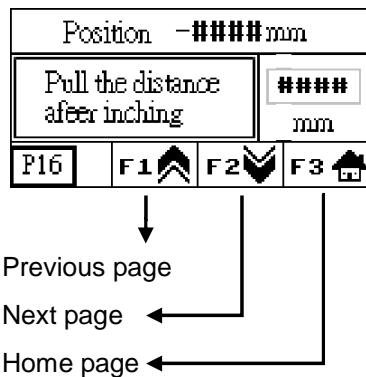
Parameter description : The pre-feeding pusher will push the bar material forward until the bar material can go into collet smoothly when bar pusher is up.
Setting method : Push pre-feeding pusher to stop position and input current position.

3.7LL Generally value :	Setting range : 0~2000
	Setting value :



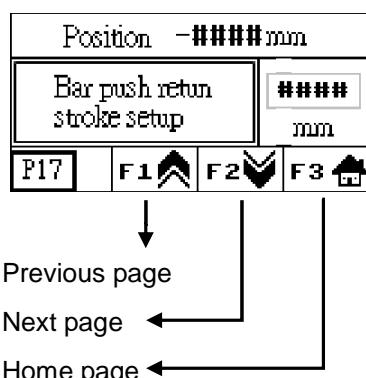
Parameter description : This distance is the position that bar pusher pushes out the remnant into the lathe.
Setting method : Push the pusher to exceed chuck position 20mm by manual operation. Then confirm the value showing in monitor and input this value.

3.7LL Generally value :	Setting range : 0~4000
	Setting value :



Parameter description : Bar pusher will pull back and inching move forward when loading a new bar material. This parameter will control pusher retreating distance.
Setting method : Input the required retreat distance.

3.7LL Generally value :	Setting range : 0~300
	Setting value :

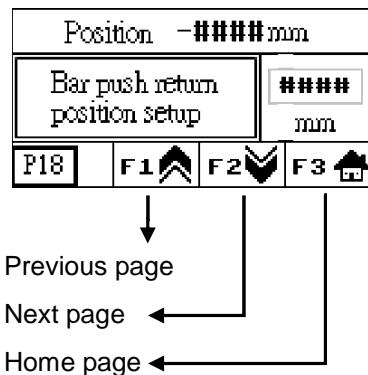


Parameter description : If bar pusher position is less than setting value that pusher will retreat to setting position when chuck close.
Setting method : Input the required pusher retreating distance.

For example : If the value of parameter is set to 30mm and the bar pusher is within the A area, the bar pusher will retract to 30mm after chuck closed.

Reference figure 4 :

3.7LL Generally value :	Setting range : 0~300
	Setting value :



Parameter description : If bar pusher position is over than setting value that pusher will retreat to setting position when chuck close. In order to prevent friction and vibration caused from pusher going into the lathe spindle too long.

Setting method :

By manual operation let the bar pusher move into the spindle inside around 1 / 3 of its length. To ensure not to touch the spindle and input the current position.

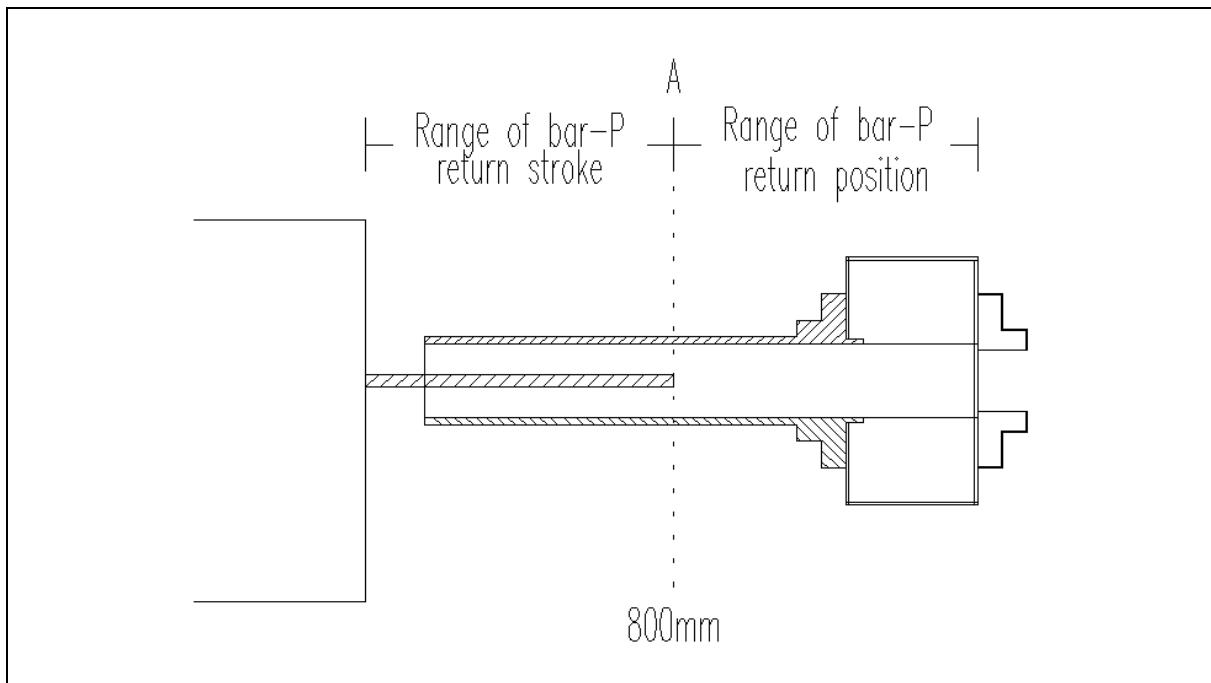
For example :

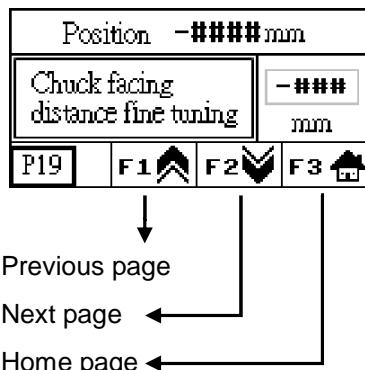
If the value of parameter is set to 800mm and the bar pusher is out of the A area, the bar pusher will retract to 800mm after chuck closed.

Reference figure 4 :

3.7LL Generally value :	Setting range : 0~3000
	Setting value :

(Figure 4)

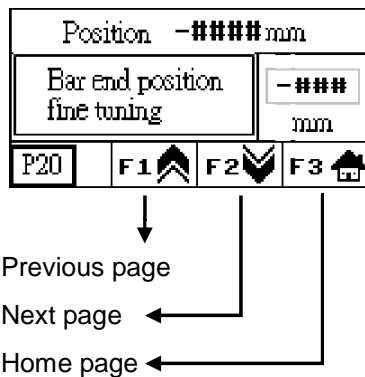




Parameter description : Fine tuning for bar end position based on chuck facing position. If the tuning value is bigger than 200mm that please amend cutter facing position directly.

Setting method : Input the required value.

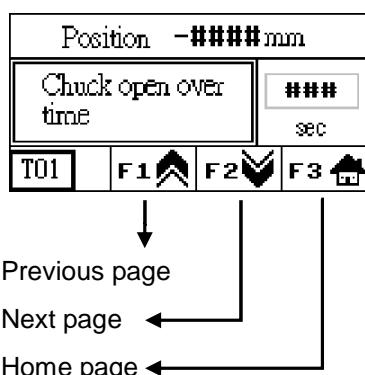
3.7LL Generally value :	Setting range : -200~200
	Setting value :



Parameter description : Fine tuning for bar end position based bar end position. If the tuning value is bigger than 200mm that lease amend bar end position directly.

Setting method : Input the required value.

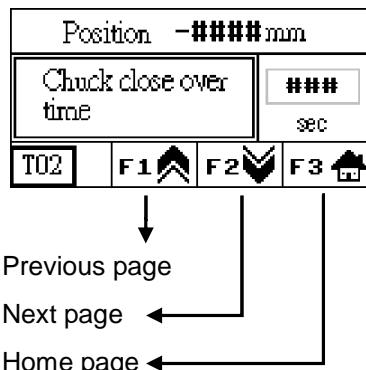
3.7LL Generally value :	Setting range : -200~200
	Setting value :



Parameter description : The timing is over the time for chuck opened under automatic mode and ALARM 29 will display and stop operating.

Setting method : When the setting value is 0, the parameter function will be disabled.

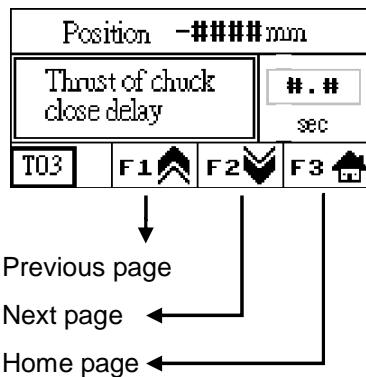
3.7LL Generally value :	Setting range : 0~999
	Setting value :



Parameter description : The timing of chuck closed is over time under automatic mode. The ALARM 32 will display and stop operating.

Setting method : When the setting value is 0, the parameter function will be disabled.

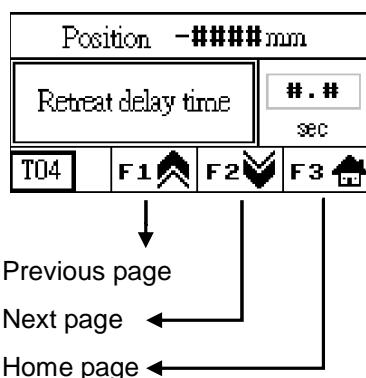
3.7LL Generally value :	Setting range : 0~999
	Setting value :



Parameter description : In automatic working mode, pusher pushes bar material into lathe and chuck close to work. To ensure that material will not move during the chuck close. Set the delay time for bar pusher to change the speed and torque.

Setting method : Input the required time.

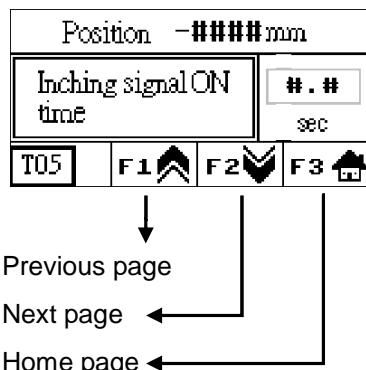
3.7LL Generally value :	Setting range : 0~9.9
	Setting value :



Parameter description : Sets delay time to stop the bar pusher drawing back so that the bar feeder can run the changing new bars process while the bar end signal and chuck open signal display from Lathe.

Setting method : Input the necessary delay time.

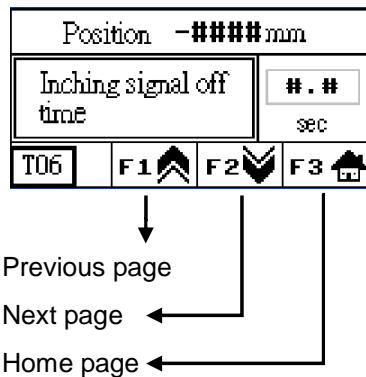
3.7LL Generally value :	Setting range : 0~9.9
	Setting value :



Parameter description : Set the starting time (ON) of bar pusher inching moves so that the chuck of lathe will move at the same time during bar feeder changes new bars.

Setting method : Input required time.

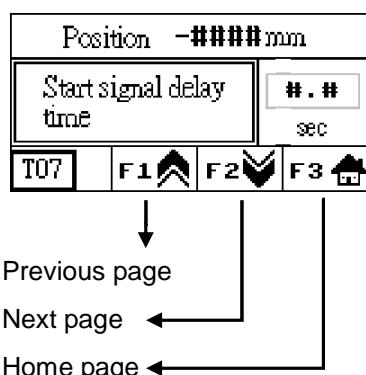
3.7LL Generally value :	Setting range : 0~9.9
	Setting value :



Parameter description : Set the ending time (OFF) of bar pusher inching moves so that the chuck of lathe will stop moving at the same time during bar feeder changes new bars.

Setting method : Input required time.

3.7LL Generally value :	Setting range : 0~9.9
	Setting value :

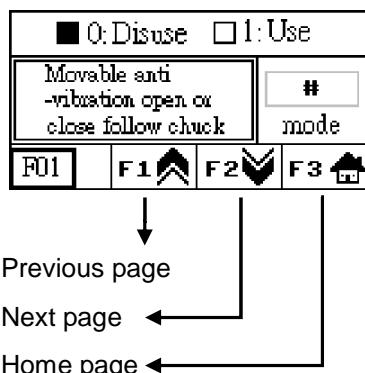


Parameter description : Delay the time for sending the signal of the new bar change finished after new bar pushed to chuck facing position.

Setting method : If the time sets too long, it may cause lathe standby time much longer during new bar changing.

3.7LL Generally value :	Setting range : 0~9.9
	Setting value :

6.3.4.2 System function / enter password “258”

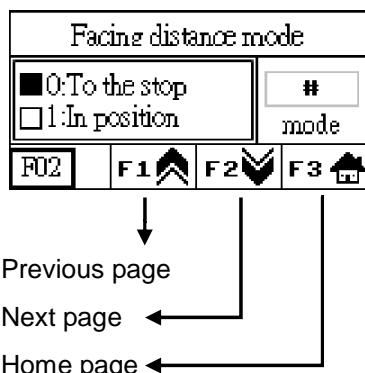


Parameter description : Switch either one function of opening or closing the moveable anti-vibration device to accompany the lathe chuck opened or closed.

0 – disable

1 – enable

3.7LL Generally value :	Setting range : 0~1
	Setting value :



Parameter description : Select either one mode of bringing a new bar to facing position automatic or a new bar pushed to the setting facing position by bar pusher during bars changed.

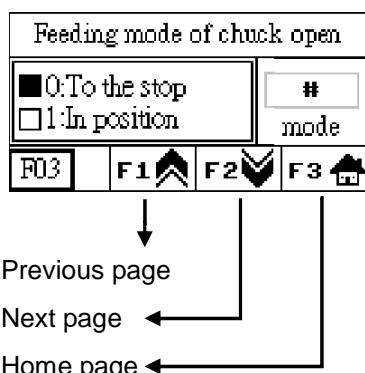
“0 : To the stop” :

The new bar will be pushed to the chuck facing position and keep pushing until the lathe chuck closed.

“1 : In position” :

The new bar will be pushed to the setting chuck facing position by the parameter and the bar pusher will stop right away.

3.7LL Generally value :	Setting range : 0~1
	Setting value :



Parameter description : Set either one of modes of bar pusher keeps feeding or stops feeding a bar to the product finishing length position under automatic mode when chuck is open.

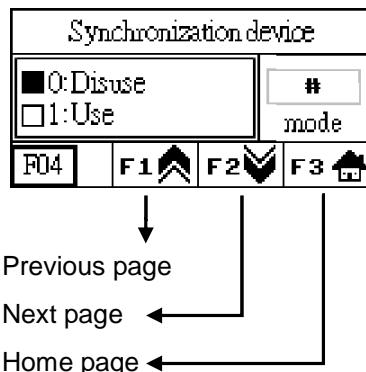
“0 : To the stop” :

The bar pusher pushes the bar to the product finishing position and keeps pushing.

“1 : In position” :

The bar pusher pushes the bar to the product finish length position and stop pushing.

3.7LL Generally value :	Setting range : 0~1
	Setting value :



Parameter description : It sets the bar/headstock synchronizing device operation mode.

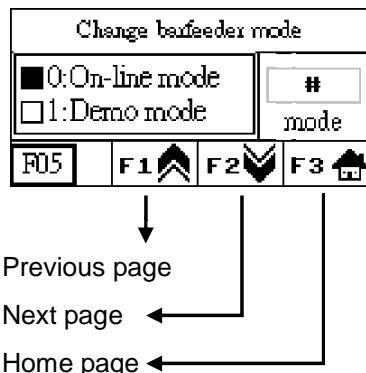
0: Disuse

Bar-headstock synchronization is disabled; the bar is continuously driven by the feed motor. For matching with Fixed type CNC.

1: Activated

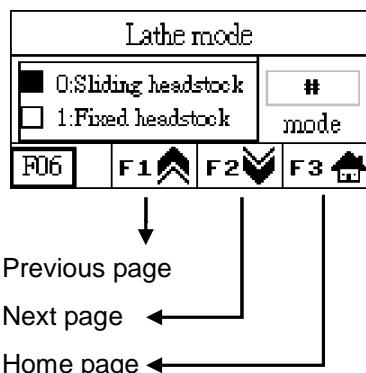
Headstock synchronization is on when lathe collet are closed (feed motor stopped), and synchronization is off when lathe collet is open (feed motor running). For matching with Swiss type CNC.

3.7LL Generally value :	Setting range : 0~1
	Setting value :



Parameter description : Set two modes to normally operate, if set the mode to "0 : ON-line mode", bar feeder starts operating along with lathe. If need bar feeder to cycle automatically without connective, please set the mode for "1 : Demo mode".

3.7LL Generally value :	Setting range : 0~1
	Setting value :

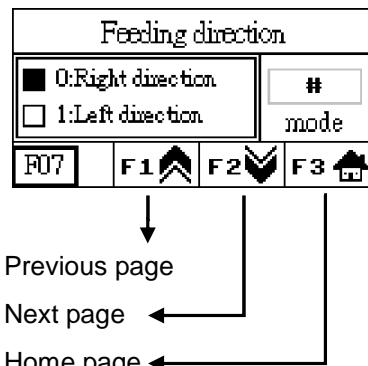


Parameter description : Set the mode for use what kind of type of lathe.

0 : Sliding headstock type of lathe

1 : Fixed headstock type of lathe

3.7LL Generally value :	Setting range : 0~1
	Setting value :

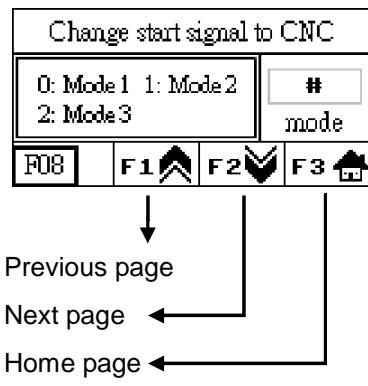


Parameter description : Set the direction of bar feeder fed along with type of lathe.

0 : Left feed to right direction

1 : Right feed to left direction

3.7LL Generally value :	Setting range : 0~1
	Setting value :



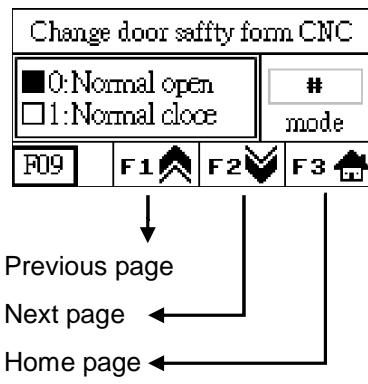
Parameter description : Select modes for output the Cycle start signal of bar feeder.

0 : Under automatic mode, Cycle start signal will send to lathe after bar changed and after bar changed while lathe chuck is opened.

1 : The cycle start signal will be sent after bar changed

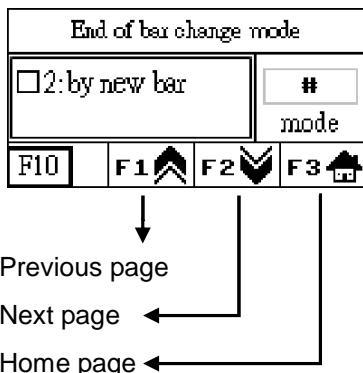
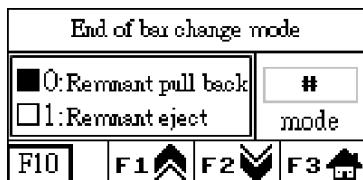
2 : Disable

3.7LL Generally value :	Setting range : 0~2
	Setting value :



Parameter description : Change the interface signal means safety door (X23) is abnormal. Change the contacts of NO or NC circuit of inner program.

3.7LL Generally value :	Setting range : 0~1
	Setting value :



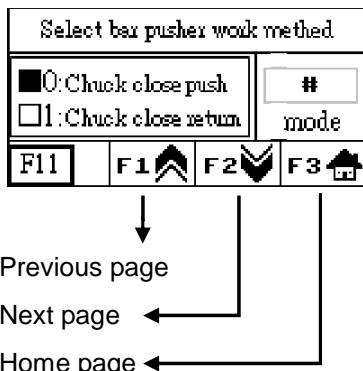
Parameter description : Selects different modes for dealing with remnant after bar changed.

0 : Pull back the remnant into the bar feeder.

1 : Push out the remnant into the lathe.

2 : Push out the remnant into the lathe by a new bar when bar end signal is sent and bar feeder will change another new bar.

3.7LL Generally value :	Setting range : 0~2
	Setting value :



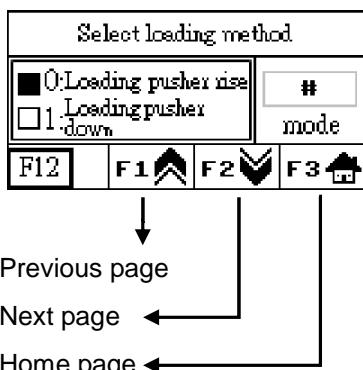
Parameter description : Select the bar pusher forward or backward under automatic mode.

0 : The bar pusher forward when chuck closed.
(Standard)

1 : The bar pusher backward when chuck closed.
(Special)

* If select the parameter 1, must operate with parameter P17 (Bar pusher return stroke) and parameter P18 (Bar pusher return position).

3.7LL Generally value :	Setting range : 0~1
	Setting value :



Parameter description : The parameter not available.

3.7LL Generally value :	Setting range : 0~1
	Setting value :

Change system time					
## YY	## MM	## DD			
## HH	## MI	## SS			
F4 Setup			F3		

Home page ←

Parameter description : Set the date and time of system to record data.

3.7LL Generally value :	Setting range :	NO
	Setting value :	

Language select					
<input checked="" type="checkbox"/> 0:Chinese	<input type="checkbox"/> 1:English	<input type="checkbox"/> 2:Simplified chinese		mode	#
			F3		

Home page ←

Parameter description : Select the proper language of the information displayed :

- 0 : Traditional Chinese
- 1 : English
- 2 : Simplified Chinese

3.7LL Generally value :	Setting range :	0~2
	Setting value :	

Change LOGO for homepage					
F1	Change				
F3					

Home page ←

Parameter description : Shift to display LOGO homepage on the HMI screen.

3.7LL Generally value :	Setting range :	NO
	Setting value :	

F4	Alarm	F7	End of bar
F5	Auto	F8	Cycle stop
F6	Change bar		
		F2	F3

Next page ←

Home page ←

Parameter description : This parameter allows technician to test each signal if it output to lathe after settle down the bar feeder.

Setting method :

This parameter only executive under manual mode both lathe and bar feeder, otherwise it may cause danger.

3.7LL Generally value :

Setting range : NO

Setting value :

F4	First push start
F5	Inching
F6	start
	F1 F3

↓
Previous page

Home page ←

Parameter description : This parameter allow technician to test each signal output on interface is continued to lathe.

Setting method :

To executive this parameter must be under manual mode both lathe and bar feeder or could cause danger.

3.7LL Generally value :

Setting range : NO

Setting value :

PLC: 00#####
HMI: RA00209
F3

Home page ←

Parameter description : To verify the version number of PLC and HMI programs.

3.7LL Generally value :

Setting range : NO

Setting value :

Load original preset value	
1=2.7LL 2=3.2LL 3=3.7LL	<input type="button" value="#"/> mode
<input type="button" value="F3"/> 	

Home page ←

Parameter description : Set all parameters to original value. Select firstly the correct length of bar feeder to operate. Otherwise may cause problems.

1 : 2.7LL

2 : 3.2LL

3 : 3.7LL

Note :

When setting this parameter 1-3, all HMI and timer will return to "0", then start operating.

