Machine Translated by Google

Contents

Chapter	Title	Version Revision CP45 CP45NEO			
0	Installation				
0-1	Work grounds and work confirmation	00	2004/11		THE
0-2	Installation commissioning procedure	00	2004/11		THE

Machine Translated by Google

Contents

Chapter	Title	Version Revision CP45 CP45NEO			
1	HEAD Module				
1-0	Trouble diagnosis	00	2004/11	THE	
	Trouble Shooting Guide	00	2004/11	THE	
1-1	How to replace Flying Vision	00	2004/11	THE	
1-2	Head(Fly) Camera Calibration	00	2004/11	THE	
1-3	Head-Fly Offset	00	2004/11	THE	
1-4	Mirror Setting Procedure	00	2004/11	THE	
1-5	How to replace the Can Head Board Ass'y	00	2004/11	THE	
1-6	Head Illumination Control Board Replacement Procedure	00	2004/11	THE	
1-7	Swing Motor/Swing Timing belt replacement/inspection	00	2004/11	THE	
1-8	Theta axis motor/timing belt replacement, inspection	00	2004/11	THE	
1-9	Z-axis motor/timing belt replacement, inspection	00	2004/11	THE	
1-10	Ball Spline replacement and inspection	00	2004/11	THE	
1-11	Offset-R adjustment and input	00	2004/11	THE	
1-12	Nozzle Check function setting	00	2004/11	THE	
1-13	Nozzle Inspection / Nozzle Holder Inspection	00	2004/11	THE	
1-14	Blow set amount check	00	2004/11	THE	
1-15	Vacuum level check	00	2004/11	THE	THE
1-16	Head Offset setting	00	2004/11	THE	
1-17	Set Move Camera Offset	00	2004/11	THE	
1-18	Z axis height check	00	2004/11	THE	
1-19	Swing Mirror Limit & Home Offset ÿÿ	00	2004/11	THE	

Machine Translated by Google

Contents

Chapter	Title	Version Revision CP45 CP45NEO			
2	Conveyor Module				
2-0	Trouble diagnosis	00	2004/11		THE
	Trouble Shooting Guide	00	2004/11		THE
2-1	How to set conveyor width origin	00	2004/11		THE
2-2	Axis board replacement	00	2004/11		THE
2-3	How to adjust the sensor setting position and sensitivity on the conveyor	00	2004/11		THE
2-4	Conveyor direction change procedure	00	2004/11		THE

Chapter	Title	Version Revision CP45 CP45NEO			
3	X-Y(Frame) Part				
3-0	Trouble diagnosis	00	2004/11		THE
3-1	Motor Driver Inspection and Replacement	00	2004/11		THE
3-2	Motor Driver Driver Parameter Identification Method	00	2004/11		THE
3-3	X Ball Screw Replacement Procedure	00	2004/11		THE
3-4	Y Ball Screw Replacement Procedure	00	2004/11		THE
3-5	Replace X-axis Cableveyor	00	2004/11		THE
3-6	Replace Y-axis Cableveyor	00	2004/11		THE

Machine Translated by Google

Contents

Chapter	Title	Version Revision CP45 CP45NEO			
4	Feeder Base & ANC Module				
4-0	Feeder Base Trouble diagnosis ANC Module Trouble	00	2004/11		THE
	diagnosis ANC Module Trouble Shooting Multi	00	2004/11		THE
	Cylinder replacement CAN Feeder Board(=Feeder	00	2004/11		THE
4-1	Interface Board) inspection and replacement 00	00	2004/11		THE
4-2	ANC.Shutter Speed Control Shutter Cleaning and Disassembly Assembly		2004/11		THE
4-3		00	2004/11		THE
4-5		00	2004/11		THE
4-6	Open/Close sensorÿÿ setting	00	2004/11		THE

Chapter	Title	Version Revision CP45 CP45NEO			
5	5. Electric Device				
5-0	Sequence of cable	00	2004/11		THE
	Power Cable Diagram	00	2004/11		THE
	Connection Diagram	00	2004/11		THE
5-1	How to replace Curcuit Breaker	00	2004/11		THE
5-2	Circuit Protect (CP) Replacement	00	2004/11		THE
5-3	Replace CR (Circuit Relay)	00	2004/11		THE
5-4	Replace Power Supply	00	2004/11		THE

Machine Translated by Google

Contents

Chapter	Title	Version Revision CP45 CP45NEO			
6	PC Ass'y				
6-0	Trouble Shooting Normal PC	00	2004/11		THE
6-1		00	2004/11	THE	THE
6-1-1	Mother Board Setting Procedure	00	2004/11		THE
6-1-2	HDD replacement procedure	00	2004/11		THE
6-2	Industrial PC	00	2004/11	THE	THE
6-2-1	SBC Replacement Procedure	00	2004/11		THE
6-2-2	CMOS Setting Procedure	00	2004/11		THE

Chapter	Title	Version Revision CP45 CP45NEO			
7	Rack Ass'y				
7-0	Trouble diagnosis - Rack Ass'y type	00	2004/11		THE
7-1	and classification by applied equipment	00	2004/11		THE
7-2	Rack Ass'y Interface Vision Board	00	2004/11		THE
7-3.	Type Compatibility by Equipment	00	2004/11	THE	THE
7-4	MVME inspection and replacement	00	2004/11		THE
7-5	AXIS Check and Replace	00	2004/11		THE
7-6	MPU-STOP Error	00	2004/11		THE

Machine Translated by Google

Contents

Chapter	Title	Version Revision CP45 CP45NEO			
8	Stage Camera				
8-0	Trouble diagnosis	00	2004/11		THE
8-1	Stage Camera lighting condition check and lighting value re-setting procedure	00	2004/11		THE
8-2	Stage Camera Calibration	00	2004/11		THE
8-3	Stage Camera Compatibility (CP4FV - CP45NEO)	00	2004/11		THE

Chapter	Title	Version Revision CP45 CP45NEO			
9	Motor & Driver				
9-1	Replace Servo Motor Driver	00	2004/11		THE
9-2	Panasonic Motor Driver(=Amplifier)ÿ Parameter Load/Unload	00	2004/11		THE
9-3	SANYO Q-Type Motor Driver(=Amplifier)ÿ Parameter Load/Unload	00	2004/11	THE	
9-4	SANYO PY-Type Motor Driver(=Amplifier)ÿ Parameter Load/Unload	00	2004/11	THE	

Machine Translated by Google

Contents

Chapter	Title	Version Revision CP45 CP45NEO			
10	Cover				

Chapter	Title	Version Revision CP45 CP45NEO			
11	Utility				
11-0	Trouble diagnosis	00	2004/11		THE
11-1	Air Ass'y Diagram and Part List	00	2004/11		THE
11-2	Vacuum Pump Cleaning and Replacement	00	2004/11		THE
11-3	Air Filter Cleaning and Replacement	00	2004/11		THE
11-4	Coil Tube Replacement	00	2004/11		THE
11-5	V-ring part (Head part) inspection	00	2004/11		THE
11-6	Blow adjustment and re-setting	00	2004/11	THE	THE

Machine Translated by Google

Contents

Chapter	Title	Version Revision CP45 CP45NEO			
12	Software (SYSTEM CONSTANT)				
12-1	Mark3. ini	00	2004/11		THE
12-2	CP45NEO-Factory Constant	00	2004/11		THE
12-3	CP45NEO-Factory DEBUG	00	2004/11		THE
12-4	CP45NEO-System Constants	00	2004/11		THE
12-5	CP45- Factory Constants	00	2004/11	THE	
12-6	CP45-Factory DEBUG	00	2004/11	THE	
12-7	CP45-System Constant	00	2004/11	THE	
12-8	Difference between CP45NEO and CP45 Constant setting	00	2004/11	THE	THE
12-9	Setting difference by CP45FV model	00	2004/11	THE	

Chapter	Title	Version Revision CP45 CP45NEO			
13	Harness (Cable-Way)	00	2004/11		THE

Chapter	Title	Version Revision CP45 CP45NEO			
14	3D-Drawing	00	2004/11		THE

Machine Translated by Google

0. Installation

0.1 Work basis and work confirmation 0.1.1

Copy of contract

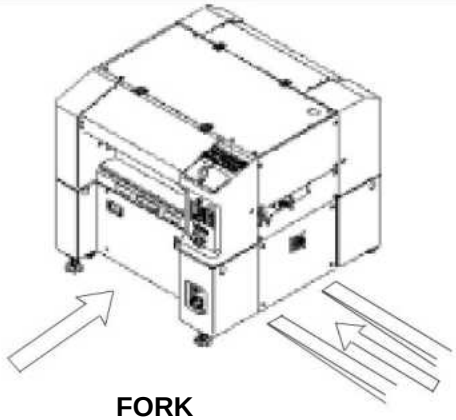
:Special matters specified in the contract (installment payment, direct payment, introduction of foreign capital, etc.) and customer requirements must be clearly recorded so that there is no disagreement or dispute with the customer during delivery.

0.1.2 Record the details of equipment options, insurance, sales person in charge, etc., and verbal requests from customers so that the person in charge of installation can respond. 0.1.3. Record the model name and quantity of supplied equipment. 0.1.4 Customer map: Company map, address, phone number

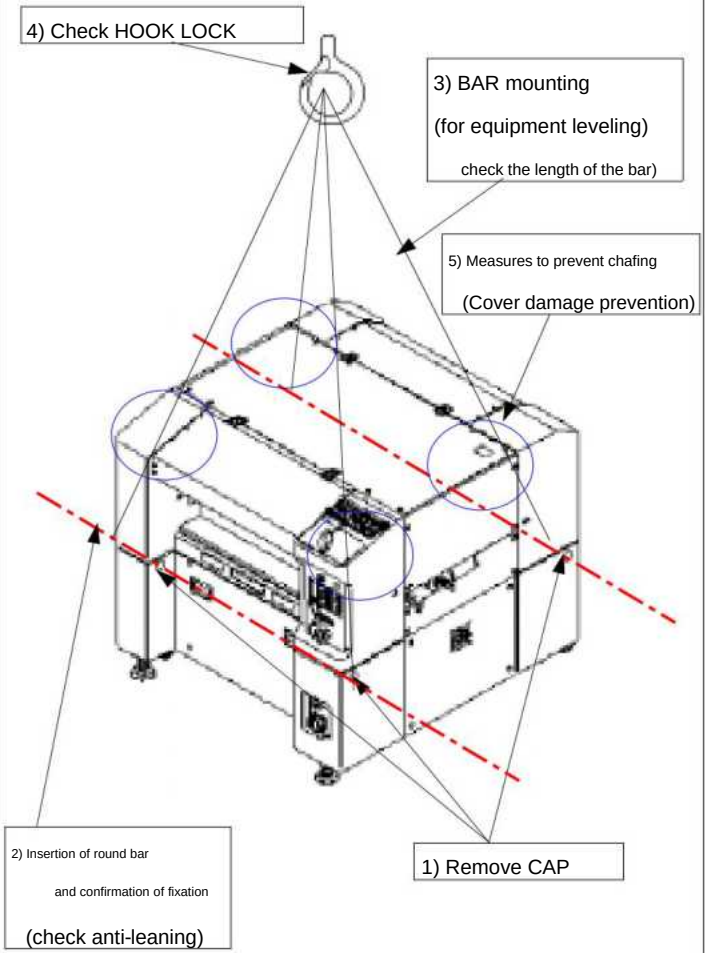
Machine Translated by Google

0.2 Installation commissioning

procedure 0.2.1 On-site warehousing procedure

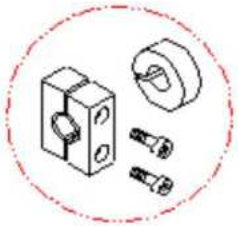
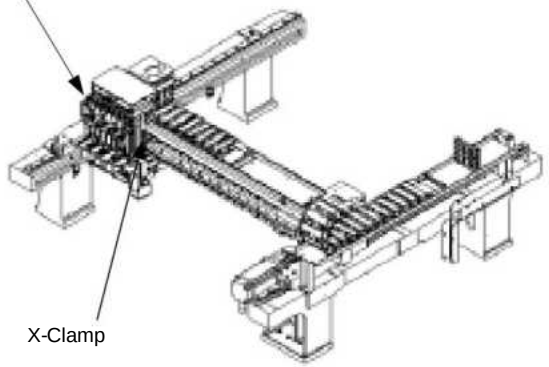
	Installation FLOW	standard	CHECK RESULTS OF TOOLS USED	
1	It is based on departure after confirming shipment details to production management before departure from the site and notifying the customer of arrival time confirmation.			(OK) ☐ (of) ☐
2	After arriving at the site, conduct external inspection before unloading (box distortion, etc.)			(OK) ☐ (of) ☐
3	Be sure to check safety matters before unloading and, if necessary, take safety measures such as installing a safety fence. Sign and complete the takeover procedure with the driver.			(OK) ☐ (of) ☐
4	- When unloading equipment, instruct the work not to be damaged by forklift cranes, etc., and inform workers of handling precautions for vulnerable parts in advance, and then unload using the relevant JIG and equipment. - Forklift loading and unloading: Make sure that the equipment does not tilt, and the lower cover or foot or Check the forking position so that the caster is not damaged	 **FORK** **Direction**		(OK) ☐ (of) ☐

Machine Translated by Google

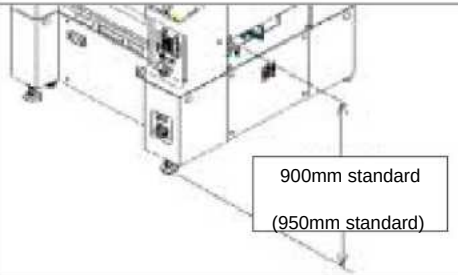
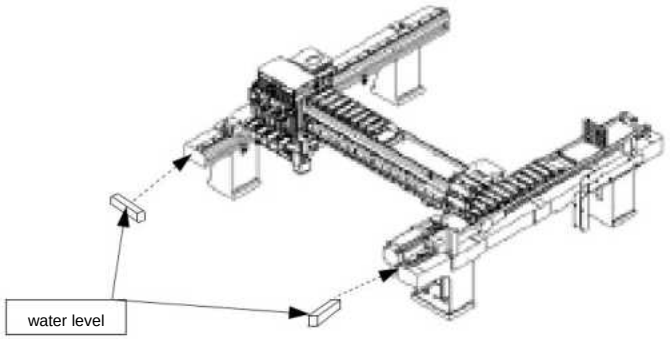
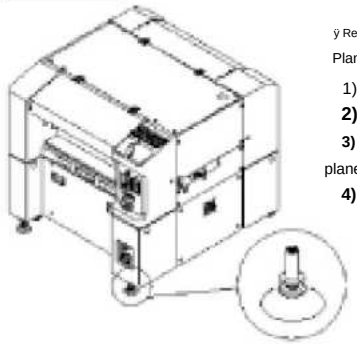
	Installation FLOW	standard	CHECK RESULTS OF TOOLS USED
5	-Crane unloading: Pay attention to safety first when unloading equipment with a crane Safety FENCE should be installed, and especially pedestrians should be controlled to prevent accidents. For loading and unloading, remove the HOLE CAB at the front and rear of the equipment, insert a long bar of Dia.36 (over 1700mm) into this hole and fix it so that it does not flow in the axial direction, then hang a bar on the end of the bar and After finishing (wiring, etc.) to prevent slipping, hang the bar on the hook of the crane. At this time, check the length of the bar to be constant to prevent the equipment from leaning, and also check the locking status of the hook to prevent the equipment from falling or tilting in the air. check it out To prevent the cover from being rubbed or damaged by the bar, cover the top of the cover or wrap the bar with a cloth to prevent direct contact with a carton box or cloth. ÿ When unloading the crane, first remove the pallet, then remove the box and plastic wrap. At this time, be careful not to get gizz etc on the equipment.		(OK) ☐ (of) ☐

Machine Translated by Google

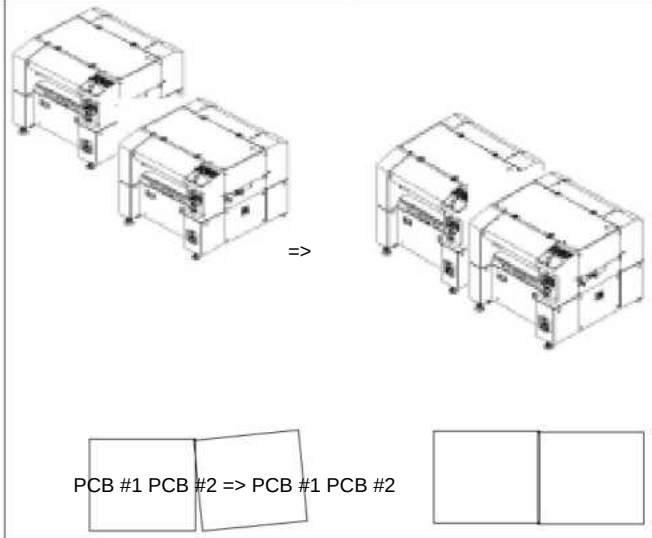
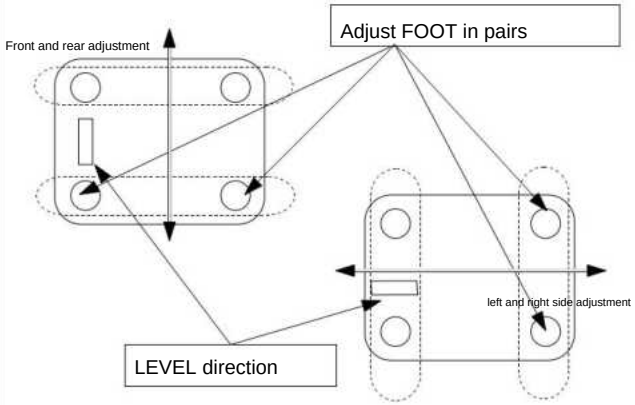
0.2.2 Bringing in equipment and setting

	Installation FLOW	standard	CHECK RESULTS OF TOOLS USED	
1	Movement of Equipment - When unloading the equipment on the wooden pallet, do not lower it in any way except forklift and crane. - Transportation to the designated seat after unloading the equipment from the pallet is carried after fully raising the foot, and care should be taken not to break the carster in places where there is a chin, such as an elevator for cargo, and it is basically transported using a hand lift.	Transport using HAND LIFT		
2	The equipment arriving at the designated place is based on the CP45FV where the TRAY FEEDER is installed, and arranges it left and right to settle the equipment. NOTE: The location of the final line must be confirmed with the person in charge of the customer.	Considering the tolerance with TRAY FEEDER Based on Vision Equipment		
3	Be sure to remove the front and rear covers before leveling.			
4	After removing the BALL SCREW fixing clamp of the equipment from the X-axis and Y-axis, move the HEAD to the center by hand. Put the vinyl inside the clamp back into the removed clamp and store it after bolting.  Y-Clamp  X-Clamp	Y-Clamp  X-Clamp		

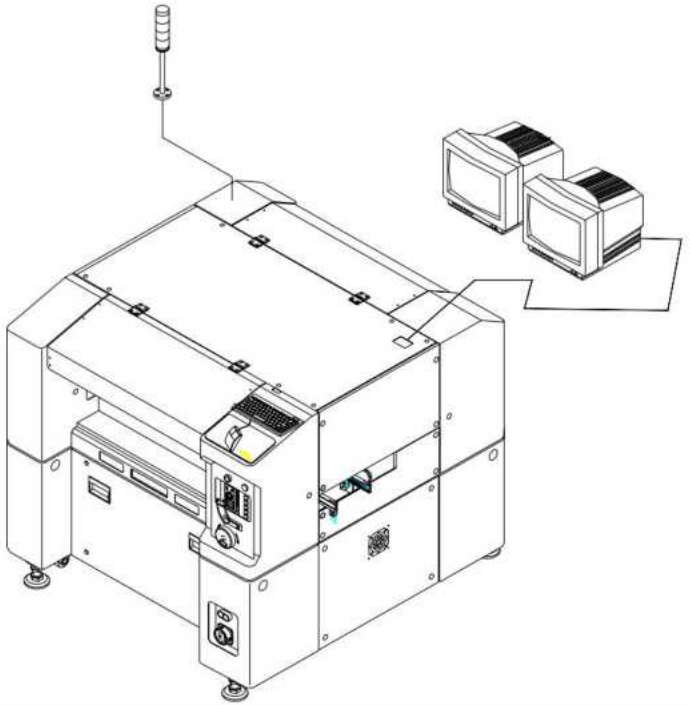
Machine Translated by Google

	Installation FLOW	standard	Tool used result CHECK	
5	The standard LEVEL of the equipment is based on 900mm and 950mm (Europe standard, CE) based on the PCB surface, that is, the CONVEYOR surface, but it is based on allowing up to ±15mm depending on the condition (gradient) of the floor surface. In addition, the height of the standard level between equipment is based on ***'DOWNFLOW*** ' for the direction of PCB movement, and the level difference between equipment is about 0.05 ~ 0.1mm, so the PCB must be set to flow downward.		-LEVELER 2 (about 0.02 mm/m)	Lower part of front/rear before work Remove the COVER
6	LEVEL SETTINGÿ -LEVELER location: Push the HEAD as far back as possible and move both LM Guides Place the LEVEL in the X, Y directions on the (Y-axis) (in the center if possible). At this time, raise the level diagonally on the LM Guide in the Y direction so that the leveler does not tilt. -LEVELER Tolerance: It must be set within the tolerance of 0.05 (mm/m), and the LEVELER should be used with an accuracy of 0.02 (mm/m). -FOOT BALANCE: To prevent AGING WARPING of equipment For this purpose, the FOOT must be supported with even pressure on the floor, and this is possible when the FOOT's nut's fastening force is adjusted so that it takes a constant amount. (Check so that there is no loosely rotating FOOT) -FOOT Lock: Always lock the lock nut after the LEVELER work is finished.	  ÿ Reference Plane composition **of CHIP MOUNTER** 1) **XY** motion plane **of HEAD** **2) Feeding** plane of the feeder **3) PCB** mounting plane **(CONVEYOR** plane) **4) ANC** plane ÿ Note : **If the** locking state of the NUT is poor, the **NUT is** released due to vibration caused by equipment operation, and the **LEVEL of** the equipment changes over time .		**LEVEL SETTING RESULTS** (MUST RECORD) X axis : **(mm/m)**_____ Y axis : **(mm/m)**_____ **FOOT BALANCE** Check No. 1 : (OK ,NG) ☐ ☐ No. 2 :(OK ,NO) ☐ ☐ No. 3 :(OK ,NO) ☐ ☐ No. 4 :(OK ,NO) ☐ ☐ Check **FOOT** lock **(OK, NO)** ☐ ☐

Machine Translated by Google

	Installation FLOW	standard	CHECK RESULTS OF TOOLS USED
7	LEVEL SETTING METHOD OF EQUIPMENT - First, move the set equipment to an adjacent location, lower the foot, adjust the height to a similar level, and adjust the LEVEL (horizontal) to approximately 0.1mm/m level at that location. -Use a lever to move the equipment set to the nearest value to a position where a gap of about 3 to 5mm is maintained between the first installed reference equipment and the end of the conveyor, then place the PCB on the conveyor of each equipment, so that the level between the PCBs is **DOWNFLOW** It should be installed in a state where gaps do not occur in either the front or rear between PCBs after giving each PCB close to the standard to meet the straightness by giving a step to form. To determine whether or not to complete, push the PCB at a slow speed and pass it between the equipment until there is no sound due to jamming.		
8	- In the case of leveling between equipment, the level of the second equipment is the equipment Setting within the tolerance of 0.05 (mm/m) is difficult because the conveyor arm is not level. The left and right (PCB Flow) direction should be set to 0.05 (mm/m), and the front and back horizontal should be set within 0.1 (mm/m). - When adjusting the level of the foot, set the two feet as a set as shown in the picture on the right. It is better to adjust in one direction at a time. Front and rear level: As shown in Figure 1, only the front and rear feet are adjusted as a pair. Left and right: As shown in Figure 2, only the left and right feet are adjusted as a pair.		

Machine Translated by Google

	Install the MONITOR on the upper surface of the equipment. (2ea - for teaching, for VISION) Install the MONITOR base, place it on the upper surface of the equipment, and assemble the CONNECTOR inside the equipment. (Completely assemble the bolt when assembling)	
9	- Connect the tower lamp to the left side of the upper surface (4 bolts) and connect the connector on the left inside the equipment to the tower lamp connect. - Assemble the TEACHING BOX. Install it on the lower right side of the front. - Install MOUSE PAD. Installed on the top right of the front of the machine. - Install MOUSE. TIE processing so that there is no interference with wires inside do. Installed on the top right of the front of the machine. - Install the KEY BOARD. TIE processing so that there is no interference with the wires inside It is installed on the top right of the front of the equipment.	
10	Connect the POWER CABLE. (However, do not input POWER.)	
11	- Determine the location of the STANDARD DUMP BOX and install the DUMP BOX. - After the installation is completely finished, cover glass on the stage camera Remove.	

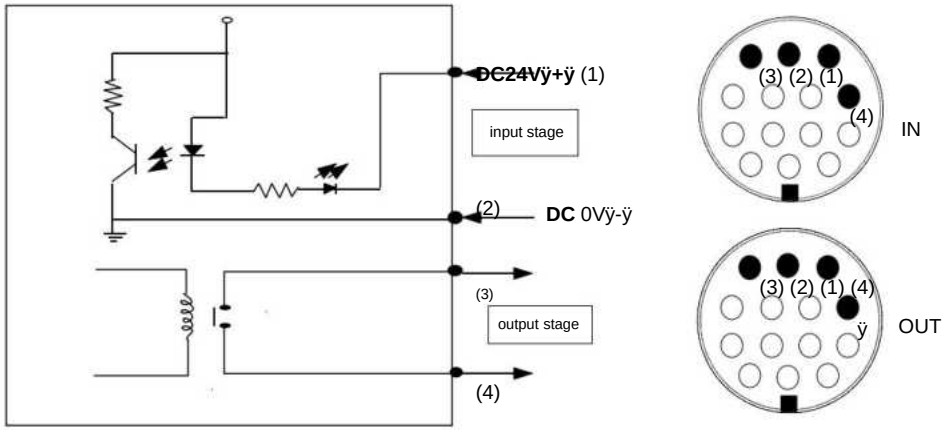
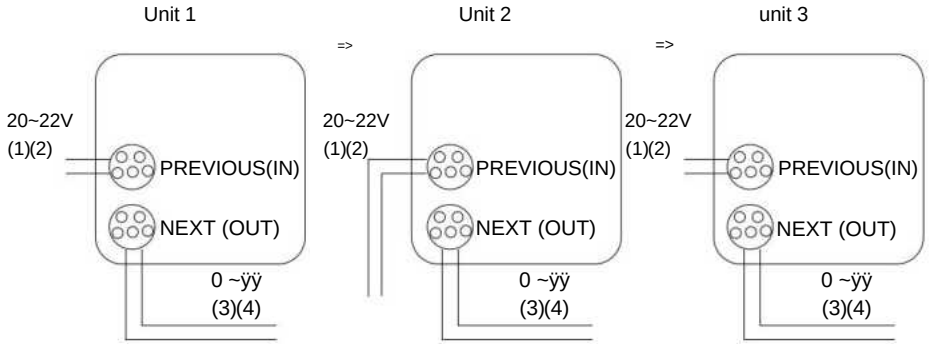
Machine Translated by Google

0.2.3 Utility inspection and connection (air, electricity, ground)

1	Air Utility : Operating pressure --> 4.5 5.5 bar (kg /cm^3) Air consumption --> max. 150Nÿ/min NOTICE : Inflow of oil into the pipe due to compressor problem causes a fatal error in the equipment, and various foreign substances may exist in the pipe after the pipe work. Connect to the equipment when there is no. Check if an air dryer is installed to prevent dew condensation in the pipe.		(OK , ☐ of) ☐
2	Electric : Rating - Based on single-phase, 60Hz, 220 Volt, the voltage fluctuation width is based on ±5% (10Volt). Consumption - CP45 (RMS 2.6 Kw, max. 6.0KVA) Grounding - Based on 3-class grounding standard It should be less than 100 ÿ during Mega Test with the equipment in the grounding line. AVR - Installation of AVR is basic, and capacity margin rate of 20% or more is recommended. NOTICE : When using a single phase from phase distortion or three-phase current, it is desirable to use less than 40% of the total capacity (Kw) as a single phase to prevent damage to equipment due to phase distortion caused by trip phenomenon.		(OK) ☐ (of) ☐

Machine Translated by Google

0.2.4 INTERFACE connection

1	INTERFACE **=> START** input signal (CABLE NO.: (1) [+], (2) [-]) : The input signal is output to the downstream equipment, and the voltage is about 20 ~ 22V at most input signal terminals. **=> READY** output signal (CABLE NO.: (3) , (4)) : The output signal is output to the front end equipment. In general, most output signal terminals have a resistance of 0ÿ when output is output and ÿÿ when output is not.	
2	INTERFACE with adjacent equipment => In case the I/F connectors of adjacent equipment are different Cut the cable and connect it as shown on the right. * NOTICE : SIMENS, SANYO, TDK(RX-11) etc A separate review is required for equipment other than the SMEMA standard and the 2-point INTERFACE method.	
3	ÿ When determining the INTERFACE TYPE of the equipment, the 2-contact method and the SMEMA method CP40 - Run SCPINI.EXE > OPTION (menu) > Check SMEMA. CP45 - MARK3.exe Execution > SYS.SETUP (Menu) > Select one of the options of Stand Alone, SSA Type (2 contacts), and SMEMA for IN (After) and OUT (After) in Pref.	

Machine Translated by Google

0.2.5 Equipment **Parameter** Inspection and **Diagnostic** Execution.

1) After the utility of the equipment is properly connected, ensure the safety of the equipment through the following confirmation procedure before performing full homing.

Z-Axis Homing --> Low speed jogging up to X-axis +,- Limit. --> Check low-speed jogging up to Y-axis +,- Limit.

2) CP45 Series -

Check Factory Constant, Factory Debug, and System Constant values in System Setup.

- Diagnosis : I/O Conveyor

Light

Vacuum

Jogbox

Tray

NOTICE: Since the items listed above must be entered according to the S/W Version of the equipment, the person in charge of installation commissioning

Not only the latest version of S/W and release notes, but all versions of S/W and release notes must be retained in NoteBook.

Machine Translated by Google

0.2.6 Safety device **check** and safety training. 1)

Safety features for each equipment

: The person in charge of installation receives the confirmation signature after checking the function of the following items with the user and proceeding with user training.

Equipment name	Safety device function check	Check S/W	note
CP45	1.EMERGENCY STOP function (OK, NG) and rear door lock status (OK, NG) 3.FEEDER WARNING SENSOR (OK, NG) 4. 30% low speed operation when COVER OPEN (CP45) (OK, NG)	SETTING status in INI FILE 2. Front 1.DOOR LOCK function (OK, NG) 2. FEEDER lifting function (OK, NG)	
Dispenser, S/Printer	1. EMERGENCY STOP function 2. (OK, NO) Front and rear door lock status (OK, NO)	SETTING state in INI FILE 1.DOOR LOCK function (OK, NG)	
Reflower	1. EMERGENCY STOP function (OK, NO)		
Tray Feeder	1.EMERGENCY STOP function (OK, NO) 2.Door Lock status (OK, NO)		
Loader/Unloader /Work Table	1. EMERGENCY STOP function (OK, NO)		

Machine Translated by Google

Safety education and guidance: Danger warnings, precautions, precautions, recommendations, etc. described below must be provided. 1) Danger Warning -

Personnel who have not received equipment operation training must not approach the equipment during equipment operation. - The feeder should not be exchanged while the equipment is running.

- Always check the LOCK state of the FEEDER Tape Guide Ass'y when installing the FEEDER to the equipment.
- When the TOWER LAMP is not in the IDLE state, under no circumstances should you put your hands or tools into the equipment.