3.7LL Generally value :	Setting range : 0~3
	Setting value :

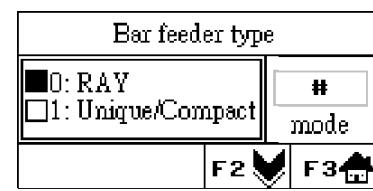
Change number for lathe	
Now Number: #####	
 Please do not adjust this number without permission.	<input data-bbox="452 909 515 943" type="button" value="#"/>
<input type="button" value="F3"/> 	

Home page ←

Parameter description : For recognizing the number of PLC and HMI programs to suit for lathe model.

3.7LL Generally value :	Setting range : 99999
	Setting value : 100

6.3.4.3 Special parameter chart



Next page ←

Home page ←

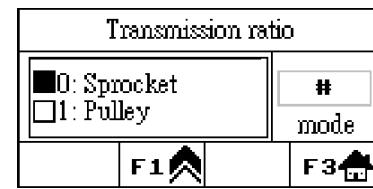
Parameter description : To set the model of loading parameter of bar feeder.

0 : SCOUT 320

1 : Unique / Compact

If normal loading mode is Ray type, then balls crew loading mode is Unique / Compact.

3.7LL Generally value :	Setting range : 0~1
	Setting value :



Previous page ↓

Home page ←

Parameter Description : To set the model of transmission ratio of bar feeder.

0 : Sprocket mode

1 : Pulley mode

Note :

The parameter needs the practical transmission model to be set or it will affect the position calculated and display wrong data.

3.7LL Generally value :	Setting range : 0~1
	Setting value :

7. MAINTENANCE

7.1 General maintenance



Hazard-warning

Before operators are maintaining the bar feeder, the power must be turned off.

In order to make good use of the bar feeder, please maintain the bar feeder regularly.

Accessories and the area of operation must be cleaned to increase the safety of operators.

Using petroleum or other dissolvent to maintain the bar feeder maybe caused damage of cover or plastic components.



INFORMATION

The oxidation will damage the components and electronic equipments. Please pull out the plug and the air joint while the bar feeder is not operated. Keep the air unobstructed in the operation area and the bar feeder can't be covered completely; otherwise there will be produced mist.

7.2 Regular maintenance

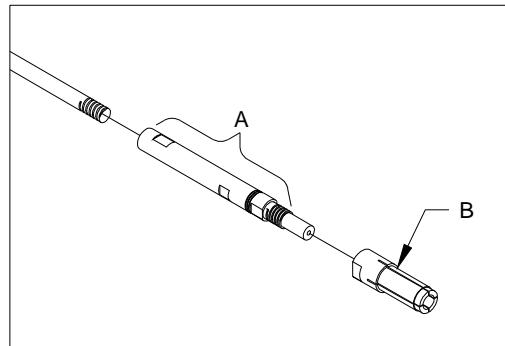
List 1.—Regular maintenance

Position	Event	Frequency			Regular	Period		
		Hours						
		200	1250	2500				
Collet	Check attrition	•						
Guide channel	Check attrition and clean		•					
Feeding chain	Lubrication	•						
	Check strain	•						
Air defecator	Check				•			

7.2.1 Check the collet

Check (A) rotate smoothly or not,
the clearance can not to be wide.

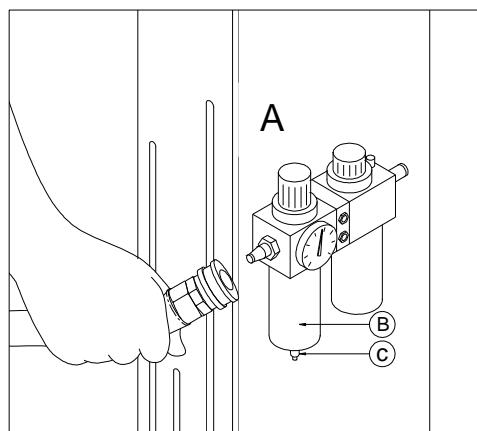
Check collet (B) whether status is normal.



7.2.2 Check the air defecator (A)

Check the bottle (B) whether there are full of mists in it.

Press (C) then mists can be exhausted.



8. CAUSE AND BREAKDOWN AND TROUBLESHOOTING

8.1 Frequent cause of breakdown

ITEM	Cause	Solution
Unable to start the bar Feeder.	Without power.	Check the power source.
	In emergency.	Restart.
The bar feeder is reset but the bar feeder can't auto to start.	The lathe is sending signal.	Check the connection.
The device of the compressed air can't work.	Compressed air is unable to be sent.	Check the air supply.

8.2 Breakdown on frame device

Situation	Cause	Solution
Material are unable to load on the frame device.	The position of plates are too low.	Adjust the position of plates.

8.3 Breakdown on the collect

Situation	Cause	Solution
Material is unable to be inserted into the collet	The adjustment of the clamp device is not correct.	Re-adjust.
	The diameter of collet and material are different.	Change a new collet.
	The end of the material is too rough.	Chamfering before feeding material.
	The air pressure is without chamfer.	Check the pressure.

8.4 Breakdown on feeding material

Situation	Cause	Solution
Material can't feed into the spindle smoothly	The center of the bar feeder and the lathe isn't correct	Re-adjust the center
Material can't feed into the chuck of the lathe smoothly	The front of the material is too rough.	Chamfering before feeding material

8.5 Refer alarm message

8.5.1 HMI Alarm Message

ERROR / CAUSE	CURE
 ALARM-01  <p>Push bar can't retreat to the origin during the period of changing a new material.</p>	<ul style="list-style-type: none"> ※ Remove unidentified object.
 ALARM-02  <p>Long feed safety.</p>	<ul style="list-style-type: none"> ※ Please check the value of long feed safety is correct. ※ Check the turret whether it is at correct position of stopping material.
 ALARM-03  <p>Short feed safety.</p>	<ul style="list-style-type: none"> ※ Please check whether the setting value of shortest length would be proper. ※ Check the turret whether it is at correct position of stopping material.
 ALARM-04  <p>The chuck close during the period of changing a new material.</p>	<ul style="list-style-type: none"> ※ When the bar feeder change new bar and CNC machining automatically, the chuck must keep in open state.
 ALARM-05  <p>Remnant has not pull out yet.</p>	<ul style="list-style-type: none"> ※ Check material whether get stuck in the spindle or in the pipe.
 ALARM-06  <p>Lathe alarm.</p>	<ul style="list-style-type: none"> ※ Check chuck why the chuck not close. By auto mode. ※ Before machining, please solve the alarm of CNC.
 ALARM-07  <p>Remnant has not pull out from clamping stand.</p>	<ul style="list-style-type: none"> ※ Check remnant whether get stuck in the collet or clamping stand. ※ Remnant don't take out from finger.
 ALARM-08  <p>Overtake the rise time of the push bar.</p>	<ul style="list-style-type: none"> ※ Check air pressure. ※ Check LS08 whether breakdown or loose.

ERROR / CAUSE	CURE
 ALARM-09  Overtake the down time of the push bar.	<ul style="list-style-type: none"> ※Check air pressure. ※Check LS07 whether breakdown or loose.
 ALARM-10  Facing detection is breakdown (S04).	<ul style="list-style-type: none"> ※Check whether S04 was blocked by any unidentified objects.
 ALARM-11  Overtake the safety time of first feeding.	<ul style="list-style-type: none"> ※Check the setting value of S04 or Q04. ※Check whether to have the foreign matter to catch.
 ALARM-12  Without material.	<ul style="list-style-type: none"> ※Check bars whether left in the plate. ※Check material whether rush out the clamping stand when first feeding. ※Check any bar inside guide channel or no
 ALARM-13  Overtake the time of clamp retreat.	<ul style="list-style-type: none"> ※Check air pressure. ※Check LS06 whether breakdown or loose.
 ALARM-14  Overtake the time of clamp go forward.	<ul style="list-style-type: none"> ※Check air pressure. ※Check LS05 whether breakdown or loose.
 ALARM-15  Material is too short.	<ul style="list-style-type: none"> ※Change proper length of material. ※Check the setting value of P11.
 ALARM-16  Material is unable into the lathe smoothly.	<ul style="list-style-type: none"> ※Check the setting value of P10.
 ALARM-17  When the bar feeder send start signal, the lathe isn't running.	<ul style="list-style-type: none"> ※Check the alarm No. on LCD display of servo whether it is abnormal. If yes, please inform the relevant technician about abnormal code to analyze reasons.

ERROR / CAUSE	CURE
 ALARM-18  LS7 and LS8 at the same time "ON".	※Check LS07 and LS08 whether breakdown or loose.
 ALARM-19  LS6 and S05 at the same time "ON".	※Check LS05 and LS06 whether breakdown or loose.
 ALARM-21  Servo is breakdown.	※Check the alarm No. on LCD display of servo whether it is abnormal. If yes, please inform the relevant technician about abnormal code to analyze reasons.
 ALARM-22  Bar feeder has not been auto status when CNC is running.	※Check the bar feeder was in auto status when CNC is machining normally, otherwise bar feeder can't feed material.
 ALARM-23  Pump is breakdown.	※Check the power 0.L1 whether was cut off. Please refer to page.
 ALARM- 24  Program Error	※Program Error
 ALARM-25  The safety cover is not close.	※Close door safety.
 ALARM- 26  Cutting Sensor Error S04	※ Hood Safety Switch is not in correct Position.
 ALARM-27  Air pressure inadequate.	※Check air pressure is enough or not

ERROR / CAUSE	CURE
 ALARM-28  Emergency stop.	※lease release the button of emergency stop.
 ALARM-29  Chuck open overtake time.	※Check chuck why the chuck not close. By auto mode.
 ALARM-30  Chuck open pushbar forward.	※Chuck open pushbar forward.
 ALARM-31  Chuck open pushbar retreat.	※Chuck open pushbar retreat.
 ALARM-32  Chuck close overtake time.	※Chuck close overtake time.
 ALARM-33  Lathe emergency stop.	※Please loose Emergency stop button.
 ALARM-34  Motor power no open	※Lease release the button of poweron (SS2).
 ALARM-35  matrial change time over.	※Surpasses the bar change time.
 ALARM-36  Loading bar detection switch or loading bar motor failure.	※Please check if the sensor is short or not when screw bar is running. ※Please check if loading moter is running or not.



ALARM- 37

F3

Channel Close Alarm

Channel Open Alarm

* Check LS07 and LS08, Channel open and Close Switches.

8.5.2 Servo alarm message

LIST OF SERVO DRIVER ALARM		
	Display	Name
ALARMS	AL. 10	Under voltage
	AL. 12	Memory error 1 (RAM)
	AL. 13	Clock error
	AL. 15	Memory error 2 (EEP-TOM0)
	AL. 16	Encoder error 1
	AL. 17	Board error 2
	AL. 19	Memory error 3 (Flash-ROM)
	AL. 1A	Abnormal motor assembly
	AL. 20	Encoder error 2
	AL. 24	Abnormal main circuit
	AL. 25	Absolute position erase
	AL. 30	Regenerative error
	AL. 31	Overspeed
	AL. 32	Overcurrent
	AL. 33	Ovvoltage
	AL. 35	Command pulse frequency alarm
	AL. 37	Parameter error
	AL. 45	Main circuit high heat
	AL. 46	Servo motor overheat
	AL. 47	Abnormal cooling fan
	AL. 50	Overload 1
	AL. 51	Overload 2
	AL. 52	Error excessive
	AL. 8A	Overtime
	AL. 8E	error
	88888	Watch dog

	Display	Name
WARNINGS	AL. 92	Open battery cable warning
	AL. 96	Zero setting error
	AL. 99	Limit alarm
	AL. 9F	Battery warning
	AL. E0	Excessive regenerative load warning
	AL. E1	Overload warning
	AL. E3	Absolute position counter warning
	AL. E5	ABS time-out warning
	AL. E6	Servo emergency stop
	AL. E8	Cooling FAN low rpm alarm
	AL. E9	Main circuit off warning
	AL. EA	ABS SV ON warning
	AL. EC	Over load alarm 2
	AL. ED	Torqut word over

01

02

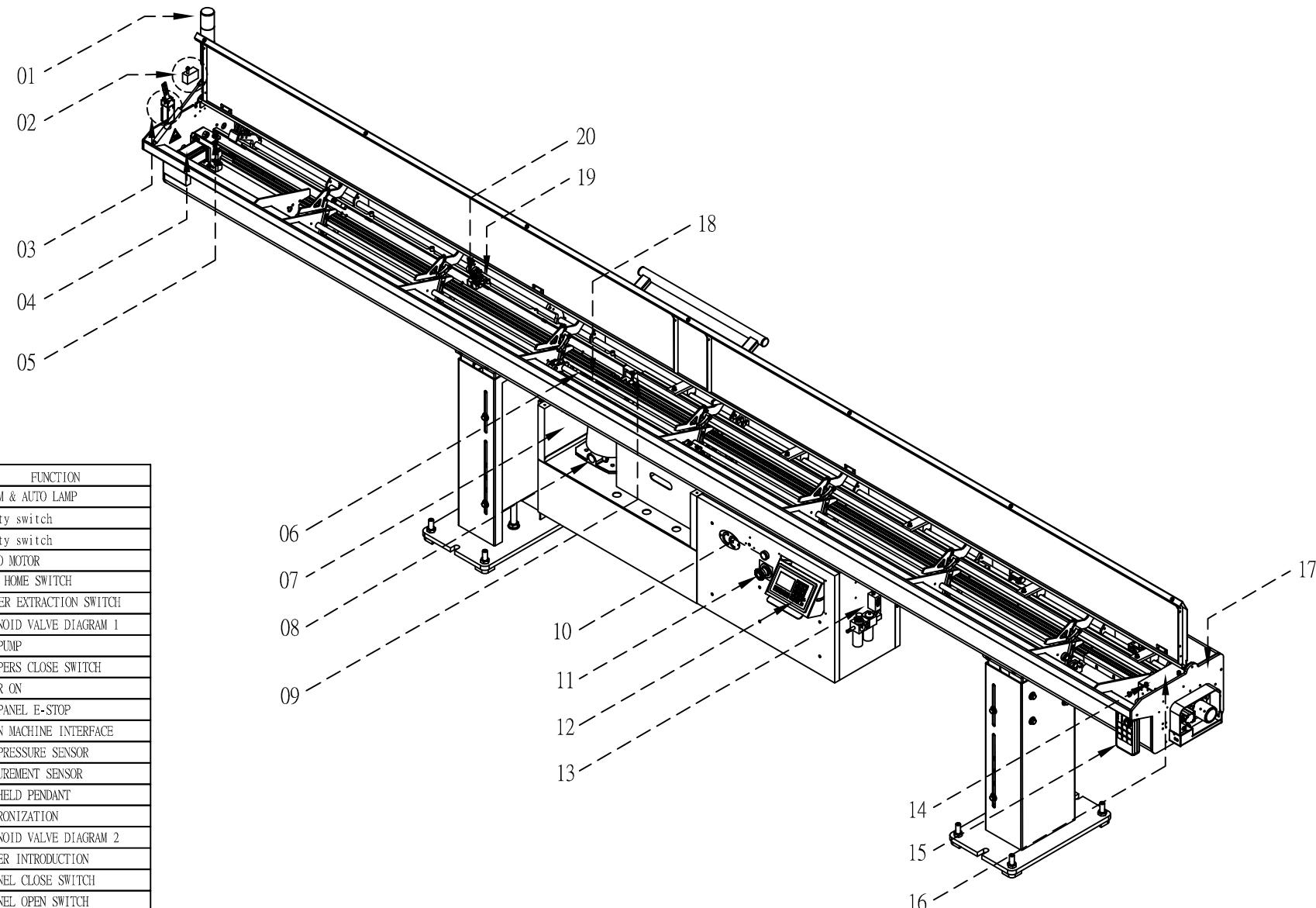
03

04

05

06

A4



NO.	PART NO.	CODE	FUNCTION
01	J630101	HL1	ALARM & AUTO LAMP
02	J310409	LS10	Safety switch
03	J311801	LS04	Safety switch
04	J2210021	SM	SERVO MOTOR
05	J310339	S05	ZERO HOME SWITCH
06	A12140501	LS06	PUSHER EXTRACTION SWITCH
07	PV1	PV1	SOLENOID VALVE DIAGRAM 1
08	P76202000	OP	OIL PUMP
09	J310403	LS09	CRIPPERS CLOSE SWITCH
10	J310705	SS2	POWER ON
11	J3107041	ES1	HMI PANEL E-STOP
12	J210502	HMI	HUMAN MACHINE INTERFACE
13	A12140400	S06	AIR PRESSURE SENSOR
14	J310338	S04	MEASUREMENT SENSOR
15	HP	HP	HANDHELD PENDANT
16	P43201000	CL1	SYNCRONIZATION
17	PV2	PV2	SOLENOID VALVE DIAGRAM 2
18	A12140501	LS05	PUSHER INTRODUCTION
19	J310407	LS07	CHANNEL CLOSE SWITCH
20	J310407	LS08	CHANNEL OPEN SWITCH

BAR FEEDER TYPE
SCOUT 320

LATHE NAME

LATHE TYPE

EDGE 
TECHNOLOGIES
A DIVISION OF HYDROMAT INC

FIRST DATE	REVISION DATE	MAIN VOLTAGE	SIGNAL VOLTAGE	PAGE
2015 / 10 / 12	2016 / 05 / 04	220 VAC 3-PHASE	24VDC	P. 01
DRAWN BY	CHECKED BY	DESCRIPTION		
Xiao		Machine electricity position		
DRAWING NO.	VERSION	JV-EDGE RAY(MIX)		B0

01

02

03

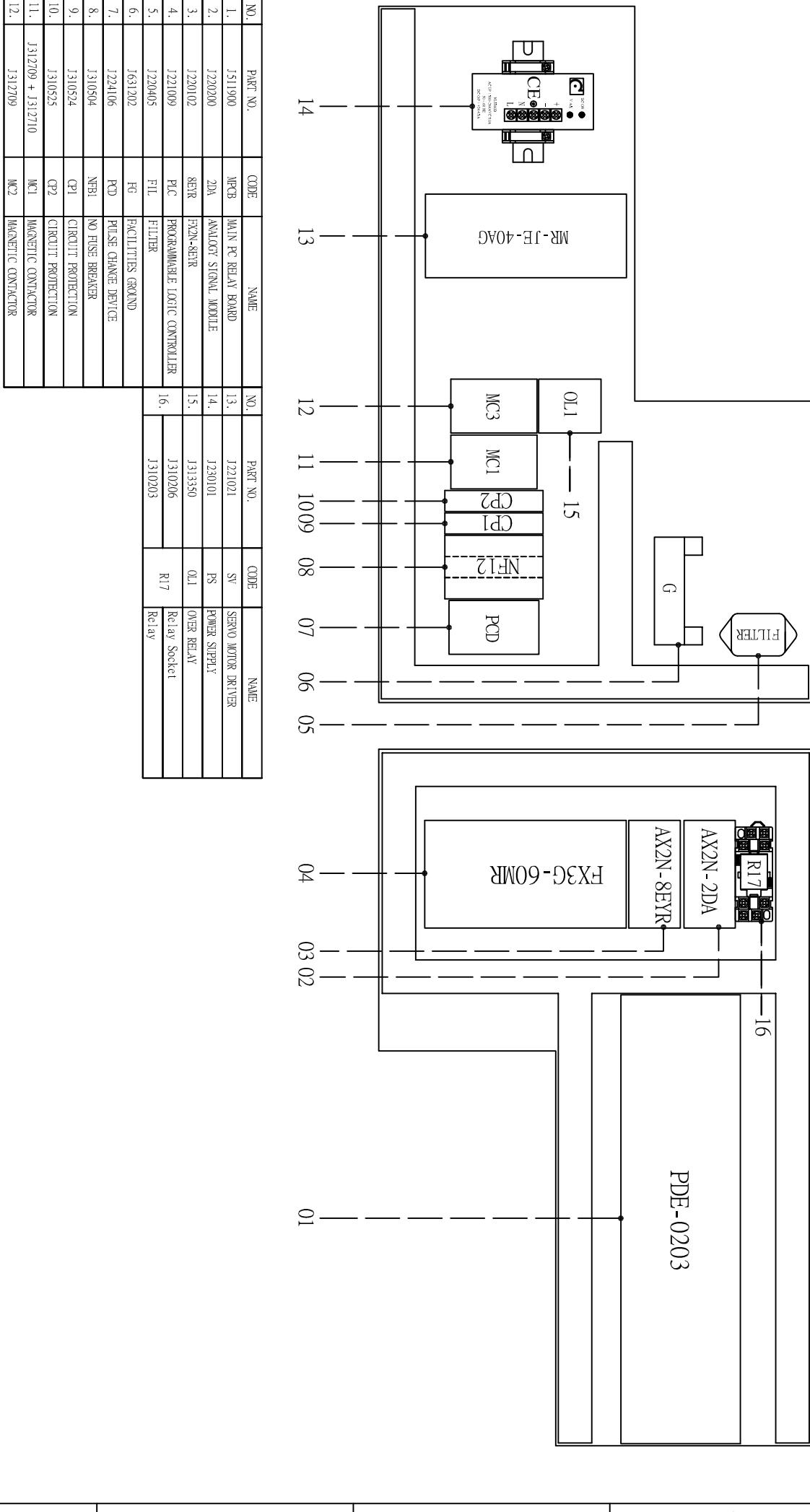
04

05

06

卷之三

A4



BAR FEEDER TYPE		SCOUT 320		LATHE NAME	
FIRST DATE		REVISION DATE		MAIN VOLTAGE	SIGNAL VOLTAGE
2015 / 10 / 12		2016 / 05 / 04		220 VAC 3-PHASE	24VDC
DRAWN BY		CHECKED BY		PAGE	
		Xiao		P. 02	
DESCRIPTION					
Distribution of Electric parts					
DRAWING NO.		VERSION			
JV-EDGE RAY(MIX)		BO			
01	02	03	04	05	06

01 02

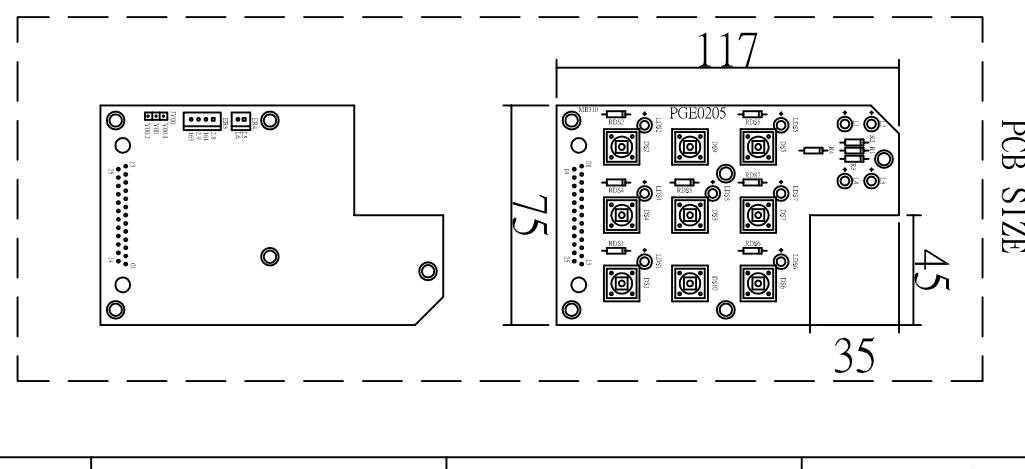
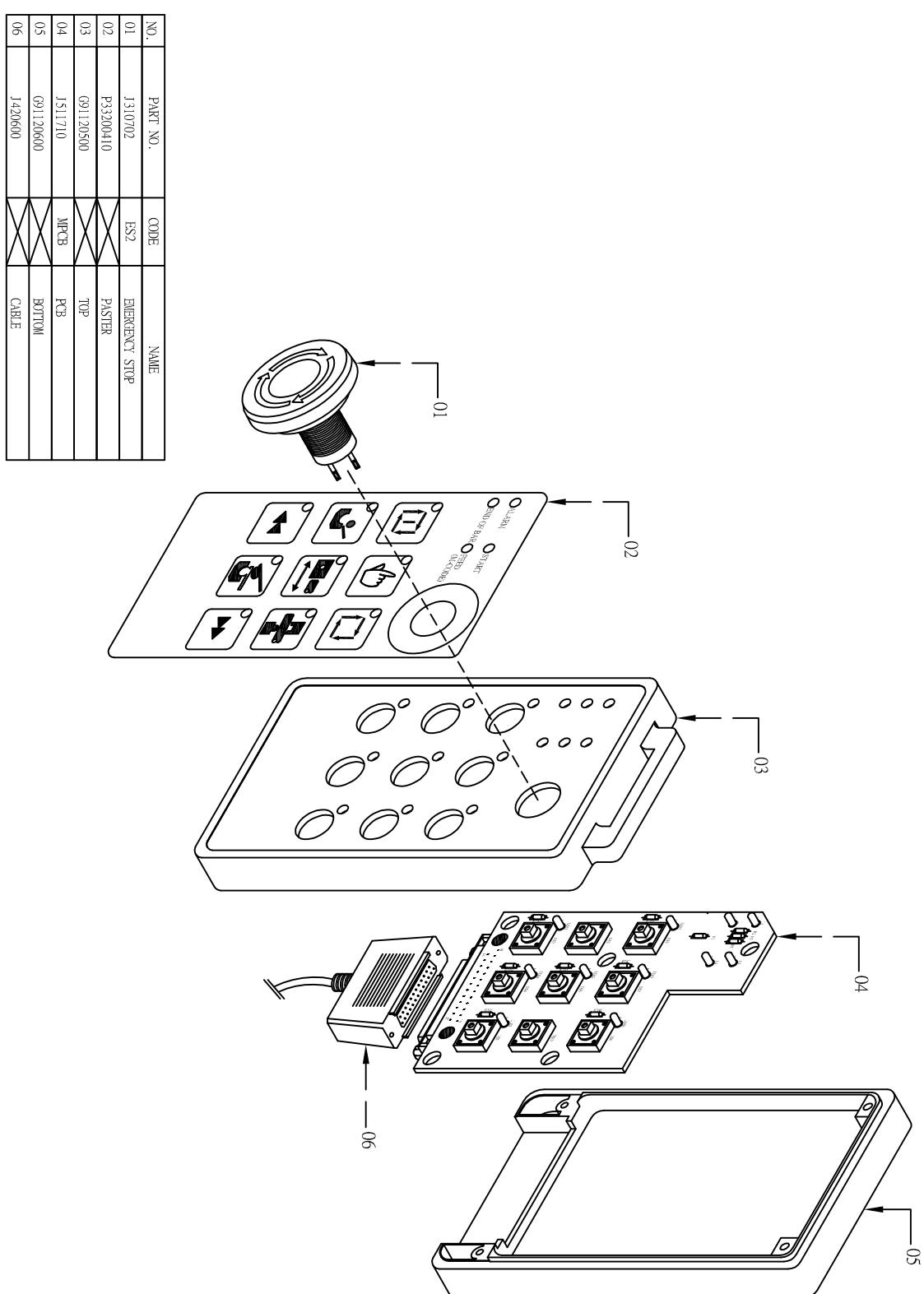
03

04

05

10

BAR FEEDER TYPE	
SCOUT 320	
LATHE NAME	
LATHE TYPE	
01	02



01

02

03

04

05

06

A4

SOLENOID VALVE DIAGRAM 1

SOLENOID VALVE DIAGRAM 2

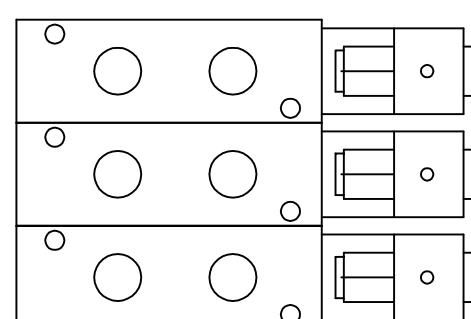
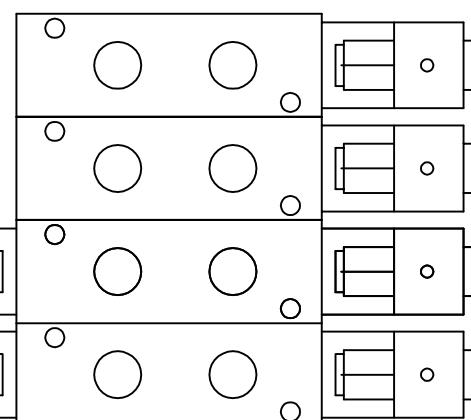
A

VAL6	VAL5	VAL7	VAL1
Y13	Y30	Y16	Y14

VAL8	VAL9	VAL4
Y35	Y34	Y32

B

B



C

C

No.	料號	代號	名稱
01	A12120100	VAL6	CUTTING DEVICE
02	A12120100	VAL5	GRIPPERS
03		VAL7	INTRODUCTION
04	A12120200	VAL11	EXTRACTION
05	A12120200	VAL1	CHANNEL OPEN
06		VAL2	CHANNEL CLOSE
07	A12120100	VAL8	MOVEABLE ANTI-VIBRATION DEVICE
08	A12120100	VAL9	1ST ANTI-VIBRATION DEVICE
09	A12120100	VAL4	GUIDE CHANNEL 2nd CLOSED

D

BAR FEEDER TYPE

SCOUT 320

LATHE NAME

LATHE TYPE

EDGE TECHNOLOGIES
A DIVISION OF HYDROMAT INC

FIRST DATE 2015 / 10 / 12
REVISIION DATE 2016 / 05 / 04
DRAWN BY Xiao
CHECKED BY Solenoid valves position
DESCRIPTION DRAWING NO. JV-EDGE RAY(MIX)
VERSION BO

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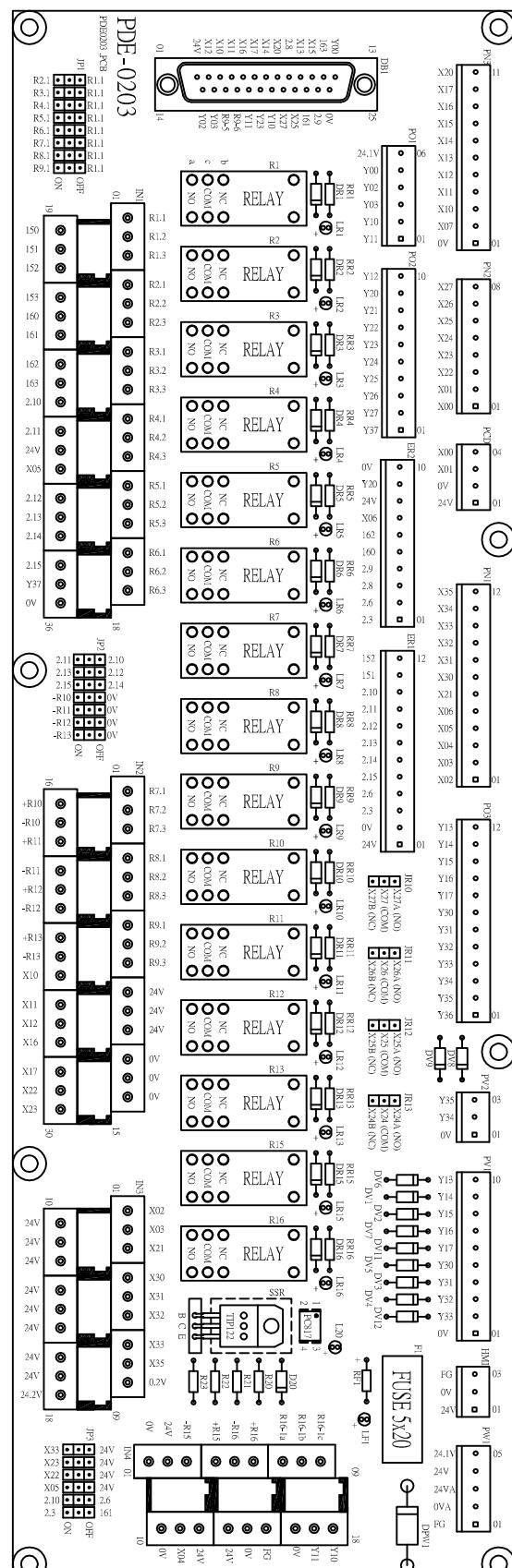
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BAR FIELDER TYPE		
SCOUT 320		
NO.	PART NO.	CODE
01	J310201	R1~R16 Relay
02	J620106	F1 Power fuse

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LATIVE NAME	
LATHE TYPE	

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FIRST DATE REVISIION DATE MAIN VOLTAGE SIGNAL VOLTAGE PAGE
 2015 / 10 / 12 2016 / 05 / 04 220 VAC 3-PHASE 24VDC P. 05

DRAWN BY CHECKED BY

Xiao

Main PC board

DESCRIPTION
 DRAWING NO.
 JV-EDGE RAY(MIX)
 VERSION
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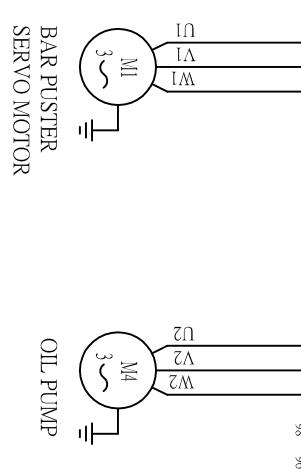
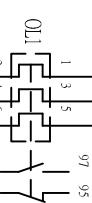
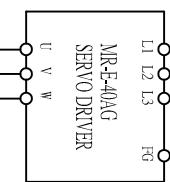
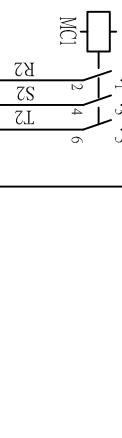
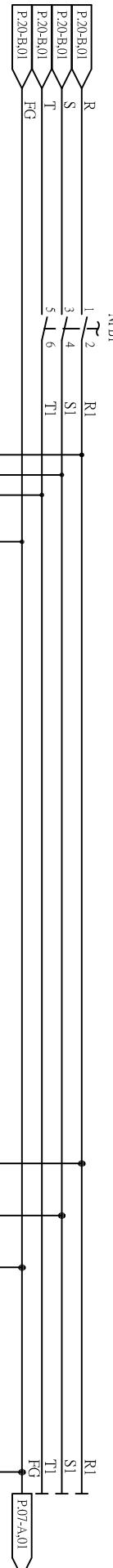
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BAR FEEDER TYPE
SCOUT 320FIRST DATE
2015 / 10 / 12
REVISIION DATE
2016 / 05 / 04
DRAWN BY
Xiao
CHECKED BYMAIN VOLTAGE
220VAC 3-PHASE
SIGNAL VOLTAGE
24VDC
PAGE
P. 06DESCRIPTION
Main circuit 1DRAWING NO.
JV-EDGE RAY(MIX)
VERSION
B0

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LATHE NAME

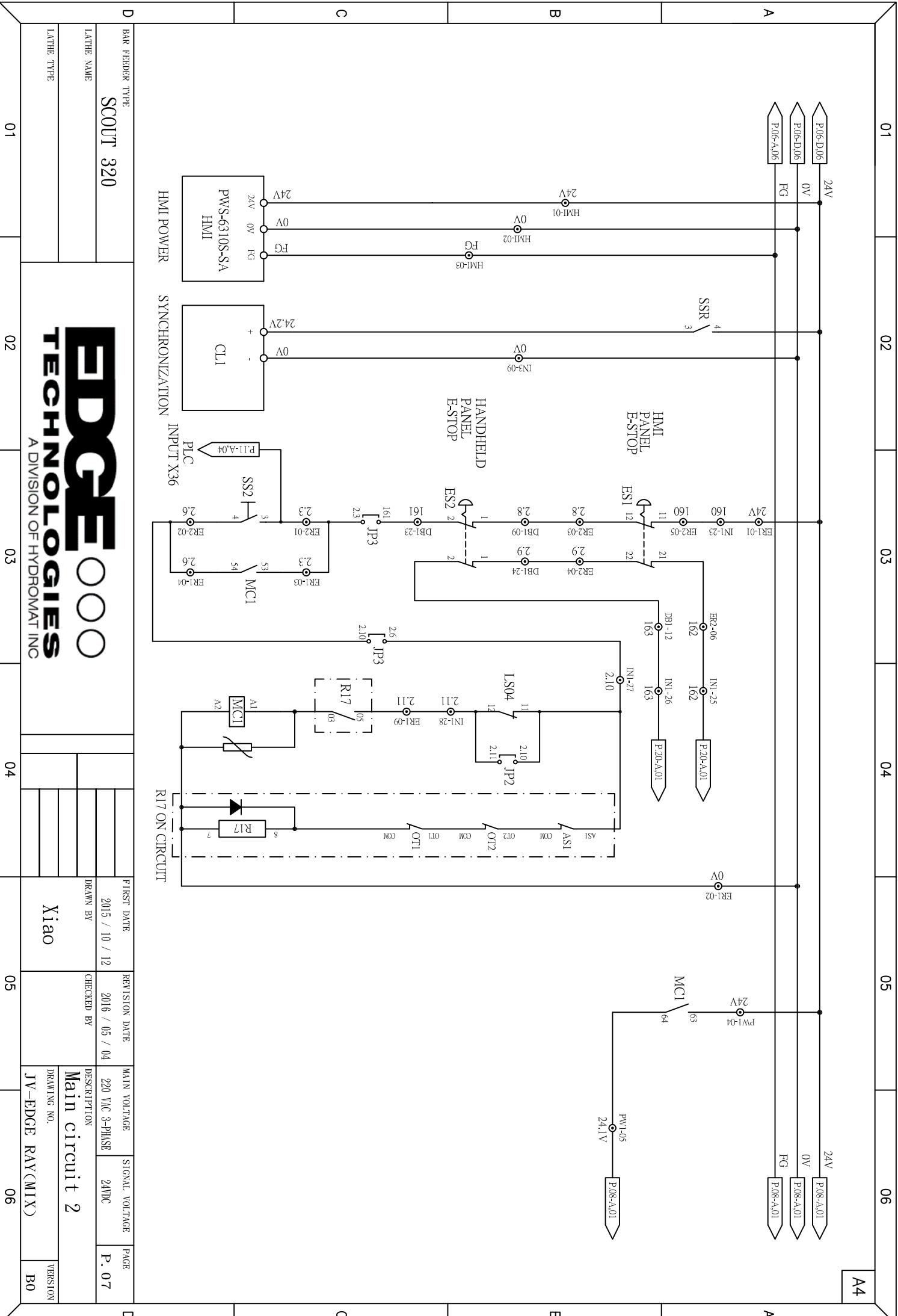
LATHE TYPE

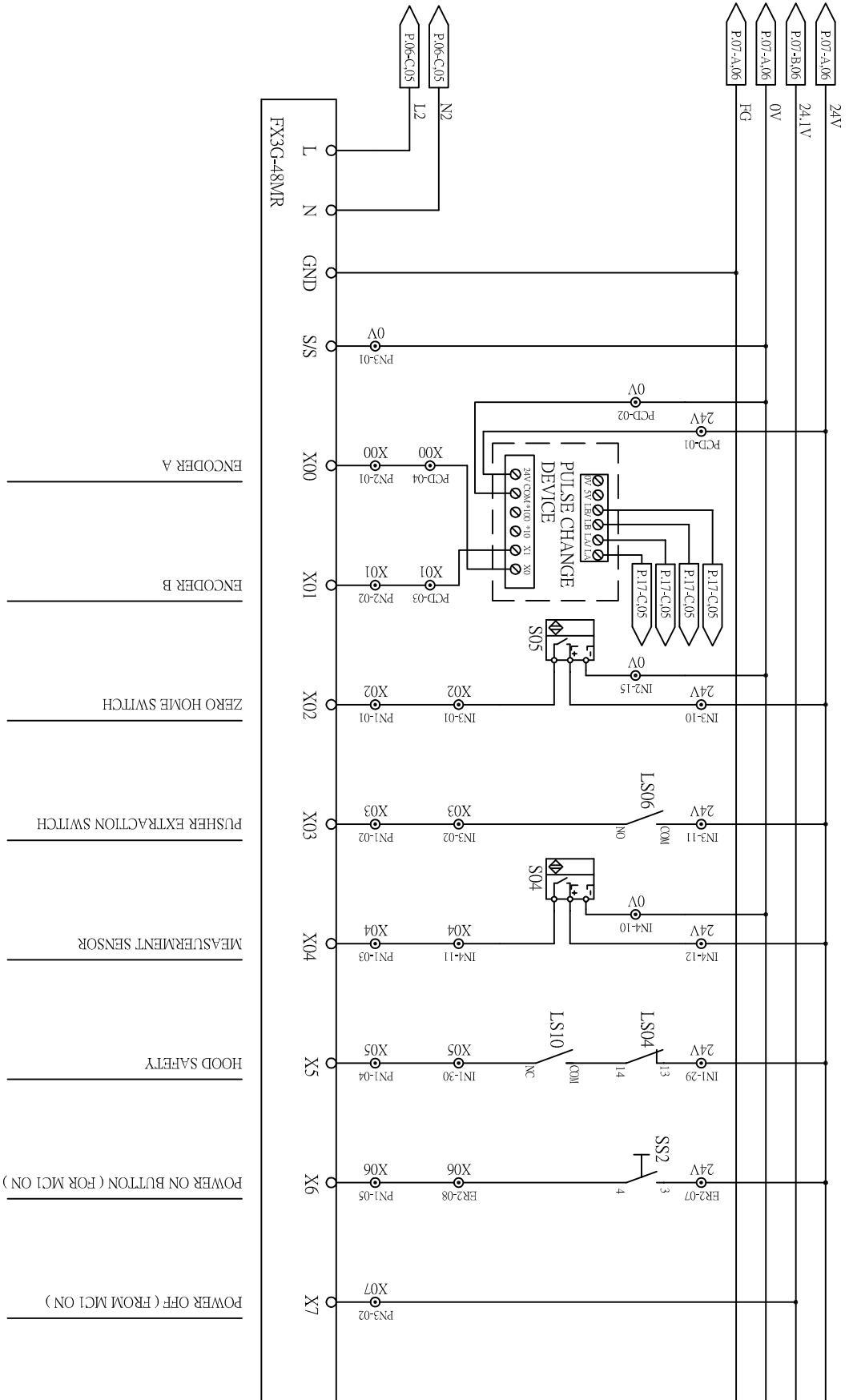
EDGE TECHNOLOGIES
A DIVISION OF HYDROMAT INC

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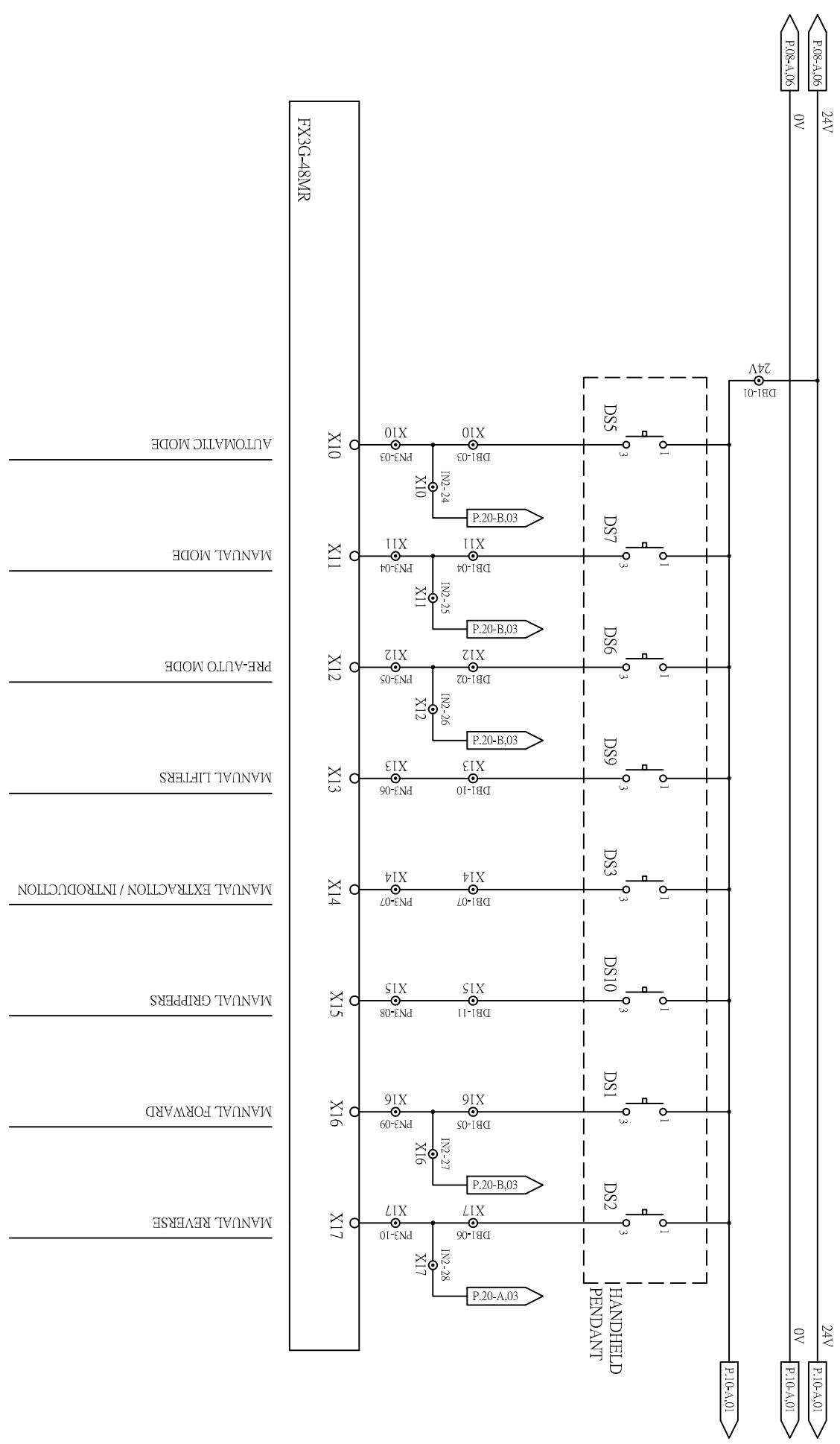
C





LATHE NAME		SCOUT 320		BAR FEEDER TYPE	
LATHE TYPE					
01	02	03	04	05	06
Xiao				JV-EDGE RAY(MIX)	VERSION B0
DRAWN BY	CHECKED BY	DESCRIPTION	MAIN VOLTAGE	SIGNAL VOLTAGE	PAGE
		PLC INPUT	220 VAC 3-PHASE	24VDC	P. 08
		DRAWING NO.			
		REVISIION DATE			
		2015 / 10 / 12	2016 / 05 / 04		

EDGE TECHNOLOGIES
A DIVISION OF HYDROMAT INC



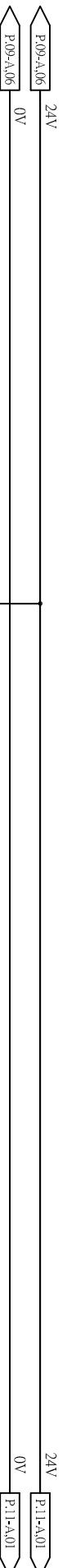
The logo for Edge Technologies features the word "EDGE" in a large, bold, black, sans-serif font. The letter "E" is stylized with a vertical line extending downwards from its top. To the right of "EDGE" are three black circles of decreasing size from left to right. Below "EDGE" is the word "TECHNOLOGIES" in a smaller, bold, black, sans-serif font. Underneath "TECHNOLOGIES" is the text "A DIVISION OF HYDROMAT INC." in a smaller, black, sans-serif font.

The logo for ICE Technologies. It features the word "ICE" in large, bold, black letters. To the right of "ICE" are three black circles of decreasing size from top to bottom. Below "ICE" is the word "TECHNOLOGIES" in a smaller, bold, black sans-serif font. Underneath "TECHNOLOGIES" is the text "A DIVISION OF HYDROMAT INC." in a smaller, all-caps, black font.