(When inspecting the inside of the equipment, organize the work in a team of two, and the assistant always puts his/her hand on the EMERGENCY S/W to prepare for a sudden dangerous situation.) - If it is judged that there is an abnormality in the equipment, use the EMERGENCY S/W After stopping the operation of the equipment and completely cutting off the power, personnel who have completed our maintenance training or equivalent training can open the COVER to check for any abnormalities in the equipment. If there is no authorized person, please contact the C/S department with the equipment turned off.

(At this time, residual current may remain, so open the cover after 5 to 10 seconds after turning off the main power.) 2) Precautions - Operation of the equipment requires completion of the OPERATION training course of the time or agency or equivalent training. Please operate only for the number of people. (Malfunction by an unauthorized person can cause an accident and cause fatal harm to workers and equipment.) - When using the equipment, you must follow the instructions of the equipment manual, and damages caused by modification and operation of the equipment for more functions

We cannot be held responsible at the time.

3) Precautions - When restarting the equipment after turning it off, always operate it after checking the normal operation of the safety device described in the table above. - Check the air piping oil inflow condition and grounding (based on class 3 grounding) at the place where the equipment is installed, and whether there is leakage current from peripheral equipment.

Please check regularly. 4) Recommendations -

Establish safety rules suitable for each workplace environment to remove environments and work methods that are harmful to worker safety. - Keep the environment clean and keep the dust, humidity and temperature at an appropriate level to extend the life of the equipment. - Marking tape is attached around the equipment so that only authorized persons can access the equipment so that workers are aware of safety

Please encourage them to have

Machine Translated by Google

0.2.7 Warming Up & Start

After confirming that there is no abnormality in all the procedures described above, when performing the first Warming Up, place one hand on the Emergency S/W and press the Warming Up Button in preparation for any unexpected situation that may occur. Warming Up is about 5ÿ It is performed for about 7 minutes, and the degree of shaking of the equipment is checked to finally confirm the level state.

If there is no abnormality in Warming Up, the interface between adjacent equipment is finally inspected, the operating right is handed over to the customer, and the installation commissioning procedure at the site is completed by receiving a confirmation signature on the confirmation of completion and safety education confirmation.

0.2.8 Installation completion record input The person

in charge of installation commissioning who returned to the company inputs the installation information of the equipment on the customer management computer system (overseas: SGSS customer list, domestic: separate transfer system), and the installation commissioning work is completely completed. , all problems occurring after the A/S work procedure is followed.

Machine Translated by Google

1. Head Module

diagnosis

To see.	Date CP45 CP45NEO		00 2004/11
O			THE

check list	Bad recognition screen										Fiducial recognition		FV lighting			
	Parts not cooled	whitening	blackening (compromising)	Smear	No cracking	Flow	Distorted	Shaking	White stripes	Not recognized		Time out Error	shiver ; Instability	not working	Lighting difference between heads	Side lighting No Up/Down
Flying Camera Check	6 11 1				2	1	1	2	1	2	3		4		2	
Check the Can Head Board		22 2				3										
Vision Board inspection	5 33 3				1	2	2	1	2 11 1				3			
Mother board check											2					
Software version check												2				
Side lighting inspection													5			1
Check the Can Illuminator Board													2			
Check FV Outer LED Board														1		
FV Data Cable wear check													1			
Side lighting cable disconnection check															1	
Vision Nozzle Check																
Nozzle Check Sensor inspection																
Timing Belt Check																
Cam check																
Servo Motor Driver Inspection																
L/M (Linear Motion), Ball Spline part data																
inspection	1															
Nozzle check	2															
Mirror check	3															
Feeder check	4															
Check the blow setting amount																
Check Sol Valve																
Vacuum level check																
Head-Move Camera offset check																
Nozzle Holder Inspection																
Vacuum level check																
Z-axis height check																
Sol Valve Check																
Mounting Parts Check																
Check Mount Offset																

Machine Translated by Google

1. Head Module

To see.	Date CP45 CP45NEO 00 2004/11 O
	THE

check list	FV lighting	noise		Air	Pick-Up Miss	Discard rate		Mounting		
	Nozzle Check Error	Mirror swing Motor	Z reduction noise	no Blow		Chip discard rate	Rate of rejecting odd-shaped parts	lead crush	accuracy Wrong angle (distorted)	Especially Chip
Flying Camera Check										
Check the Can Head Board										
Vision Board inspection										
Mother board check										
Software version check	1									
Side lighting inspection										
Check the Can Illuminator Board										
Check FV Outer LED Board										
FV Data Cable wear check										
Side lighting cable disconnection check										
Vision Nozzle Check	2									
Nozzle Check Sensor inspection	3									
Timing Belt Check		1								
Cam check		2								
Servo Motor Driver Inspection		3	2							
L/M (Linear Motion), Ball Spline part data			1							
inspection						4	1			
Nozzle check										
Mirror check									4	2
Feeder check					2					
Check the blow setting amount				1				2	1	
Check Sol Valve				2					2	
Vacuum level check					1	3				
Head-Move Camera offset check					3				64	
Nozzle Holder Inspection						1				
Vacuum level check										
Z-axis height check						2		1	5	3
Sol Valve Check										
Mounting Parts Check									3	
Check Mount Offset										1

Machine Translated by Google

1. Head Module

Guide Defect Details No. Part Not

	Recognized 1	Possible Cause	Remedy
		Part Data Error	Check part information and adjust Tolerance value
		Nozzle foreign matter, damage	(Refer to 1-13 Nozzle Inspection/Nozzle Holde Inspection)
		Mirror Foreign matter,	Mirror cleaning, replacement when damaged (Refer to 1-4 Mirror Setting procedure)
		damage Feeding defect due to feeder defect	Teach Pocket again. Adjust tension of Pitch Pawl Spring (Caution
		Feeding defect due to multi cylinder defect Reduce down speed to stabilize feeding.	
		Replace defective Vision Board Replace defective Flying Vision	
		(Refer to 1-2 How to Replace Flying Vision)	
2	bleaching phenomenon	Defective Flying Vision Replacement (Refer to 1-2 How to Replace Flying Vision)	
		Replace defective Can Head Board (Refer to 1-5 How to Replace Can Head Board Ass'y) Replace defective Vision Board Replace	
		defective Flying vision (Refer to 1-2 How to Replace Flying Vision)	
3	blackening		
		Replace defective Can Head Board (Refer to 1-5 How to Replace Can Head Board Ass'y) Replace defective Vision Board Replace	
		defective Flying vision (Refer to 1-2 How to Replace Flying Vision)	
4	smearing (smearing)		
		Replace defective Can Head Board (Refer to 1-5 How to Replace Can Head Board Ass'y) Replace defective Vision Board Replace	
		defective Vision Board Replace defective Flying Vision (Refer to 1-2 How to Replace Flying Vision)	
5	fracture		
6	not coming out	Replace defective Vision Board	
		Bad Flying Vision	Replacement (See 1-2 How to Replace Flying Vision)
		Defective Can Head Board	Replace (See How to Replace 1-5 can Head Board Ass'y) Replace
7	flow	Bad flying vision	(See 1-2 How to Replace Flying Vision) Replace Replace Replace
		Bad Vision Board	(See 1-2 How to Replace Flying Vision) Replace (See 1-2 How to
8	dent	Bad Vision Board	Replace Flying Vision) Replace Replace Replace (See 1-2 How to
		Bad Flying Vision	Replace Flying Vision) Replace
9	shake	Bad Flying Vision	
		Bad Vision Board	
10	white stripes	Bad Vision Board	
		Bad Flying Vision	
11	Fiducial Unrecognized	Bad Vision Board	
		Bad Camera	Move Camera Calibration progress, replacement
		Bad Flying Vision	replacement (Refer to 1-2 How to replace Flying Vision)

Machine Translated by Google

1. Head Module

Guide Defect Details No.

	possible cause	What to do
12 Time out when recognizing fducial 13	Bad Vision Board	
FV lighting flickering/unstable	Check FV Data Cable wear	Change the cable to a cable other than the head number where the replacement problem occurred and connect it to the FV and Vision Board to check. Replace if necessary.
	Defective CAN Illuminator Board	Replacement (Refer to 1-6 Head Illumination Control Board Replacement Procedure)
	Replace defective Vision Board	Replace defective Flying Vision (Refer to 1-2 How to Replace Flying Vision)
	Check side lighting cable disconnection	Check lighting and replace FV out LED Board
14 FV light not working	defective replacement	Check side lighting cable disconnection Check lighting and replace Flying Vision
Lighting difference between 15 heads	replacement (Refer to 1-2 Flying Vision replacement method)	
16 Side lighting Up-Down No	Up Down Cylinder Defect	Cylinder Replacement Up/Down Sol Valve Defect Sol
	Valve Replacement Up/Down Detection Sensor Defective/Location	Sensor Position Re-
	Setting or Sensor Replacement	Software Version Check MMI 2.450 or higher, check only with Vision. (Refer to 1-12 nozzle
17 Nozzle Ckeck Error	Check function setting) Vision Nozzle Check Setting error	Check Nozzle Check Nozzle Check Sensor (Refer to 1-12 nozzle Check
18 Mirror Swing Motor Noise	Timing Belt tension adjustment	(refer to 2-7 Swing Motor/Swing Timing Belt Replacement, Inspection Article 2)
	CAM operation failure	Grease application and adjustment (1-7 Swing Motor/Swing Timing Belt replacement, inspection)
	Defective Servo Motor Driver	Replacement (Refer to 1-11 Servo Motor Driver Exchange)
19 Z axis noise generation	Defective L/M Guide, Ball Spline	Check and replace oil, foreign matter (Refer to 1-10 Ball Spline replacement, inspection) Replace (Refer to
	Defective servo motor driver	Blow 1-11 Servo Motor Driver exchange) Re-setting (Refer to
20 Air Blow No	setting error Defective sol valve of	1-14 Blow set amount check) Re-Setting (Refer to 1-14
	Air Distributor Defective vacuum pump	Low Blow Set Amount Check)
21 Pick Up Miss	vacuum level	Check the vacuum pump (refer to 1-15 vacuum level check)
	Feeding defect due to feeder defect	Feeding Teach Pocket again. Adjust tension of Pitch Pawl Spring (Caution
	defect due to multi cylinder defect	Reduce down speed to stabilize feeding.
	Bad Head-Move Camera Offset Calibration	(refer to 1-17 Move Camera offset setting)
Excessive discard rate of 22 chips	Nozzle holder compliance	Clean (refer to 1-13 nozzle inspection/nozzle holder inspection) or replace Z-axis height setting failure Re-setting (refer to 1-18 Z-axis height inspection)
	Check the vacuum pump for low vacuum level due to vacuum	pump failure (refer to 1-15 vacuum level check) Part data error
		Recheck parts information and adjust tolerance values

Machine Translated by Google

1. Head Module

Trouble Shooting Guide Defect Content

discard rate of odd-shaped parts Excessive	possible cause	Action method
Insufficient mounting accuracy - lead is crushed	Part data error Z-axis height setting error Blow setting error Blow setting	Recheck parts information and adjust tolerance value Resetting (Refer to 1-18 Z-axis height check) Re-Setting (Refer to 1-14 Blow set amount check) Re-Setting (Refer to 1-14 Blow set amount check) Re-Setting (1-14 Blow set amount check) 14
25 Poor mounting accuracy-angle (distorted)	Air Distributor Check installed parts (part data) Mirror Foreign matter, damage Z-axis height setting failure Head-Move Camera Offset failure	Inspection of blow set amount) Recheck parts information and adjust tolerance value Clean mirror, replace if damaged (refer to 1-4 Mirror Setting procedure) Re-setting (refer to 1-18 Z-axis height check) Calibration (refer to 1-17 Move Camera offset setting)
26 Poor mounting accuracy-Chip	Check mounter offset Foreign matter, damage Air Distributor Sol valve failure Head-Move Camera Offset failure Use Part.mdb used for CP45F(V) with 'Merge'	Mounter offset calculation and input Mirror cleaning, replacement if damaged (refer to 1-4 Mirror Setting procedure) Re-setting (refer to 1-14 Blow setting amount check) Calibration (refer to 1-17 Move Camera offset setting)
28 Nozzle and Head Collision	function Occurs when used in CP45NEO by overwriting without setting (CP45F(V) Nozzle : 9.4, CP45NEO Nozzle : 13.5)	Select Nozzle from F11 (Device) in Sys.setup => Select Nozzle from Device List => Check the Length of Nozzle Dimension (All Nozzles) => CP45F(V) : 9.4, CP45NEO : 13.5.

Machine Translated by Google

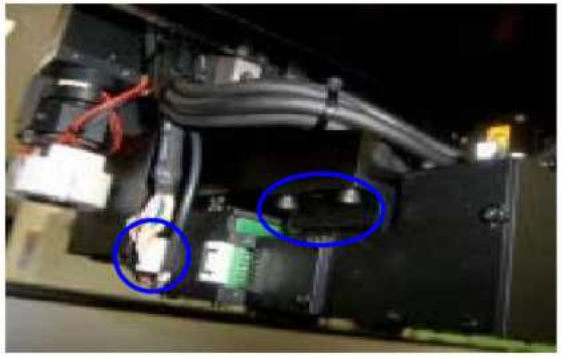


Fig.1-1-1 Flying Vision (Bolt,connector)



Fig.1-1-2 Flying Camera (D-sub Conn. Data Cable



Fig.1-1-3 Pin for Flyiing Vision assembly

1-1.How to replace Flying Vision

- Tools

  a) Screw Driver(+ Small) b) Hex Wrench(3mm)

- Parts

  a) Flying Vision (25mm:J9059032B, 15mm:J9059060B)

1) Turn off the power of the equipment.

2) Separate Flying Vision

- Separate 4 bolts, connector (for outer lighting). (Refer to Fig.1-1-1)
- Separate the FV Data Cable Connector (6EA) and D-Sub connector (refer to Fig 1-1-2)

3) Assemble the Flying Vision - First assemble the D-sub connector to the Fling Vision and fix it with screws.

- Accurately assemble the Flying camrea to the alignment pin of the camera bracket. (Refer to Fig.1-1-3) - Fix the Flying Vision by fastening 4 bolts.
- Assemble the FV Data Cable connector and connector (for outer lighting) (Caution: Pay attention to the order of data cables from No. 1 to No. 6.)

- **Adjustments after this work** - Head (Fly) Camera Calibration (refer to 1-2)
- Proceed with Head-Fly Offset to compensate for the offset between the FV's camera center and spindle center. (see 1--3)
- Vision Nozzle Check must be performed. (See 1-12)
- Check whether the Mount offset needs to be rechecked.

Machine Translated by Google

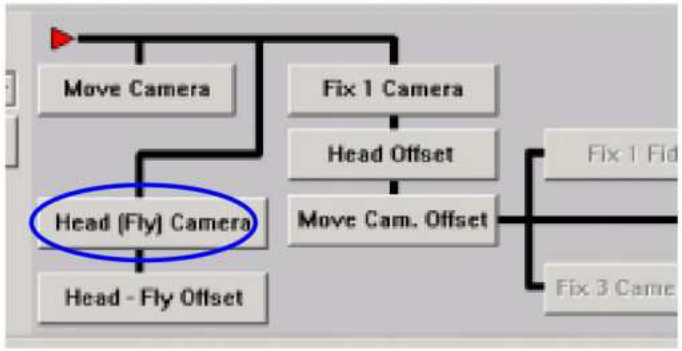


Fig.1-2-1 Head(Fly) Camera Calibration.

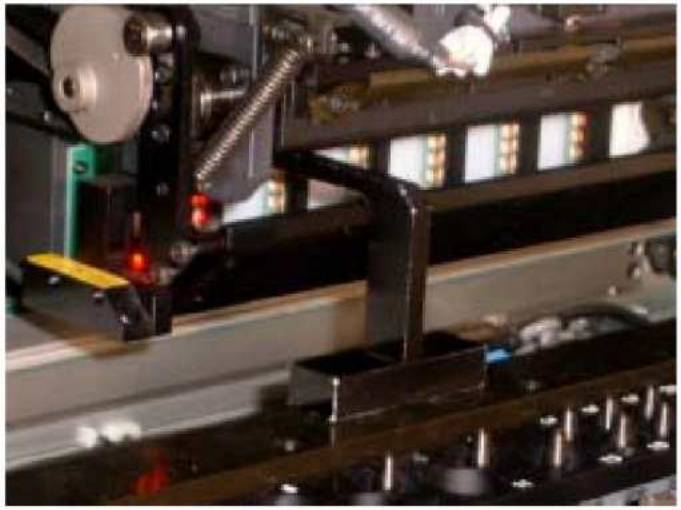


Fig.1-2-2 Install calibration tool on the C/V

1-2.Head(Fly) Camera Calibration Tools

a) Hex Wrench(2.5mm) b) Fly Camera calibration Tool Parts

*

1] Select menu : Sys. setup => Camera => Calibration => Select Head (Fly) Camera. (Refer to Fig1.2.1)

2) Remove the mirror cover of the head module.

3) Remove the nozzle from the head. ('Put all Nozzle')

4) If you click 'Head(Fly) Camera', the following message appears. Proceed in order.

Message	progress
First, we must put all nozzles from heads manually To moving down Z Axis,click[hear]	After confirming that there is no nozzle, click 'Next' .=>(Caution) Mirror moves to 45'
'Z axis moving down Please wait for a minute' Wait until the next massage comes out.	
'Next, Mirror will close. To close, click [Next]' Wait until next	Click 'Next'.
'Moving now,Please wait for a moment' massage.	
'Setting the fly camera calibration tool on conveyor finished, then click[Next] for next step'	Install Calibration Tool as shown in Fig.1.2.2 and click 'Next'.
'Adjust between vision screen center to mark center by jogbox [head 1 Camera] To calibratation, Click [Next]	Match the center of Head1 camera (center of Vision monitor) and the center of Calibration Tool using Jogbox, and click 'Next'. (Refer to Fig.1-2-3) => Camera of Head1 is calibrated and the result (previous value and current value) is output

Machine Translated by Google

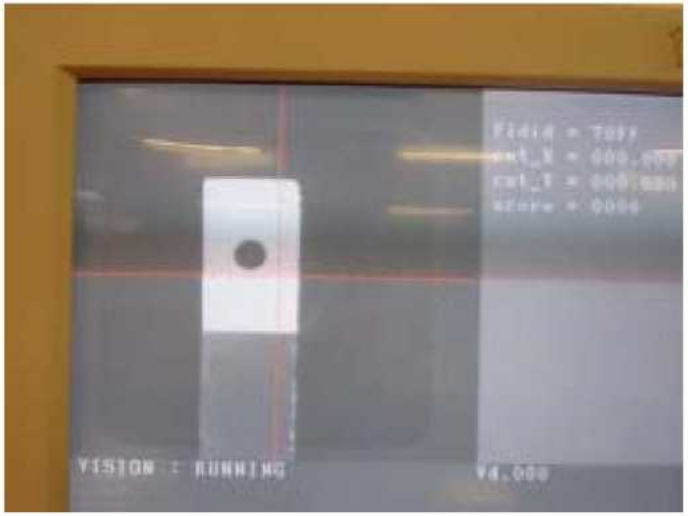


Fig.1-2-3 Align the center between camera and calibration tool

Message	progress
'Adjust between vision screen center to mark center by jogbox [head 2 Camera] To calibratation, Click [Next]	1) Match the center of head2 camera (center of Vision monitor) and the center of Calibration Tool using Jogbox and click 'Next'. => Camera of Head2 is calibrated. 2) Calibration up to Head No. 6 in the same way proceed.
'Removing the tool on the conveyor Finished, then click [Next]'	Be sure to remove the Calibration Tool before clicking Next.
'Fly head camera calibrationis finished'	Calibration is completed => Click 'Update' to reflect the result.

Machine Translated by Google

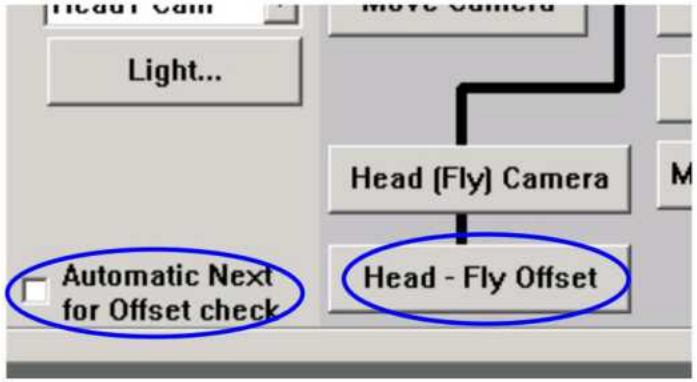


Fig.1-3-1 Head-Fly Camera Offset manu

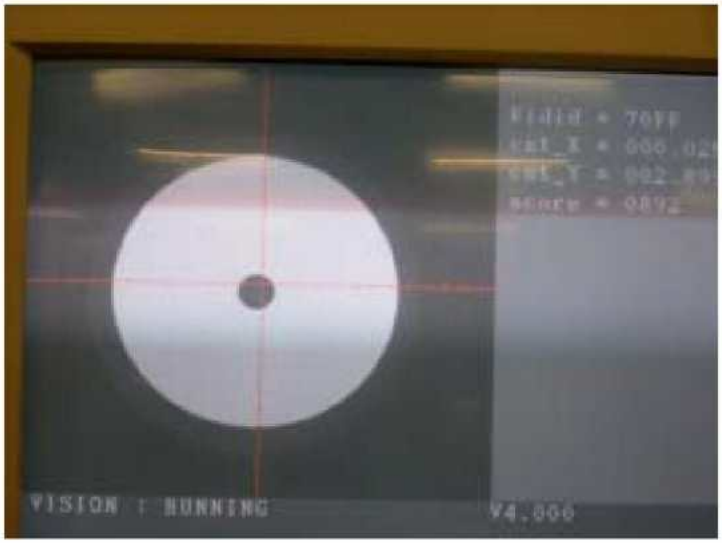


Fig.1-3-2 Head-Fly Camera Offset Calibration

1-3.Head-Fly Offset Tools

a) Calibration Tool (in ANC 1st pocket)

Parts

1] Select menu : Sys. setup => Camera => Calibration=>Select Head-Fly Offset. (Refer to Fig1-3-1)

(Correct by measuring the offset between the center of the Fling Vision camera and the center of the head (end of the nozzle)

2) If there are nozzles in the head, remove them all. (by hand or using Put all nozzle at the bottom of the Tool menu)

3) When the location of the ANC pocket is accurate

=> Available by clicking 'Automatic Next for Offset check', in which case the offset measurement will be performed automatically.

in progress

4) If you are not sure that the location of the ANC pocket is accurate

=> Do not select 'Automatic Next for Offset check', manually install the Calibration Tool each time

Proceed with measurement (according to the message below)

Message	progress
'First, we must put all nozzles from head manually To moving down Z axis, Click [Next]'	Click Next =>Go to Head 1 Home
'Z-axis moving down, Please wait for a moment' Wait until the next message.	
'Next, Attach the calibration tool to head 1. Click[Next] for moving down head After moving, Attach the tool to head manually.	Click Next => Head1 goes down. =>Insert the Calibration tool into head1.
'Z-axis moving down, Please wait for a moment' Wait until the next message.	
'Up to align height and mirror close => Mirror moves and moves to the recognition next message.	Click Next position. **To move, click [Next]** Wait until the
'Moving now, Please wait for a moment'	
'Calibration is prepared. To calibration,click[Next]	Click Next => Run Calibration (shown on the Vision monitor)

Machine Translated by Google

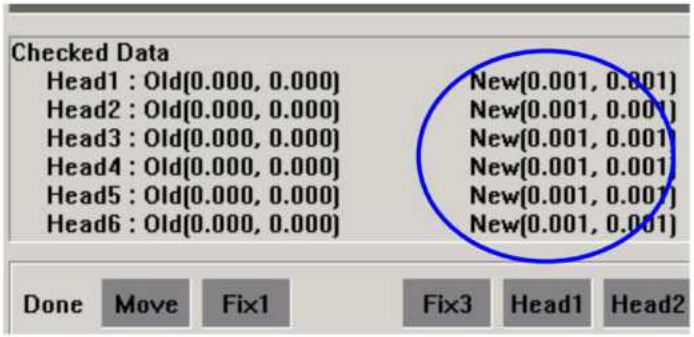


Fig.1-3-4 Head-Fly Camera Offset calibration result (Checked data : New)

Message	progress
'Next remove the calibration tool from head 1 **Click[Next] for moving down head.** **After moving, remove the tool manually Z-axis**	Click Next => Down of Head1 (remove Tool)
moving down Please wait for a moment ÿÿ message ÿÿ ÿÿ.	
'Next remove the calibration tool to head 2 **Click[Next] for moving down head.** **After moving, remove the tool manually** Proceed	Click Next =>Insert Calibration Tool into Head2.
with **calibration** up to **Head** 6 in the same way .	

5) Check the calibration result (New in Fig. 1-3-4 checked data) by comparing it with the specifications below.

Item		FOV 25mm	FOV 15mm
Tolerance	X	+- 0.75mm	+ - 0.45mm
	Y		

6) If the calibration result is within the specification, click 'Update' to reflect the newly created offset data, and if it is out of specification, check the assembly state of the mirror, assemble the mirror again if necessary, and proceed with calibration again.

Machine Translated by Google

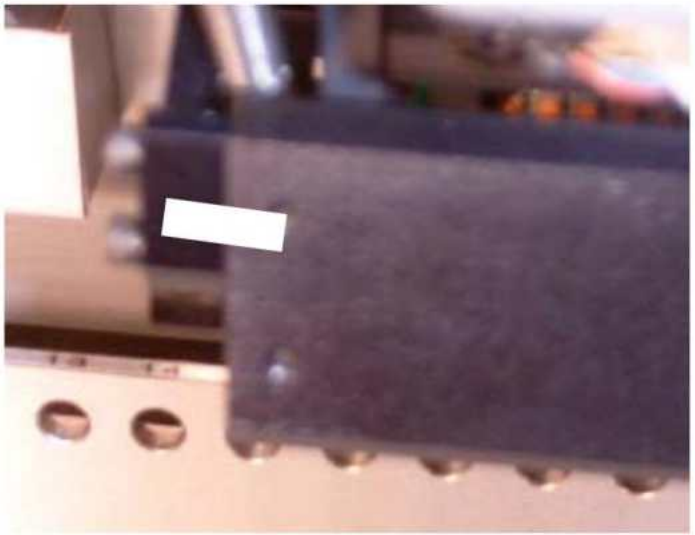


Fig.1-4-1 Ckeck the assmbled status between support and arms

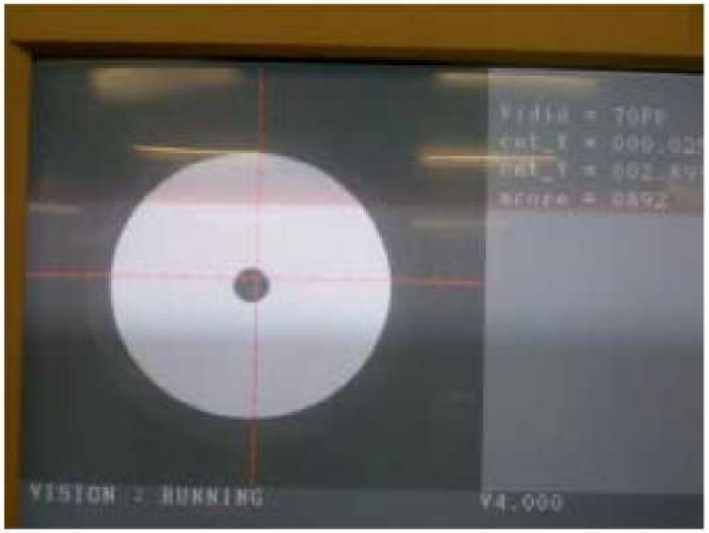


Fig.1-4-2 Check the deviation of tool center

1-4.Mirror Setting Procedure

- Tools

  a) Calibration Tool (in ANC 1st pocket) 2EA b) Hex Wrench (2.5mm)

- Parts

1) Simple method

(1) Reassemble the mirror support and mirror arm (left, right) so that no step occurs in the assembled state. (Refer to Fig.1-4-1)

(2) Recalibrate the Head-Fly offset.

2) Precise method

(1) Insert calibration tool into Head1 and Head6.

(2) Move the Tool to the height of Align :

(- After selecting a random part (1005), select the part data Edit screen (align data screen)

- Select 'Move' Select 'Prepare Aligne Test'
- 'Z and Mirror axis will move or Head Block will move to the Fix Camera Positionÿÿÿ

  Click Yes when Meaasge appears
- Z-axis and Mirror move to recognition position
- While alternately viewing FV#1 and FV#6d on the Vision monitor, check that the center of the monitor crosshair and Calibration Tool is

  After adjusting the Mirror Support to match, fix the bolts.

- **Adjustments after this work - Head-Fly offset Calibration.(1-3** ÿÿ)
- **Check Swing Mirror Motor Homeoffset (refer to 1-19).**
- **Proceed with Vision Nozzle Check . (Refer to 1-12)**

Machine Translated by Google

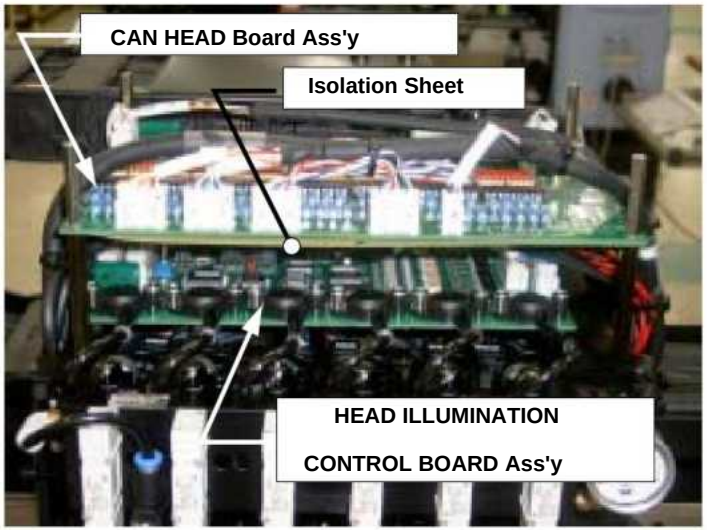


Fig.1-5-1 Can head board ass'y

1-5.How to replace Can Head Board Ass'y

- Tools

  a) +driver b)

  Spanner (* mm) 2EA

- Parts

  a) CAN HEAD BOARD Ass'y (J9060062B)

1] Separate the board plate (J7154110B).

2) Remove various connectors connected to the board.

3) Remove Hex support.

4) Replace the Head Illumination Control Board (=Can Head Board Ass'y). At this time, be careful not to omit the isolation sheet. (Refer to Fig. 1-5-1)

5) Fix the board using Hex support.

6) Fig. After checking the PCB layout of 1-5-2 and the cable label, connect the connector to its original position.

7) Complete by assembling the board plate.

- **Adjustments after this work**

  -None.