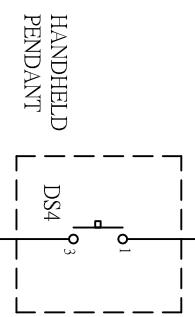
BAR FEEDER TYPE		SCOUT 320		LATHE NAME	
FIRST DATE		REVISION DATE		MAIN VOLTAGE	
2015 / 10 / 12		2016 / 05 / 04		220 VAC 3-PHASE	
DRAWN BY		CHECKED BY		SIGNAL VOLTAGE	
LATHE TYPE		DESCRIPTION		PAGE	
Xiao		PLC INPUT		P. 09	
DRAWING NO.		VERSION		D	
JV-EDGE RAY(MIX)		B0			
01	02	03	04	05	06

01 02 03 04 05 06

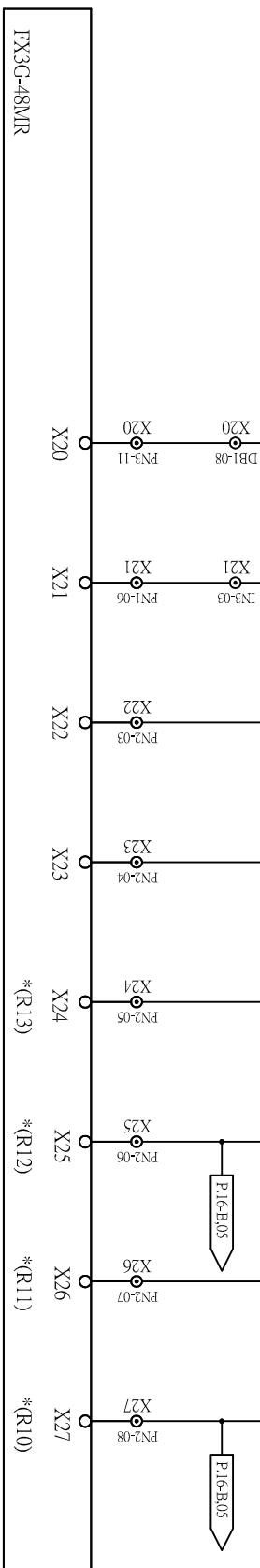
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BAR FEEDER TYPE	SCOUT 320
LATHE NAME	
LATHE TYPE	

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JV-EDGE RAY(MIX)

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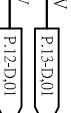
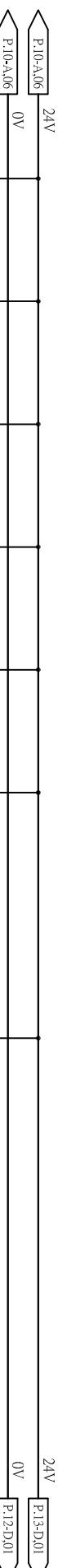
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BAR FEEDER TYPE		FIRST DATE		REVISION DATE		MAIN VOLTAGE	SIGNAL VOLTAGE	PAGE
SCOUT	320	2015 / 10 / 12		2016 / 05 / 04		220 VAC 3-PHASE	24VDC	P. 11
LATHE NAME		DRAWN BY	CHECKED BY	DESCRIPTION				
LATHE TYPE		Xiao		PLC INPUT				
01	02	03	04	05	06			

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SPARE

REVERSE LIMIT LIGHT

INTRODUCTION LIGHT

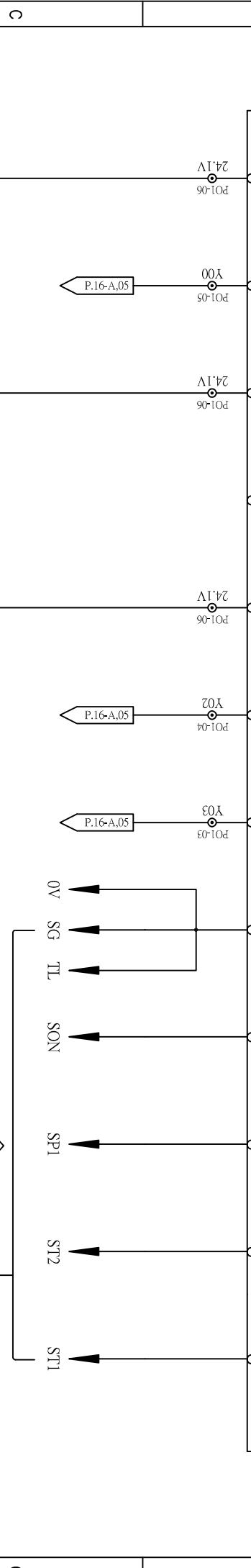
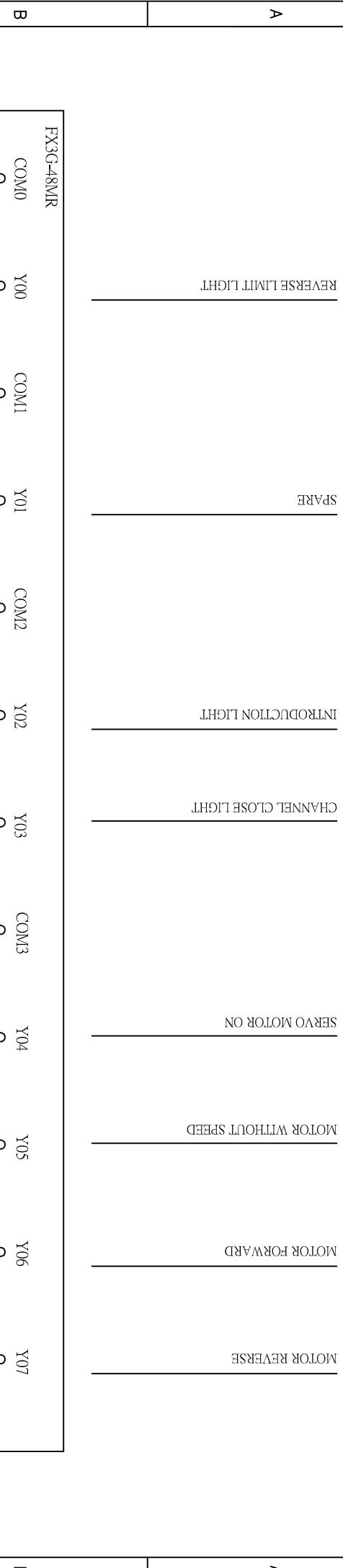
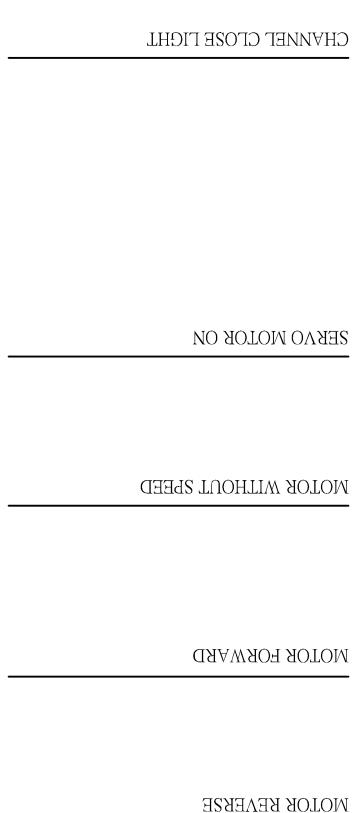
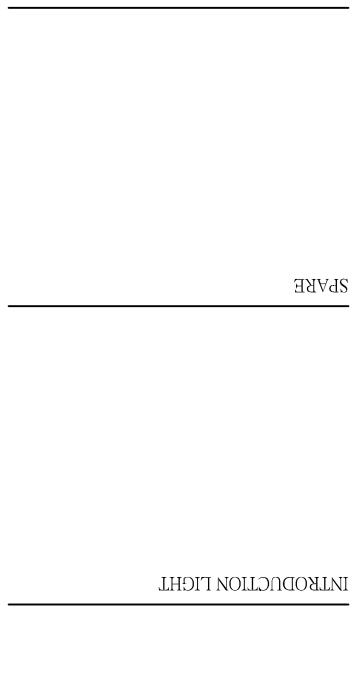
CHANNEL CLOSE LIGHT

SERVO MOTOR ON

MOTOR FORWARD

MOTOR REVERSE

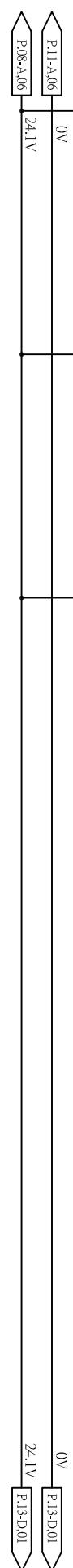
PLC OUTPUT



SERVO DRIVER CN1

C

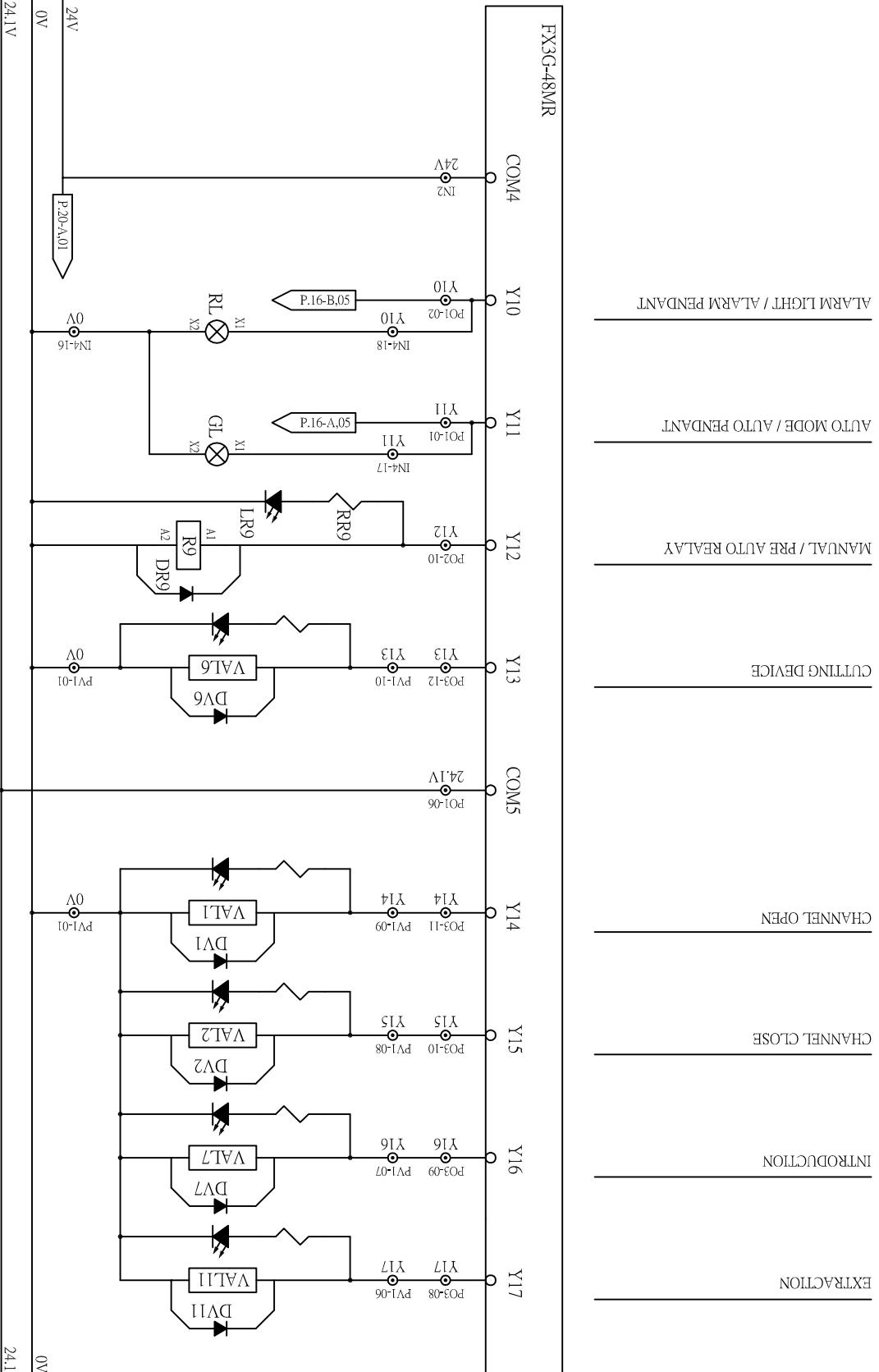
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BAR FEEDER TYPE	SCOUT 320	FIRST DATE	REVISIION DATE	MAIN VOLTAGE	SIGNAL VOLTAGE	PAGE
LATHE NAME		2015 / 10 / 12	2016 / 05 / 04	220 VAC 3-PHASE	24VDC	P. 12
LATHE TYPE		DRAWN BY	CHECKED BY	DESCRIPTION		
	Xiao			PLC OUTPUT		
01	02	03	04	05	06	VERSION

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D



BAR FEEDER TYPE
SCOTT 220

104

LATHE TYPE

104

EDGE TECHNOLOGIES
A DIVISION OF HYDROMAT INC.

Xiao

220 VAC 3-PHASE	24VDC	P.13
DESCRIPTION		

2015 / 10 / 12

220 VAC 3-

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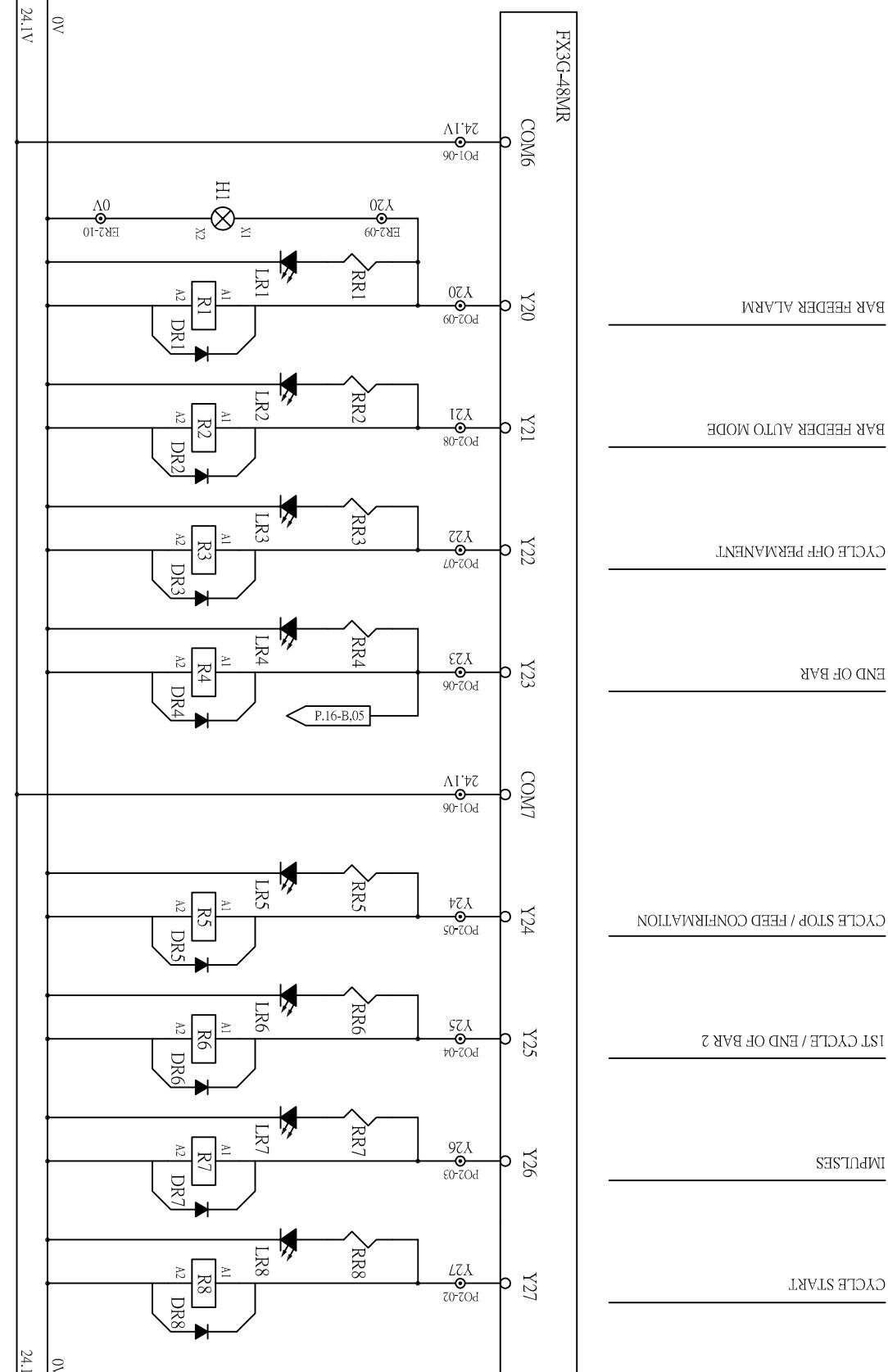
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The logo for Edge Technologies features the word "EDGE" in large, bold, black letters at the top. Below it, the word "TECHNOLOGIES" is written vertically in a smaller, bold, black font. A horizontal line connects the two words. At the bottom, the text "A DIVISION OF HYDROMAT INC." is printed in a smaller, black font.

Xiao

DRAWING NO.	VERSION
JV-EDGE RAY(MIX)	B0

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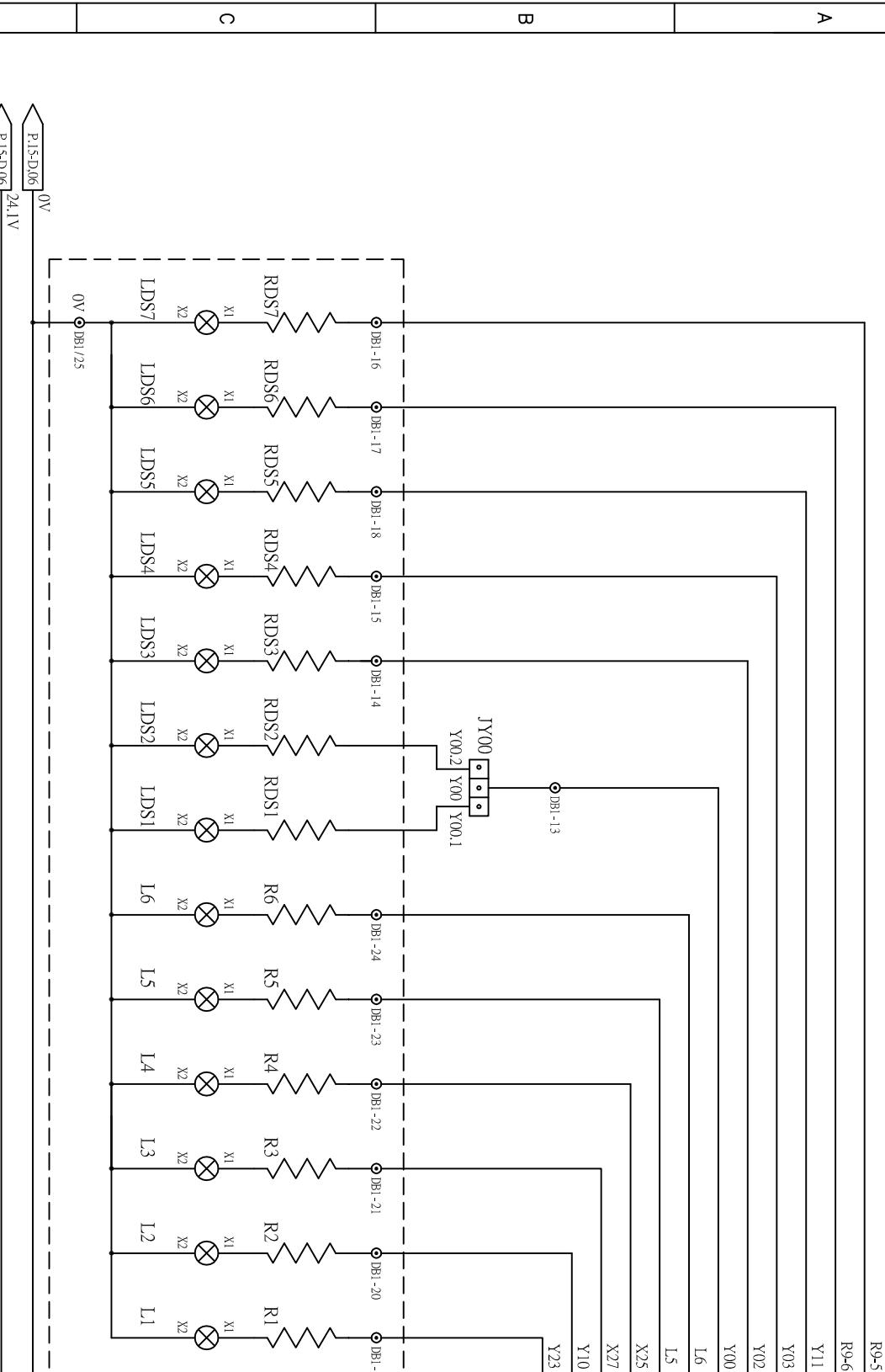
BC

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D
BAR FEEDER TYPE
SCOUT 320
LATHE NAME
LATHE TYPE
01

SCOUT 320

The logo for Edge Technologies features the word "EDGE" in large, bold, black letters at the top. Below it, the word "TECHNOLOGIES" is written vertically in a smaller, bold, black font. To the right of the text, there are three black circles of increasing size from left to right.

FIRST DATE 2015 / 10 / 12		REVISION DATE 2016 / 05 / 04	MAIN VOLTAGE 220 VAC 3-PHASE	SIGNAL VOLTAGE 24VDC	PAGE P. 16
DRAWN BY	CHECKED BY	DESCRIPTION LED circuit of Remote control pendant	DRAWING NO. JV-EDGE RAY(MIX)	VERSION B0	D
Xiao					
04	05		06		

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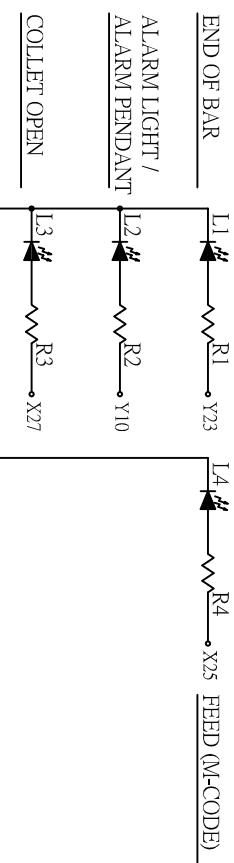
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PGE 0205 KEY BOARD

LDS5 → RDS5 → Y11

DS5

LDS7 → RDS7 → R95

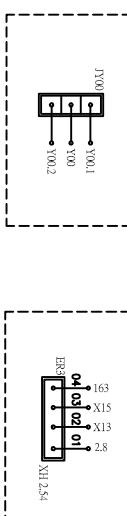
DS7

LDS6 → RDS6 → R96

DS6

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SCOUT 320

LATHE NAME

LATHE TYPE

BAR FEEDER TYPE

FIRST DATE: 2015 / 10 / 12

REVISION DATE: 2016 / 05 / 04

MAIN VOLTAGE: 220 VAC 3-PHASE

SIGNAL VOLTAGE: 24VDC

PAGE: P. 18

DRAWN BY

CHECKED BY

DESCRIPTION: PC board circuit of Remote control pendant

DRAWING NO.: JV-EDGE RAY(MIX)

VERSION: B0

DB1

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Y02 → 24V

Y03 → 24V

R9-5 → X10

R9-6 → X11

Y11 → X16

Y23 → X17

Y10 → X14

X27 → X20

X25 → 2.8

L5 → 161

L6 → 163

0V → Y00

01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	0G	0H	0I	0J	0K	0L	0M	0N	0O
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EDGE ○○○
TECHNOLOGIES
A DIVISION OF HYDROMAT INC

DRAWN BY

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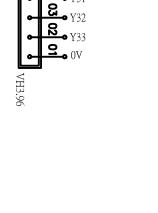
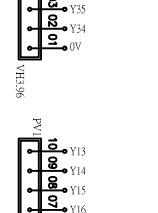
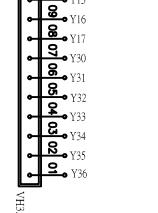
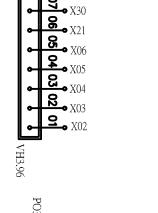
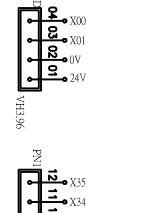
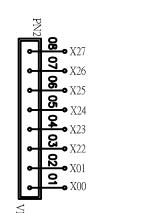
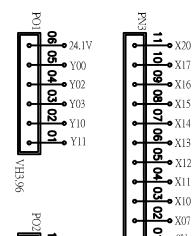
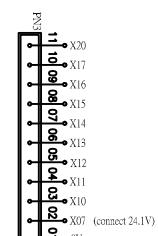
DESCRIPTION: PC board circuit of Remote control pendant

DRAWING NO.: JV-EDGE RAY(MIX)

VERSION: B0

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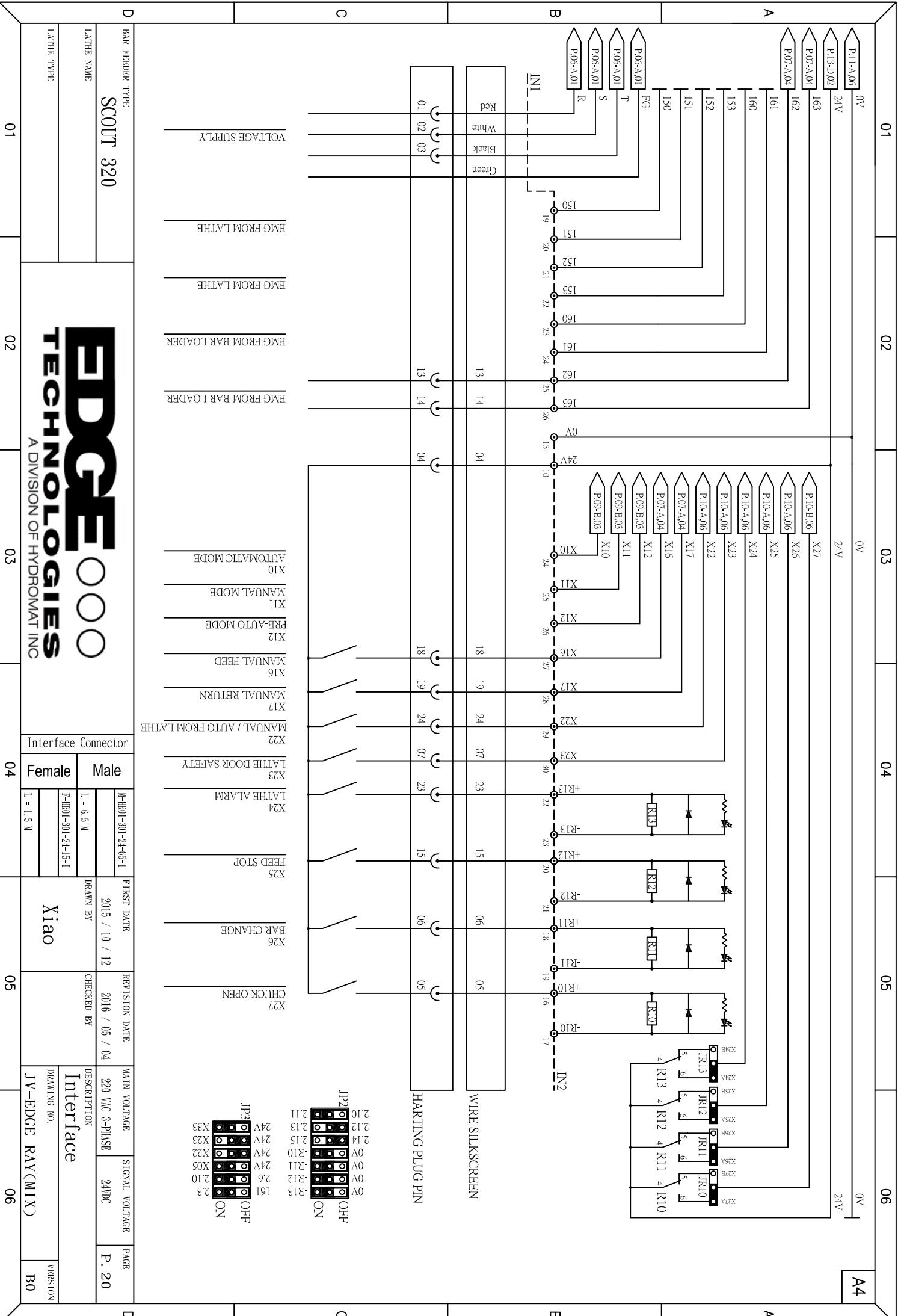
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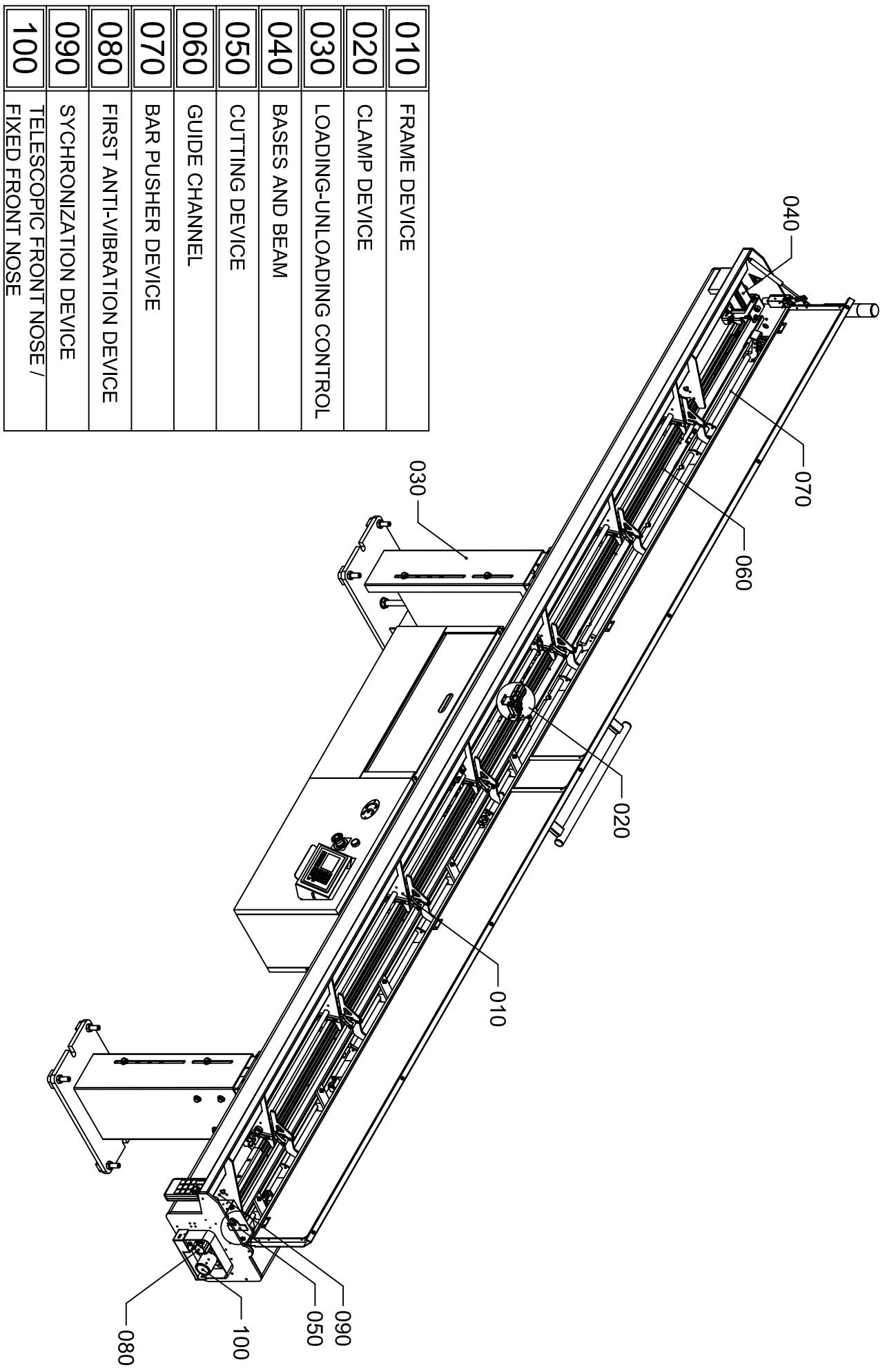
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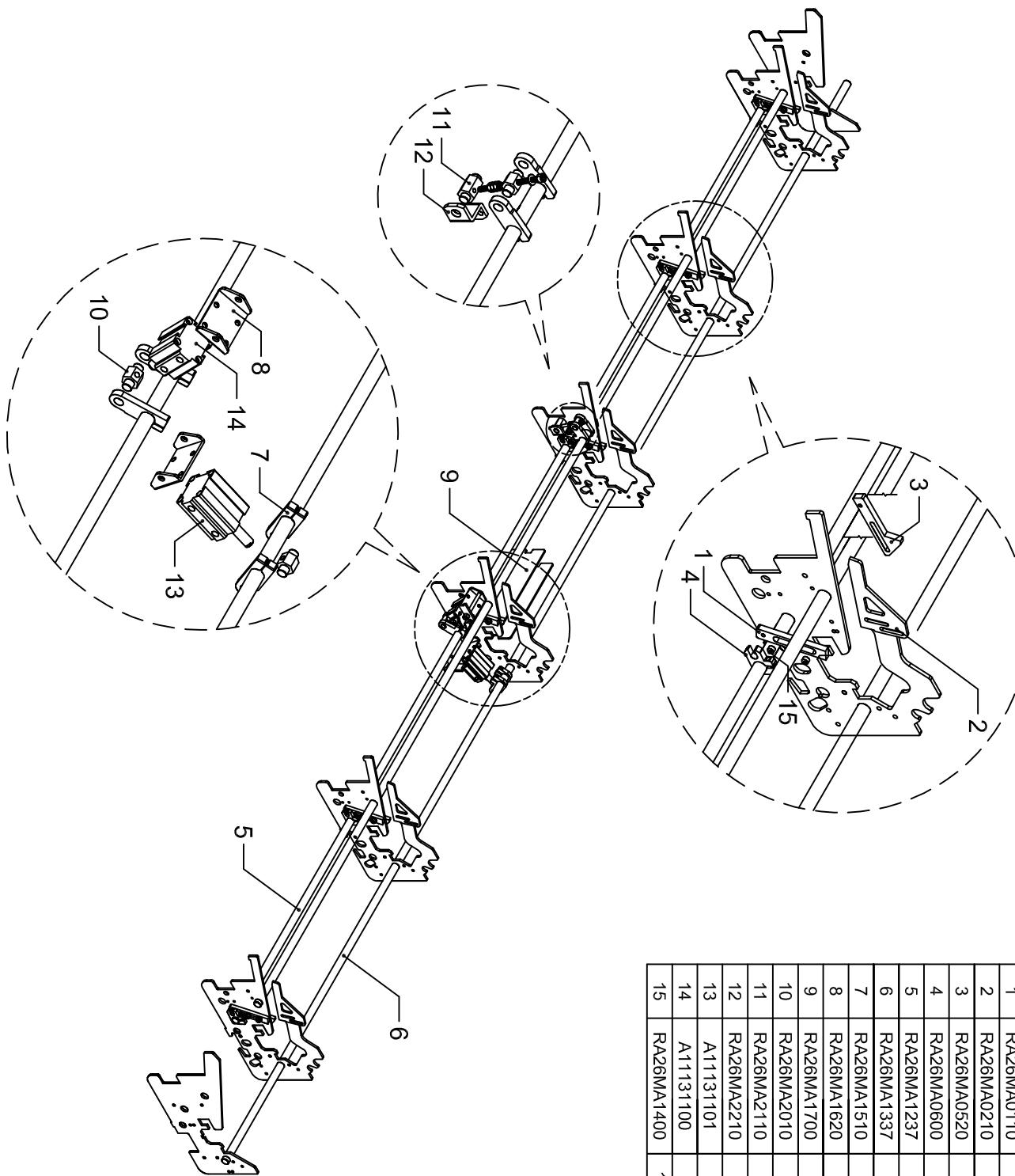
SCOUT 320

PICTURE INDEX



SCOUT 320

FRAME DEVICE



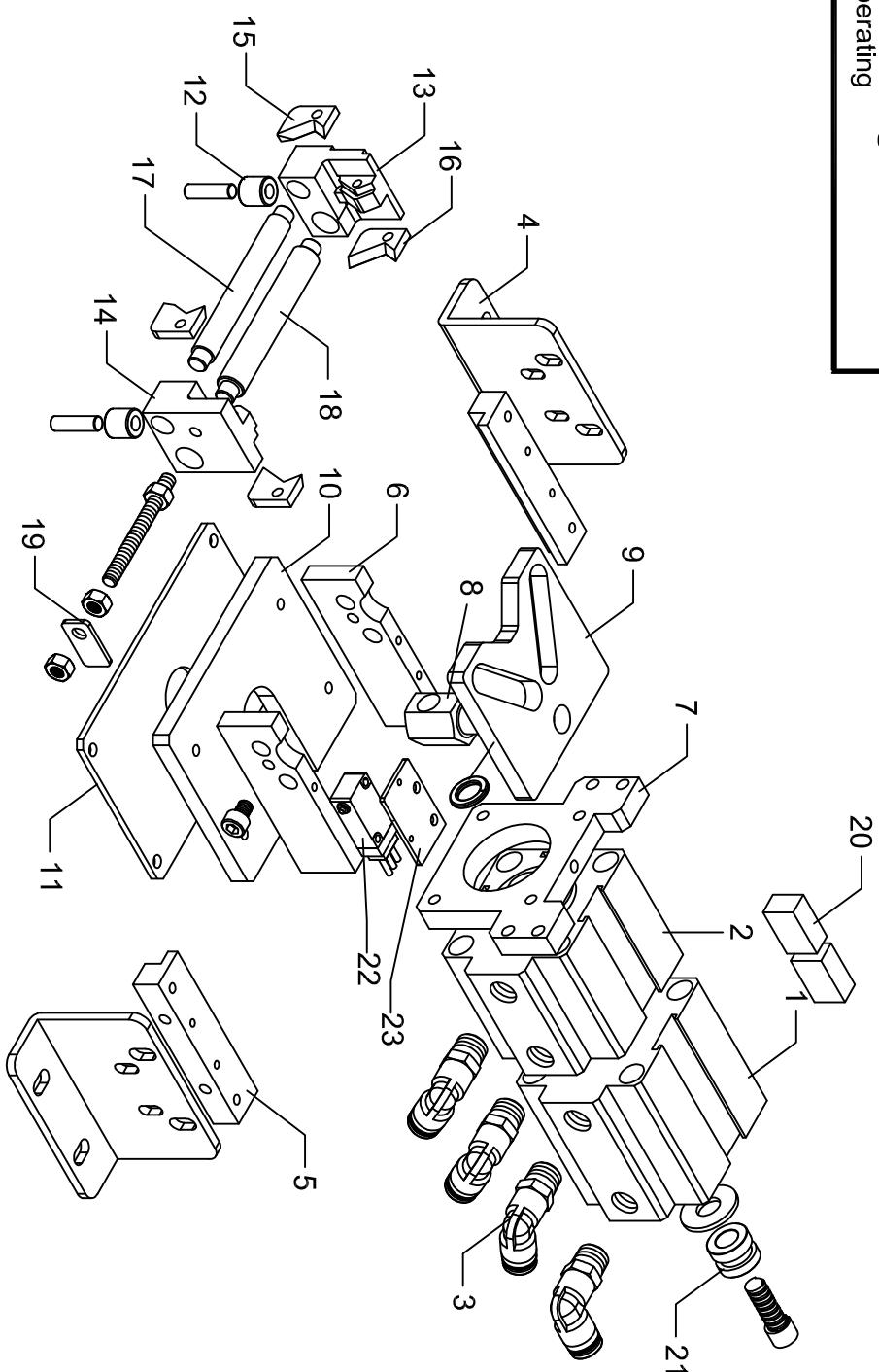
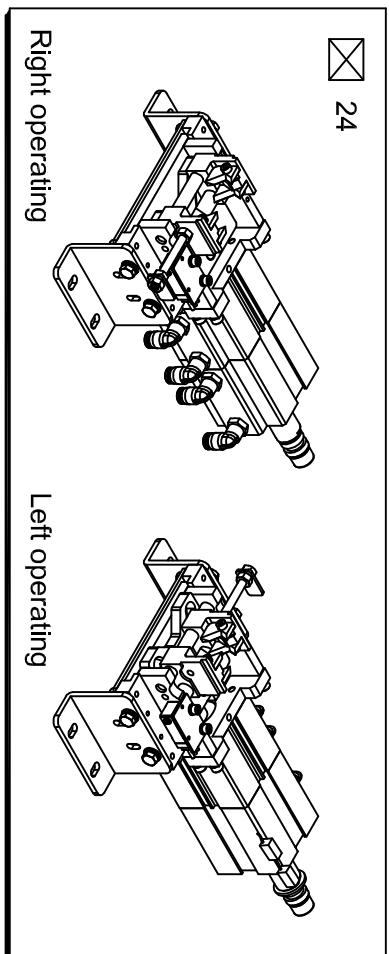
N.	Code	QTY	Denomination
1	RA26MA0110	7	Loading plate
2	RA26MA0210	7	Plate
3	RA26MA0520	7	Plate
4	RA26MA0600	7	Support
5	RA26MA1237	2	Arbor L=3530
6	RA26MA1337	1	Arbor L=4023
7	RA26MA1510	6	Support
8	RA26MA1620	2	Anchor
9	RA26MA1700	2	Sheel
10	RA26MA2010	3	Arbor
11	RA26MA2110	1	Arbor
12	RA26MA2210	1	Plate
13	A11131101	1	Cylinder SDA-S-32x30
14	A11131100	1	Cylinder SDA-32x30
15	RA26MA1400	14	Spacer

SCOUT 320

CLAMP DEVICE

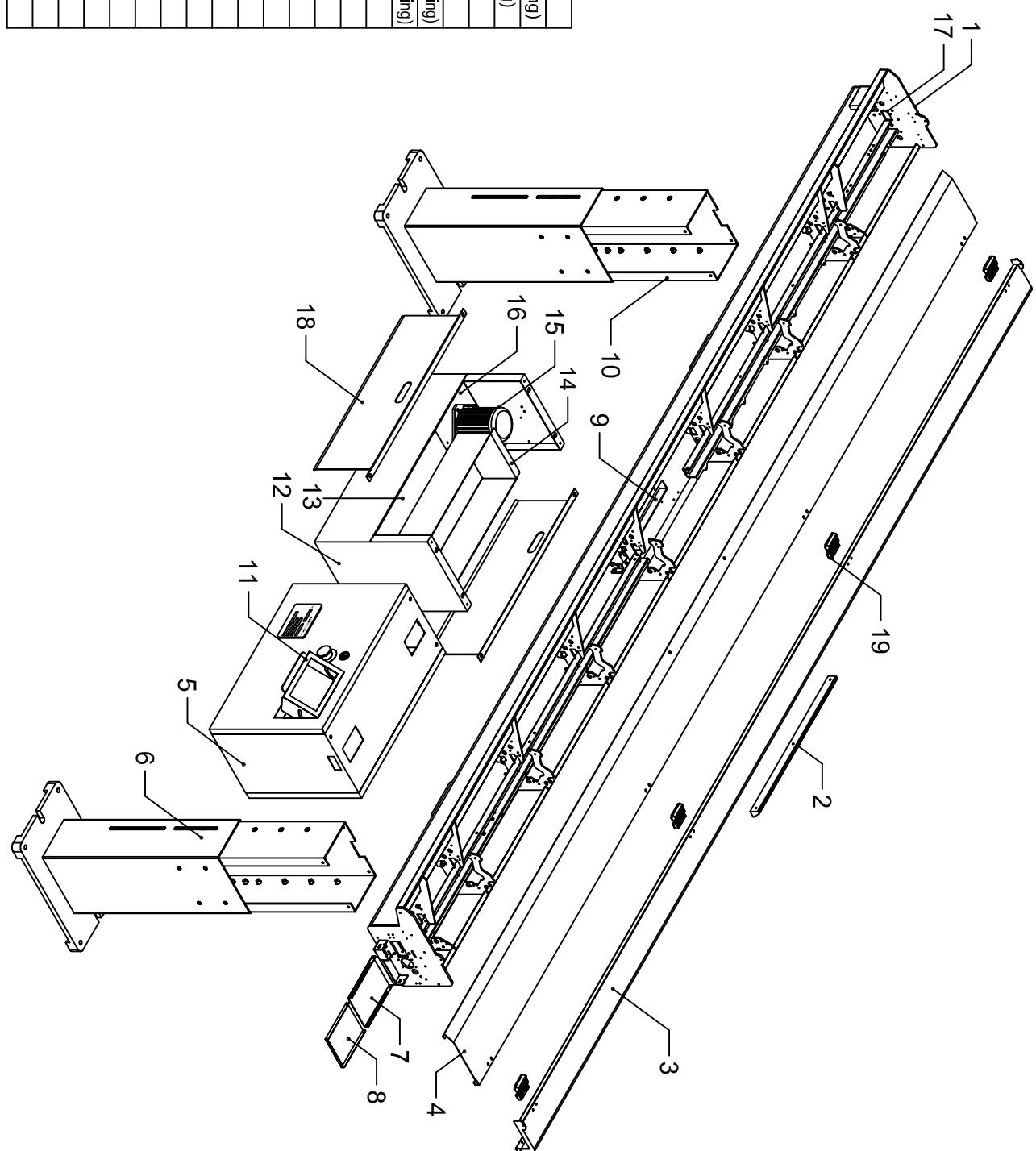
Tab.
020
2

N.	Code	QTY	Denomination
1	A11131801	1	Cylinder SDA-50x30
2	A11131800	1	Cylinder SDAS-50x30
3	A13120100	4	Bended connector SPL 6-02
4	RA26GR1000	1	Plate
5	RA26GR0800	2	Plate
6	RA26GR0410	2	Support
7	RA26GR0600	1	Plate
8	RA26GR1200	1	Sensor shaft
9	RA26GR0510	1	Sliding plate
10	RA26GR0700	1	Sliding plate
11	RA26GR0900	1	Plate
12	RA26GR1900	2	Bushing
13	RA26GR0130	1	Anchor (L)
14	RA26GR0140	1	Anchor (R)
15	RA26GR0300	2	Clip cutter
16	RA26GR0310	2	Clip cutter
17	RA26GR0210	1	Arbor
18	RA26GR0200	1	Arbor
19	RA26GR1300	1	Base
20	A12140501	2	Microswitch LY-67A-5MV
21	RA26GR1100	1	Bushing
22	J310403	1	Switch D2VW-5-1M
23	RA26GR1400	1	Anchor
24	RA26GR000A	1	Clamp device (Right operating)
	RA26GR001A	1	Clamp device (Left operating)