Machine Translated by Google

1. Head Module

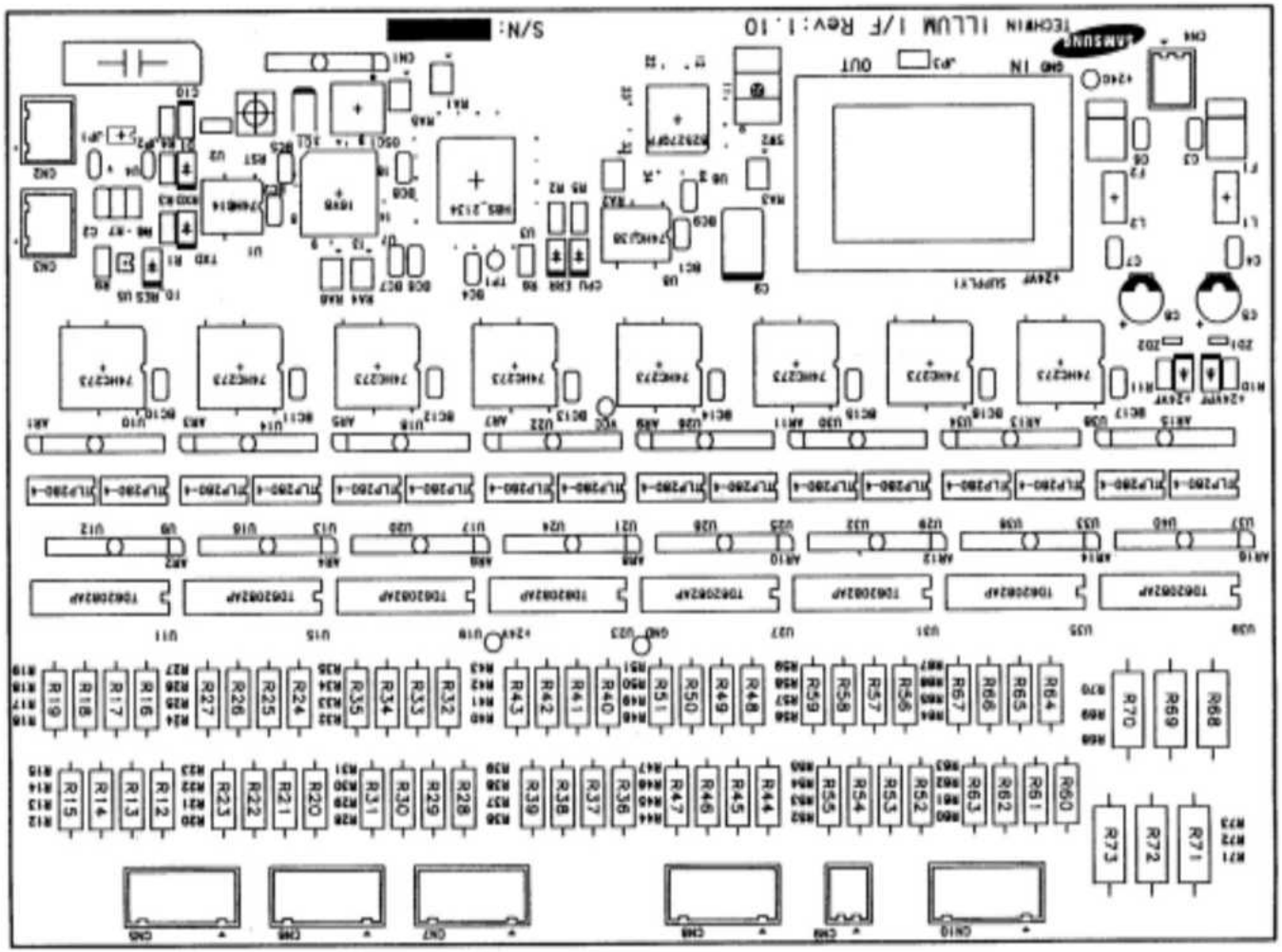


Fig.1-5-2 PCB layout (CAN HEAD BOARD ASS'Y)

	Cable		Remark
	Code	Type	
CN1			
CN2 J9061329B MK-CA07			
CN3 J9061328B MK-CA06			
CN4	J9061221B MK-HI01		
	J9061757A MK-HD01		THIS OPTION
CN5	J9060078B	HEAD OUTER LED BOARD	
CN6			
CN7	J9060079B	HEAD SIDE LED BOARD	T3
CN8			T2
CN9 J9060102B		FIDUCIAL ILL. LED BOARD	
CN10			

Machine Translated by Google

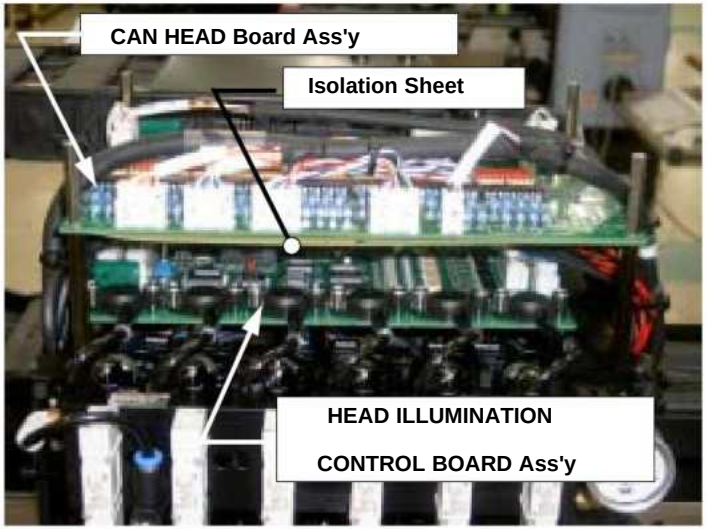


Fig.1-6-1 Head Illumination Control Board

1-6.Head Illumination Control Board Replacement Procedure

- Tools

  a) +Driver(ÿ), Wrench (5 mm) 2EA

- Part

  a) Can head illimination board Ass'y(J9060140E)

1) Separate the board plate (J7154110B) and unscrew the hex support above. 2)
Work while paying attention to the Can Head Board Ass'y assembled above.
3) Remove the Coli Tube. (If it is difficult to separate, cut it to the minimum length.) 4) Loosen the Hex Support below and remove the connected connector.
5) Replace the board and assemble the Hex Support below.
6) Reassemble the coil tube. At this time, be careful not to bend the pipe of the coil tube. If a coil tube with a short length is generated, it must be replaced with a new one.
7) Referring to Fig 1-6-2, assemble the connector in its original position.
8) Assemble the CAN Head Board Ass'y to its original location. 9)
Assemble the above hex support and assemble the board plate.

- **Adjustments after this work**

  -None.

Machine Translated by Google

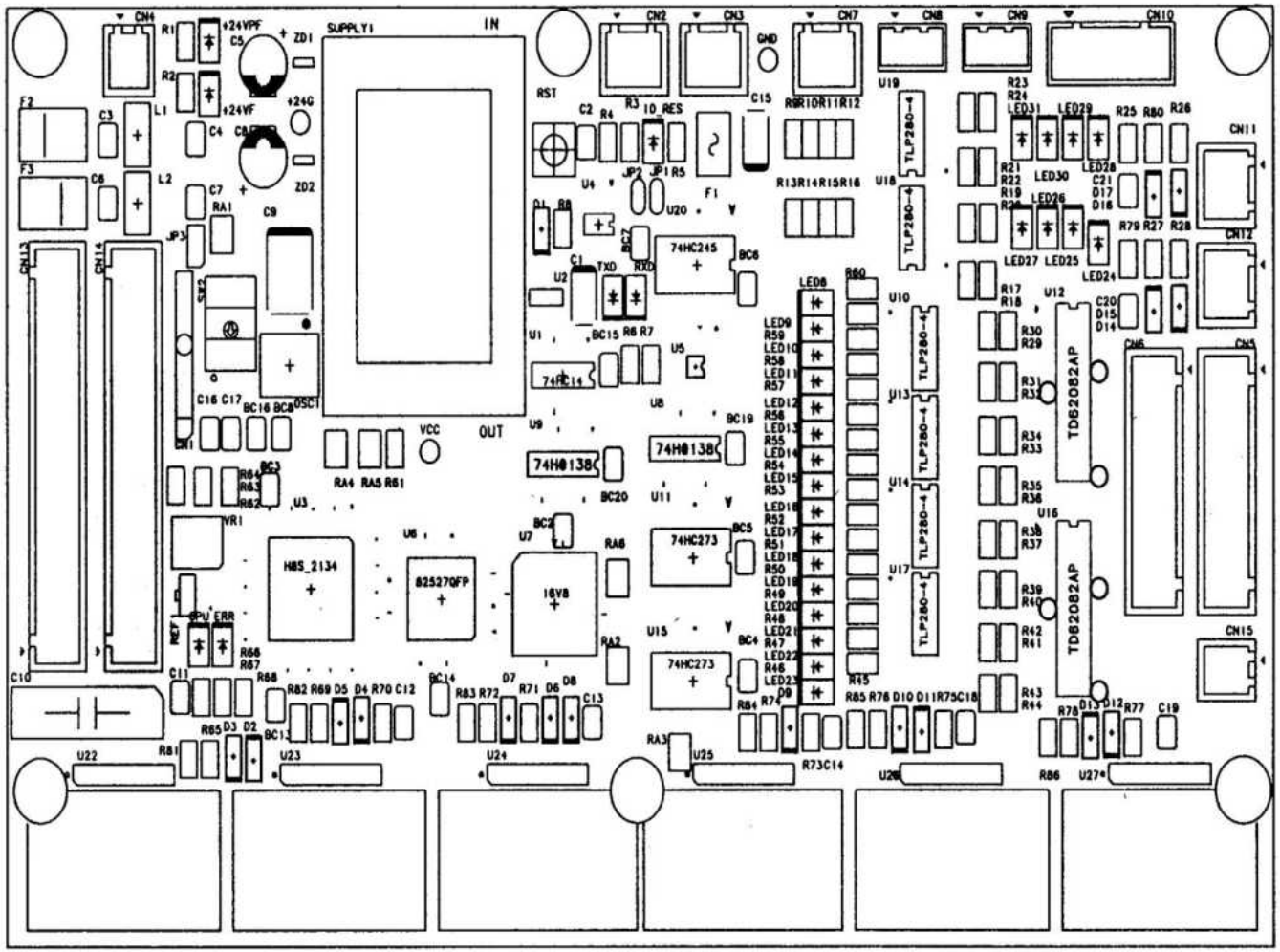


Fig.1-6-2 PCB layout (Head Illumination Control Board)

	Cable		Remark
	Code	Type	
CN1			
CN2			
CN3	J9061329B	MK-CA07	
CN4	J9061221B	MK-HI01	
	J9061757A	MK-HI01CE CE OPTION	
	J9061207B	MK-HD01	
	J9061758A	MK-HD01CE CE OPTION	
CN5	J9061208B	MK-HD02	
CN6	J9061209B	MK-HD03	
CN7	J9061210B	MK-HD04	
CN8			
CN9			
CN10	J9061212B	MK-HD06	
CN11			
CN12			
CN13	J9061213B	MK-HD07	
	J9061215B	MK-HD08	
	J9061216B	MK-HD09	
	J9061217B	MK-HD11	
	J9061218B	MK-HD12	
	J9061217B	MK-HD11	
CN14	J9061219B	MK-HD13	
CN15	J9061220B	MK-HD14	

Machine Translated by Google

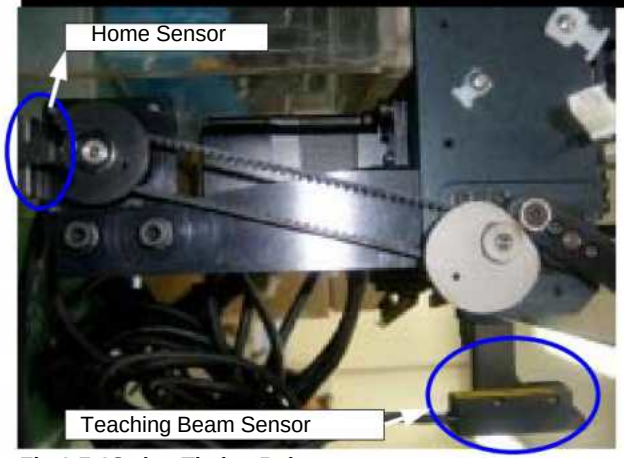


Fig.1-7-1Swing Timing Belt

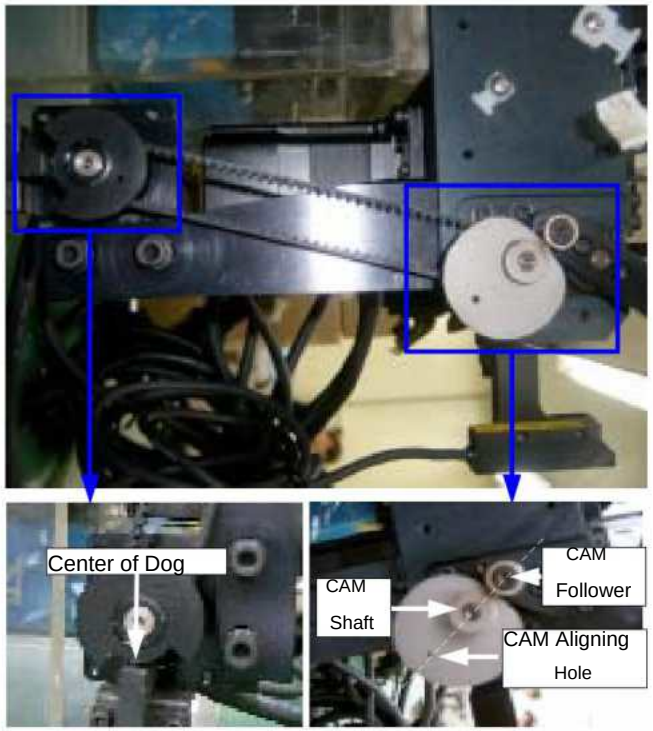


Fig.1-7-2 Aligning Method

1-7.Swing Motor /Swing Timing belt replacement and inspection

- Tools

  a) Wrench(4mm,3mm,2.5mm), Z-Phase detecting Tool Part

-

  a) TIMING BELT [300-3GT-6] (J6602034A) b)

  CP45NEO : S Motor Cable Ass'y (J9080120B)

  CP45FV : Q-Swing Motor Cable Ass'y (J9075961B)

1) Separate Teaching Beam Sensor and Swing Home Sensor for replacement work.
(Refer to Fig. 1-7-1)

2) Separate the Swing Motor fixed to the Camera Bracket.

3) Separate the pulley and sensor dog from the motor.

4) Separate the bracket and isolator from the motor. 5)
Assemble the bracket and isolator to the new motor, and assemble the pulley and sensor dog. 6) Assemble this to the Camera Bracket and insert the belt at this time. 7) Assemble the separated Teaching Beam Sensor and Swing Home Sensor to their original positions.

8) Catch Home. (See Fig. 1-7-2)

When the 3 points of Aligning Hole Center of CAM, Center of CAM Shaft, and Center of CAM Follow are in a straight line, the Z phase of the motor is detected, and also adjust the position so that the Dog for Home Sensor is raised to the center of the sensor.

9) Properly adjust the belt tension.

-

Adjustments after this work

- **Head-Fly Offset -**

Check Swing Mirror Motor Home offset (refer to 1-19).

Machine Translated by Google

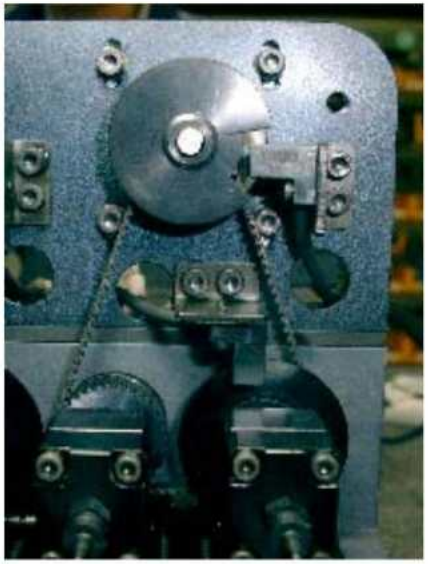


Fig.1-8-1 Thata axis Timing Belt

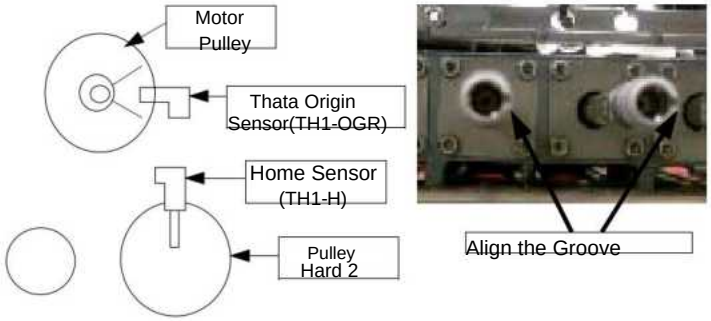


Fig.1-8-2 Thata Axis sensor and nozzle holder groove position

1-8.Theta axis motor/timing belt replacement, inspection

- Tools

  a) Wrench, Nozzle Holder Setting Jig

- Part

  a) TIMING BELT [308-2GT-4] (J6602024A) b) Theta Motor Ass'y + Thata Motor Driver

1) Separate the motor by loosening the 4 fixing bolts.

2) Separate PULLEY and Sensor Dog. 3) Replace with a new motor and assemble Pulley and Sensor Dog.

4) Assemble the Thata axis belt to the pulley, and assemble the motor to the bracket.

5) Set the position of Sensor Dog (Home Sensor, Origin Sensor),

At the same time, set the location of the Nozzle Holder groove in the same way. (Refer to Fig 1-8-2) =>

Normally, the grooves of the nozzle holder are aligned visually, but in case of using a square nozzle, a nozzle holder setting jig should be used to avoid any problems. 6) Adjust the tension (refer to the tension of other spindles for tension)

7) If belt replacement is necessary, separate the slide arm and joint on the spindle and replace the belt with the gap.

- **Adjustments after this work**

  - Check and input **Offset-R (refer to 1-11)**

Machine Translated by Google

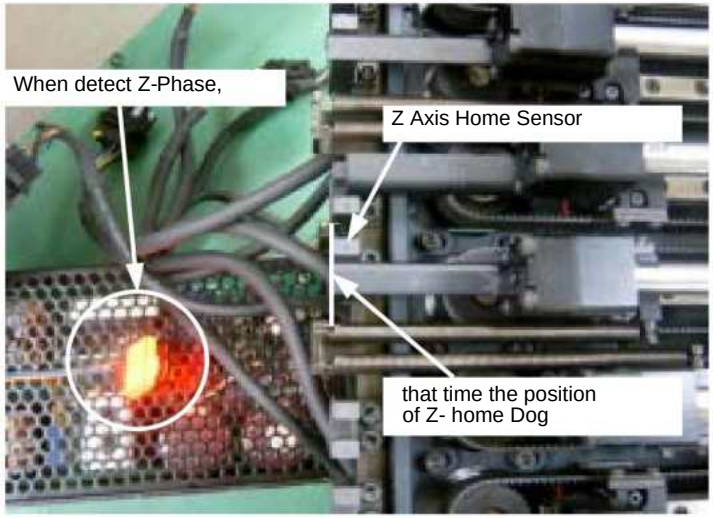


Fig.1-9-1 Detacting Z-Phase and the position of Z-Home dog

1-9. Z-axis motor/timing belt replacement, inspection

- Tools

  a) Wrench

- Part

  a) TIMING BELT [340-2GT-12] (J6602023A) b) Zÿ Motor

1) If there is no jig that can find the Z phase of the servo motor, check the Z phase of the motor before separating the motor to be replaced.
The location should be marked on the head frame. (Refer to Fig 1-9-1-1) - Raise the corresponding Z-axis to the position detected by the Z-Home detection sensor (Refer to (1)) - Check the Z-Phase Mark displayed on the Z-Motor to be replaced ((2)) - Mark the head body in the same direction as this direction (see (3)) - In this way, when the Z-Phase of the new Z-Motor to be replaced is assembled in the same position, said Z-Phase It can be replaced without work.

2) Head#1,3,5 motors assembled on the top unscrew the motor fixing bolts (check bolt specifications) and separate the motors. 3) Assemble a new motor (refer to Fig 1-9-3), and at this time, let the belt be caught on the pulley.
(Check the location on the Z-Phase and assemble in the reverse order of 'Procedure 1)'.

4) (In case the Z-phase detection jig is prepared) Immediately after the Z-phase of the motor is detected using the Z-phase detection jig,
It must be assembled so that the Z-axis Home Sensor is turned on. (Refer to Fig 1-9-1)
=> Connect the Encoder Cable of the motor to the Z-phase detection jig, and turn the motor slowly to
The moment it turns on is when phase Z is detected.

5) In the case of Head #2, #4, #6 assembled at the bottom, the FV and swing motor must be separated in advance.
It is possible to separate the motor only when the adjacent Pu.lley is also separated.

6) After that, replace in the same way. (Refer to Fig 1-9-2 for Sub Assembly of Motor)

7) Adjust the tension of the Z-axis belt by referring to the Z-axis belt of the adjacent head.
Refer to Fig 1-9-4 for the position of measuring the belt tension.

Machine Translated by Google

Adjustments after this work -

Head(Fly) Camera Calibration.(2-3 ÿÿ)

- Head offset Setting. (refer to 2-16)

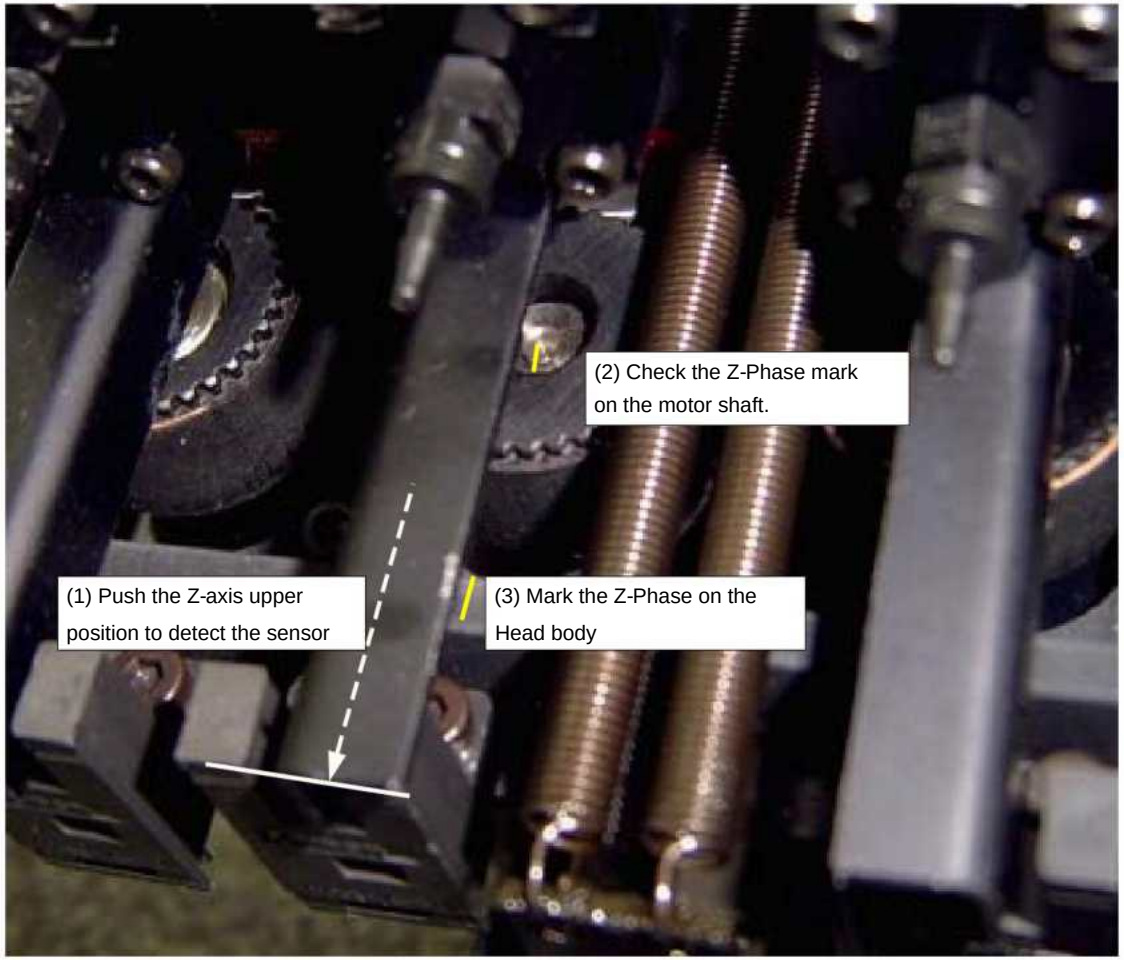


Fig.1-9-1-1 Z-phase mark procedure for the Z-Motor.

Machine Translated by Google

1. Head Module

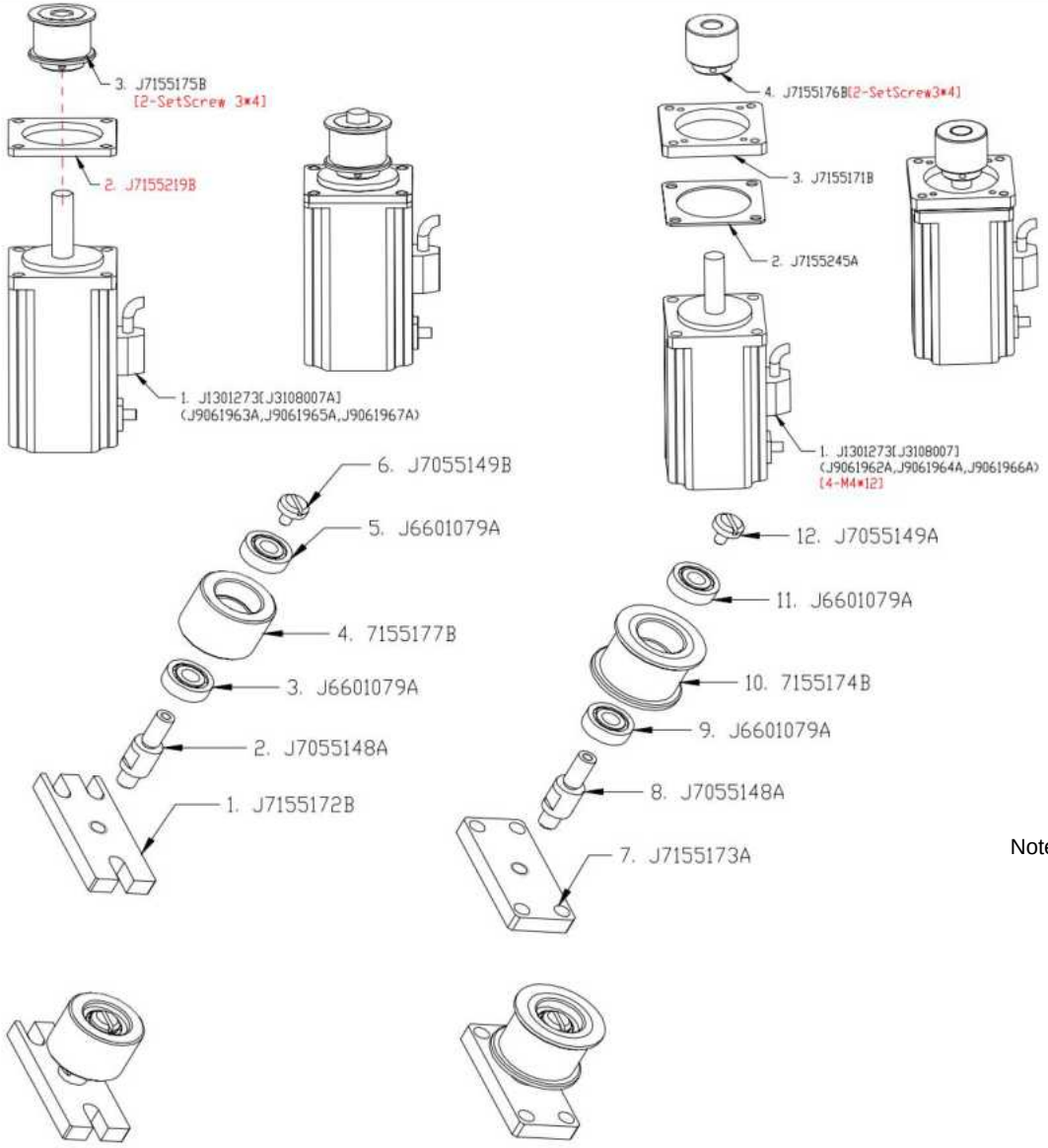


Fig1-9-2 HEAD #2 4 6 Z-Motor and Z-Pulley sub-assembly

Fig1-9-3 HEAD #1 3 5 Z-Motor and Z-Pulley Sub Assembly

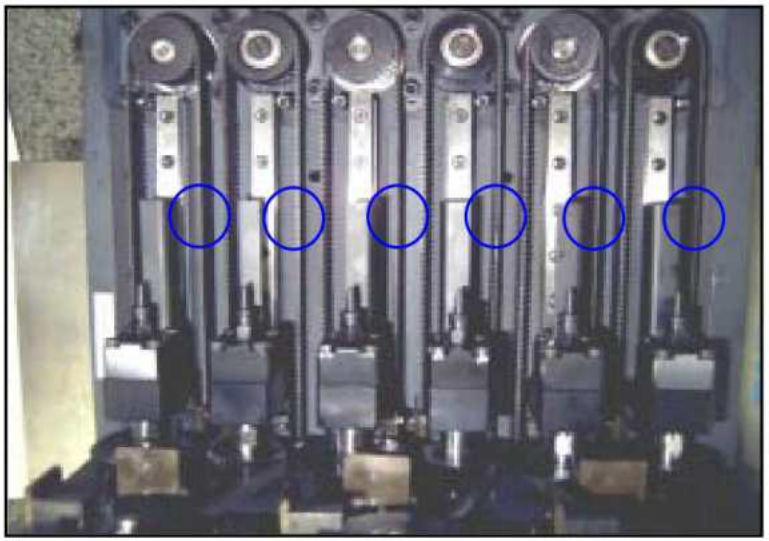


Fig1-9-4 Position for Z-Axis Belt tension

Note) The material number is explained for CP45NEO, and the motor is different from CP45F(V).

Machine Translated by Google



Fig.1-10-1 Ball Spline ass'y

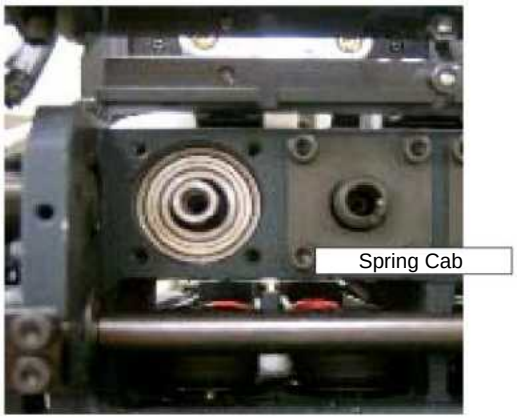


Fig.1-10-2 Assemble Ball Spline ass'y

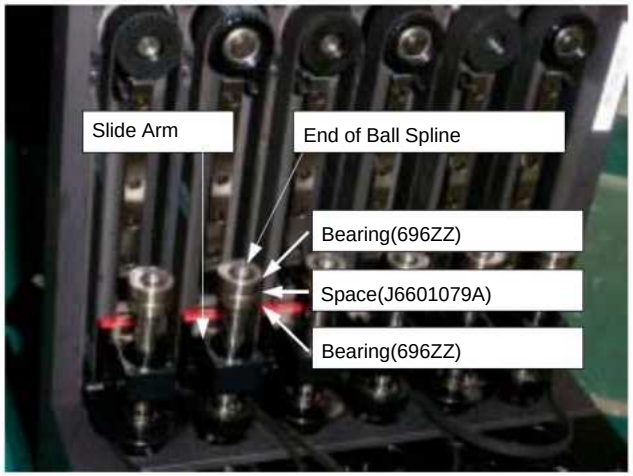


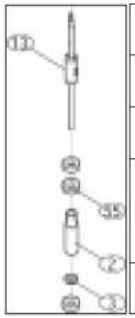
Fig.1-10-3 Assemble Ball Spline ass'y

1-10. Ball Spline replacement and inspection

- Tools

  a) Wrench

- Part :



No.	Part Code	Description
2	J7055141A	SPLINE SHAFT
3	J7055142A	SPLINE CAP
13	J9055210A	BALL SPLINE(CP45NEO)
	J9055050A	BALL SPLINE(CP45F(V))
55	J1300512	BEARING [6802zz]

1) Check the material to be replaced (refer to Fig.1-10-1)

- The nut and spline shaft of the ball spline are shipped from the factory as a closed fit.