SCOUT 320

BASES AND BEAM XL



Tab.
031
1

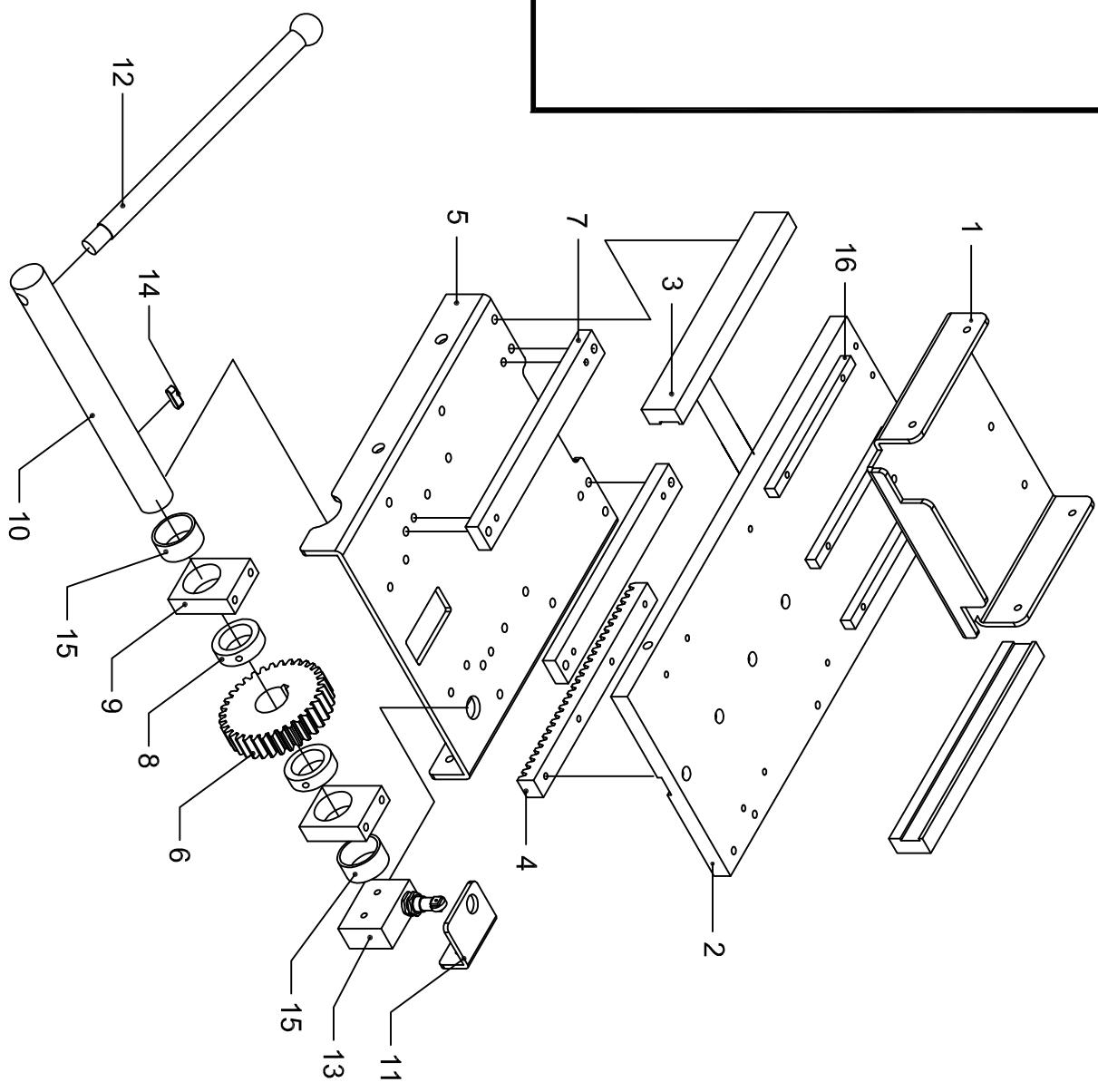
N.	Code	QTY	Denomination
1	RA26BA0637	1	Base (Right operating)
2	RA26BA0638	1	Base (Left operating)
3	RA26BA0401	1	Handle
4	RA26BA060437	1	Rear cover
5	RA26BA060537	1	Front cover (Right operating)
6	RA26BA060538	1	Front cover (Left operating)
7	RA26BA0600	1	Control box
8	RA26BA0800	2	Lower stand
9	RA26BA0900	1	Oil gathering
10	RA26BA1000	1	RA26BA1000
11	RA26BA1200	1	RA26BA1200
12	P76200100	2	P76200100
13	P76200604	2	P76200604
14	RA26OL0100	1	RA26OL0100
15	RA26OL0200	1	RA26OL0200
16	P76200500	1	P76200500
17	RA26OL0401	1	RA26OL0401
18	RA26BA2900	1	RA26BA2900
19	RA26OL0510	2	RA26OL0510
	G81121111	4	Hinge

SCOUT 320

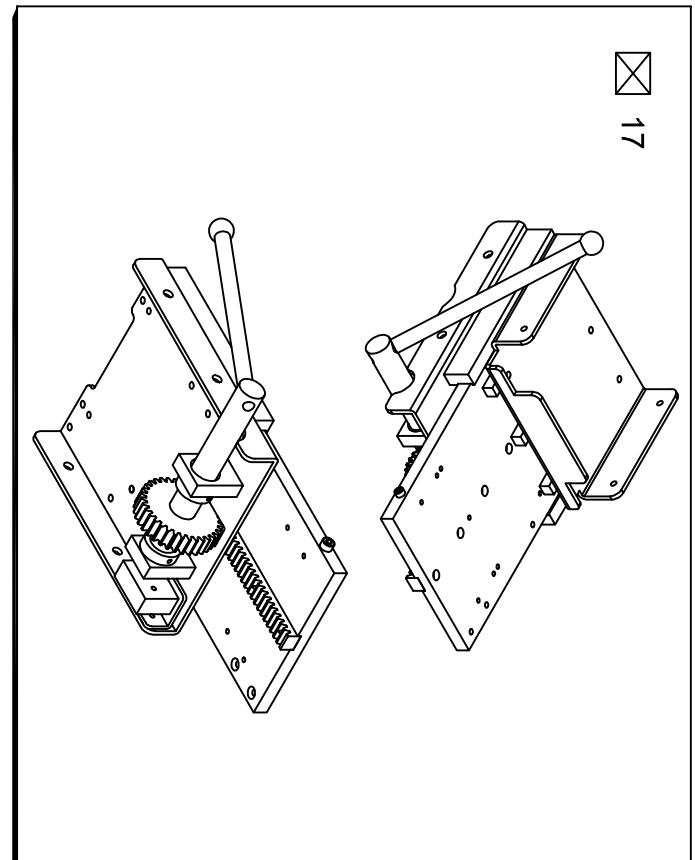
FRONT TRACKING SYSTEM

Tab.
036
1

N.	Code	QTY	Description
1	RA26MZ1300	1	Plate
2	P35200200	1	Plate
3	P35200300	2	Track
4	P35200400	1	Rack
5	P35200500	1	Plate
6	P35200600	1	Pinion 34T
7	P35200700	2	Support
8	P35200800	2	Ring
9	P35200900	2	Support
10	P35201000	1	Arbor
11	P35201100	1	Plate
12	P35201200	1	Handle
13	J310409	1	Micro switch TZ-7311
14	ZS06060620	1	Shaft key 6x6x20
15	BSF2815	2	Bearing SF-2815
16	RA26MZ1210	3	Support
17	RA26MZ000A	1	Axial track device



17

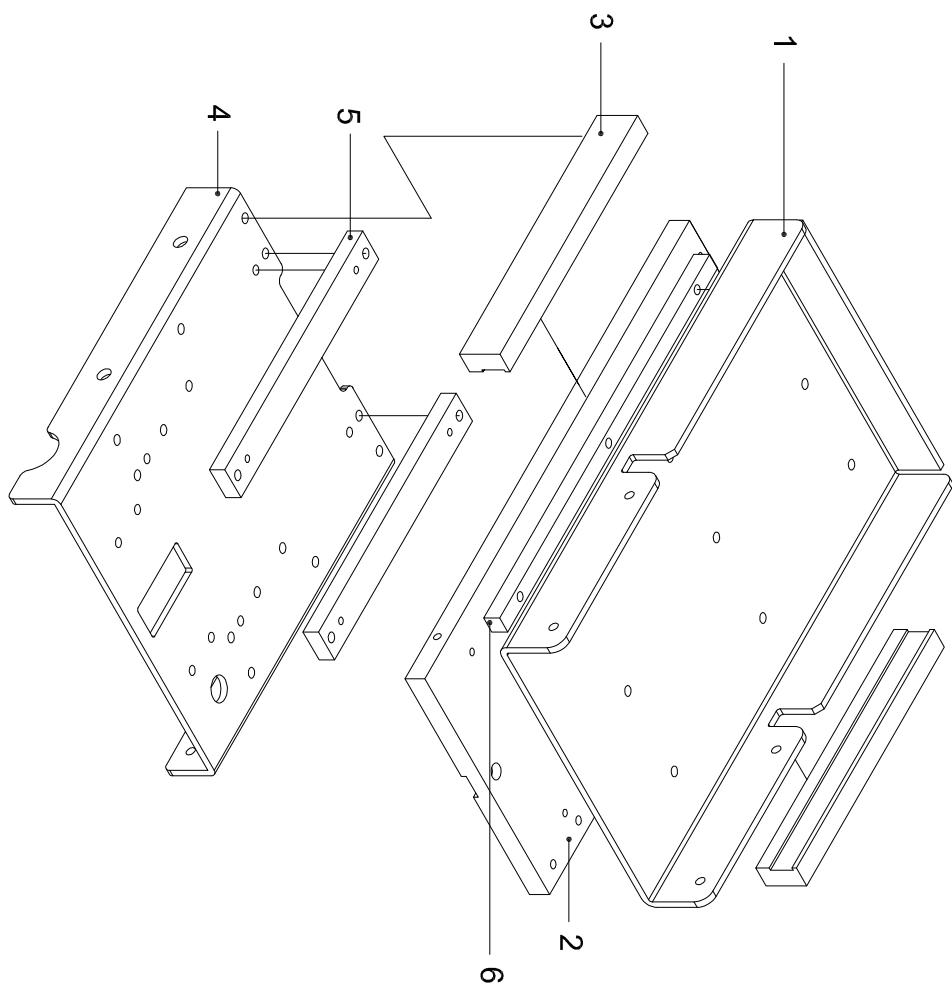
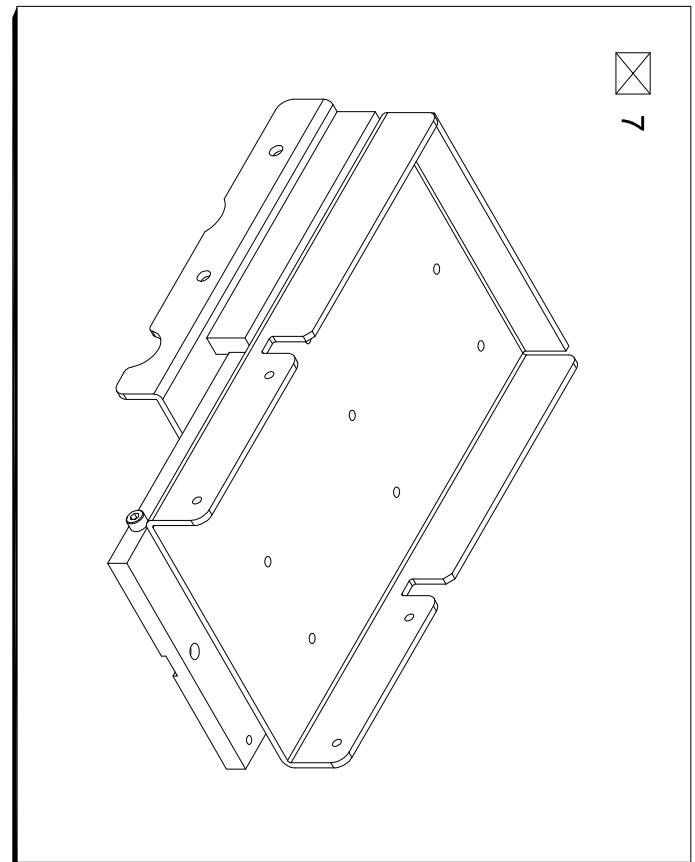


SCOUT 320

BACK TRACKING SYSTEM

Tab.
037
1

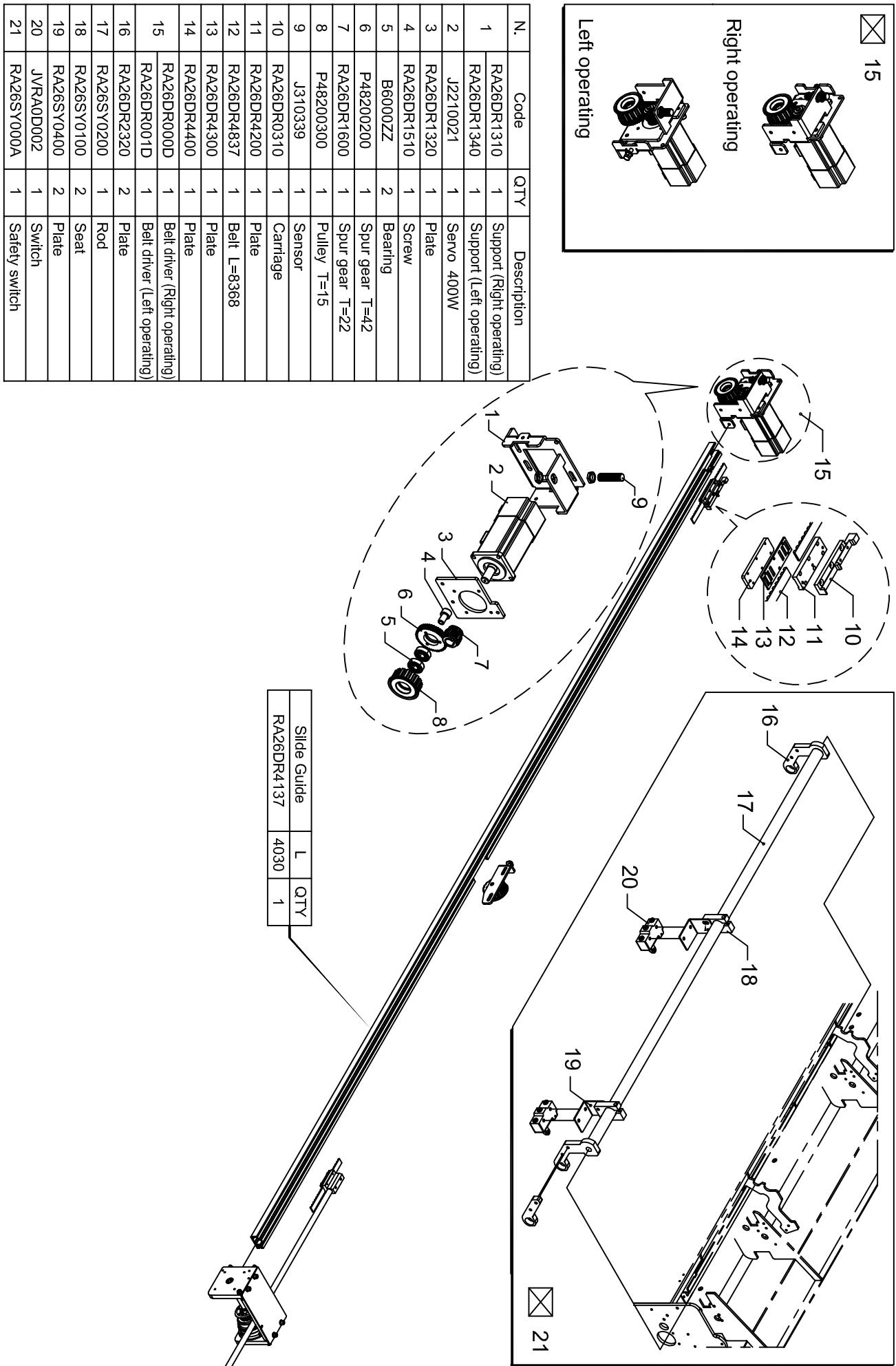
N.	Code	QTY	Description
1	RA26MZ1100	1	Plate
2	P35200200	1	Plate
3	P35200300	2	Track
4	P35200500	1	Plate
5	P35200700	2	Support
6	RA26MZ1200	3	Support
7	RA26MZ001A	1	Axial track device



SCOUT 320

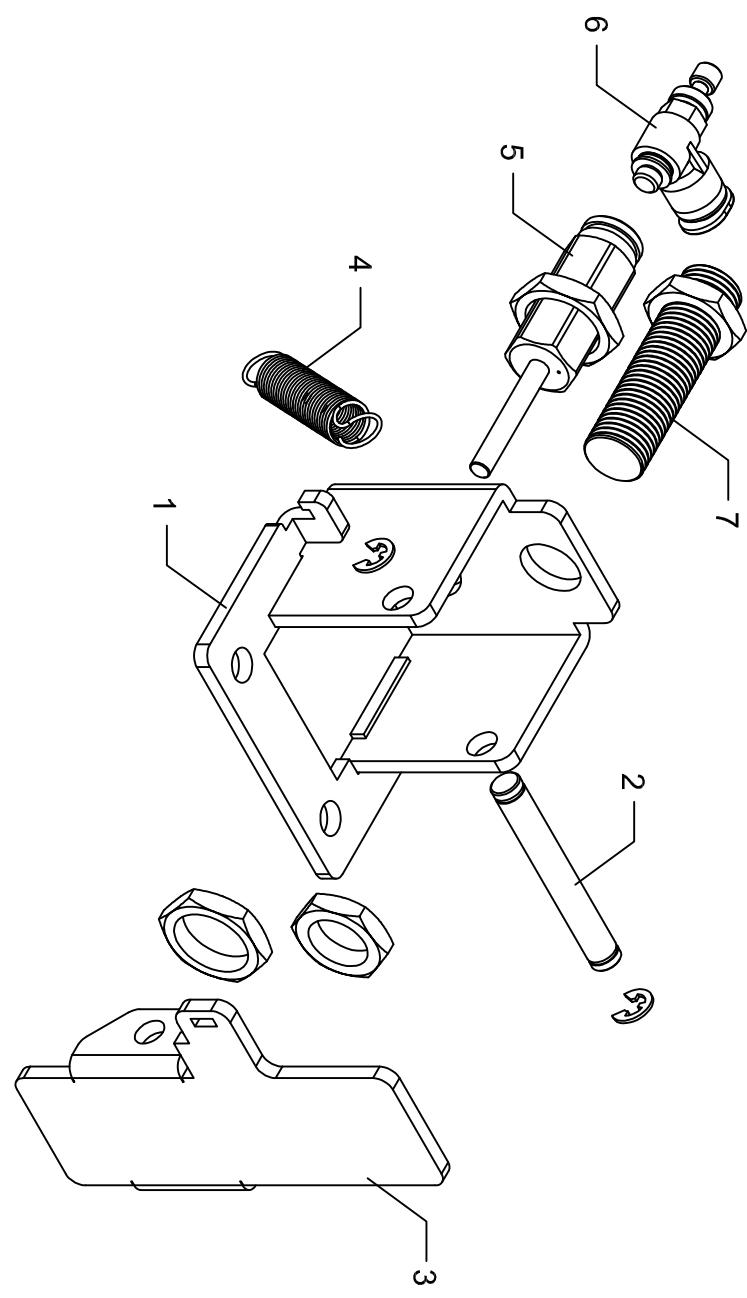
FEEDING DRIVER UNIT

Tab.
040
3

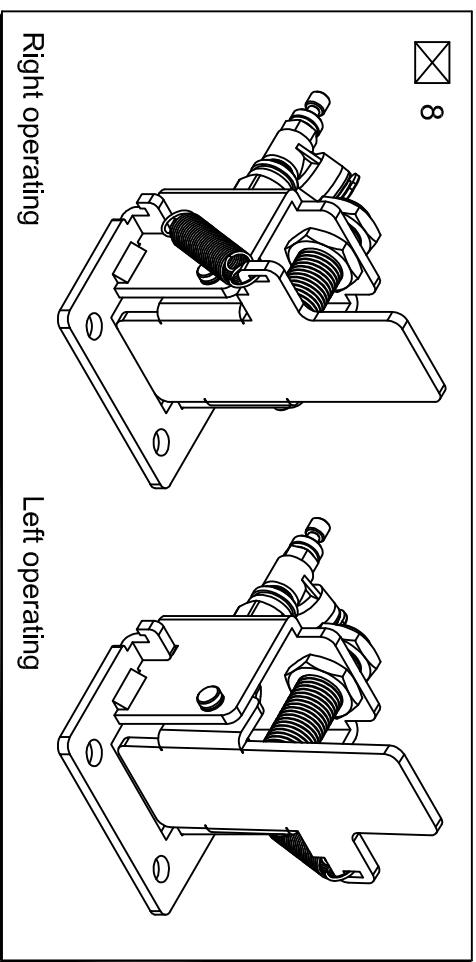


SCOUT 320

CUTTING DEVICE



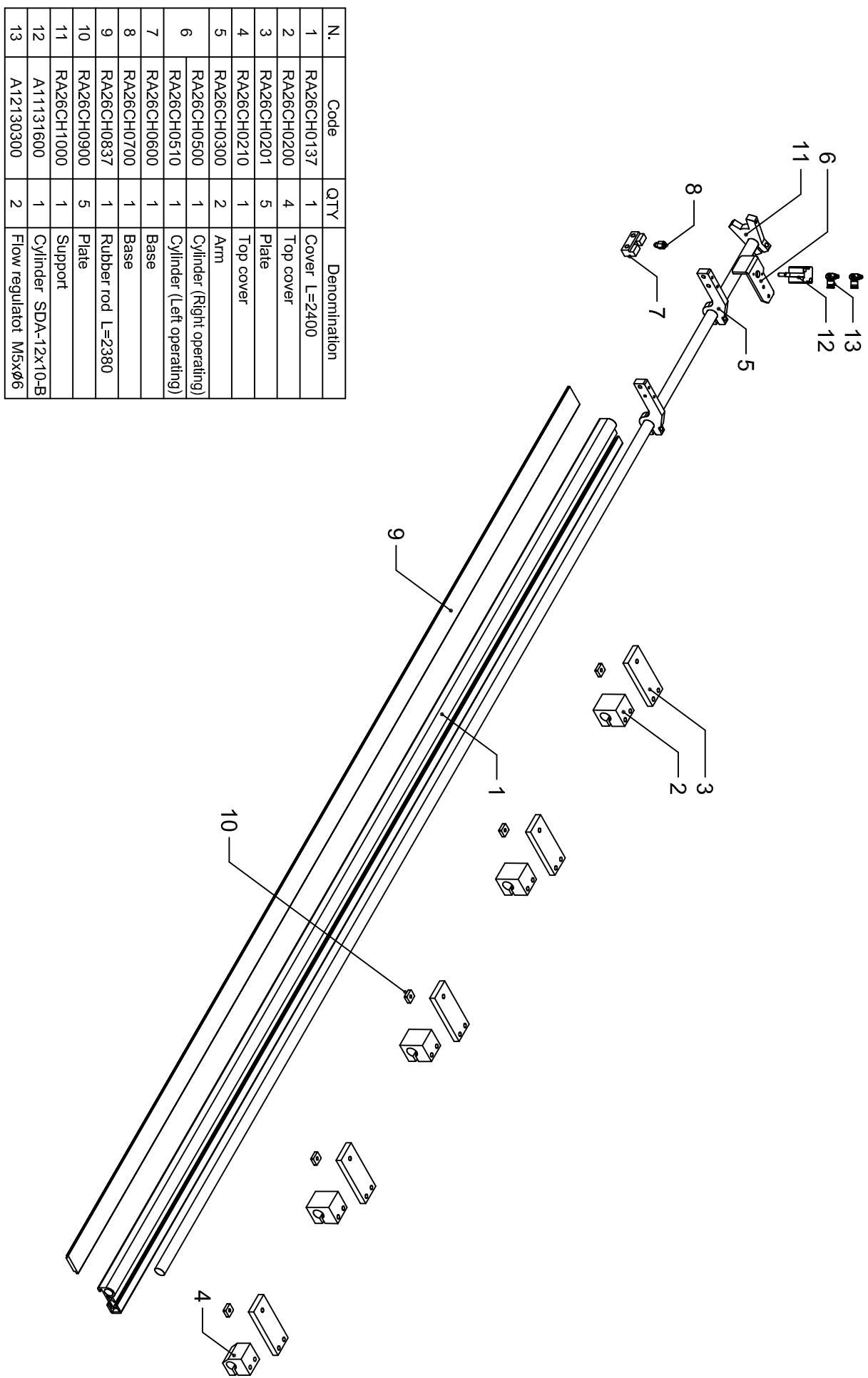
N.	Code	QTY	Denomination
1	RA26FA0600	1	Seat
2	RA26FA0300	1	Shaft
3	RA26FA0401	1	Plate (Right operating)
4	RA26FA0403	1	Plate (Left operating)
5	A11131501	1	Spring
6	A12130301	1	Cylinder
7	J310338	1	Sensor
8	RA26FA000A	1	Cutting device (Right operating)
	RA26FA001A	1	Cutting device (Left operating)