- 3 Bearings are required. 2) Remove

the spring of the Z-axis to be replaced, and separate the Joint (CAP), V-Ring and Wavy-washer.

3) Separate the Spring Cab and Spline Spring.

4) Separate the joint fixed to the end of the ball spline.

5) Separate the Nozzle Holder.

6) Separate the ball spline ass'y and assemble a new ball spline (3 bearings, 1 spine cap)

(Refer to Fig. 1-10-2)

7) Assemble 2 ball bearings on the upper part of the ball spline. At this time, a space is inserted between the bearings.

(Fig. 1-10-3)

8) Insert the upper part of the ball spine into the slide arm.

Machine Translated by Google

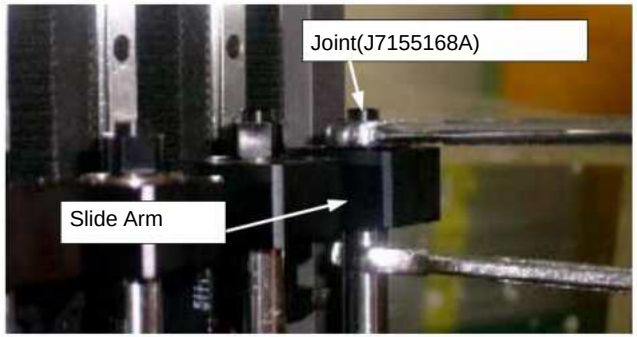


Fig.1-10-4 Joint assembly

9) Assemble the joint on the upper part of the ball spline. (Fig. 1-10-4)

10) After assembling the Wavy-washer, V-Ring, and Joint (J7155167D), assemble the Z-axis Spring. (Fig. 1-10-5)

(V-Ring specification; V-6A, assembly  ÿ)

direction; 11) Assemble the nozzle holder.

12) Assemble the Spring Cab and Spline Spring.

=> Check the **vacuum in Diagnosis to** make sure there are no incorrectly assembled parts.

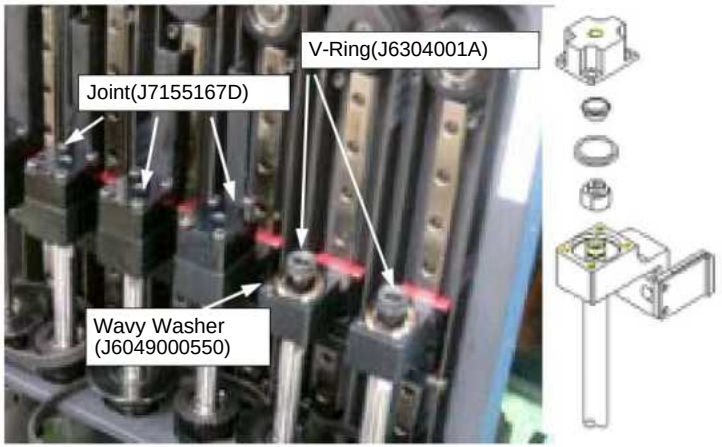


Fig.1-10-5 V-Ring assembly

Adjustments after this work -

Head(Fly) Camera Calibration.(2-3 ÿÿ)

- Head offset Setting. (refer to 2-16)

- Proceed with Vision Nozzle Check . (Refer to 1-12)

Machine Translated by Google

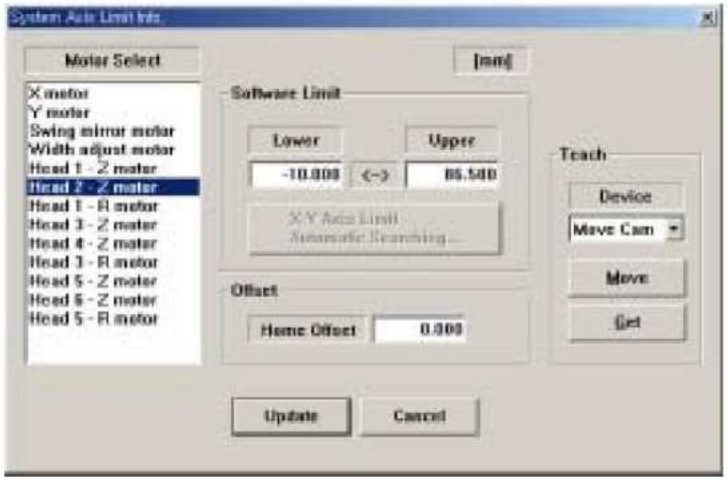


Fig 1-11-1 Head Z Home Offset

1-11.Offset-R adjustment and input

- Tools

  a)

- Part

  a)

=> This is a method that can be used in FV models. 1) Execute R-axis Home 2) Place the axis (1-2, 3-4, 5-6) to be measured on the Stage Camera.

(Sys. setup => Camera => Select Stage Camera => Select Position on Camera and Move)

3) Align the groove of the nozzle holder using the slow speed of the teaching box while observing the image of the monitor.

Check the position of the R axis at this time in 'Current position'. 4) Input this value to Head-Z Motor Offset to be compensated. (Fig 1-11-1)

(Enter the sign of the compensation value with '-' to the value checked in the current position)

Machine Translated by Google

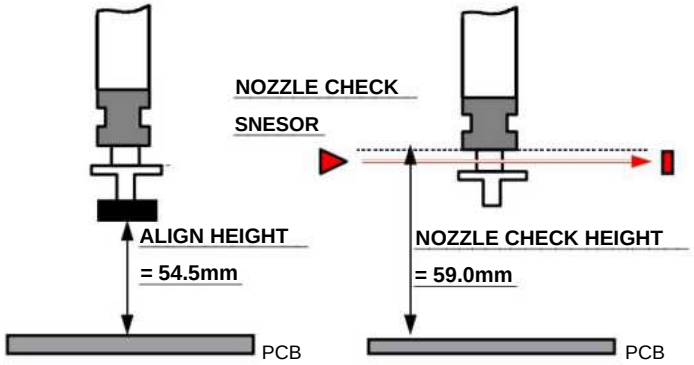


Fig.1-12 Nozzle Check Sensor setting.

1-12. Nozzle Check function setting (used for equipment prior **to Serial No. ~1188)**

Tools

a)

1--12-1) In case of using Nozzle Check Sensor 1-12-1-1) Select I/O

Inspection in Diagnosis menu to check if Nozzle Check Sensor is operating. - Check the operating status by turning the sensor on/off with the mouse. - Check ON/OFF by covering the sensor with paper. (Check assembly condition)

1-12-1-2) Insert the TN05 nozzle into HEAD3. (Using ANC's PICK function.)

- Caution: Do not insert manually.

1-12-1-3) Menu - View - Open Current position.

1-12-1-4) Lower HEAD3 to 60mm using the Teaching Box. 1-12-1-5) Change the sensor Amp switch to Set mode. 1-12-1-6) Turn ON the sensor Amp switch.

1-12-1-7) Lower HEAD3 to 50mm using the Teaching Box. 1-12-1-8) Turn OFF the sensor Amp switch. 1-12-1-9) Change the sensor Amp switch to Run mode.

1-12-1-10) Slowly move HEAD3 to 57mm. (Using Teaching Box), 57.0 ~ 58.0mm

If the red LED is ON at the same time, it is normal setting. If HEAD3 continues to go down, only the green LED turns on. If the green LED turns off or the red LED turns on, start again from step 1-12-1-4) Setting. - The height of HEAD3 of 1-12-1-7) should be set by increasing by 1.0mm. - If there is no change in sensing distance even after increasing it to 55.0mm in 1-12-1-7), use it as it is.

1-12-1-11) Check the sensor operation on the ANC screen.

Using a random head without nozzle, select a random ANC number without nozzle with the mouse and click PICK. In normal cases, an error message indicating that there is no nozzle in the head is displayed on the screen. If abnormal operation occurs, follow the above order and repeat.

Machine Translated by Google



Fig.1-12-2-1 Factory setup

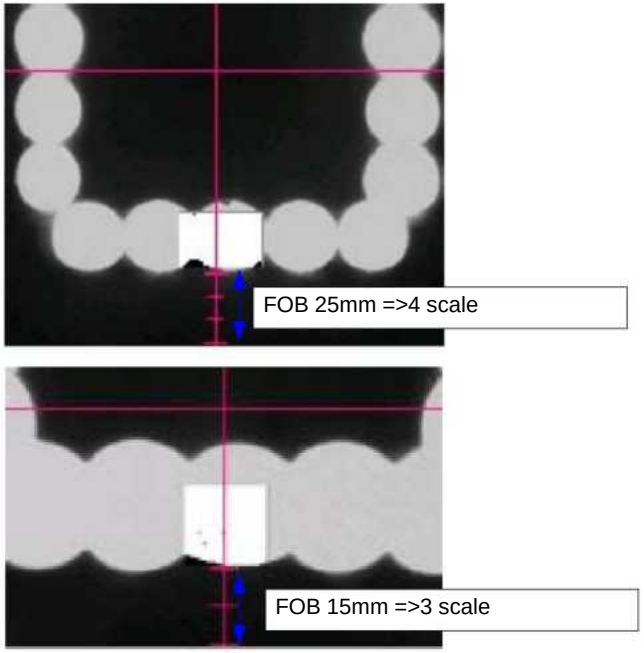


Fig.1-12-2-2 Check pos. Mirror

1-12-2) Nozzle Check using Vision Set according to the procedure below.

1-12-2-1) Prerequisites

1) Only facilities using MMI Version 2450 or higher are available.

2) Serial No. of the product. Equipment after 1188 can only use nozzle check as vision.

1-12-2-2) Modify Factory Setup (Fig 1-12-2--1)

Binary Pixel Count value setting => No. 90, No. 91 item 90)

NZ_EXIST_CHK_METHOD : Vision Use:1, Sensor Use:0 (Serial 1188 or earlier equipment only) setting.

91) NZ_VIS_USE_CHK_VALUE : Set to 30.

1-12-2-3) System Setup

In System Setup, the conditions for recognizing the existence of nozzles with a fly camera are set.

- Check Pos. Mirror

Set the angle (deg) of the mirror to check whether there is a nozzle or not.

When the FOV is 25mm, set the 4th scale below the central Y axis of the vision to coincide with the lower part of the outer lighting. (Fig 2-12-2-3)

When the FOV is 15mm, set the third scale under the central Y axis and the outer lighting to match (Fig 2-12-2-3)

1-12-2-5) Check Pos. Z

Set the height (mm) of the Z-axis to check the existence of a nozzle.

After removing the nozzle, set the position of the tip of the nozzle holder to match the position where the fourth position below the central axis of vision Y (in the case of FOV 25mm) and the lower part of the outer light meet.

Machine Translated by Google

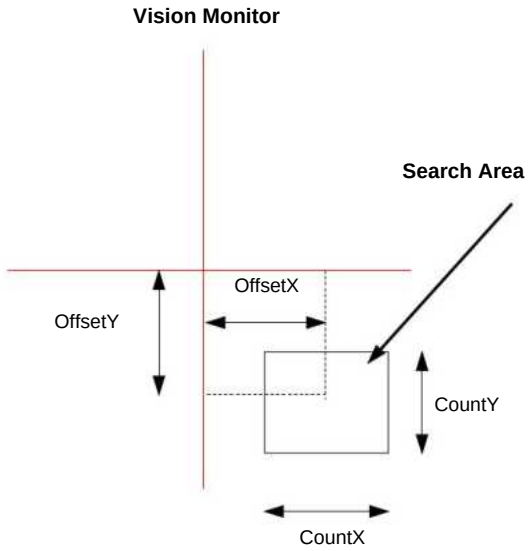


Fig.1-12-2-4 OffsetX, OffsetY, CountX, CountY

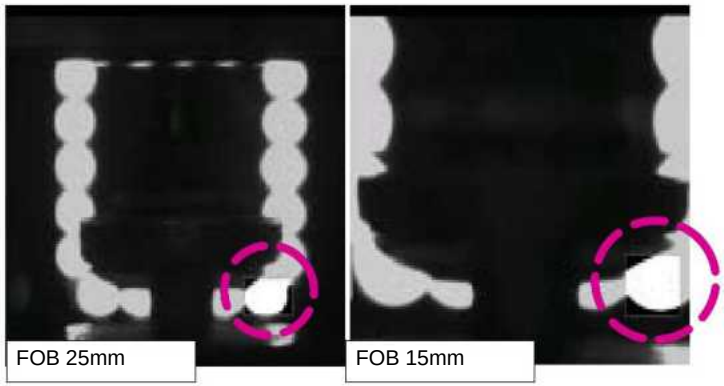


Fig.1-12-2-4 Light Check Area

1-12-2-6) Nozzle (OffsetX, OffsetY, CountX, CountY) Sets the check area (mm) to check whether or not there is a nozzle.

OffsetX, OffsetY are offset values from the center of the vision to the center of the check area.

CountX, CountY indicate the width and height values of the check area. (Fig 1-12-2-4)

1-12-2-7) Light (OffsetX, OffsetY, CountX, CountY) Sets the check area (mm) to check the existence of lighting. Set this area with the largest nozzle size. If the value of this area is more than 30%, it indicates that the lighting is ON, and if it is less than 30%, it is OFF.

(Fig 1-12-2-5)

1-12-2-8) Threshold

When calculating Binary Pixel Count, it has a standard value between 0 and 255 to distinguish white pixels and black pixels, and the **default value is 100.**

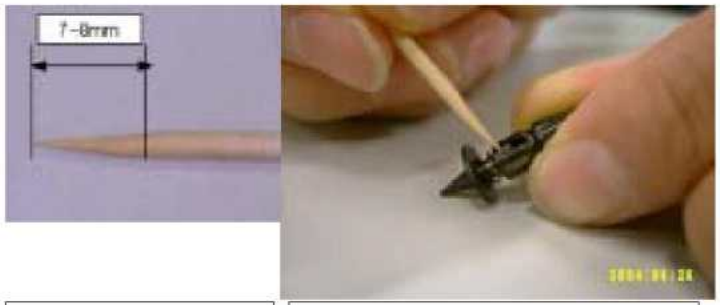
1-12-2-9) Outer, Inner

Set the lighting condition used for nozzle presence check and lighting presence check. The lighting used is mainly Outer lighting, and the **default** values are **Outer:3 and Inner:0 .**

1-12-2-10) Nozzle Exist Value

Standard value of Binary Pixel Count that checks the existence of nozzles and the presence of lighting.

Machine Translated by Google



Dip toothpick into Tri-Flow(Lification)	Apply Tri-Flow(Lification) to Nozzle or Nozzle holder

Fig.1-13-14 Nozzle/Nozzle holder Lubrication

1-13. **Nozzle** Inspection / **Nozzle Holder** Inspection

- Tools

  a) Tri-flow, toothpick

- Part

  Nozzle Holder Ass'y : J9055046A b) Common Nozzle Nolder => Ass'y:J9055209A

  => CP45F(V)NEOÿ

1) Nozzle Part Code and Material

CP45F(V)		CP45F(V)NEO		Diameter(mm)	
Name	**Code**	**Name**	**Code**	**Outer**	**Inner**
TN030	J7055180F	CN030	J9055133C	0.70	0.28
TN040	J7055246C	CN040	J9055134C	0.75	0.38
TN065	J7055267C	CN065	J9055136C	1.20	0.65
TN140	J7055131E	CN140	J9055159C	2.20	1.40
TN220	J7055132D	CN220	J9055139C	3.60	2.20
TN400	J7055133D	CN400N	J9055218A	6.20	4.00
TN750	J7055135D	CN750	J9055142B	9.00	7.50
TN1100	J7055137D	CN1100	J9055143C	12.70	11.00

2) Nozzle cleaning method

2-1) If a foreign substance is on the end face of the tip or the reflection plate, it causes a recognition error.

Clean using the Remove Spray. In particular, if it is stained with solder and cannot be removed with the Remove Spray, it can be cleaned by applying solder of the same quality.

2-2) The compliance part of the nozzle for CP45NEO or the nozzle holder for CP45

Fig. Lubricate and clean as in 1-13-1.

- Lubricate the Pin part with about 0.05ml of 'Tri-flow' (lubricating oil).

Machine Translated by Google

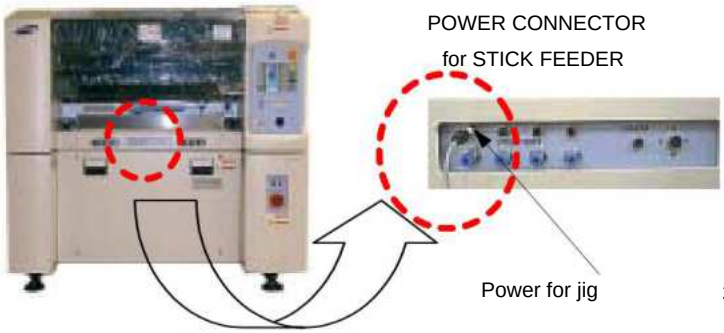


Fig.1-14-1 Power connector for jig

1-14. Blow set amount check

- Tools

  a) Blow Setting Jig

- Part

  a)

1) Blow Setting Specification: 0.13±0.02 Mpa 2) Setting Procedure

2-1) Connect the power connector of the jig to the connector for stick feeder on the front of the equipment. (Fig 1-14-1) Be sure to connect to the Power Connector for Stick Feeder (Cannot be used for Camera)

2-2) Check the initial state of the jig. (Fig 1-14-2)

- UNIT => Select 'M' (Mpa unit)
- Press the SET button and check if the initial state output value is '0'. - At this time, if the output value is not '0', adjust it to '0' by turning the 'SET' dial.

2-3) Separate the hose (outer diameter 4mm) connected to the valve for adjusting the blow on the air distributor module. (Fig 1-14-3)

2-4) Connect the separated hose to the output end of the jig, and connect the hose attached to the jig to the rear end of the blow control valve. Connect. (Fig 1-14-3) 2-5) Adjust the blow adjustment valve to be 0.13Mpa while checking the value output from the jig. 2-6) When the adjustment is completed, tighten the fixing nut of the blow adjustment valve to maintain the set value. 2-7) The Blow value set at the time of shipment of the equipment is the optimal value that is universally applied, or it can be changed according to the customer's situation. It can be used by adjusting the blow value.

Select **"M"** in UNIT

(Mega Pascal)

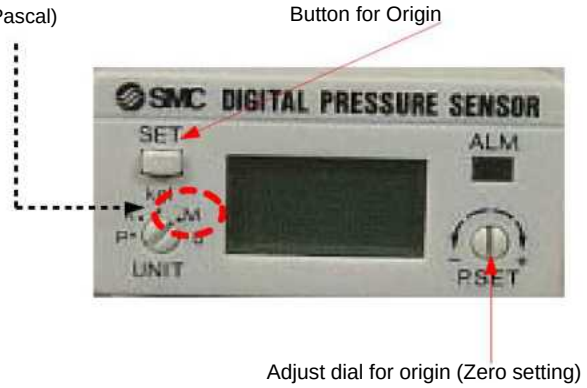


Fig.1-14-2 Initailizing for Jig

Machine Translated by Google

1. Head Module

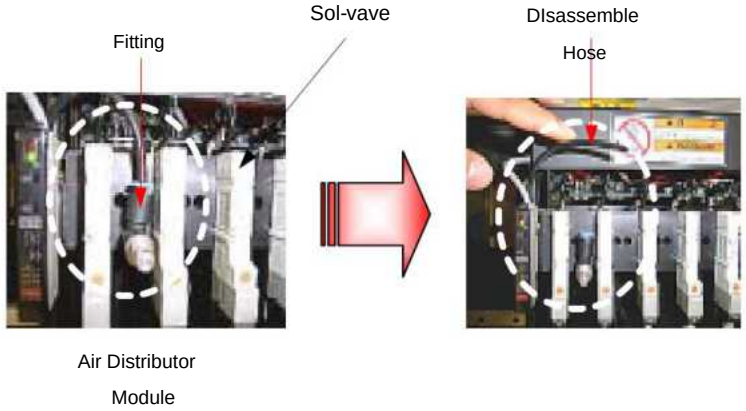




Fig.1-14-3 Blow Setting

Machine Translated by Google

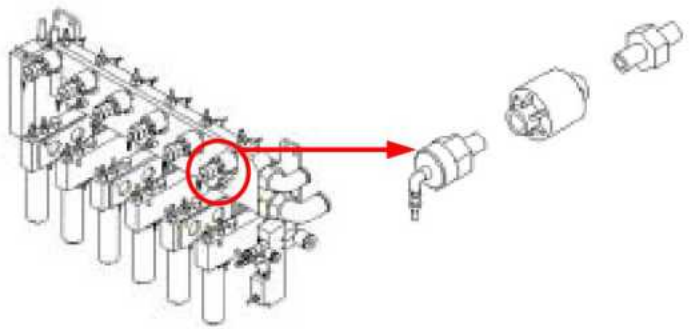


Fig.1-15-1 Vacuum Filter in Air Distributor

1-15. Vacuum level check

- Tools

  a)

- Part

  a)

1) Vacuum check procedure

1-1) Diagnosis => Measurement in Vacuum (F5)

1-2) After mounting the nozzle (CN040, TN040) on the nozzle holder, turn on the vacuum only for the head to be measured.

measurement

1-3) Specification : Over 600mmHg

2) Inspection procedure in case the vacuum level is insufficient as a whole 2-1) Mian

pneumatic pressure check: 4.5 ~5.5 kgf/cm^2 - Check the contamination of the air

filter (main) and replace it if necessary.

2-2) Separate and clean the

Vacuum pump -Filter (Vacuum Pump) and replace it if necessary. - In case of serious contamination

by foreign substances, replace the vacuum pump. In particular, be careful not to transmit excessive

force when connecting or disconnecting fittings (beware of damage).

3) Inspection procedure when the vacuul level is insufficient for each head

3-1) Separate the Solenoid Valve (Air distributor Module), clean it, and replace it if necessary.

3-2) Remove and clean the Filter (Air distributor Module) and replace it if necessary.

=> There are two types of filters, external and internal. For external filters, refer to the cleaning method in the manual.

Refer to the next page for how to clean the built-in filter.

Machine Translated by Google





Fig.1-15-3 Disassemble air distributor module

4) Air Disrtibutor Module Built-in Filter Replacement Procedure

4-1) Prepare tools. Flathead screwdriver, 2.5mm Wrench, 12mm Spanner, Pinsette 4-2) Unscrew the plug on the top of the module with a flathead screwdriver. (Fig 1-15-3)

4-3 Loosen a total of 4 bolts on both sides of the module using a 2.5mm wrench. (Fig 1-15-3) 4-4) Separate the hoses of the two fittings to facilitate the work. (Fig 1-15-4)

4-5) Carefully loosen the Filter Ass'y using a 12mm spanner. (Fig 1-15-4)

4-6) Loosen the filter assembly and carefully remove the lock nut, oil ring and filter using tweezers (Fig 1-15-5)
Separate from the module and perform maintenance work such as cleaning or replacement.

4-7) When assembling, proceed in the reverse order of disassembly. (Takes 10 minutes)
When assembling, face the convex part of the filter downward and insert it with tweezers.

4-8) Specification of Filter Element -.Material:
SUS304 -.Filtration: 43 microns: 0.05mm
(mesh: 508)
-.Pitch





Fig.1-15-4 Disassemble hose, Filter ass'y



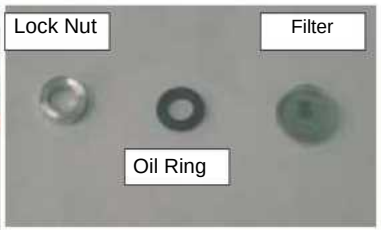


Fig.1-15-5 Disassemble Lock-Nut, Oil-Ring,Filter

Machine Translated by Google



Fig.1-16-1 Head offset calibration

1-16. Head Offset setting

˙ Tools

a) Calibration Tool (ANC Pocket #1ÿ Tool)

1) Prerequisite

- Calibration of Fix Camera must be completed.
- There should be no nozzle on the head, and the calibration tool should be in ANC pocket#1.
- Sys setup => Camera(F9) => No real motion in Tool (right menu) must be unchecked.

2) Head Offset of CP45FV or CP45FVNEO proceeds with the procedure below.

Sys setup => Camera(F9) => Calibration => head offset ÿÿ

Message	progress
First, we must put all nozzles from heads to ANC To put, Click[Next]	Head advances to Home, Z axis goes down => Check if all nozzles are removed Head1 goes down so that tool
Get tool from ANC to head1 To get it, Click[Next]	can be put on Head1 => Put Calibration Tool Maunal on Head1.
Move to center position of [Fix1] camera To move, Click[Next]	
Moving now, Please wait for a monent.	Head1 moved to Fix Camera.
Calibration ie prepared To calibrate, click [Next]	Calibration proceeds => After completion, the offset value (X, Y) of Head1 is
Put tool from head1 to ANC To put it, click[Next]	outputted. Head returns to Home and Head1 goes down => Picks up the calibration nozzle manually. Head2 goes down
Get tool from ANC to Head2 To get it, click[Next]	=> Calibration Tool goes to Maunal. Put.
...	Calibration proceeds from Head 2 to Head 6.
Head offset calibrastion is finished	Calibration is completed, and the previous value and current value of Head Offset are output.

Machine Translated by Google

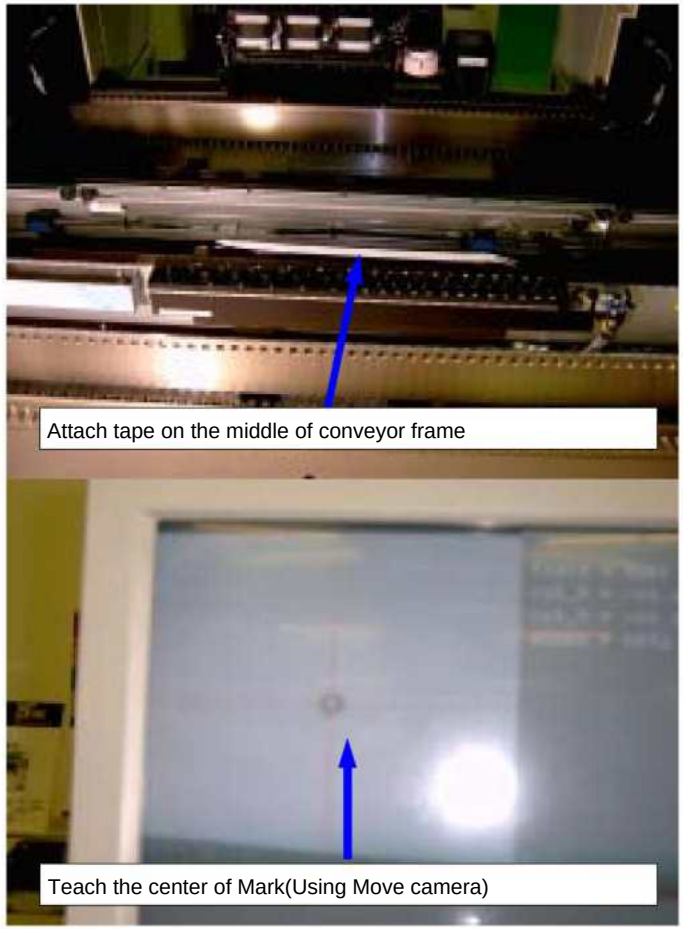


Fig.1-16-2 Head offset Calibration (without Fixed camera)

- After checking the output Old and New Data, click the Update button to update.
- Head offset Specification is as follows.

Item	Specification	Remark
X	30* (Head N) ± 0.079mm Head N = 1,2,3,4,5,6	
Y	±0.079mm	

If the head offset exceeds the standard, the assembly state of the head must be rechecked.

3) CP45F or CP45FNEO head offset setting procedure

3-1) If a Fixed Camera is available, install it and proceed as in 2) above.

3-2) If Upward Vision of CP40 can be obtained, install it and proceed as in 2) above. 3-3) If there is no Fixed Camera or Upward Vision as above (Fig 1-16-2)

- Install a nozzle (TN040 or CN040) with a minimum diameter on the head.
- Attach the tape to the center of the top of the conveyor frame (Teflon tape is suitable) - Position Head 1 at the left end and mark the location of Head 1 on the tape by using the Teaching Box to down the Z-axis.
- Mark the positions from Head2 to Head6 in the same way.
- Find the center of the location Marked by Head1 using the Move camera and locate this location. Set as Placement Origin (PBC edit=>Board Definition=>Placement Origin).
- Get the positions of head1~Head6 in the step program and calculate the offset value. It should be noted that the position of the X axis can be expressed as '+' or '-' according to the coordinate. ' If it is
  - expressed in the direction, it must be converted to + and entered. (Y axis is not necessary)

Machine Translated by Google

1-17. Set **Move Camera Offset**

- Tools

  a) Move Camera Calibration Tool

1) Move Camera Offset of CP45FV or CP45FVNEO proceeds as follows.

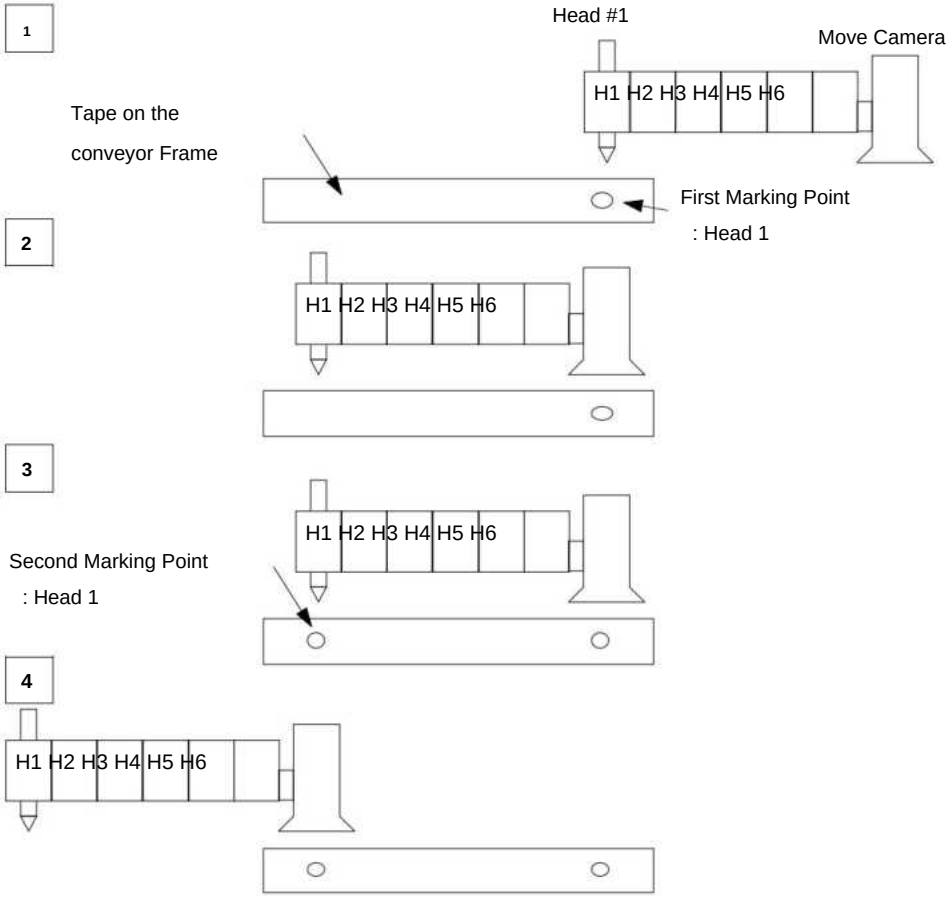
Sys. setup => Camera(F9) => Move com. Select offset.

Message	Contents of
Put a tool sheet on Upward(Fix) Camera1 and adjust tool center **If finish, Click[Next]**	progress Cover the calibration plate on the upper surface of the fixed camera and match the center of the camera and the center of the jig. Align the center of the fix camera and the jig center using the target camera.
Move to center position of [Fix1] camera **To move, Click[Next]**	Move Camera using the Teaching Box Move to Fixed Camera.
Moving now **Please wait for a moment**	
First select move camera and adjust light camera alternately, check if the hole on the screen is black **2. After then,** **3. To calibrate, Click[Next]** right to adjust the lighting. When calibration is completed, the result	Move the target camera to the fixed camera **1. select Fix camera and adjust light level**
Calibration now **Please wait a moment**	window is displayed. reflect the results.