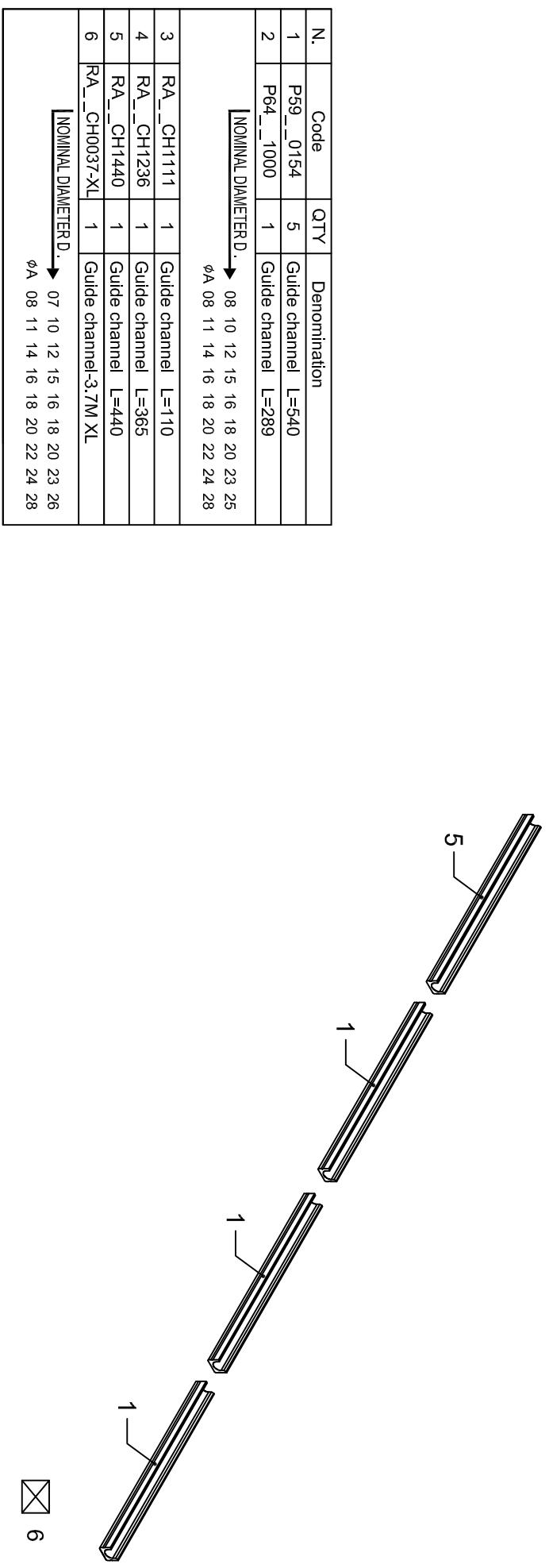
SCOUT 320

COVER

Tab.
060
2



#	Support	QTY
07#	RA08CH0400	
10#	RA10CH0400	
12#	RA12CH0400	
15#	RA16CH0400	
16#	RA16CH0400	2
18#	RA18CH0400	
20#	RA20CH0400	
23#	RA23CH0400	
26#	RA26CH0400	



⊗ 6

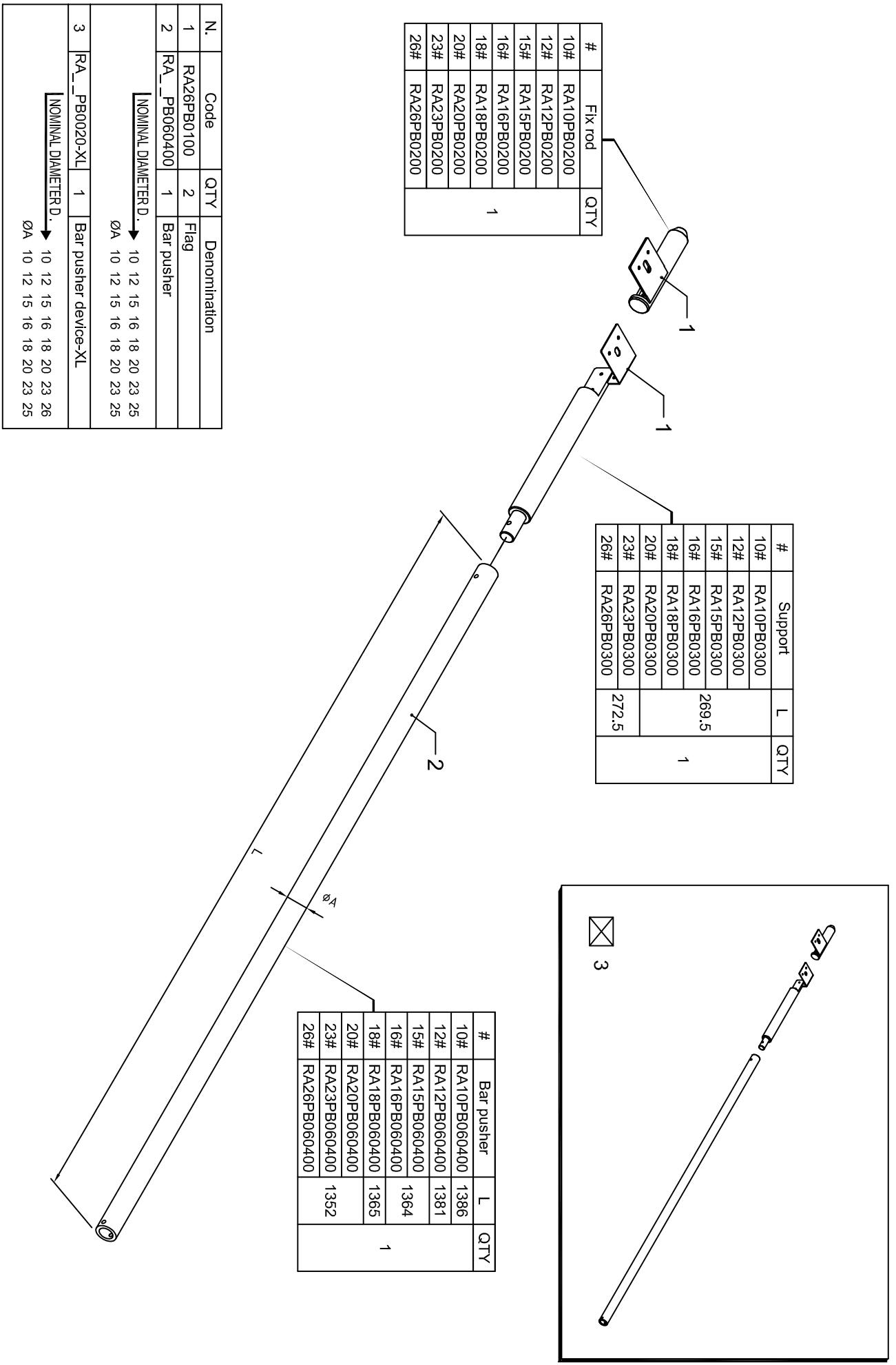
SCOUT 320

GUIDE CHANNEL XL

Tab.
064
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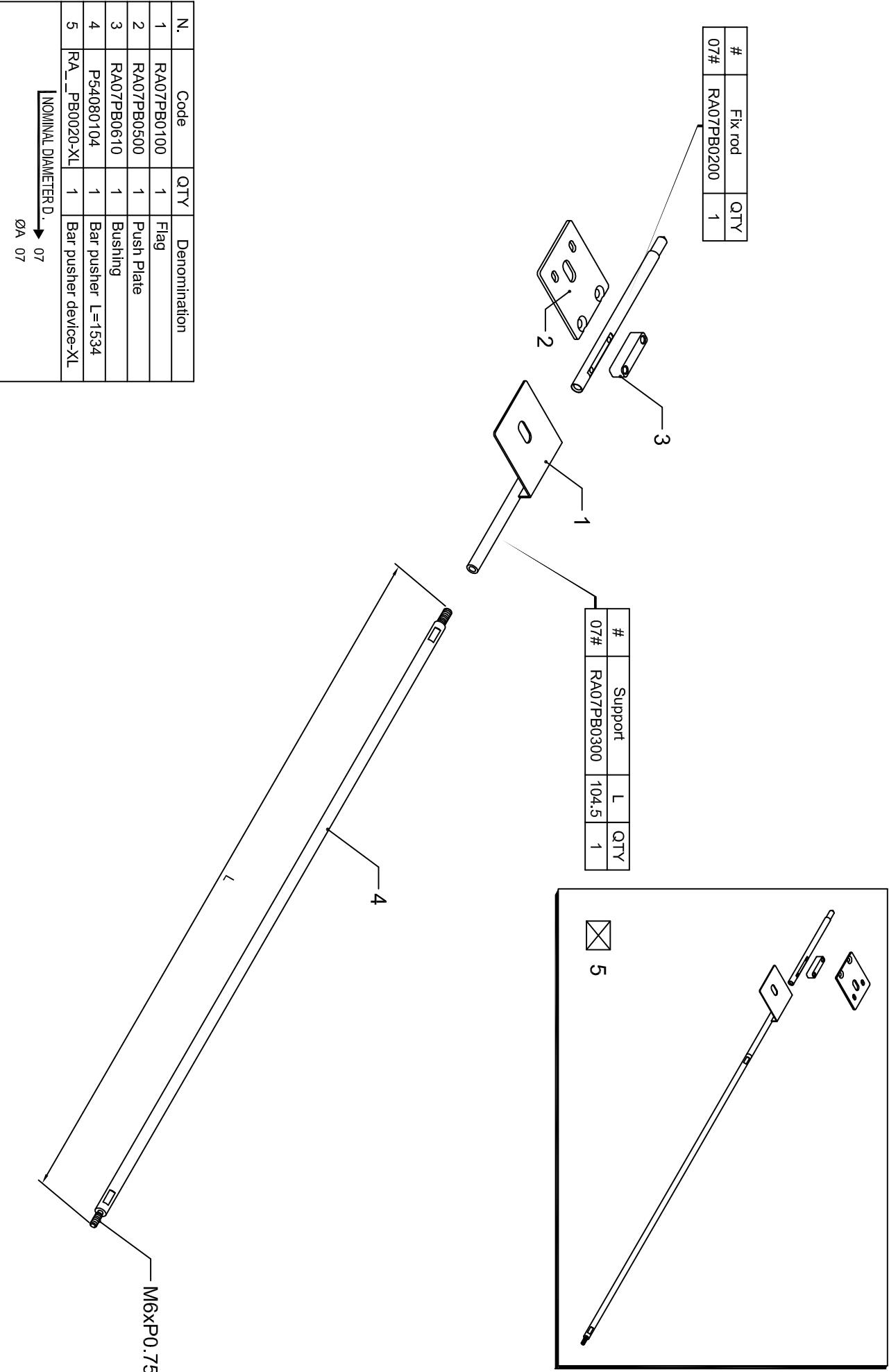
SCOUT 320

BAR PUSHER DEVICE XL



SCOUT 320

#7 TYPE BAR PUSHER DEVICE XL

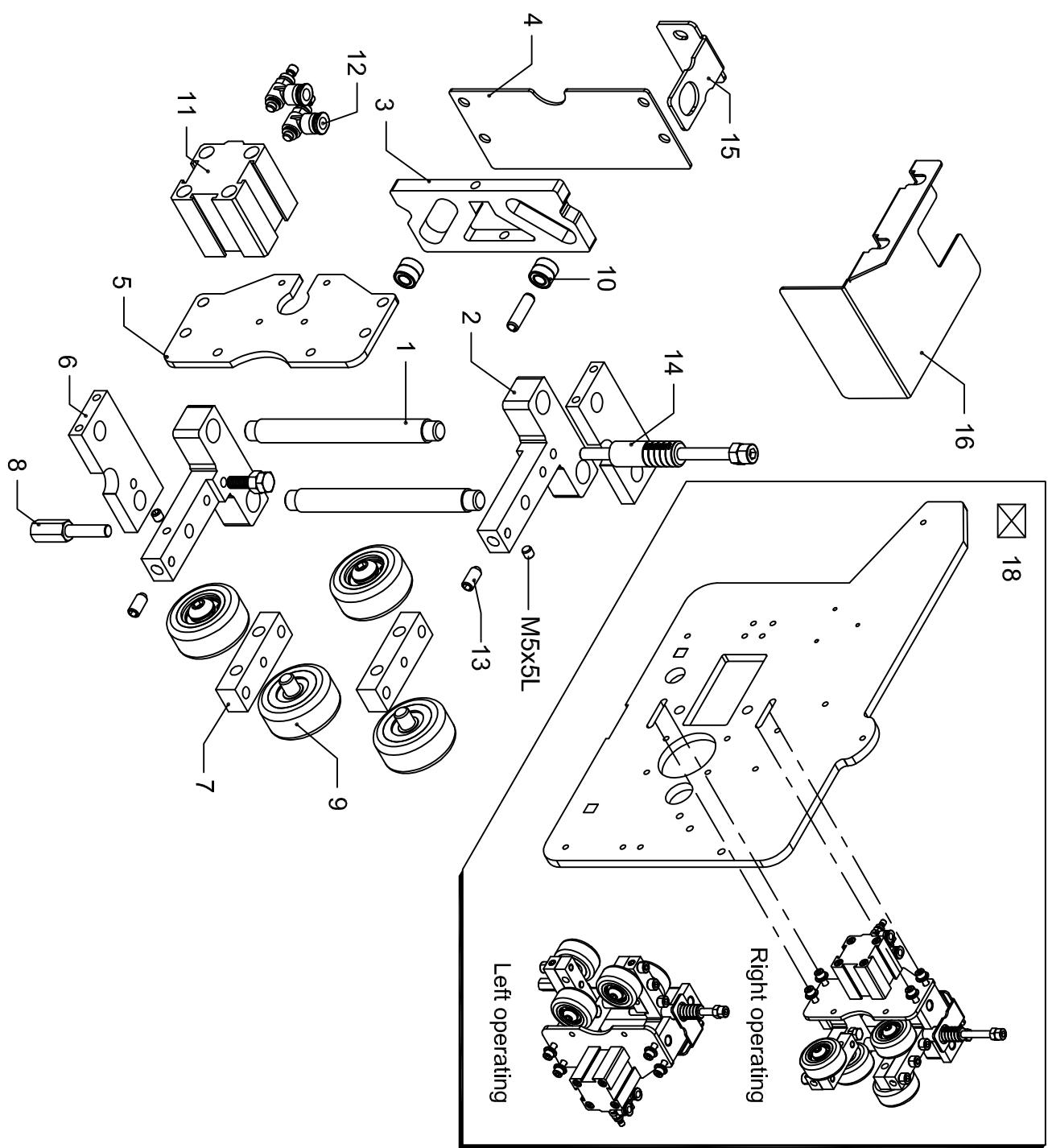


Tab. 073
1

SCOUT 320

1ST FIRST ANTI-VIBRATION DEVICE

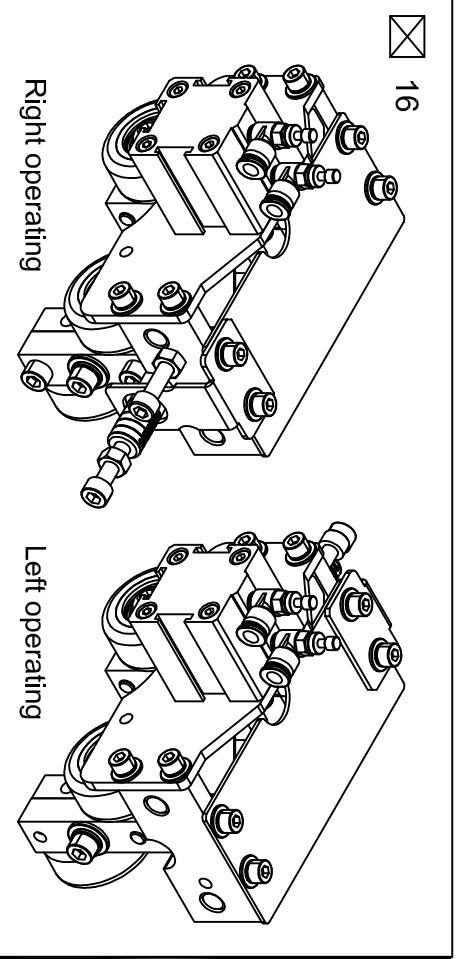
N.	Code	QTY	Denomination	Bushing	QTY
1	P85200100	2	Arbor	9	P85201008
2	P85200200	2	Anchor	11	P85201010
3	P85200300	1	Cam	13	P85201012
4	P85200500	1	Plate	15	P85201014
5	P85200600	1	Pytinder plate	17	P85201016
6	P85200700	2	Plate	19	P85201018
7	P85200900	2	Anchor	21	P85201020
8	P85201300	1	Shaft	23	P85201022
9	HP8127000F	4	Whcel	25	P85201024
10	BMR126	4	Bearing	27	P85201026
11	A11130100	1	Cylinder SDA25x20	29	P85201028
12	A12130300	2	Flow regulator M5,φ6		
13	G55120900	2	Bolt M6		
14	P85201350	1	Scale shaft		
15	P85201360	1	Indicator plate		
16	RA26BU0100	1	Cover		
17	P85200800	2	Arbor		
18	RA26BU000A	1	(1st first anti-vibration device 1st first operating device (Left operating))		
	RA26BU001A	1	(Left operating)		



SCOUT 320

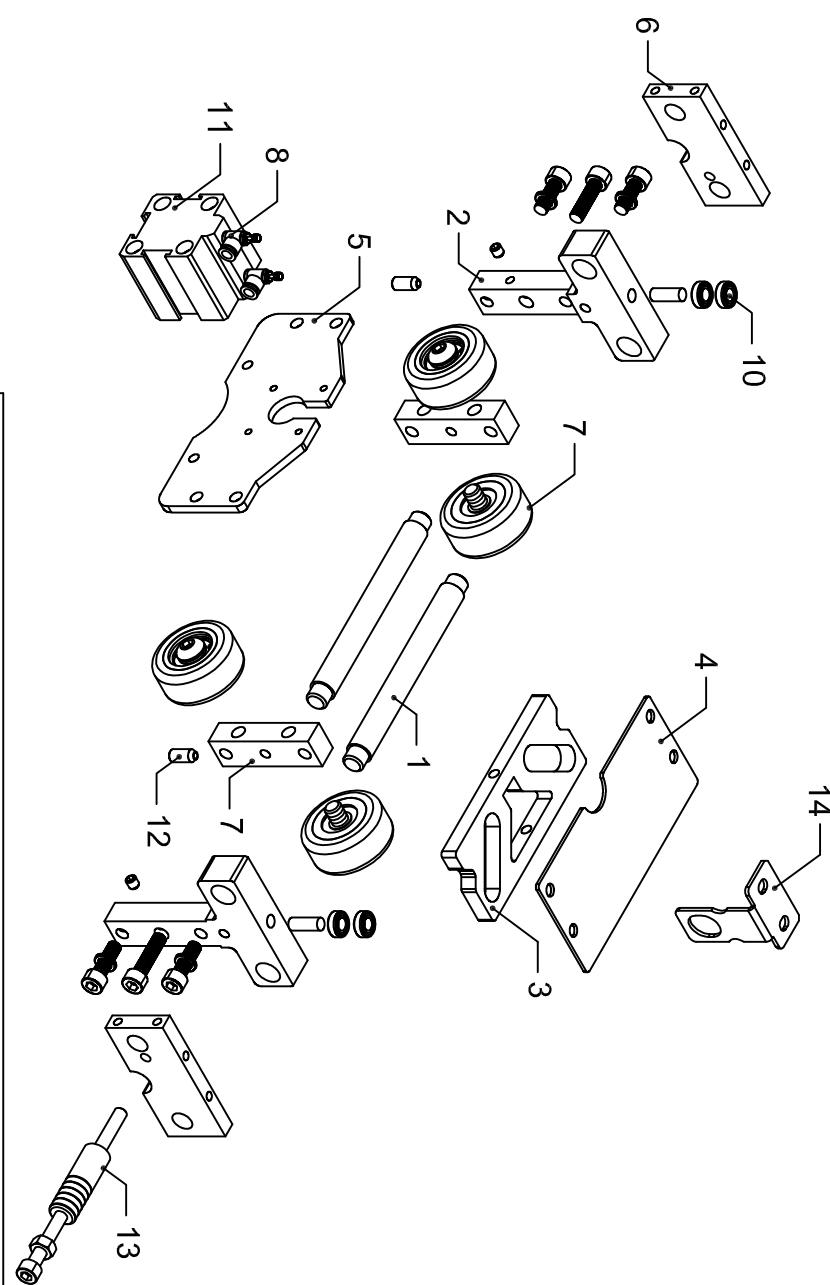
ANTI-VIBRATION DEVICE

Tab.
081
2



N.	Code	QTY	Denomination
1	P85200100	2	Arbor
2	P85200200	2	Anchor
3	P85200300	1	Plate
4	P85200500	1	Plate
5	P85200600	1	Plate
6	P85200700	2	Plate
7	P85200900	2	Anchor
8	A12130300	2	Flow regulator M5, φ6
9	HP8127000F	4	Wheel
10	BMR126	4	Bearing
11	A11130100	1	Cylinder SDA 25x20
12	G55120900	2	Ball M6
13	P85201350	1	Scale shaft
14	P85201360	1	Indicator plate
15	P85200800	2	Arbor
16	HP8127002A	1	Anti-vibration device (Right operating)
17	HP8127001A	1	Anti-vibration device (Left operating)

Bushing	QTY
9 P85201008	
11 P85201010	
13 P85201012	
15 P85201014	
17 P85201016	2
19 P85201018	
21 P85201020	
23 P85201022	
25 P85201024	
27 P85201026	
29 P85201028	

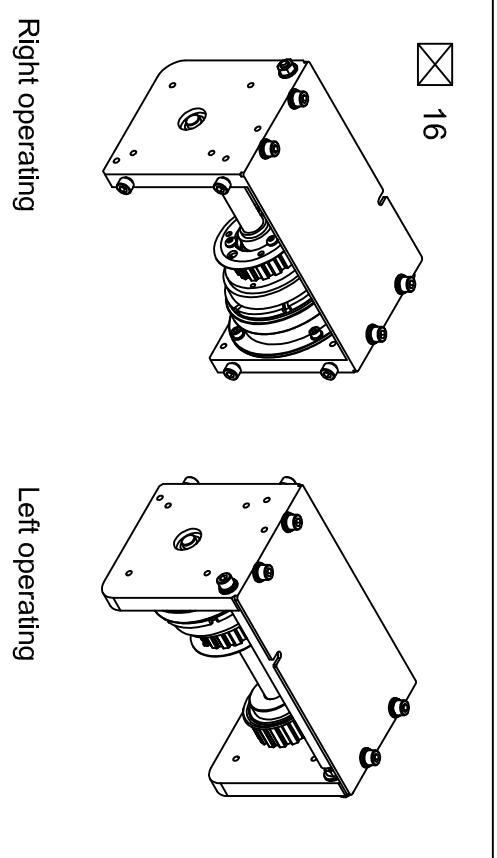
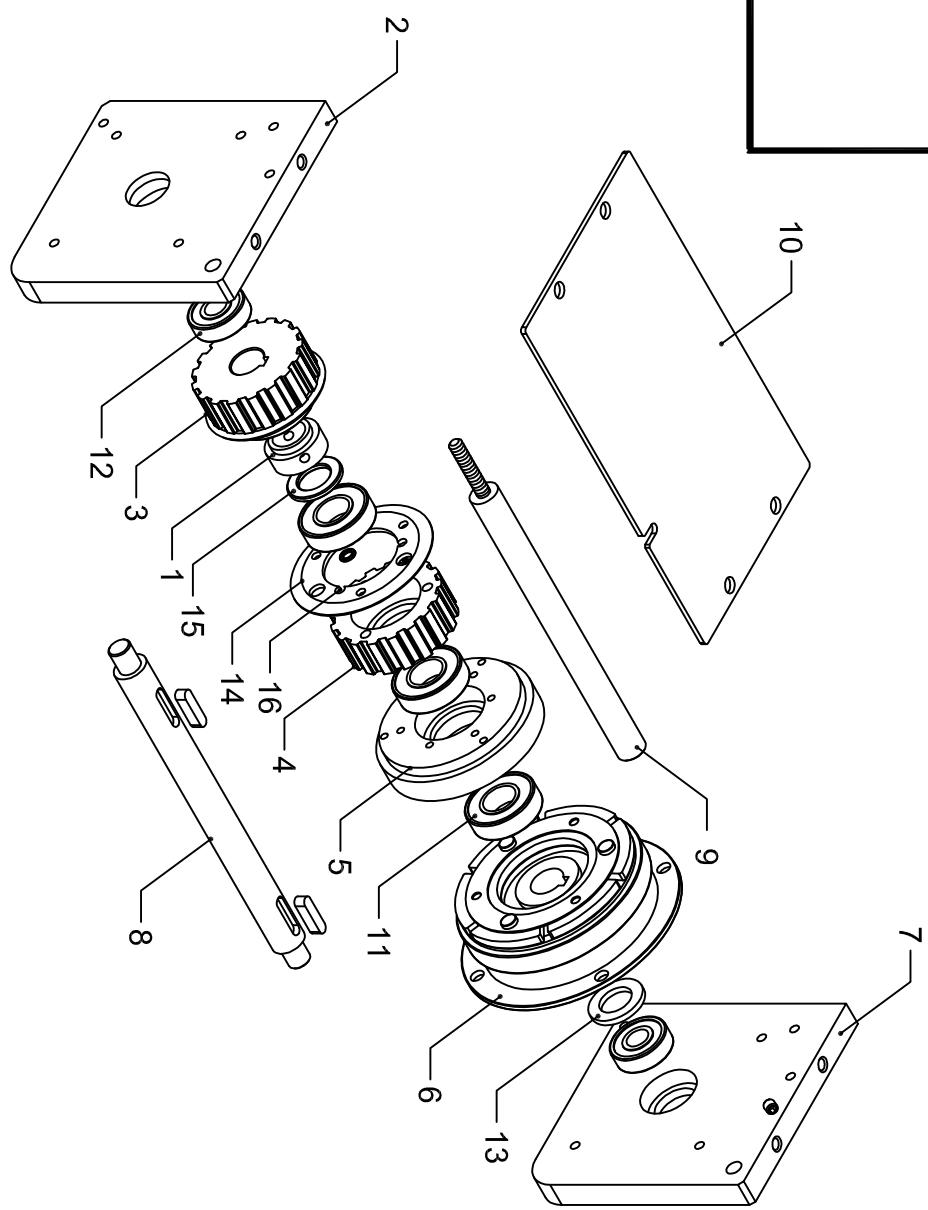