Machine Translated by Google

2) CP45F or CP45FNEO Move Camera Offset setting procedure 2-1) If a fixed camera is available, install it and proceed as 1) above.

2-2) If Upward Vision of CP40 is available, install it and proceed as in 1) above. 2-3) If there is no Fixed Camera or Upward Vision as above



2-3-1) -Install a Nozzle (TN040 or CN040) with a minimum diameter on Head 1.

-Attach the tape to the center of the top of the conveyor frame.
(300mm, Teflon Tape is suitable)

-Set the position of Head1 in the center of the tape and mark the position of Head1 on the tape by down the Z-axis using the Teaching Box.

2-3-2) - Read the center of this marked position with Move Camera - Designate this position as Placement Origin and save it in Step Program.

2-3-3) - In this state, mark the location of Head1 once again without moving the location.

2-3-3-)-Move Camera and move the center of the second Marking position.
Save to Step Program.

-The distance between these two positions becomes the Offset of the Move Camera. -It should be noted that the position of the X axis can be expressed as '+' or '-' depending on the coordinate. ' It must be converted and entered. (Y-axis is not required)

=> Enter the calculated value in Sys.setup => Offset (F4) => Other Device (Camera#1).

Machine Translated by Google

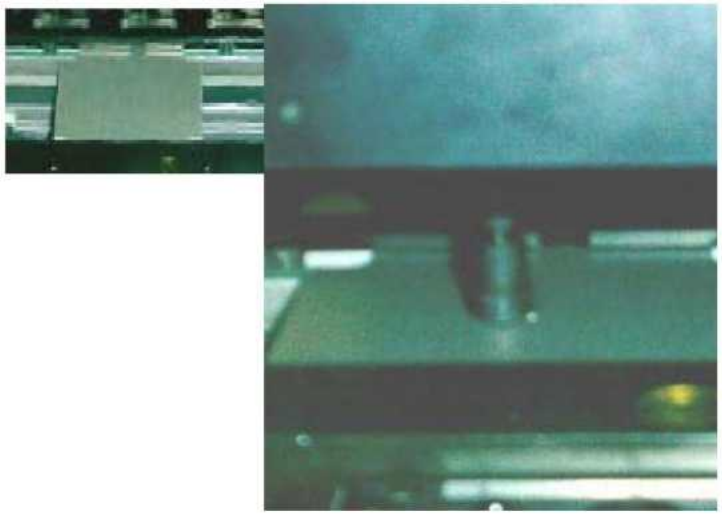
1-18. Z axis **height** check

- Tools

  a) Calibration Plate

- Part

  a)

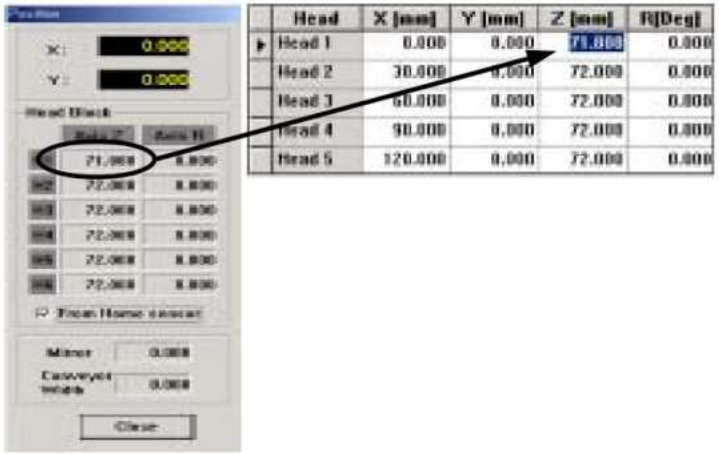


1) Return the nozzle of each head to the ANC pocket. -If the nozzle is detached from the head manually (by hand), misjudgment may occur in the MMI, so use the ANC menu to put it back

2) Adjust the conveyor according to the Vision Calibration Plate, and load the plate to the mounting position. 3) Using the teach box, as shown in the picture, make the Z1 axis reach the upper surface of the plate.

-Use the minimum speed using the teach box and set it to reach the straight plate exactly.

4) Open View - current position in MMI. 5) Select From Home sensor as shown in the picture. 6) At this time, just input the displayed value to Offset. 7) Complete Head 1 to Head 6 in the same way.



Head	X [mm]	Y [mm]	Z [mm]	R[Deg]
Head 1	0.000	0.000	71.000	0.000
Head 2	30.000	0.000	72.000	0.000
Head 3	60.000	0.000	72.000	0.000
Head 4	90.000	0.000	72.000	0.000
Head 5	120.000	0.000	72.000	0.000

Machine Translated by Google

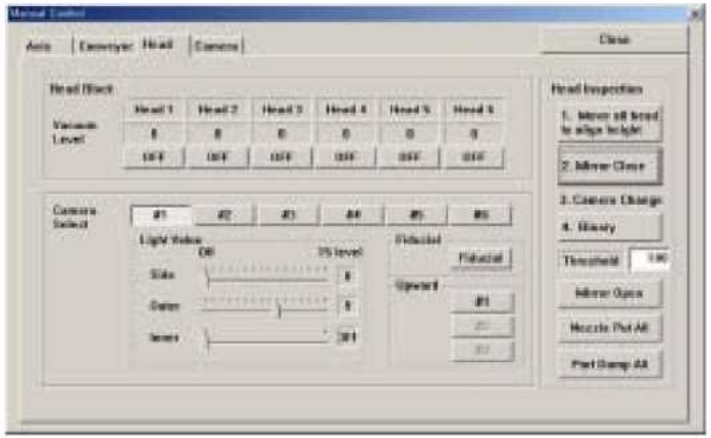


Fig 1-19-1 Manual Tool window

1-19. Swing Mirror Limit & Home Offset ÿÿ

- Tools

  a) Calibration Plate

- Part

  a)

It is used when aligning the home position of the swing mirror.

1) Mount the Calibration Tool (ANC #1 Pocket) on Head1.

1) Manually close the mirror position (recognition position).

Select Head from View - Manual Tool (Refer to Fig1-19-1) Select '1.Move all Head to align Height' here (move the Z-axis to a stable position), then select '2. Select 'Mirror Close' to move the mirror to the recognition position.

2) While observing the Vision monitor, use the Teaching Box to ensure that the image on the monitor is correct (camera and Adjust the swing axis at a low speed so that the angle between the calibration tools is 90'). 3) Check the position of the mirror where the image on the monitor comes out accurately from the 'current position (Fig1-19-2). => If this value exceeds + - 3 degree, input it into Swing Mirror Motor Home offset (Fig 1-19-3) to compensate. (Enter the sign of the compensation value with '-' to the value checked in the current position)

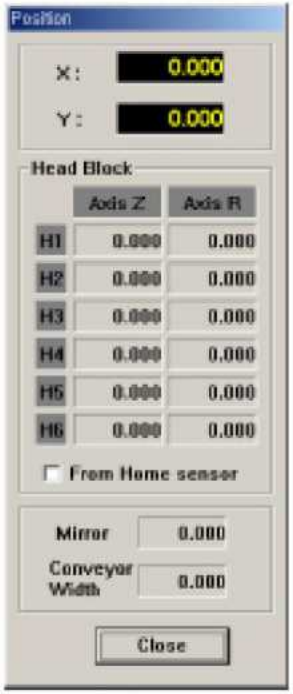


Fig 1-19-2 current positionl window

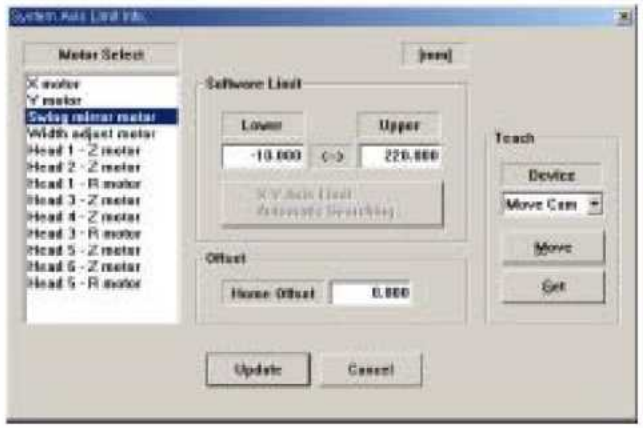


Fig 1-19-3 Swing Mirror Motor Home offset window

(Sys.setup => Limit =>
Select Swing mirror motor => Enter
offset item)

Machine Translated by Google

2. Conveyor Part

	When adjusting the width, there is no difference between the maximum width of the indicated value and the measured value (400mm). being		Noise occurs when width is adjusted	Noise during operation	Conveyor Time Out Error	mounting stopper operation (place	pcb jammed in conveyor Conveyor)
Incorrect Conveyor width origin setting	1	2					
Conveyor width motor driver(amp) defective	2						
Axis(H1) Board Defective Rear	3						
Wiring Part Mechanical Interference		1					
Inappropriate Width Home sensor location		3					
Lack of Width Lead Screw Grease and presence of foreign substances			1				
Bad chain assembly			2				
Belt tension is incorrectly set				1			
If the pcb is jammed in the C/V					1		
When a Software Upgrade is Required					2		
Poor sensor setting position		.				1	
Poor sensor sensitivity adjustment						3	
Defective Conveyor Step Motor Driver							2
Driver power cable contact failure							1
Factory setting value input error (after upgrade)							3
Defective drive motor							4
Defective Conveyor Pack Board							
Defective up/down detection sensor Defective							
cylinder operation							
Sol valve malfunction							
Abnormal stopper operation due to defective conveyor speed, defective sensor							
Conveyor I/F board defective							
CONVEYOR CLAMPING becomes excessive							
The installation stopper was raised, but it was installed Stopper's up detection Sensor detection position bad							

Machine Translated by Google

	Conveyor not working (Input/Output)	Abnormal Stopper Operation	pcb is not detected. When entering the PCB, the speed takes c/v during equipment operation. key of the equipment is synchronized without deceleration. Collision with STOPPER Not working	When using the Edge Fixer, any PCB warpage	Device not working with PCB IN
Incorrect Conveyor width origin setting					
Conveyor width motor driver(amp) defective					
Axis(H1) Board Defective Rear					
Wiring Part Mechanical Interference					
Inappropriate Width Home sensor location					
Lack of Width Lead Screw Grease and presence of foreign substances					
Bad chain assembly					
Belt tension is incorrectly set					
If the pcb is jammed in the C/V					
When a Software Upgrade is Required			1		
Poor sensor setting position			3		
Poor sensor sensitivity adjustment			1		
Defective Conveyor Step Motor Driver			2		
Driver power cable contact failure					
Factory setting value input error (After upgrade)					
Defective drive motor	2				
Defective Conveyor Pack Board	1				
Defective up/down detection sensor Defective		1			3
cylinder operation		2			1
Sol valve malfunction		3			
Abnormal stopper operation due to defective conveyor speed, defective sensor		4			
			2		
Conveyor I/F board defective				1	
Excessive CONVEYOR CLAMPING Mounted stopper was raised, but the up detection sensor of				1	
the mounted stopper detected a defective position					2

Machine Translated by Google

2. Conveyor Part

Trouble Shooting Guide No. Problem When adjusting the width, there is a difference between the indicated

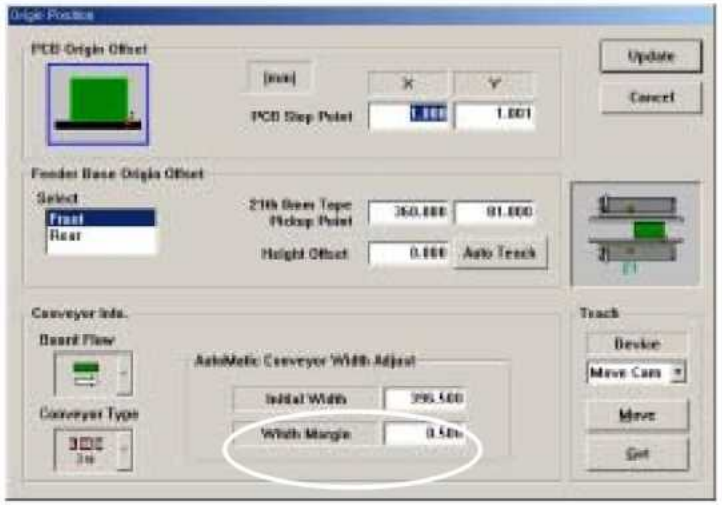
		possible cause	Action
1	value and the measured value.	Incorrect Conveyor width origin setting	Conveyor width origin re-setting. Replacement
		Conveyor width motor driver(amp) defective	Replacement Rear Feeder Part Cable Part Rework
		Axis(H1) Board Defective Rear	
2	No maximum width (400mm)	Wiring Part Mechanical Interference	
		Incorrect Conveyor width origin setting	Conveyor width origin ÿ setting
		Home sensor location inappropriate	Re-locating the Home Sensor Setting Grease
3	Noise generation (when adjusting the width)	Lack of Width Screw Grease and presence of foreign substances	oil supply and foreign matter removal Chain
		Bad chain assembly	re-assembly/ Oil supply adjustment (compared
4	Noise generation (during operation)	Belt tension is incorrectly set	to the belt tension in the quiet part)
5	Conveyor Time Out Error	If the pcb is jammed in the C/V	After removing the PCB in C/V, re-downloading the PCB File. Mmi
		When a Software Upgrade is Required	2.470 SP2 Install(vme 3.370->3.373) Constant -> System Constant -> No. 21 OPT Door Open -> Changed from 34 to 17
6	pcb stuck in mounting stopper	Poor sensor setting position at stopper Reset sensor position on c/v	
		Poor Work-out Sensor Setting Position Poor Sensitivity	Work-Sensor position adjustment or non-use replacement and
		of Mounted Sensor	sensitivity adjustment exchange connection confirmation
7	Conveyor not working (Place Conveyor)	Defective Conveyor Step Motor Driver	
		Driver power cable contact failure	
		Factory setting value input error (after upgrade)	Modify and recheck parameters related to C/V speed in Factory Setting Replace Replace Replace
		Motor bad	
8	Conveyor not working (Input/Output)	Defective Conveyor Pack Board	
		Motor bad	
9	Abnormal Stopper Operation	Defective Up/Down detection sensor	Check or replace poor cable contact
		cylinder malfunction	replacement
		Sol valve malfunction	replacement
		Abnormal stopper operation due to defective conveyor speed Use PCB Transfer Speed Middle -> Slow	
10	pcb not detected	Sensor defect/sensitivity adjustment defect	Replace sensitivity
		sensor defect	adjustment

Machine Translated by Google

Trouble Shooting Guide No.

Problem 11 When entering the PCB from the	possible cause	action
Place Conveyor, the speed does not decelerate and crashes into the stopper	S/W Bug	1. S/W UP-GRADE (MMI:2.450 SP1, VME:3.190) replacement Place
	Defective C/V Step Driver	detection sensor location setting replacement
	Place detection Sensor location setting error	
12 When c/v is caught during equipment operation, none of the keys in the equipment work (?)	Conveyor I/F board defective	
13 PCB warpage occurs when Edge Fixer is used	CONVEYOR CLAMPING becomes excessive	Action is to adjust CON'V CLAMP height and adjust CLAMP pressure to weak Replace
14 Device not working in PCB IN state	Cannot go up due to defective	
	cylinder. Mounting stopper was raised, but mounting stopper	
	Defective Up/Down detection sensor	substitute

Machine Translated by Google



1) Input the measured width(mm)

2) Input the Width Margin(normally 0.5)

Fig.2-1 Initial Width & Width margin

2-1. How to set **conveyor width origin**

- Tools

  a) Steel Rule(500mm)

- Part

  a)

1) Run the Conveyor Home with the button of the Teaching Box. (The Conveyor opens to its maximum width.) 2) Measure the distance inside the Conveyor using the letters (unit is mm, and measure up to 0.1 units).

3) Select Origin (F6) of MMI's Sys.SETUP

- Conveyor Info. => Automatic Conveyor Width Adjudt => Enter the measured value in Initial Width - Enter 0.5 (mm) as default for Width Margin. 4) Confirmation: Select Board (F2) of PCB Edit in MMI

- Enter a random value in the Y value of Board Size, adjust the width (Conv. width), and then measure the width.

  => If the measurement result is within the margin value of the entered value, the setting is completed. (Basically ±0.5mm)

5) Precautions - Margin uses the default value, but the user can modify it as needed.

However, it must be used within 1 mm.

Machine Translated by Google

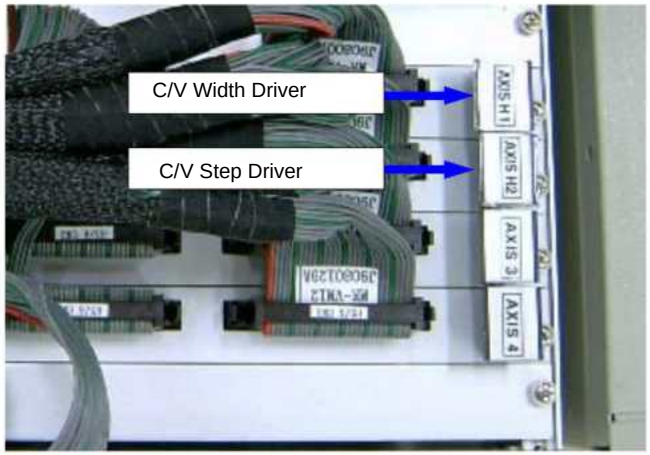


Fig.2-2 Axis Board for Conveyor Motor

(Width,Step Driver)

2-2. **Axis board** replacement

- Tools

  a) + Driver

- Part

  a) J9060162A : VME AXIS(4) BOARD ASS'Y(SMD)

1) Classification of label name and material code of Axis Board attached to RACK

Label	Parts Code	Driver to control	Remark
AXIS H1	J9060162A	X, Y, Swing,C/V **Width**	4 Axis
AXIS H2		Z1, Z2, R1/2, **C/V Step Driver**	
AXIS 3	J9060161A	Z3, Z4, R3/4	3 Axis
AXIS 4		Z5, Z6, R5/6	

2) In case of replacing the Axis Board due to a problem with C/V width control, replace the AXIS H1,

In case of replacing the Axis Board due to a problem with the C/V drive (Placement C/V), replace the AXIS H2.

- **Adjustments after this work**

  -None

Machine Translated by Google

2-3. How to adjust the **sensor setting** position and sensitivity **on the conveyor**

- Tools

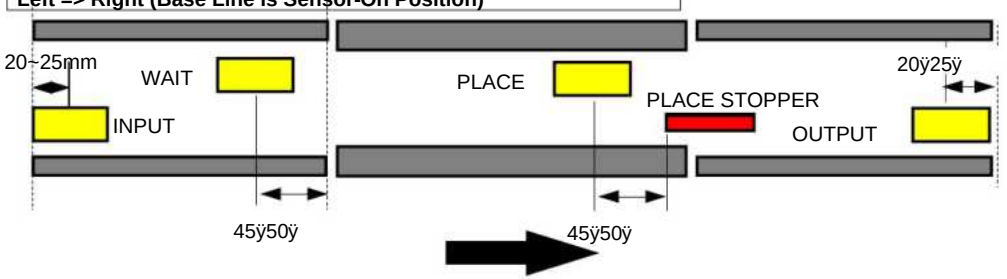
  a)

- Part

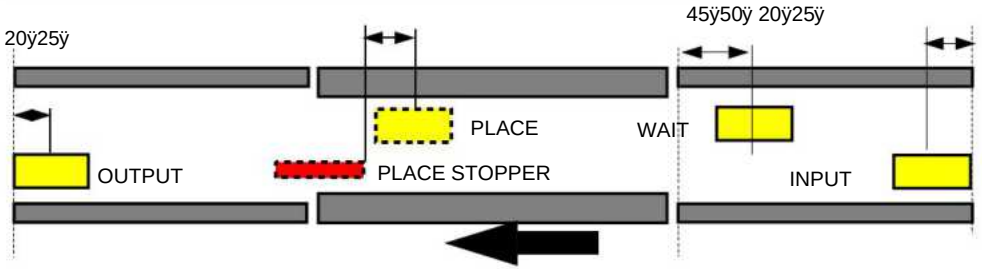
  a)

1) Sensor setting position of the conveyor based on the front

Left => Right (Base Line is Sensor-On Position)

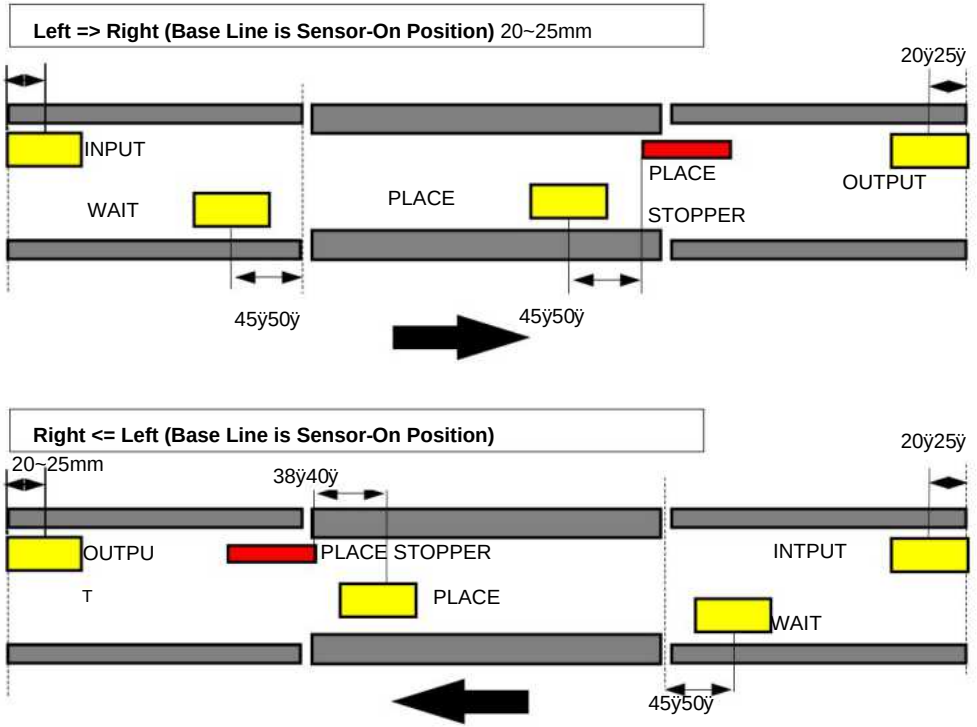


Left <= Right (Base Line is Sensor-On position) 38ÿ40ÿ



Machine Translated by Google

2) Sensor setting position of the conveyor based on the back side



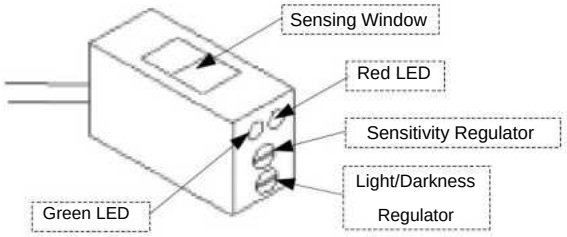


Fig.2-3 Adjust Sensitibity of sensor

(3) Adjust the sensitivity of the sensor as follows (however, in case of a sensitivity-adjustable sensor)

-The light/darkness adjustment screw must be placed in the light direction.

-Nothing should light up when there is no PCB.

-In the presence of the PCB, turn the sensitivity adjusting screw clockwise slowly and adjust so that the green LED and red LED are turned on together.

- Be careful that HEAD ASS'Y may be detected if the sensitivity adjustment screw is turned clockwise too much.

Machine Translated by Google

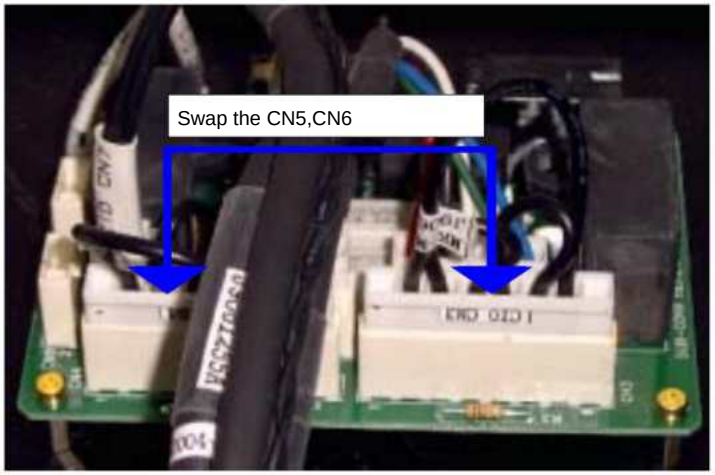


Fig.2-4-1-1 Swap the connector of Conveyor Pack Board (CN5,CN6)

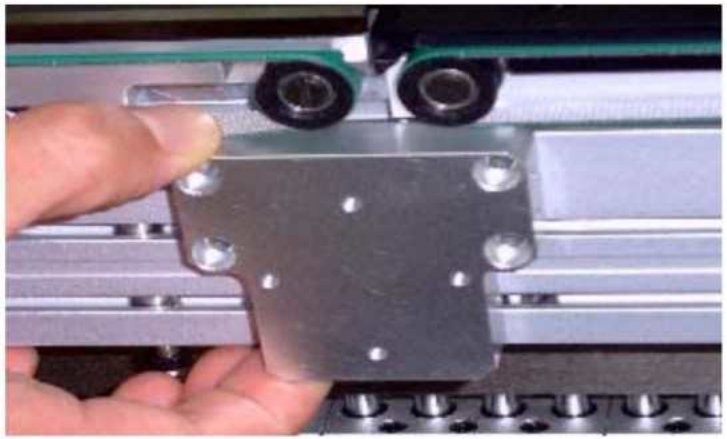


Fig.2-4-1-2 Cylinder Bracket for stopper cylinder

2-4. Conveyor direction change procedure

- Tool

  a) + Driver (large, small)

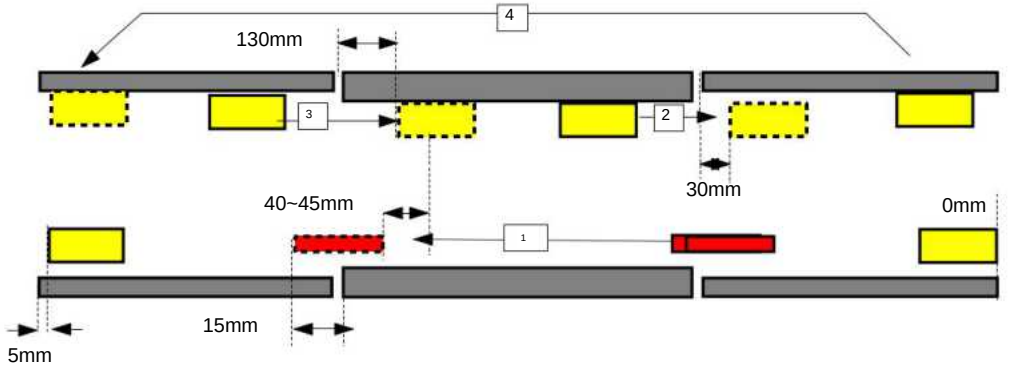
- Part

  a) CYL.Bracket (J7153017A) 1EA, b) Rail-Sensor9J7153116A) 1EA c) Cable(J9075549A) 1EA d) Wrench Bolt M4x20L -4EA, M2.5x5L -2EA e) Air tube(dia.4mm)1700mm x 2EA

2-4-1. Procedure to change the left => right conveyor to right => left 1) Exchange CN5 and CN6 of the conveyor pack board. (Refer to Fig 2-4-1-1)

: CN5 => CN6, CN6=> CN5

2) Change the location of the conveyor sensor (based on the front side)



1 : Place stopper location change => When fixing after change, use CYL Bracket to fix. (Refer to Fig 3-4-1-2)

2 : Change Place Sensor to Wait Sensor position.

3 : Change the Wait Sensor to the Place Sensor position.

4 : Change the location of the Safety Sensor => Attach the sensor to the exclusive Rail-Sensor.

Machine Translated by Google

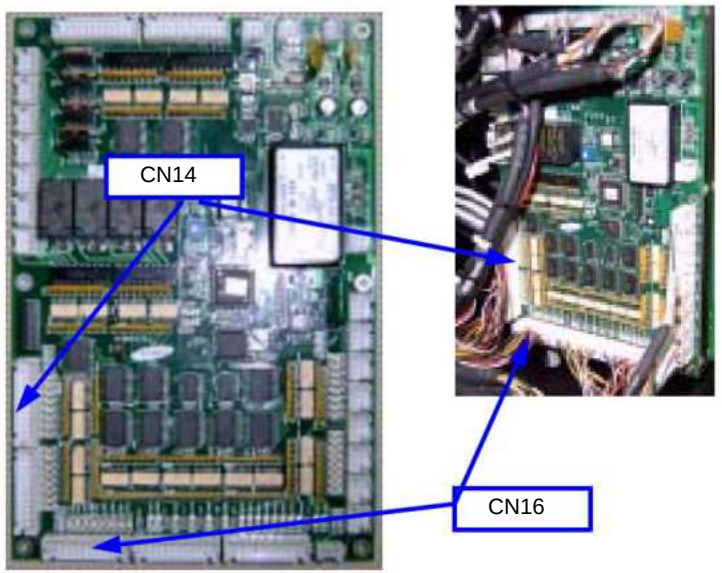


Fig.2-4-1-3 CN14,CN16Connector Location

=> ÿÿÿ Input Sensor - Wait Sensor - Place Sensor - Output Sensor ÿÿÿ Output Sensor - Place Sensor - Wait Sensor - Input Sensor

3) Change Connector on Conveyor Interface Board

- Change using cable
- If there is no cable, change the pin arrangement of the existing connector.

Before change	after change	note
CN14-1 1,3,5	CN16-1 1,3,5	Output Sensor
CN16-1 1,3,5	CN14-1 1,3,5	Input Sensor
CN14-2 2,4,6	CN14-5 12,15,17 Place Sensor	
CN14-5 13,15,17 CN14-2 2,4,6		Wait Sensor

4) When the Hole Fixer option is applied, change the direction of the Hole Fixer on I/O

- Korean MMI => In C:\mark3\hindef2.dat file

  Change 'Hole Fix #1 (Right)' to 'Hole Fixer #2 (Left)' Change

  'Hol Fix #2 (Left)' to 'Hole Fixer #1 (Right)'

- English MMI => In C:\mark3\eindef2.dat file

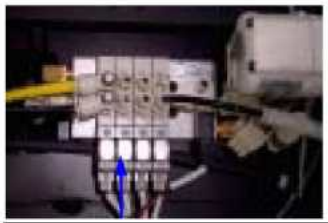
  Change 'HOLE FIXER#1(RIGHT)' to 'HOLE FIXER#1(LEFT)'

  Change 'HOLE FIXER#2(LEFT)' to 'HOLE FIXER#2(RIGHT)'

5) Change the air hose.

- As the position of the cylinder for the stopper has been changed, the existing air hose has been removed and

  Change to a new Air Hose (1700mm). (Refer to Fig 2-4-1-4)



Solenoid Valve for stopper cylinder

Fig.2-4-1-4 Solar valve for Stopper Cylinder

Machine Translated by Google

3. X-Y(Frame) Part [illegible]

Defective content / check list	Home No XY Limit Detection Noise Generation Motor Alarm Generation X-Cableveyor Collision					
Home Sensor location/operation inspection	1	1				
L/M Guide parallelism check and reassembly						
Inspection and replacement of Motor Driver (exchanging with other equipment for inspection)			3	1		
Ball Screw Replacement			2			
Gain adjustment in Motor Driver (only the specified gain is checked)			1			
Cableveyor Replacement					2	
Cableveyor Bracket Inspection/Replacement					1	

Machine Translated by Google

3-1. Motor Driver Inspection and Replacement

- Tools

a)

* Part

Refer to the table below for the motor driver material number.

Axis	CP45F(V)						CP45F(V)NEO	
	PY Type(Sanyo)				Q Type (Sanyo)		P Type (Panasonic)	
	THIS		NUNCIO					
	Motor	Driver	Motor	Driver	Motor	Driver	Motor	Driver
x	J9061225B J3153012A J9061931B J3153026A J9075955A J3153044A J9080103A J3153034A							
Y	J3108012A J1301684 J3108022A J3153025A J3108049A J3153045A J3108040A J3153052A							
Z1	J9061962A	J3153014A	J9061968A	J3153024A	J9061962A	J3153043A	J9080110A	J3153032A
Z2					J9061963A		J9080111C	
Z3					J9061964A		J9080112A	
Z4					J9061965A		J9080115A	
Z5					J9061966A		J9080116A	
Z6					J9061967A		J9080117B	
Swing J9061238D			J9061934C		J9075961A	J3153043A	J9080120B	J3153033A
C/V Width J9061238D			J9061935C		J9075963B		J9080123A	
Theta J3104008A J3152008A J3104012A J3152008A J3104012A J3152008A J3104012A J3152008A								

1) Refer to Pt. 1-11 for basic replacement procedure.

2) When noise occurs during X-axis drive, 'IBF1' among the parameters inside the driver can be adjusted. However, according to the instructions of Samsung Techwin should proceed accordingly. (The following is limited to Tsubaki Ball Screw applied equipment)

- Check if IBF1 is set to 270. (Default value)
- While changing IBF1 from 200 to 1000, move the X-axis to check for noise.

Machine Translated by Google

3-2. Motor Driver Driver Parameter Identification Method

- Tools

a)

- Part

a)

1) Parameters distributed through SGSS must be used.

The way to distinguish the parameter file is as follows.

No.	Axis	Index	Ball Screw Index	CP45F(V)	CP45NEO	C45NEO Large PCB
1	X		KURODA 45_X_K.APO 45N_X.PRM	TSUBAKI 45_X_T.APO		45N_X.PRM
2			KURODA 45_Y_K.APO 45N_Y.PRM	TSUBAKI 45_Y_T.APO		
3	Y		H1,H3,H5 H2,H4,H6			45N_Y_L.PRM
4						
5	FROM			45_Z.APO	45N_Z135.PRM	45N_Z135.PRM 45N_Z246.PRM
6					45N_Z246.PRM	45N_S.PRM 45N_S.PRM
7	Swing			45_S.APO		
8	Width			45_W.APO	45n_W.PRM	45n_W.PRM

Machine Translated by Google

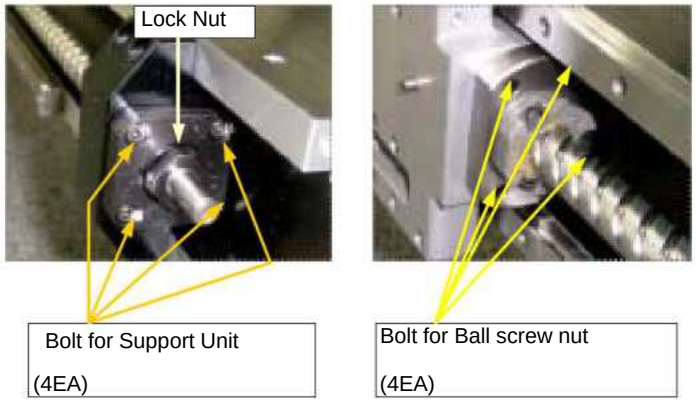


Fig.3-3-1 Disassemble the bolt for Support unit & Nut(Ball screw).

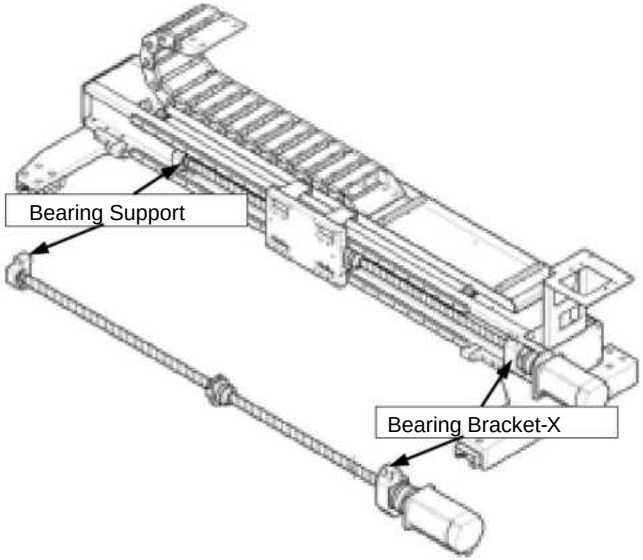


Fig.3-3-2 Note : Don't disassemble Bearing Support and Bearing Bracket-X

3-3. X Ball Screw Replacement Procedure

- Tools

  a) hex wrench set. Height gage and indicator.

- Part

  a)Ball Screw (J6606014A),Bearing support (J7154090B), Bearing Bracket-X(J7154089B) Support Unit(J6601086A),Coupling(J6012010A)

1) Separate the cover. (Cover on the right side of the equipment)
2) Separate the X-axis motor and coupling.
3) Separate the Lock Nut and Support Unit. (Refer to Fig 3-3-1)
4) Separate the NUT of the Ball Screw from the Head Base.
5) Remove the ball screw (separate in the direction the motor is assembled) 6) Assemble the bearing on the new ball screw and fix it with a ring. 7) Assemble the ball screw in the reverse order of disassembly.
8) Place the Head Base in the center of the X-axis and fix it with the Ball Screw Nut.
   At this time, make sure that the distance between the top of the X-axis L/M and the ball screw nut is 39.5±0.02mm (based on the KURODA Ball Screw).
9) Assemble the Support Unit and Lock Nut.
10) Assemble coupling and X-axis motor. *)

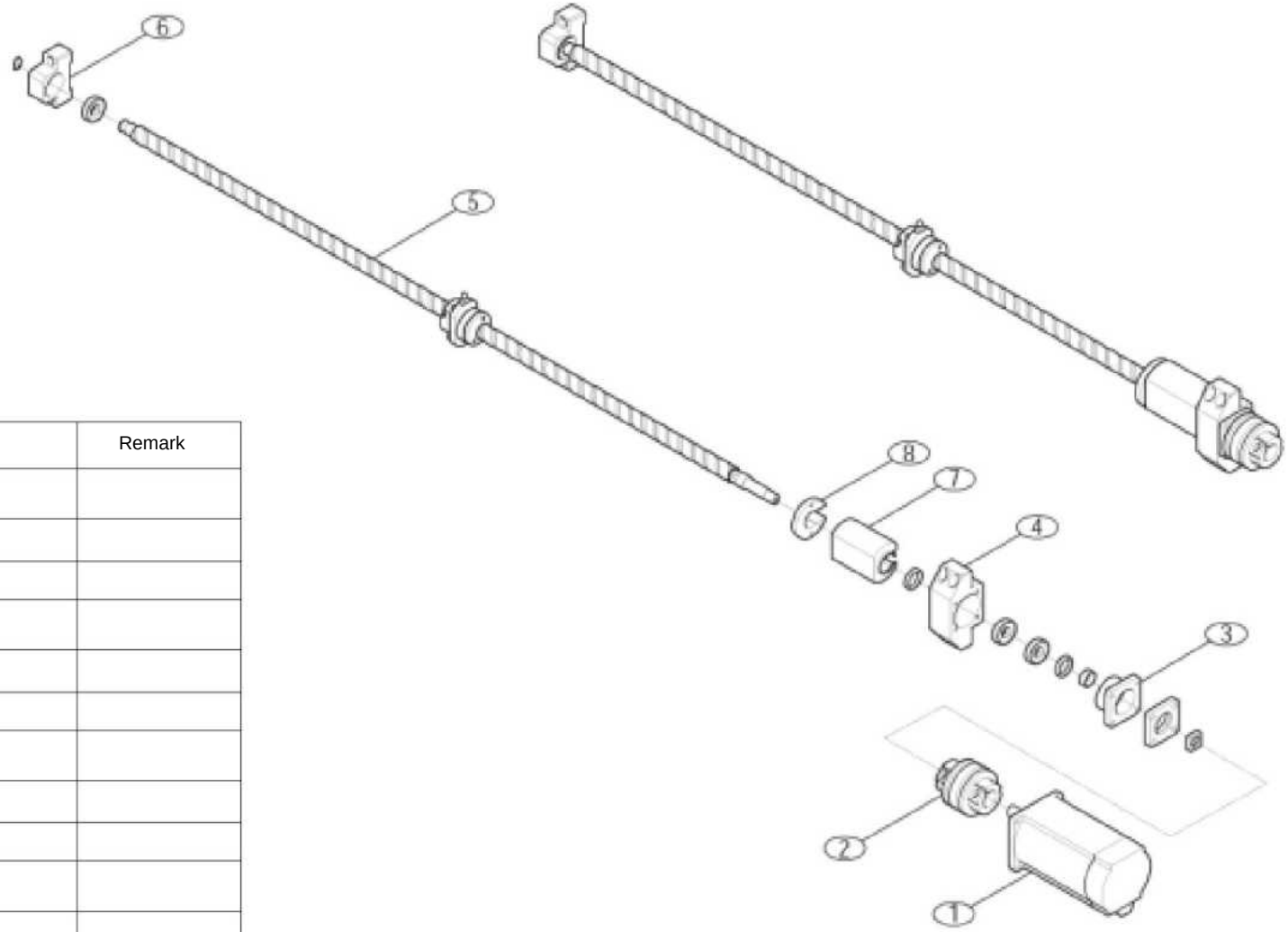
Caution: Do not separate the Bearing Support and Bearing Bracket-X assembled on the X-axis frame. To maintain assembly precision between parts when assembling in a factory.

* **Adjustments after this work** - PCB origin offset, - Feeder Base Origin Offset, - ANC fiducial position and Hole position.
- Tray Feeder Origin

Machine Translated by Google

3. X-Y(Frame) Part

To see.	Date CP45 CP45NEO 00 2004/11		
O			THE



No.	Code	Description	Remark
1	J9705955A Motor-X (Q)		
	J9080103A Motor-X (P)		
	J9061931B Motor-X (PY-NON CE)		
	J9061225B Motor-X (PY-CE)		
2	J6612010A Cpuling-X		
3	J6601086A Support Unit (FK12)		
4	J7154089B Bearing Bracket-X		
5	J6606014A Ball Screw (KURODA)		
6	J7154090B Bearing Support -X		
	J1300509 Bearing (6000ZZ)		
		C-Ring (dia 10)	
7	J7154123B Bracket Chusion-X		
8	J7254007C Chshion		

Machine Translated by Google

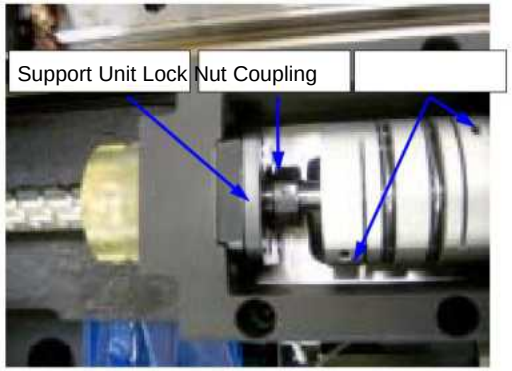


Fig.3-4-1

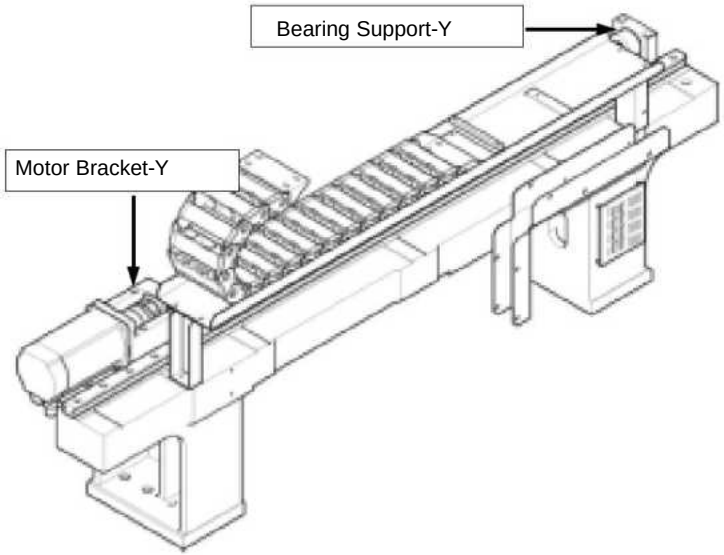


Fig.3-4-2 Note : Don't disassenble Motor Bracket-Y,

Bearing Support-Y

3-4. Y Ball Screw Replacement Procedure

- Tools

  a) hex wrench set.

- Part

  a)

1) Separate the cover (separate the upper surface and the front OP panel)
2) Separate the Y-axis motor and coupling.
3) Separate the Lock Nut and Support Unit. (Refer to Fig 3-4-1)
4) Separate the nut of the ball screw from .
5) Remove the ball screw (separate in the direction the motor is assembled) 6) Assemble the bearing on the new ball screw and fix it with a ring. 7) Assemble the ball screw in the reverse order of disassembly.
8) Fix the nut of the LM plate and the ball screw.
9) Assemble the Support Unit and Lock Nut.
10) Assemble coupling and X-axis motor. *)

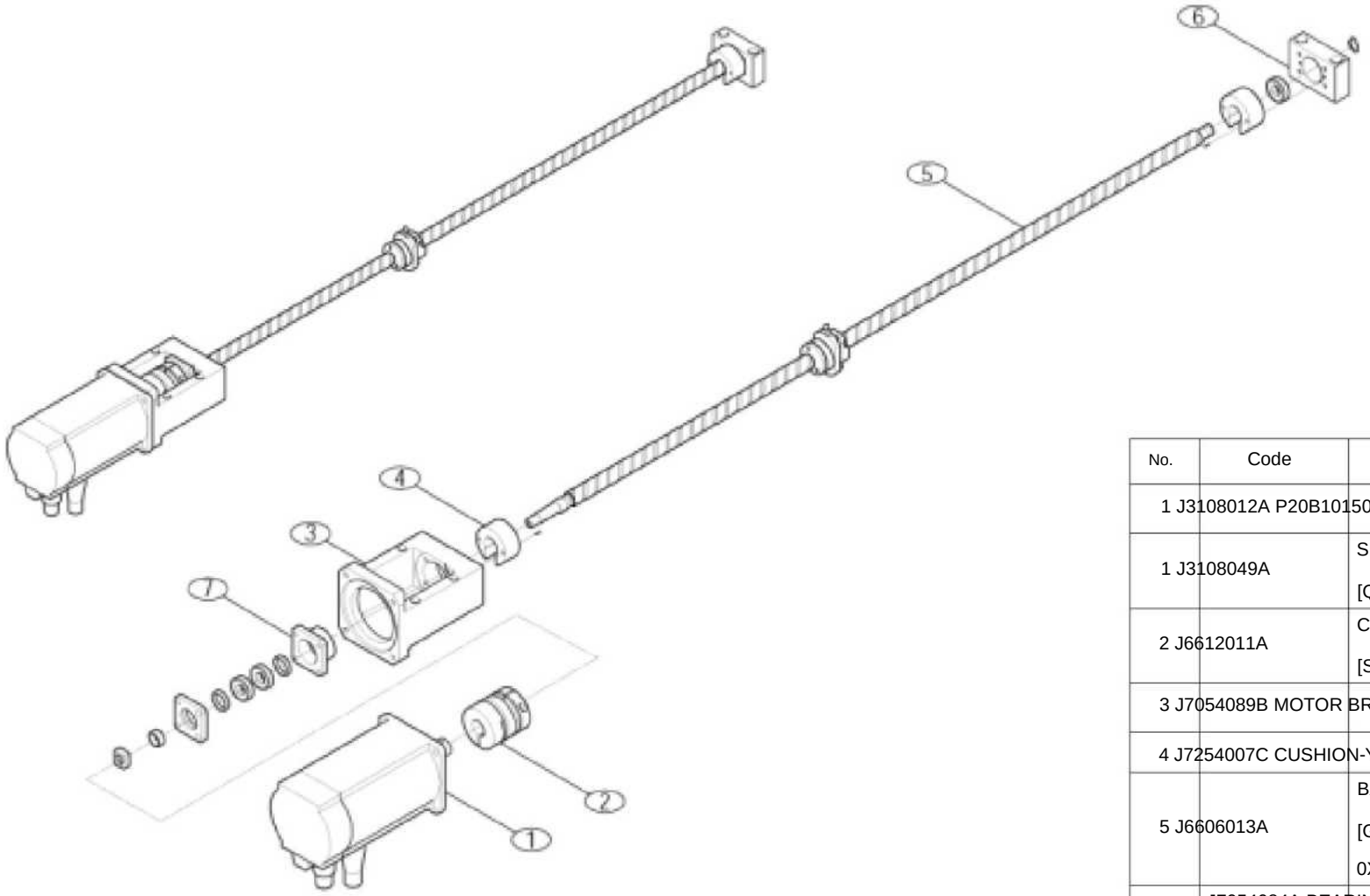
Caution: Do not separate Bearing Support-Y and Bearing Bracket-Y assembled on the Y-axis frame.
To maintain assembly precision between parts when assembling in a factory. (Refer to Fig 3-4-2)

- **Adjustments after this work** - PCB origin offset - Feeder Base Origin Offset - ANC fiducial position and Hole position.
- Tray Feeder Origin

Machine Translated by Google

3. X-Y(Frame) Part

To see.	Date CP45 CP45NEO 00 2004/11		
O			THE



No.	Code	Description	Remark
1	J3108012A	P20B10150HXS0E	PY
1	J3108049A	SERVO MOTOR [Q1AA10150HXSYKM]	Q
2	J6612011A	COUPLING [SFC050WD-12B22B]	
3	J7054089B	MOTOR BRACKET-Y	
4	J7254007C	CUSHION-Y(Kuroda)	
5	J6606013A	BALL SCREW [GH2040QS-HEZR-1160X1058-C5F]	Kuroda
6	J7054084A	BEARING SUPPORT-Y	
	J1300510	BEARING [6002ZZ]	
7	J7054084A	BEARING SUPPORT-Y	

Machine Translated by Google



Fig.3-5-1 Erect all cover of each link

3-5. Replace X-axis **Cableveyor**

- Tools

  a) +Driver, Hex Wrench

- Part

  a) Cableveyor

1) Set up all the covers of each link of the existing cableveyor. (Refer to Fig 3-5-1)

2) Separate the fixing bolts of the fixed end bracket and moving end bracket. (Refer to Fig 3-5-2) 3) Carefully separate the Cableveyor. 4) Set up the cover of the new Cableveyor.

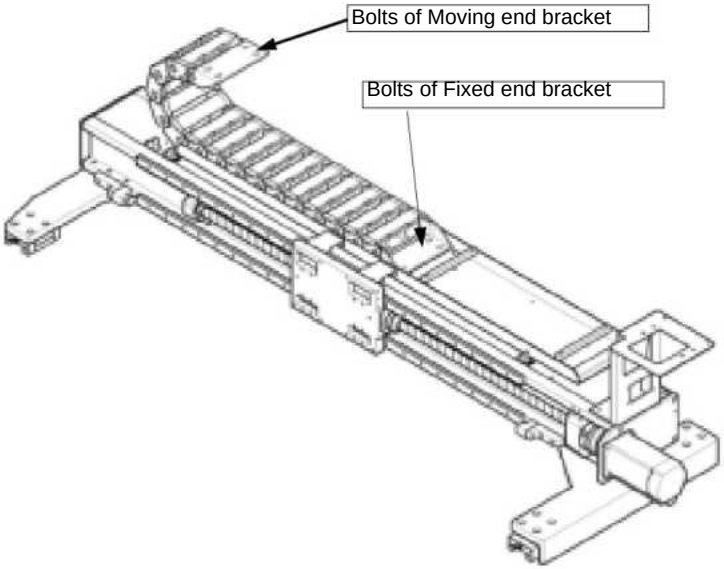


Fig.3-5-2 Fixed end bracket &

Moving end bracket

5) Assemble the cableveyor between the cables.

6) Align the cable to the designated position using the divider. (X-axis Cableveyor section reference drawing)

7) Assemble the fixing bolts of the fixed end bracket and moving end bracket.

8) Assemble the Cableveyor Cover.

* Caution 1) Check that there is no damaged cabel, and replace it or use insulation tape according to the degree of damage.

2) Cables must be arranged in a fixed position. If the position is changed, cable abrasion may increase due to the difference in length between the inside and outside.

- **Adjustments after this work**

  None

Machine Translated by Google

3. X-Y(Frame) Part

X-axis Cableveyor section reference drawing

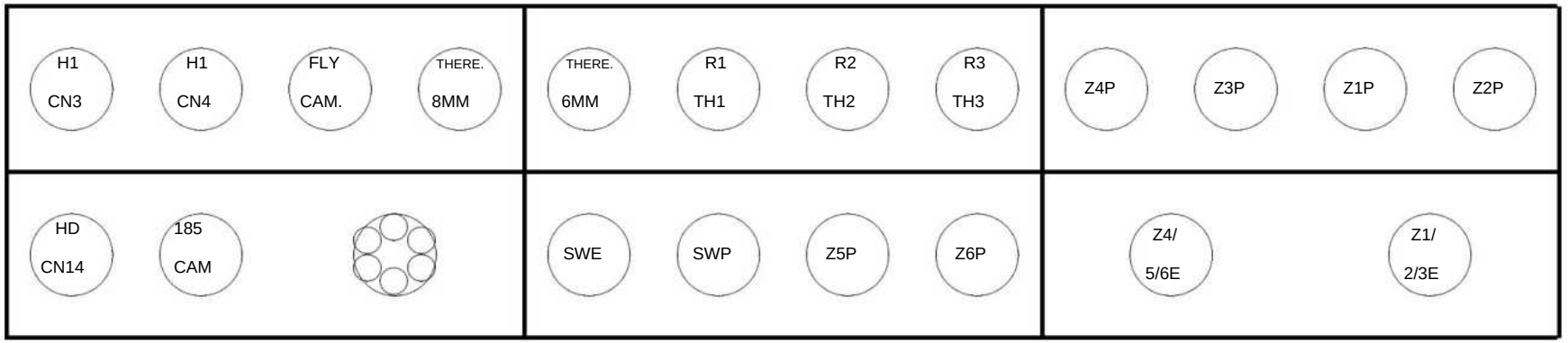
Part Name		CAN BUS CABLE	I/F BOARD POWER CABLE	HEAD CAMERA POWER CABLE	AIR HOSE AIR HOSE		R STEP MOTOR CABLE	Z1/2/3 MOTOR POWER CABLE	Z1/2/3 MOTOR POWER CABLE	Z1/2/3 MOTOR POWER CABLE
Description		MK-CA06 MK-HD01 MK-VIS01 Dia.8mm Dia. 6mm					MK-MD-20	MK-MD08 MK-MD11		MK-MD08
Part Code	CP45F(V)	J9061328B J9061207C		J9061365A			J9061242A	J9061230A J9061233A		J9061230A
	CP45NEO			J9080090B				J9080108B J9080113C		J9080108B

Upper Part

(Cable Arrangement)

Lower Part

(Cable Arrangement)



Part Name		R/A HOME SENSOR CABLE	FIDUCIAL CAMERA CABLE	FLYING VISION DATA CABLE	SWING ENGINE ON CABLE	SWING MOTOR POWER CABLE	Z4/5/6 MOTOR POWER CABLE	Z4/5/6 MOTOR ENC CABLE	Z1/2/3 MOTOR ENC CABLE
Description		MK-HD13 MK-VIS03		VIS07	MK-MD15 MK-MD-14		MK-MD11	MK-MD12	MK-MD09
Part Code	CP45F(V) J9061219B		J9061367C	J9061438B	J9061237A J9061236A		J9061233A	J9061234C	J9061231C
	CP45NEO J9060616A				J9080119B J9080118B		J9080113C	J9080114B	J9080109B

Machine Translated by Google

3-6. Replace Y-axis **Cableveyor**

- Tools

  a) +Driver, Hex Wrench

- Part

  a) Cableveyor

1) Set up all the covers of each link of the existing Cableveyor.

2) Separate the fixing bolts of the fixed end bracket and moving end bracket. 3) Carefully separate the Cableveyor. 4) Set up the cover of the new Cableveyor.

5) Assemble the cableveyor between the cables.

6) Align the cable to the designated position using the divider. (Y-axis Cableveyor section reference drawing)

7) Assemble the fixing bolts of the fixed end bracket and moving end bracket.

8) Assemble the Cableveyor Cover.

* Caution 1) Check that there is no damaged cabel, and replace it or use insulation tape according to the degree of damage.

2) Cables must be arranged in a fixed position. If the position is changed, cable abrasion may increase due to the difference in length between the inside and outside.

- **Adjustments after this work**

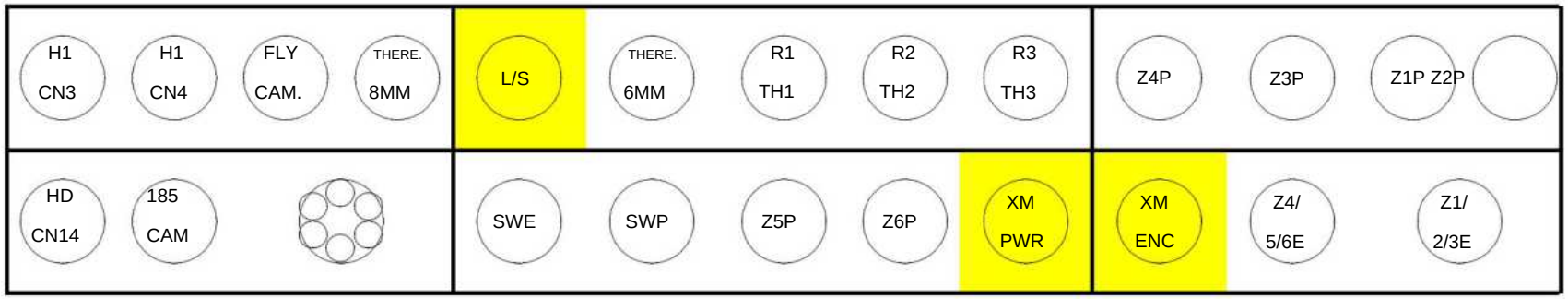
  None

Machine Translated by Google

Y-axis Cableveyor section reference drawing

(there are 3 types of cables added to the cables of the X-axis cable cross section)

Part Name						X HOME SENSOR CABLE; E					
Description						MK-XA04					
Part Code	CP45F(V)					J9061352B					
	CP45NEO					J9080085B					



Part Name									X MOTOR POWER CABLE	X MOTOR ENC CABLE	
Description									MK-MD01 MK-MD02		
Part Code	CP45F(V)								J9061223C J9061224C		
	CP45NEO								J9080101A J9080102B		

Machine Translated by Google

4.Feeder Base & ANC Module

No.	phenomenon	Possible cause (diagnostic result)	action	detailed instructions
1	Multi Cyinder Up/Down is not working	Multi Cylinder failure	Replace Cylinder Block	see text
		Foreign matter inflow, Multi Cylinder failure	Cylinder Block replacement, blocking of foreign substances (air filter inspection)	
		Solenoid Valve failure	Replace Cylinder Block	
		Connector connection failure	Connector reconnection or cable check - Front Feeder Interface Board CN5 : ÿÿ Feeder # 1~28 (CABLE MK-FD03 : J9061201B) - Front Feeder Interface Board CN6 : ÿÿ Feeder #29~56 (CABLE MK-FD04 : J9061202B) - Rear Feeder Interface Board CN5 : ÿÿ Feeder # 1~28 (CABLE MK-FD05 : J9061203C) - Rear Feeder Interface Board CN6 : ÿÿ Feeder #29~56 (CABLE MK-FD06 : J9061204C)	see text
		Fornt(or Rear)Interface Board ÿÿ	Board replacement	see text
2	Multi Cylinder Air leakage	Multi Cylinder failure	Cylinder Bock replacement	
3	Multi Cylinder Up/Dowm Speed Decreased	Speed contoller out of adjustment/fixed	adjustment, replacement	
		Multi Cylinder failure	Replace Cylinder Block	

Machine Translated by Google

ANC Module Trouble diagnosis

main phenomenon / Checking list / auxiliary phenomenon	Nozzle Conflict with ANC	Nozzle Change				ANC data disappeared
	Occurs during PICK/PUT	H# has Nozzle	No Put	No Pick	Shutter not working	
Parts in Shutter		1			1	
Shutter Speed ÿÿ	1	2	2			
ANC Cylinder failure		6			4	
ANC Solenoid Valve failure		4			3	
ANC Open/Close Sensorÿÿ		5			5	
ANC Cpen/Close Sensor Position Error		3	3		2	
Nozzle Check Sensor malfunction	4			2		
Operation failure when checking the nozzle with Vision	4			2		
~~There is a nozzle in ANC => The nozzle of the~~ program and the actual nozzle do not match ANC hole position is wrong.	2					
	3					
Nozzle holder stuck			1	1	6	
Bad VME Board						1

Machine Translated by Google

ANC Module Trouble Shooting Possible cause

No.	phenomenon	(diagnosis result)	action	detailed instructions
1 2	ANC conflict	Shutter Speed ÿÿ	Speed adjustment with Shutter Cylinder Speed Con	
		There is a nozzle in ANC. => Nozzle in the program and actual nozzle do not match. Wrong ANC hole	Recheck Nozzle data	
3		position.	ANC fiducial mark position, ANC hole position recheck and setting replacement re-setting	
4		Nozzle Check Sensor malfunction		
		Poor operation when checking the nozzle with Vision		
	H# has Nozzle	Parts in Shutter	Shutter cleaning Shutter disassembly and assembly,	
		Shutter Speed ÿÿ	Speed adjustment with Shutter Cylinder Speed Con Replace	
		ANC Cpen/Close Sensor Position Error	position setting Exchange and position setting exchange	
		ANC Solenoid Valve failure		
5		ANC Open/Close Sensorÿÿ		
6		ANC Cylinder failure		
7	No Put	Nozzle holder stuck	Cleaning the Nozzle Holder	
8		Shutter Speed ÿÿ	Speed adjustment position setting with Shutter Cylinder	
9		ANC Cpen/Close Sensor Position Error	Speed Con	
10	No Pick	Nozzle holder stuck	Nozzle Holder Cleaning	
11		Nozzle Check Sensor malfunction	Replacement Re-Setting	
12		Poor operation when checking the nozzle with Vision		
13	Shutter not working	Parts in Shutter	Shutter cleaning Shutter disassembly and assembly,	
14		ANC Cpen/Close Sensor Position Error	location setting replacement replacement replacement	
15		ANC Solenoid Valve failure	and location setting	
16		ANC Cylinder failure		
17		ANC Open/Close Sensorÿÿ		
18		Nozzle holder stuck	Cleaning the Nozzle Holder	
19 20 21 22 23 24	ANC data disappeared Bad	VME Board	Replace VME Board	

Machine Translated by Google

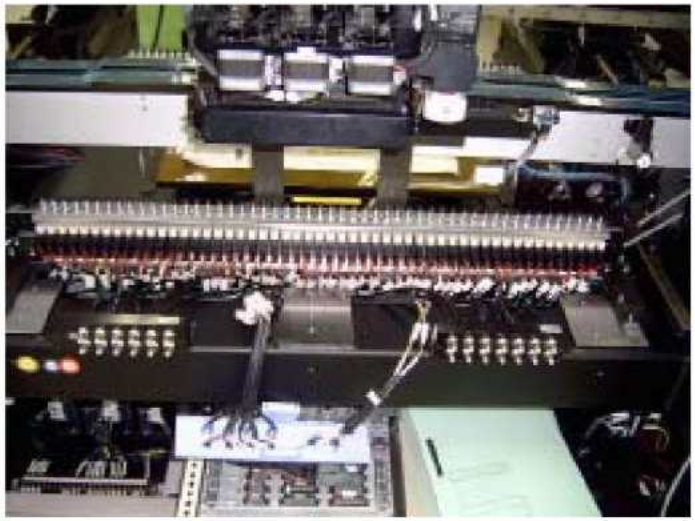


Fig.4-1-1 Multi Cylinder Module

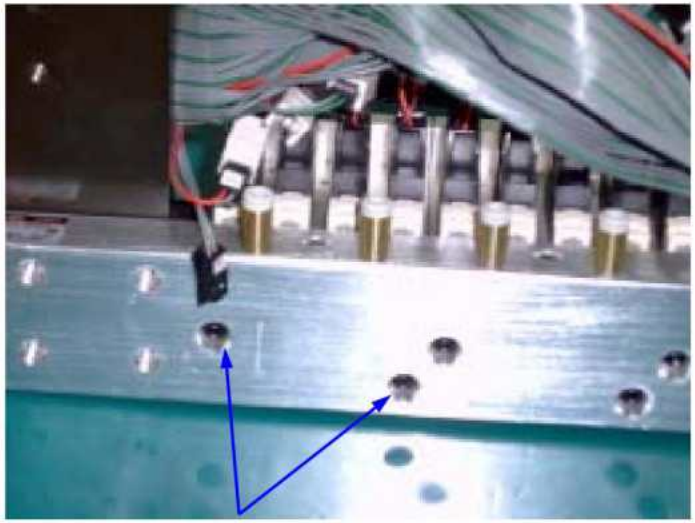


Fig.4-1-2 Bolt to fix the multi cylinder Block

4-1 Multi Cylinder Replacement

- Tool

  - Hex -Wrench, + Driver Feeder Origin Setting Jig

- Part

  - Multi Cylinder Block (there are 3 types depending on the maker, and they are compatible)

    J6701033B(WOOSUNG);J6701065A(SMC);J6701032A(GASOL)

4-1-1) Front Multi Cylinder Block replacement procedure 1)

Separate the Front Cover-Feeder Station.