SCOUT 320

SYCHRONIZATION DEVICE (BELT)

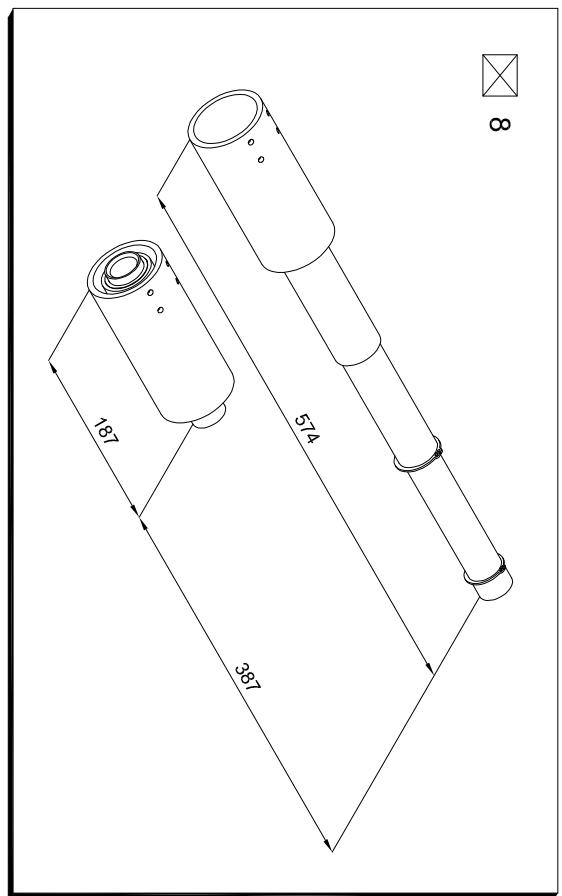
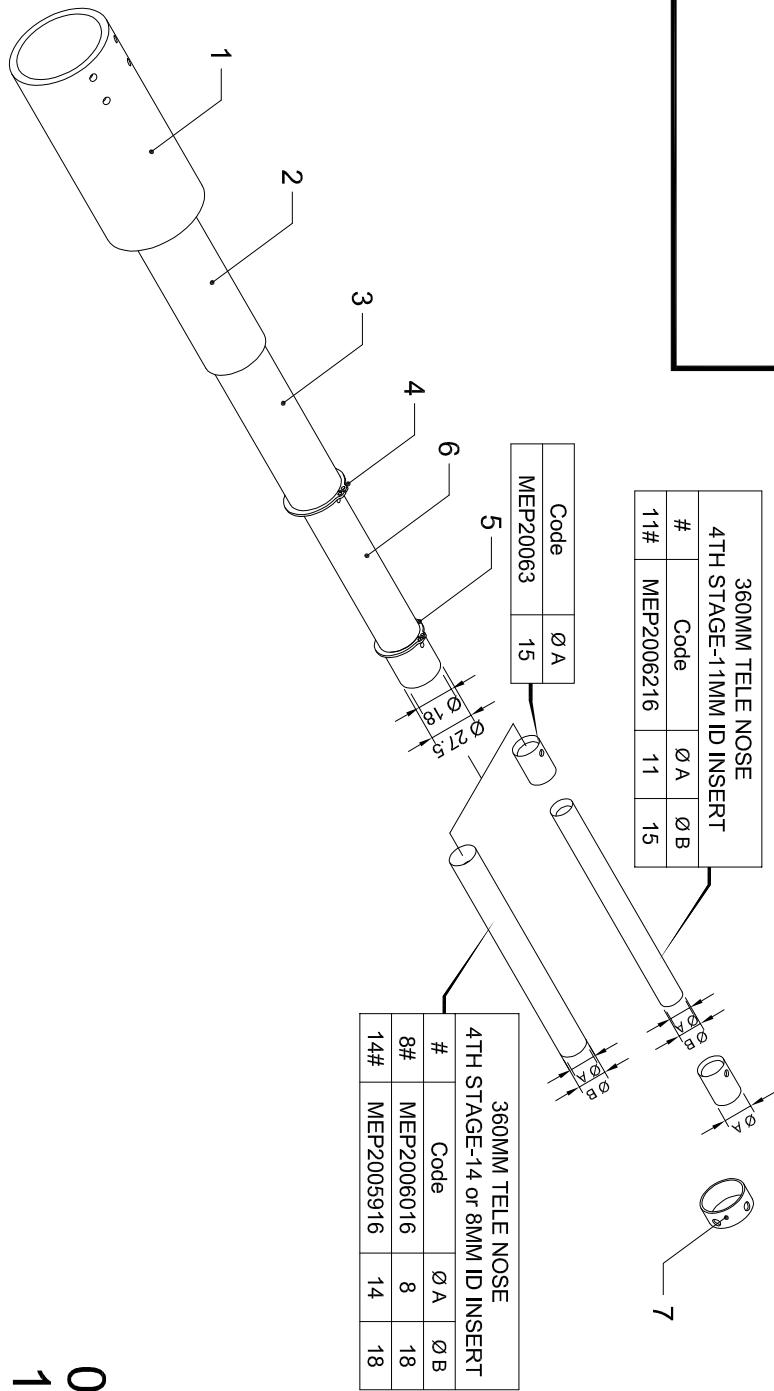
Tab.
090
2

N.	Code	QTY	Denomination
1	RA26DR1200	1	Fixing ring
2	RA26DR5100	1	Plate (L)
3	P49201700	1	Pulley
4	P49203100	1	Pulley L 17T
5	RA26DR1010	1	Bearing seat
6	RA26DR2000	1	Clutch
7	RA26DR5200	1	Plate (R)
8	RA26DR5300	1	Shaft
9	RA26DR5500	1	Connector rod
10	RA26DR5000	1	Plate
11	B6002ZZ	3	Bearing 6002ZZ
12	B6000ZZ	2	Bearing 6000ZZ
13	RA26DR1910	1	Bushing T=2.6mm
14	607460402	1	Plate
15	RA26MA2600	1	Bushing
16	ZS160425C	3	Hexangular screw
17	RA26DR001B	1	Synchronization device (Right operating)
	RA26DR002B	1	Synchronization device (Left operating)



SCOUT 320

400MM TELE NOSE L=574mm



N.	Code	QTY	Denomination
1	MEP20061	1	360MM TELE NOSE 1ST STAGE TUBE
2	MEP20053	1	360MM TELE NOSE 2ND STAGE TUBE
3	MEP20055	1	360MM TELE NOSE 3RD STAGE TUBE
4	ZS07S035	1	C RING-S35 (SHAFT)
5	ZS07S027	1	C RING-S27 (SHAFT)
6	MEP2005817	1	360MM TELE NOSE 4TH STAGE TUBE
7	P7816500	1	BUSHING
8	PTEL32021	1	360MM TELE NOSE-MINUTEMAN-TSUGAMI SS20

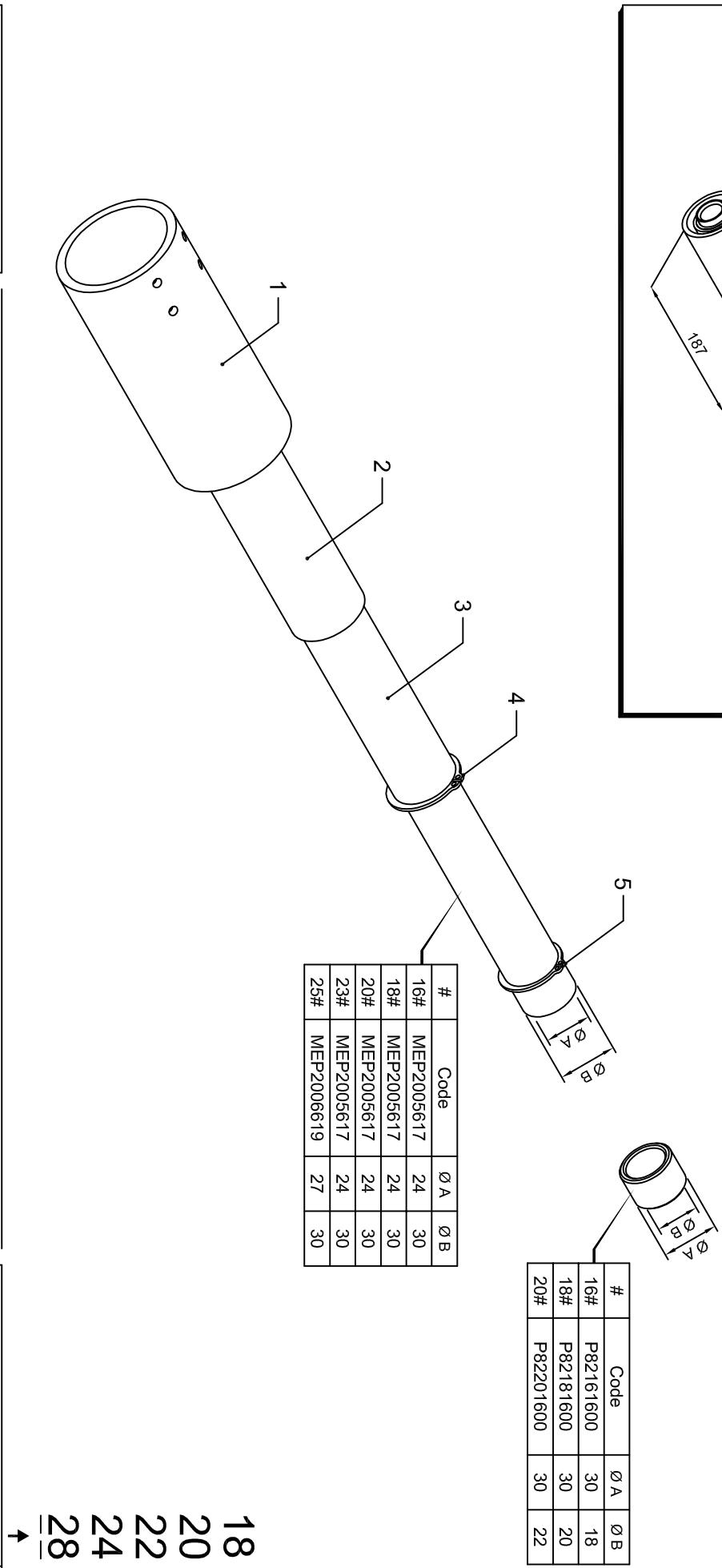
NOMINAL DIAMETER D → 8 11 14

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Tab.
PTEL32021 ____ 1

SCOUT 320

400MM TELE NOSE L=574mm



N.	Code	QTY	Denomination
1	MEP20061	1	360MM TELE NOSE 1ST STAGE TUBE
2	MEP20053	1	360MM TELE NOSE 2ND STAGE TUBE
3	MEP20054	1	360MM TELE NOSE 3RD STAGE TUBE
4	ZS07S035	1	C RING-S35(SHAFT)
5	ZS07S030	1	C RING-S30 (SHAFT)
6	PTEL32021	1	360MM TELE NOSE-MINUTEMAN-TSUGAMI SS20

NOMINAL DIAMETER D → 18 20 22 24 28

Tab.

PTEL32021_ _ _ _ _ 1

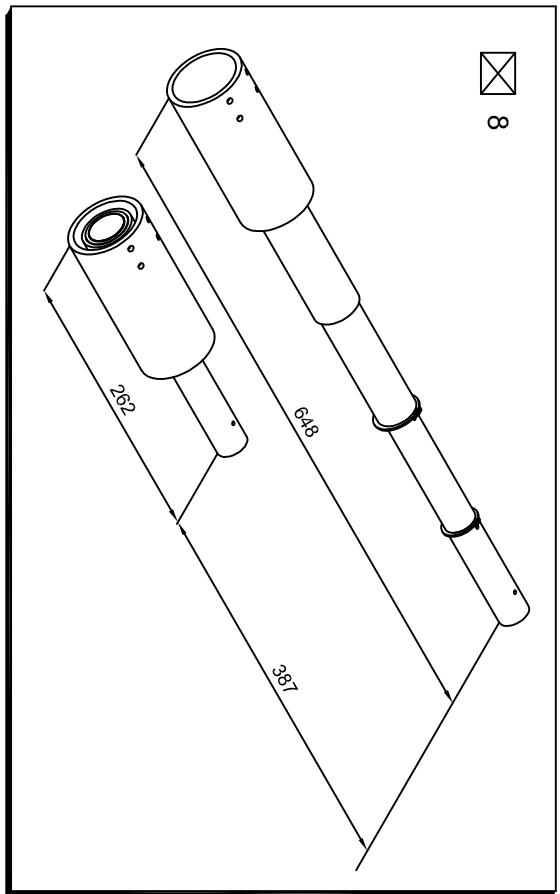
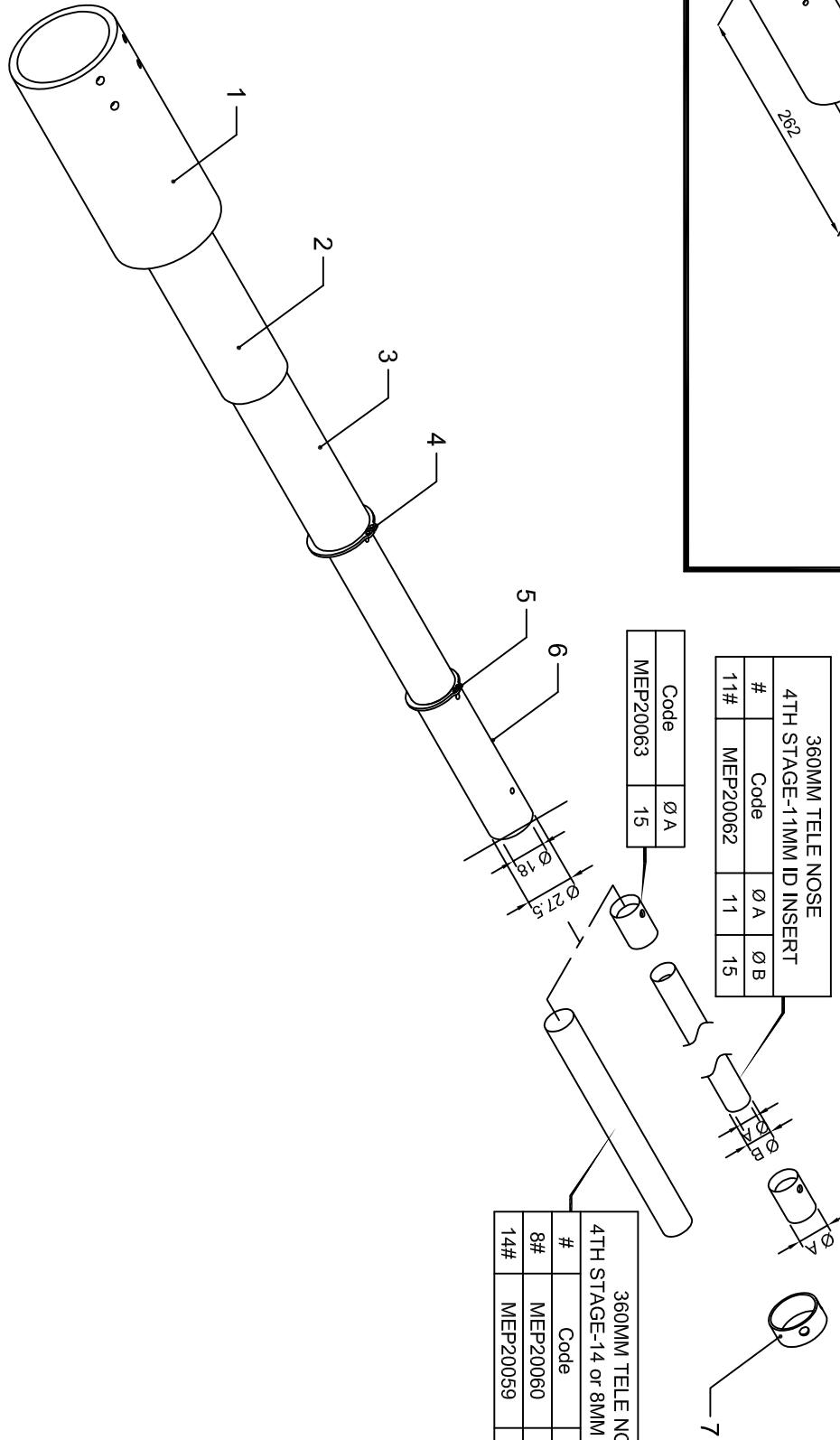
18
20
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28

#	Code	Ø A	Ø B
16#	MEP2005617	24	30
18#	MEP2005617	24	30
20#	MEP2005617	24	30
23#	MEP2005617	24	30
25#	MEP2006619	27	30

#	Code	Ø A	Ø B
16#	P82161600	30	18
18#	P82181600	30	20
20#	P82201600	30	22

SCOUT 320

400MM TELE NOSE L=648mm



8

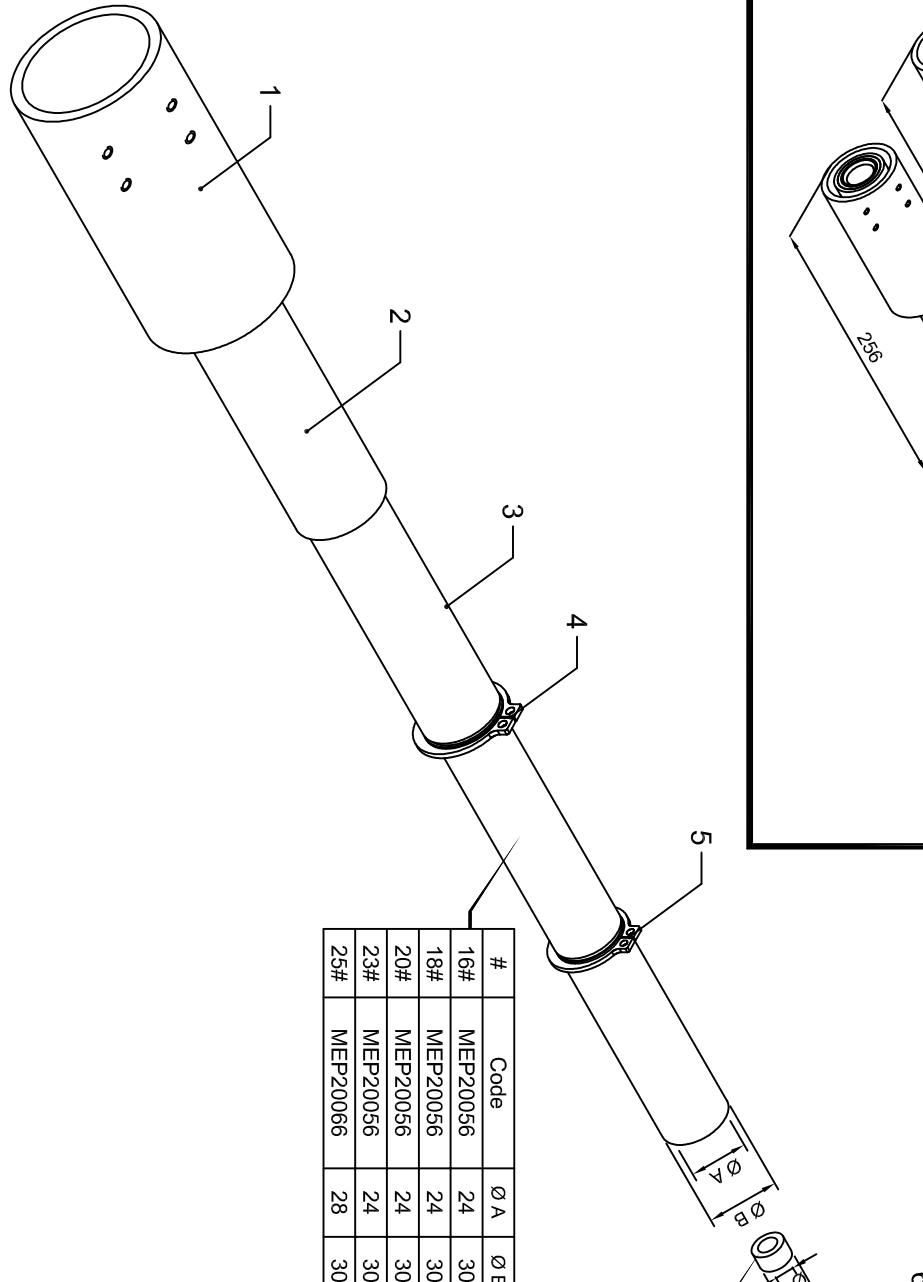
N.	Code	QTY	Denomination
1	MEP20061	1	360MM TELE NOSE 1ST STAGE TUBE
2	MEP20053	1	360MM TELE NOSE 2ND STAGE TUBE
3	MEP20055	1	360MM TELE NOSE 3RD STAGE TUBE
4	ZS07S035	1	C RING-S35(SHAFT)
5	ZS07S027	1	C RING-S27(SHAFT)
6	MEP20058	1	360MM TELE NOSE 4TH STAGE TUBE
7	P7816500	1	BUSHING
8	PTEL32022	1	360MM TELE NOSE-MINUTEMAN-TSUGAMI SS20

NOMINAL DIAMETER D → 8 11 14

Tab.
PTEL32022 → 08
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SCOUT 320

400MM TELE NOSE L=648mm



N.	Code	QTY	Denomination
1	MEP20061	1	360MM TELE NOSE 1ST STAGE TUBE
2	MEP20053	1	360MM TELE NOSE 2ND STAGE TUBE
3	MEP20054	1	360MM TELE NOSE 3RD STAGE TUBE
4	ZS07S035	1	C RING-S35 (SHAFT)
5	ZS07S030	1	C RING-S30 (SHAFT)
6	P82201500	1	RING
7	PTEL32022_	1	360MM TELE NOSE-MINUTEMAN-TSUGAMI SS20

NOMINAL DIAMETER D → 18 20 22 24 28

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22
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28

Tab.
PTEL32022_
2