2) Separation of Con-Panel Front, Separation of Chip Cover (both sides of Feeder Base) 3) Separation of Feeder Base Ass'y 4) Separation of air hose and connector connected to Multi Cylinder Module 5) Separation of Multi Cylinder Module from Main Frame 6) Separate the defective Multi Cylinder Block from the separated Multi Cylinder Module and replace it with a new one. 7) Attach the Multi Cylinder Module to the Base-Frame 8) Connect the air hose and connector 9) Temporarily assemble the Feeder Base.

10) Adjust and fix so that the parallelism of the feeder base is within 0.1mm.

(Install the Feeder Origin Setting Jig at Feeder Stations #13, #30, and #47 respectively to read the Y-axis coordinates and set the **Max, -Min** difference **within 0.1mm)**

11) Assemble the Con-Panel Front. Assemble the Chip Cover (on both sides of the Feeder Base)

12) Assemble the Front Cover-Feeder Station.

13) Operate the Multi Cylibder one by one to check the operation status.

(Diagnosis ÿ I/O -> Feeder Check)

- **Adjustments after this work**

  Feeder Base Origin Offset

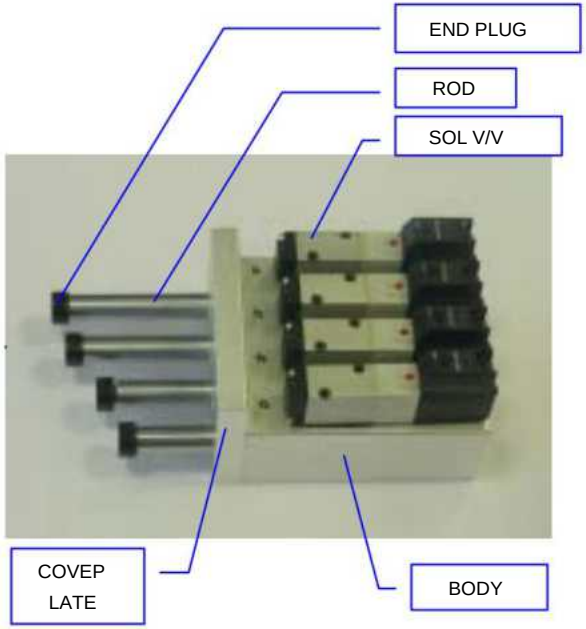
Machine Translated by Google

4-1-2) Rear Multi Cylinder Block replacement procedure

is the same as the front Multi Cylinder Block replacement procedure. Before separating the Feeder Base, Stage Vision must first be separated and subsequent work must be performed. Also, when assembling after replacing the Multi Cylinder Block, install the Stage Camera after completing the parallelism setting of the Feeer Base and perform Fixed Camera Calibration.

- **Adjustments after this work** - Feeder Base Origin Offset - Fixed Camera Calibration.

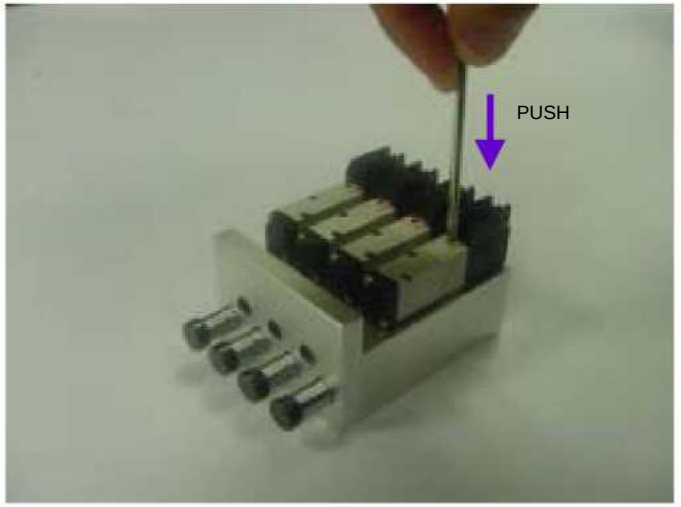
Machine Translated by Google

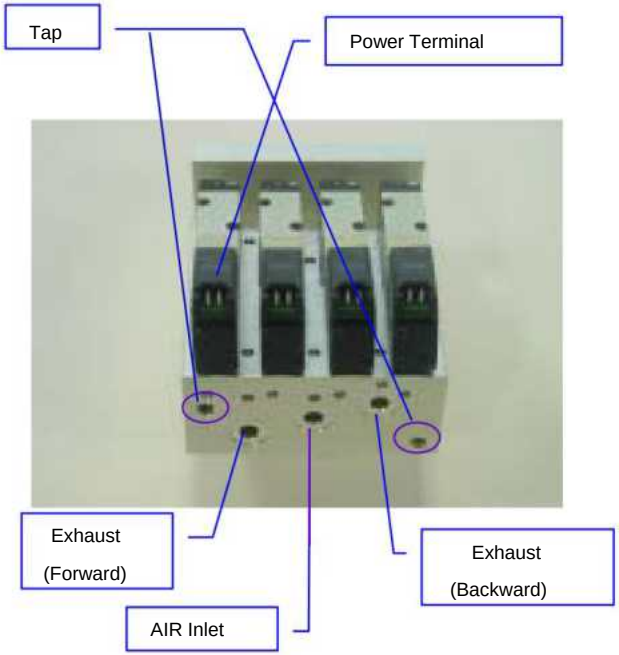


* Name of each part of the **Multi Cylinder Block** (refer to the picture on the left)

*How to operate the cylinder manually **(when air is** being supplied) As shown in the figure below , press the manual control **button (red** button) of the **solenoid valve** using a cross-head screwdriver (with a tip within 2 mm in diameter) to open the cylinder **rod.** Can be operated manually or individually

=> At this time, as long as the button is pressed, the **ROD** continues to move forward, and when released, it returns to its original state.





Machine Translated by Google

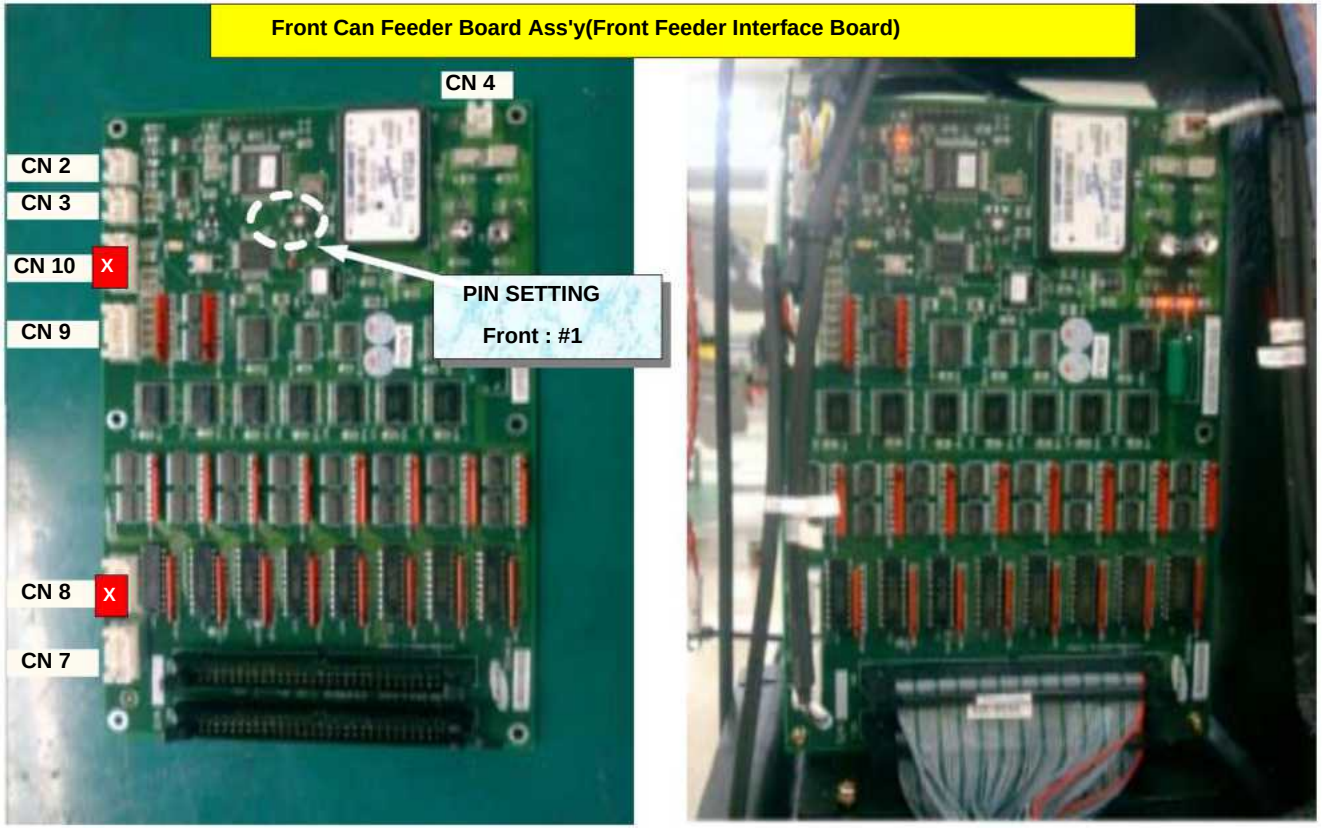
4-2 CAN Feeder Board (=Feeder Interface Board) Inspection and Replacement

- Tool

  - Hex -Wrench, + Driver

- Part

  - Can Feeder Board Ass'y(J9060060C) ,
  - Feeder Pusher Cable Ass'y :MK-FD03(J9061201B) : Front Feeder # 1~28
  - Feeder Pusher Cable Ass'y :MK-FD04(J9061202B) : Front Feeder # 29~56
  - Feeder Pusher Cable Ass'y :MK-FD05(J9061203C) : Rear Feeder # 1~28
  - Feeder Pusher Cable Ass'y :MK-FD06(J9061204B) : Rear Feeder # 29~56

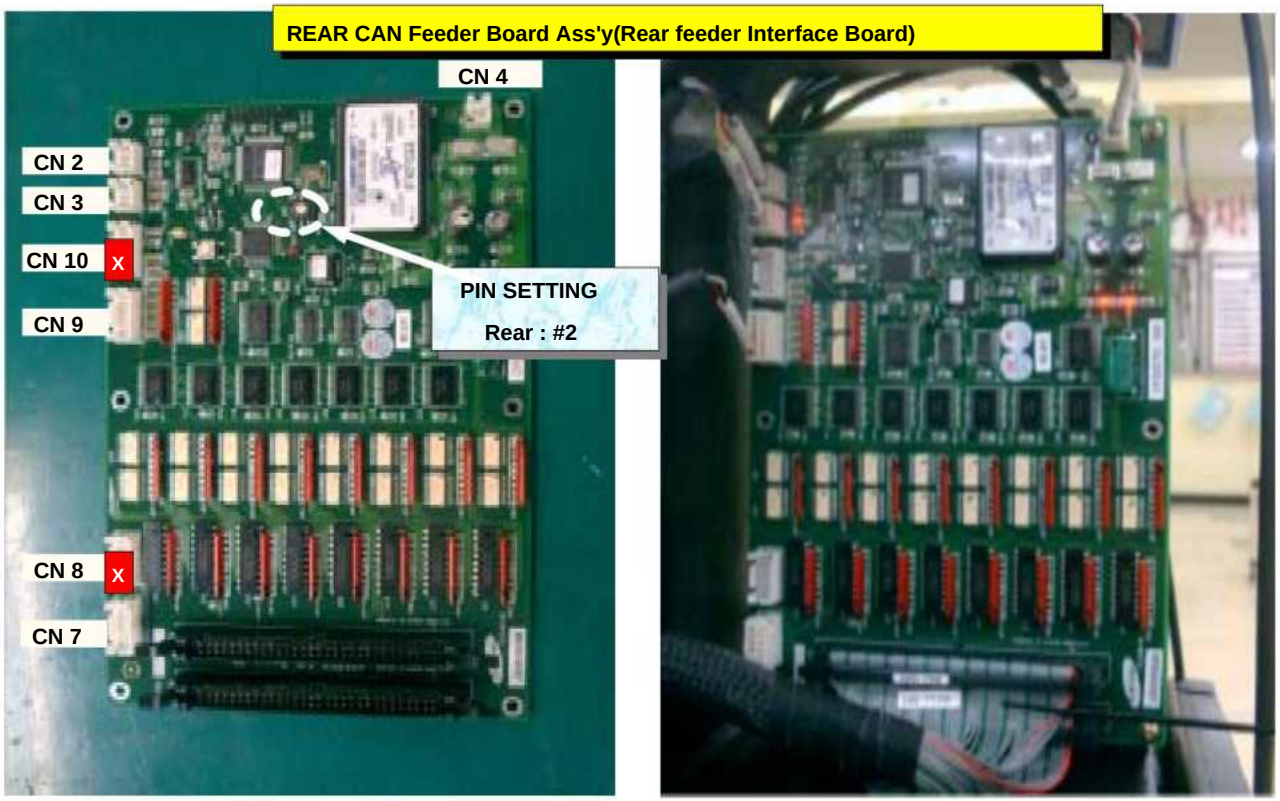


4-2-1) Front Multi Cylinder Board

=> Pay attention to pin setting (#1)

Machine Translated by Google

4-2-2) Front Multi Cylinder Board => Pay attention to Pin setting (#2)



Machine Translated by Google

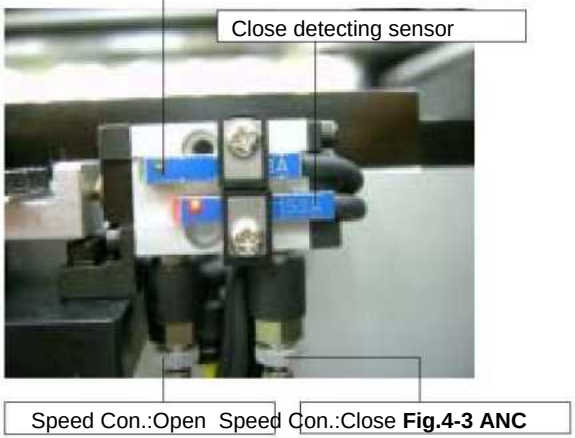


Fig.4-3 ANC Shtter Speed Adjust

4-3 ANC. Shutter Speed Control

- Tool

1) Adjust Open Speed with Open Speed Con.

2) Adjust the Close Speed with Close Speed Con.

Machine Translated by Google

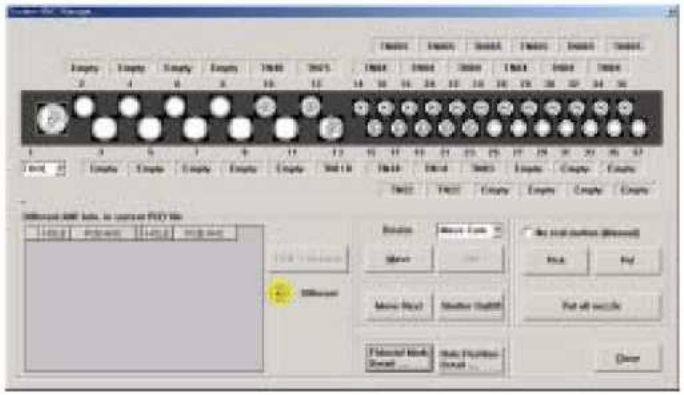


Fig.4-4 Confirm **ANC Fiducial mark position**

4-4. ANC fiducial Mark position, ANC hole position reconfirmation and setting

- Tool

1) ANC menu - select fiducila Mark detail
2) Get the Fiducial Mark position. (or make sure the coordinates are correct)
3) Press Scan to correct the error of teaching coordinates.
4) To apply the coordinates corrected by scanning, close the ANC screen and open it again.
5) Check the position of the ANC Hole.

Machine Translated by Google

4-5.Shutter cleaning and disassembly assembly

- Tool

  - Vaccum Cleaner.

1) If foreign substances flow into the ANC Pocket, there is a problem with Nozzle Change or ACN Shutter on/off.
   can happen

2) In this case, use a vacuum cleaner to clean foreign substances.

Machine Translated by Google

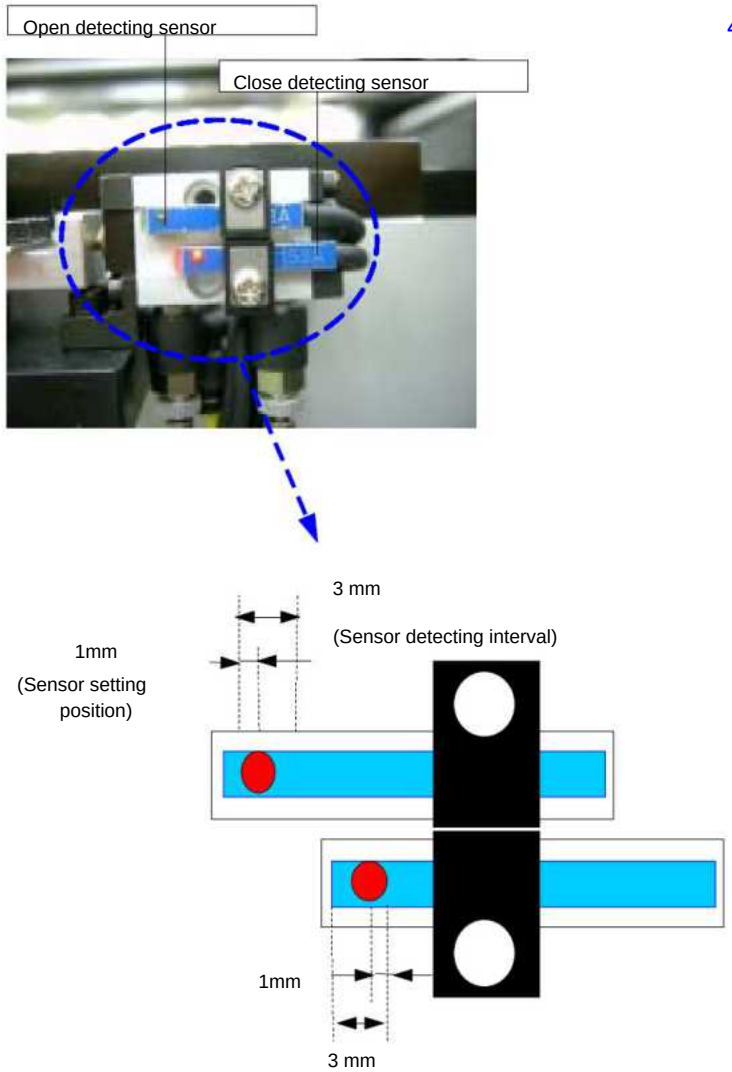


Fig.4-6 ANC Shtter open/close Position Setting

4-6.Open/Close sensor location setting

˙ Tool

- +Driver(Small), - Rule

* Work procedure

1)Close Move the detection sensor and check the detection range (lower sensor)

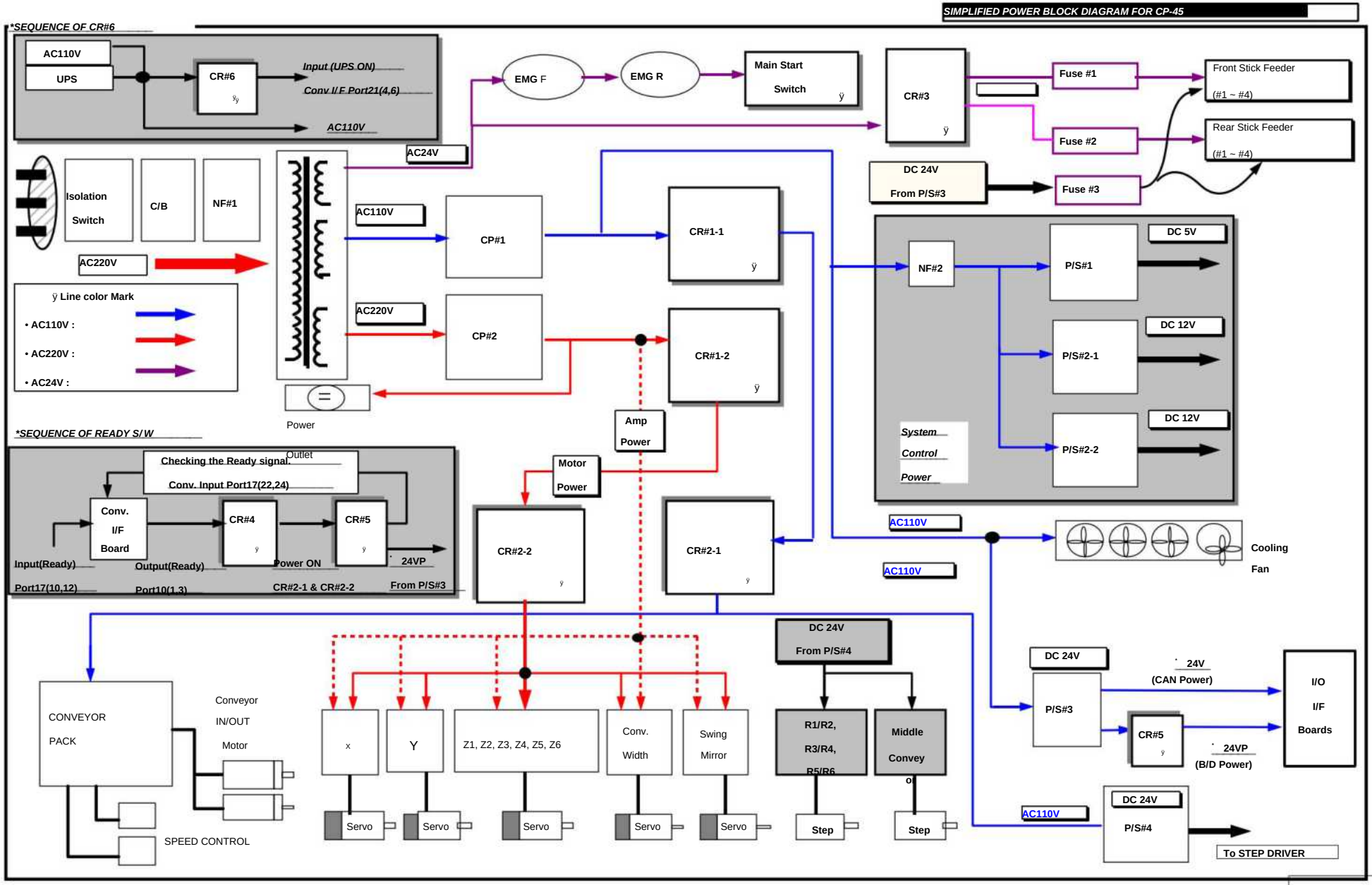
2)Close Assemble by moving 1 mm to the left from the right end within the detection range of the sensor

3) Move the open detection sensor and check the detection range (upper sensor)

4) Close assemble by moving 1mm from the left end to the right within the detection range of the sensor. 5) After the work is completed, perform the ANC test more than 50 times repeatedly to check if there is any damage to the upper surface of the nozzle wing.

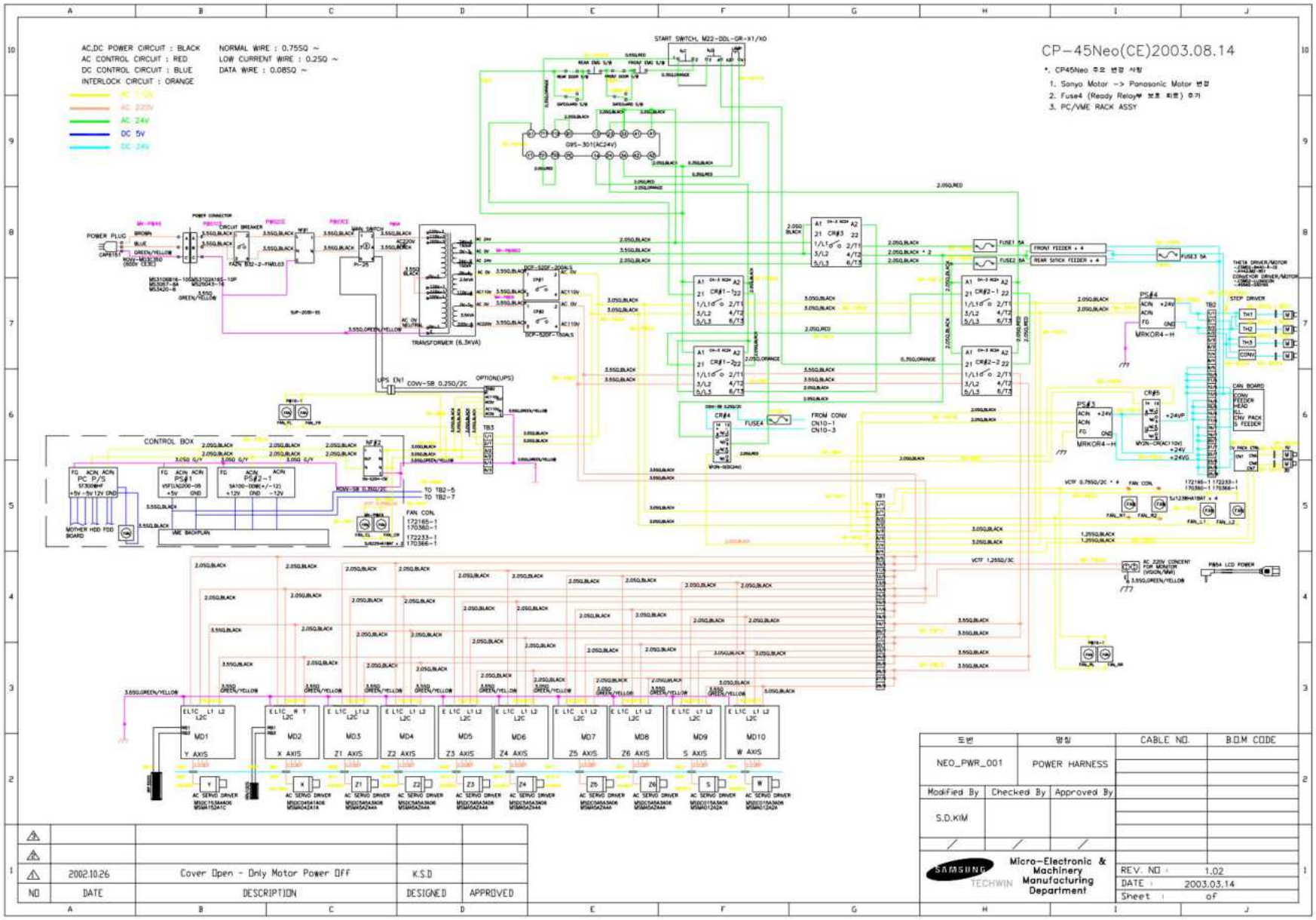
Machine Translated by Google

SIMPLIFIED POWER BLOCK DIAGRAM FOR CP-45



Machine Translated by Google

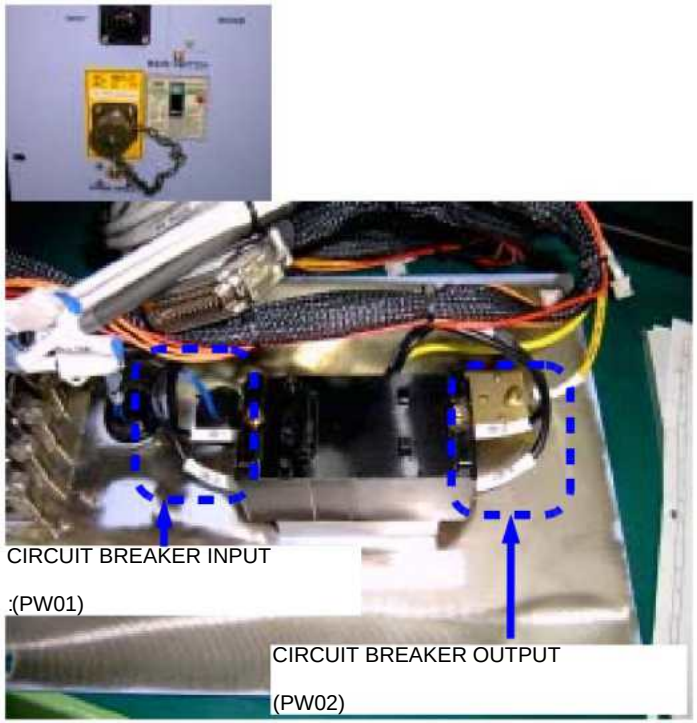
5. ELECTRIC DEVICE



Machine Translated by Google



Machine Translated by Google



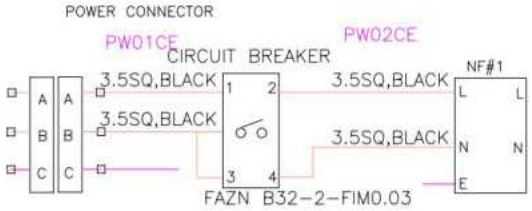


Fig.5-1-1CIRCUIT BREAKER CONNECTION

5-1. How to replace **Curcuit Breaker**

- Tools

  a) + Driver

- Part

Item	NUNCIO	THIS	Remark
CIRCUIT BREAKER	J1202403 (=J3603005A)	J3603008A	
MAIN POWER INPUT CABLE ASS'Y(PW01)	J9080276A J9080310A		
MAIN POWER OUTPUT CABLE ASS'Y(PW02)	J9080277B. J9080311B		

1) When replacing the CIRCUIT BREAKER, be sure to turn off the main power.

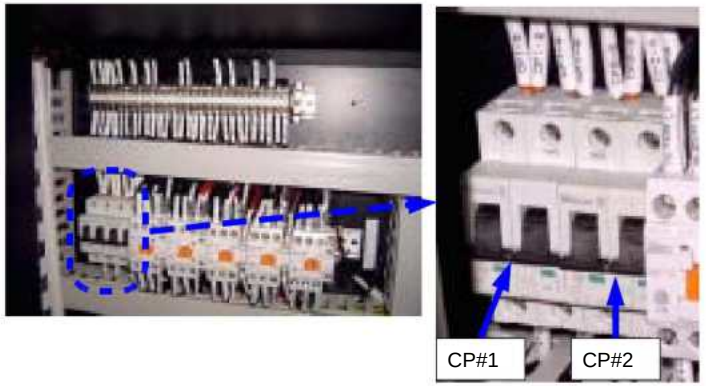
2) Replace CIRCUIT BREAKER(30A).

3) With the CIRCUIT BREAKER, check the TAG of the CABLE terminal of the input/output terminal and wire it.

- **Adjustments after this work**

  -None

Machine Translated by Google



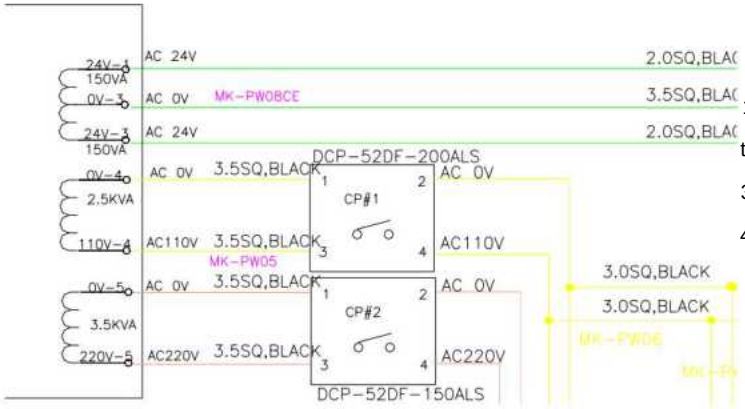


Fig.5-2-1 CP(Curcuit Protect) connection

5-2. Circuit Protect (CP) Replacement

- Tools

  a) +Driver

- Part

  a) J3603006A (FAZ-B20-2) : CP#1 b)

  J3603019A (FAZ-2-D16) : CP#2 c) J9061264A

  (MK-PW05) : from Tranfomer to CP#1,#2 d) J9061265B (MK-PW06) : from

  CP#1 to TB3,CR#1-1 e) J9061266B (MK-PW07) : from CP#2 to TB1,CR#1-2

1) When replacing the CIRCUIT PROTECT, be sure to turn off the main power. 2) Replace the CIRCUIT PROTECT. (Must have the same specifications)

3) Assemble the Main Power Cable to the original terminal location.

4) CP#1 protects the power supplied to the PC Rack,

CP#2 protects the power supplied to the Motor Driver.

- **Adjustments after this work**

  -None

Machine Translated by Google

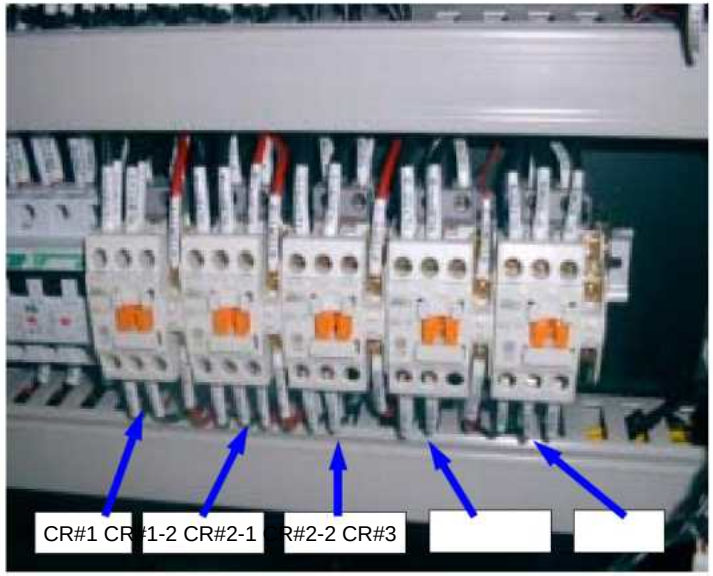


Fig.5-3-1 CR(Curcuit Relay) connection

5-3.CR (Circuit Relay) Replacement

- Tools

  a) + Driver

- Part

Item	NUNCIO	THIS	Remark
Magnetic Contactor	J1202401 J35012023A		
Transformer power cable ass'y(MK-PW08)	J9061267C		
Transformer power cable ass'y(MK-PW09)	J9061268C		
Power cable ass'y(MK-PW10)	J9061269C		
Power cable ass'y(MK-PW11)	J9061270D		
Power cable ass'y(MK-PW12)	J9061271C		
Power cable ass'y(MK-PW13)	J9061272B		

1) Be careful not to insert the name tube into the terminal block when wiring the cable.

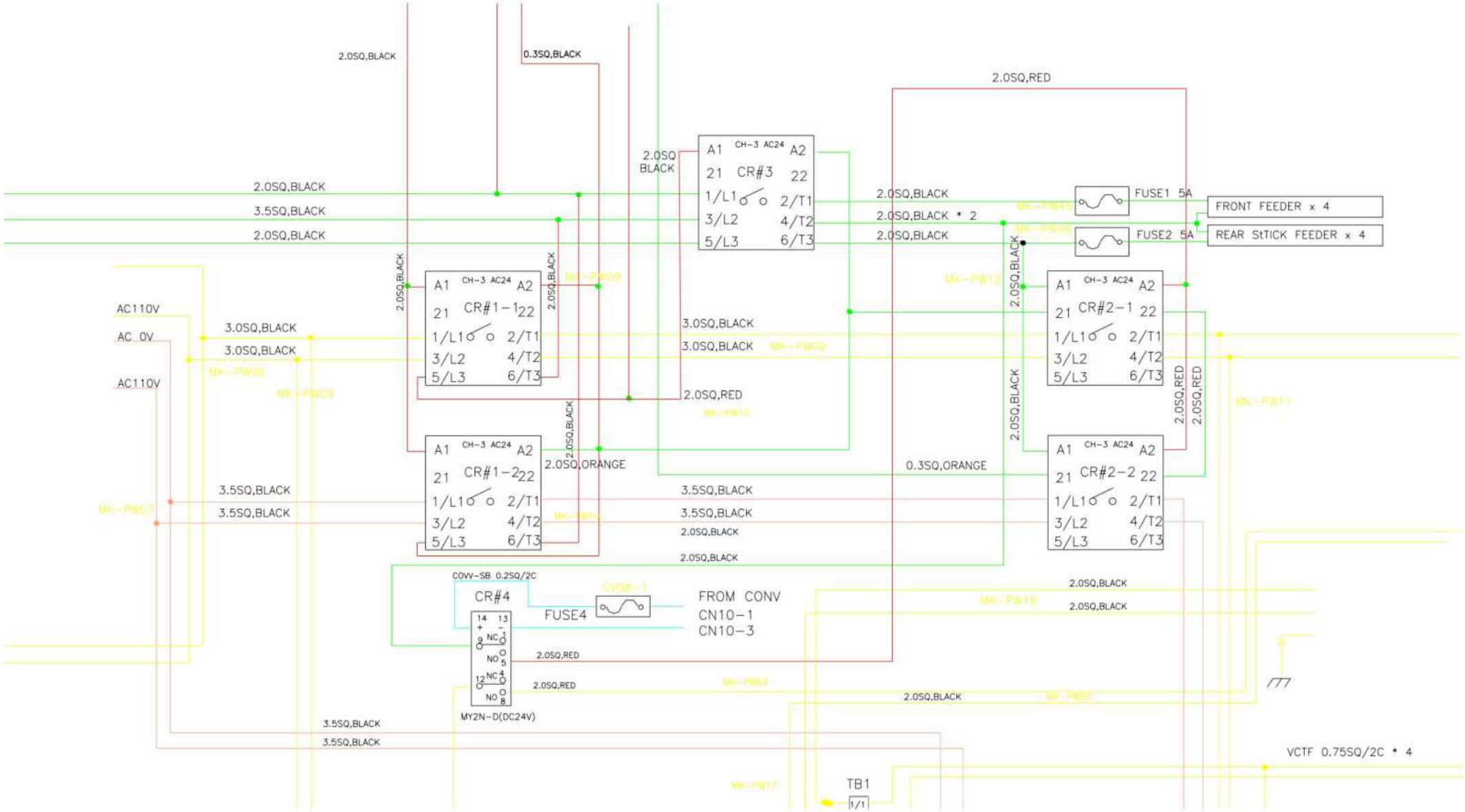
2) Cables connected to CR are as follows.

Connection	CABLE title	Code Remark	
CP#1 ÿCR#1-1	Main Power Input Cable Ass'y(MK-PW06) J9061265B		
TransfomerÿCR#3	Transformer Power Cable Ass'y(MK-pw08) J9061267C		
CR#1-1 ÿCR#1-2	Transformer Power Cable Ass'y(MK-pw09) J9061268C		
CR#1-2 ÿCR#2-1, CR#2-2 Transformer	Power Cable Ass'y(MK-pw10) J9061269C		
CR#2-1 ÿ CR#2-2, TB1	Transformer Power Cable Ass'y(MK-pw11) J9061270D		
CR#3 ÿ CR#3, CR#4 Transformer Power	Cable Ass'y(MK-pw12) J9061271C		
CR#2-2 ÿ TB1	Transformer Power Cable Ass'y(MK-pw13) J9061272C		

- **Adjustments after this work**

  -None

Machine Translated by Google



Machine Translated by Google

5-4.Power Supply Replacement

- Tools

  a) + Driver

- Part

Item	NUNCIO	THIS	Remark
Power Supply(#1)	J4401018A(VSF(LN) 200-05)		
Power Supply(#2)	J4401017A(SA100-DOW(+/- 12V)		
Power Supply (#3,#4)	J1202286 (MR KOR4-H)		
Power Cable Ass'y	J9061277A(MK-PW18) J9061722B(MK-PW18CE)		TB1 ÿPS#3 CR#2-1ÿPS#4
Power Cable Ass'y	J9061278C(MK-PW19) J9061723A(MK-PW19CE) PS#3 ÿCR#5		
TB2 Power Cable Ass'y J9061279C(MK-PW20) J9061724A(MK-PW20CE) PS#3 ÿTB2			

1) Connect the SHORT PIN. (See Fig 5-4-1 below)

2) "X" mark is a TERMINAL terminal that is not wired

- Adjustments after this work

Machine Translated by Google

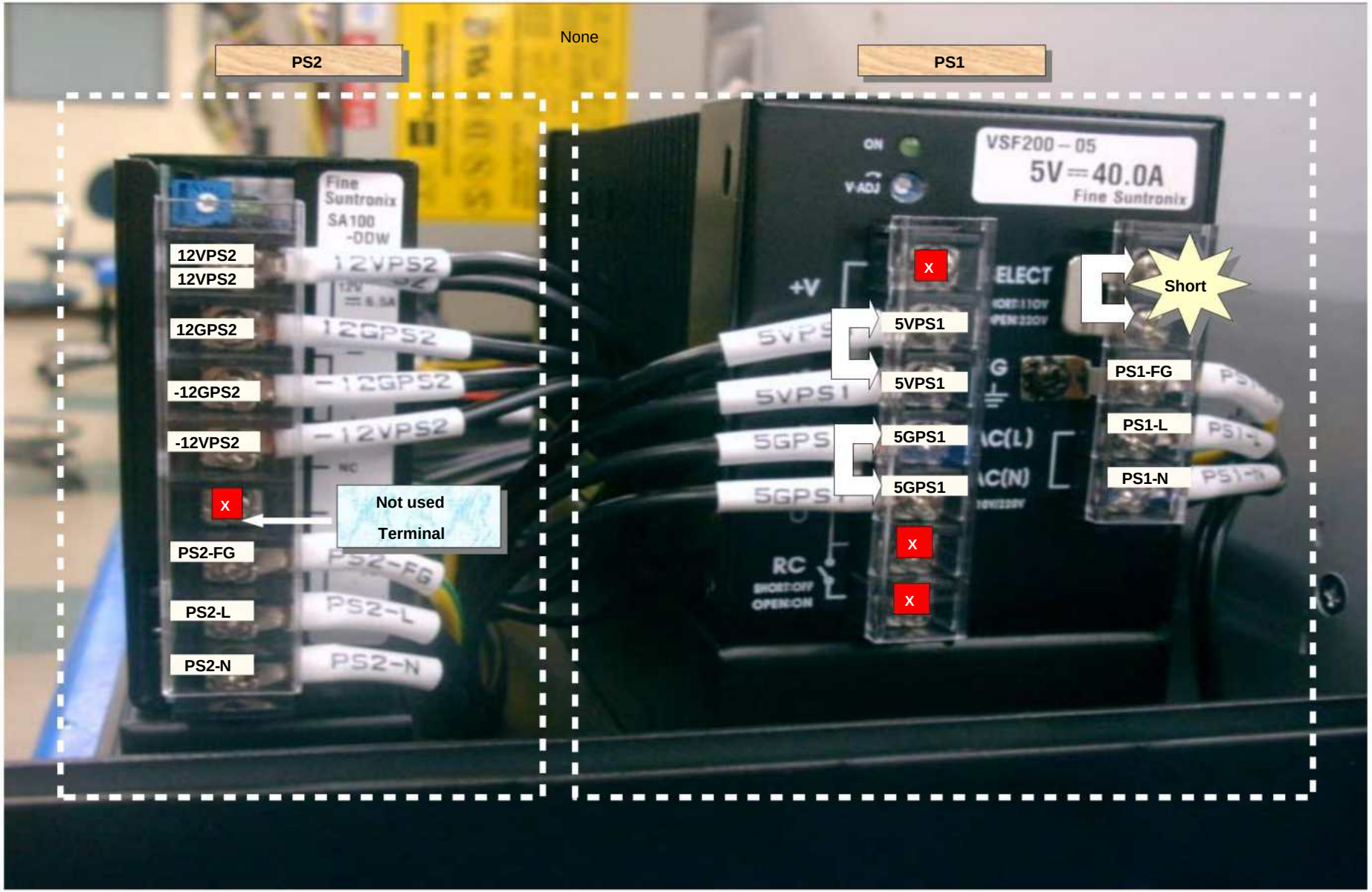


Fig.5-4-1 Power Supply (#1,#2)connection

Machine Translated by Google

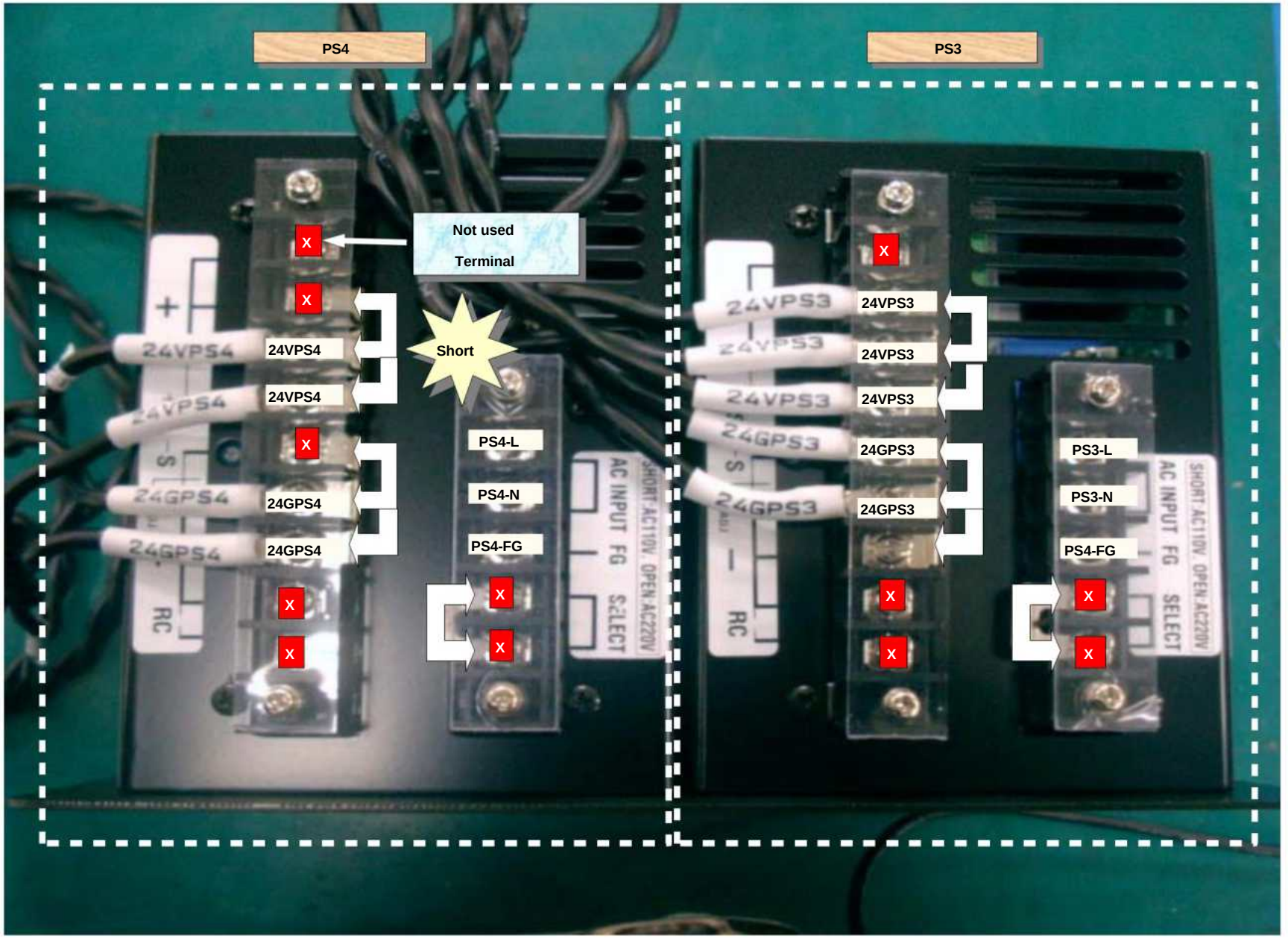


Fig.5-4-2 Power Supply (#3,#4)connection

Machine Translated by Google

6. PC

phenomenon	cause		Action	note
FDD not recognized	FDD		Cleaning	
PC not booting	Graphic Card	Bad contact	the replacement contact and reconnecting	
		Bad part Bad	Cleaning the replacement contact and	
	Memory Card	contact Bad	reconnecting Cleaning the replacement	
		part Bad	contact and reconnecting, reconnecting	
	PC ISA Interface board	contact	the cable	
		bad parts bad	replacement	
	Mother Board	parts	replacement	
	HDD	Bad Cable	Cable reconnection between HDD and Mother Board	
		HDD Bad Sector	C:\ Driver inspection and cleanup, HDD replacement	
		Corrupted Windows System File Copy from other device and reinstall		
		HDD Defective	HDD replacement	
	Power Supply	Part Defective	Replace Power Supply	
Bad mouse operation	MOUSE	Part Defective	Replace	
		Wheel function abnormality	Wheel function Erase	
		Connector missing part	Reconnect Replacement	
Bad keyboard operation	Keyboard	defective	Reconnect	
		Connector missing		

Machine Translated by Google

6. PC

Two types of PCs **were** used: general **PC and Industrial PC .** (Serial **No.** of the equipment used)

	CP45F(V)	CP45NEO	Remark
General **PC**	**~ #1673**	**~ #252 J4801013A**	**(Mother Board only)**
Industrial PC	**#1674 ~**	**#253 ~**	**(Mother Board+VGA Card)**

6-1 General **PC**

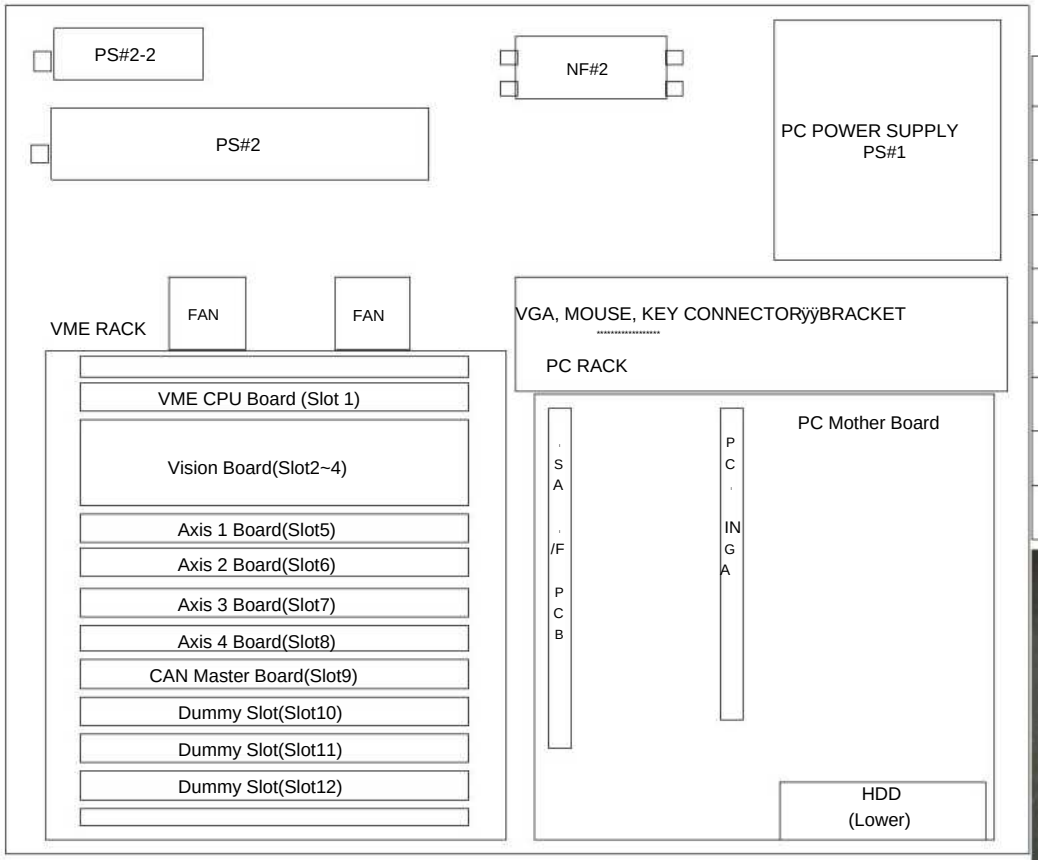


Fig.6-1 PC(General Type) Layout in Rack Ass'y

No.	Code	Item	Spec.
1	J4801013A	MOTHER BOARD	COMMATE A370VB
2	J4901008A	CPU	[INTEL CELERON733Mhz]
3	J3105018A	CPU FAN	[A50933-003]
4	J5101021A	HARD DISK DRIVER	[HDS722580VLAT20]
5	J5001008A	MODULE RAM	[SDRAM 128M 168PIN PC133]
6	J4802012A	VGA CARD	[GEFORCE2 MX200 LP 32M]
7	J5103006A	CDROM DRIVER	[SC-152G]
8	J5502003A	Y-CABLE	[For PC POWER]





Machine Translated by Google

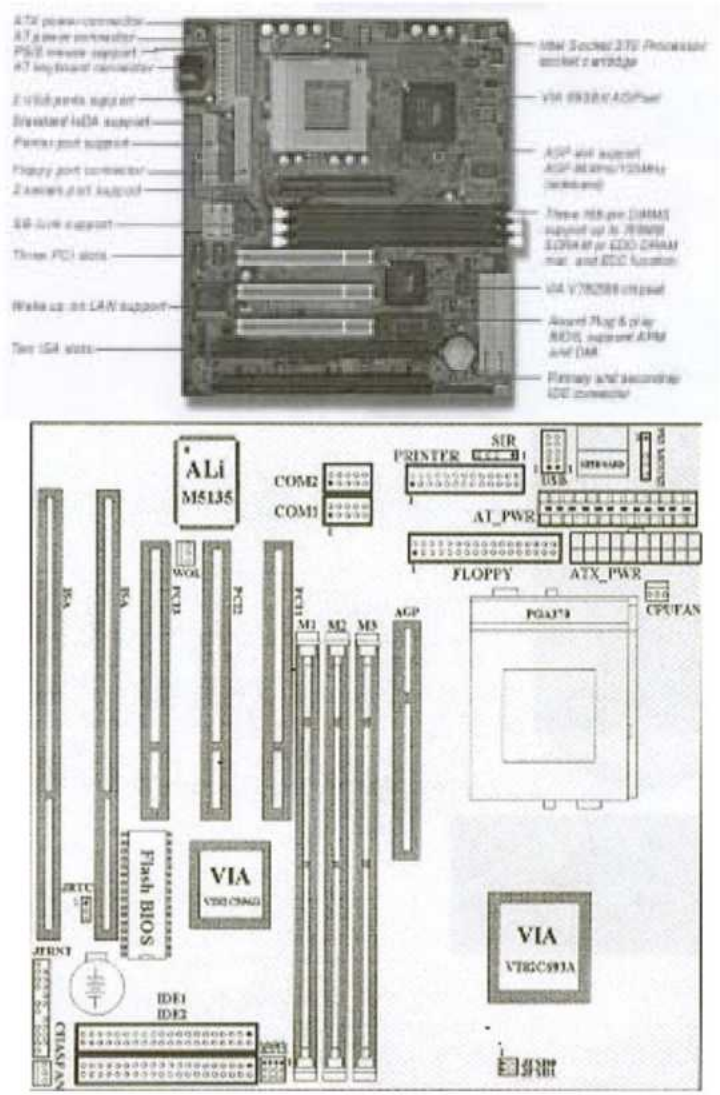


Fig.6-1-1 Mother Board Layout

6-1-1) Mother Board Setting Procedure

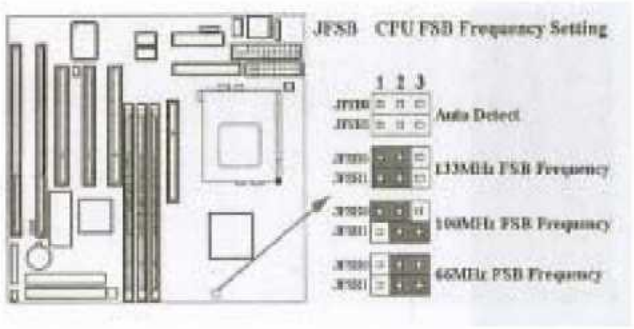
1-1) CPU Valtage -

Automatic setting

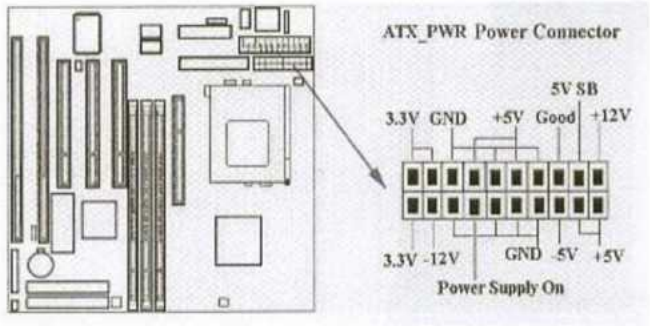
1-2) CPU Frequency Selection -

Automatic setting

1-3) CPU FSB Setting



1-4) ATX Power Connector(20 pin ATX_PWR)

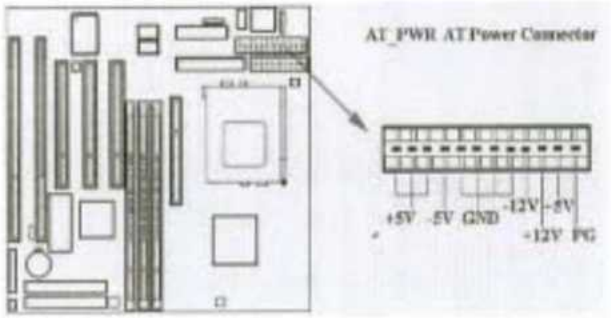


Machine Translated by Google

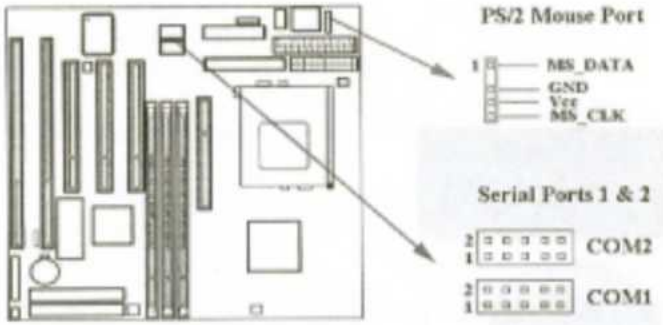


Fig.6-1-1-1 General PC

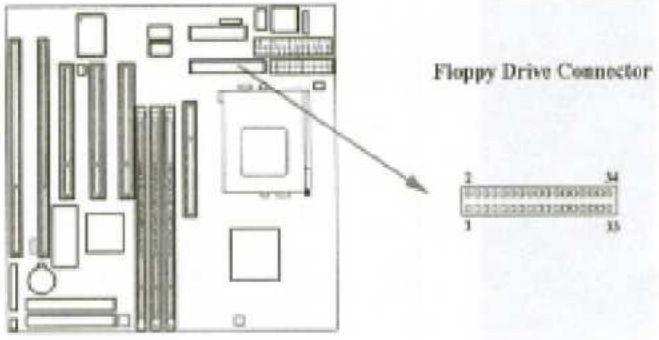
1-5) AT Power Connection(12 pin AT_PWR)



1-6) PS/2 mouse port & Serial port(10pin)

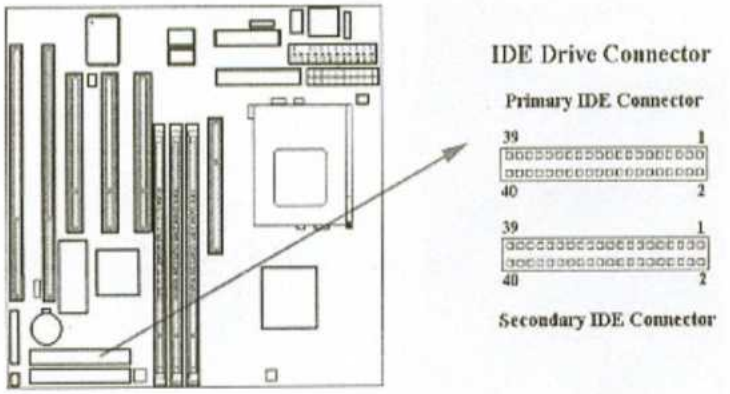


1-7) Floppy Disk Driver(12 pin)

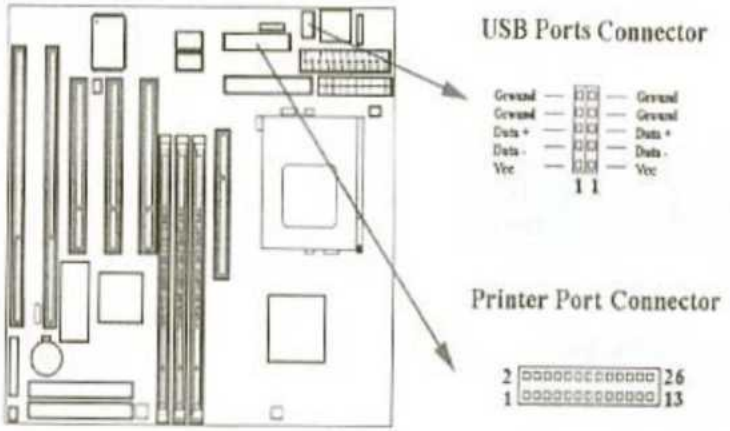


Machine Translated by Google

1-8) Primary/Secondary IDE connection (40pin)



1-9) USB Connector (5pin)



Machine Translated by Google

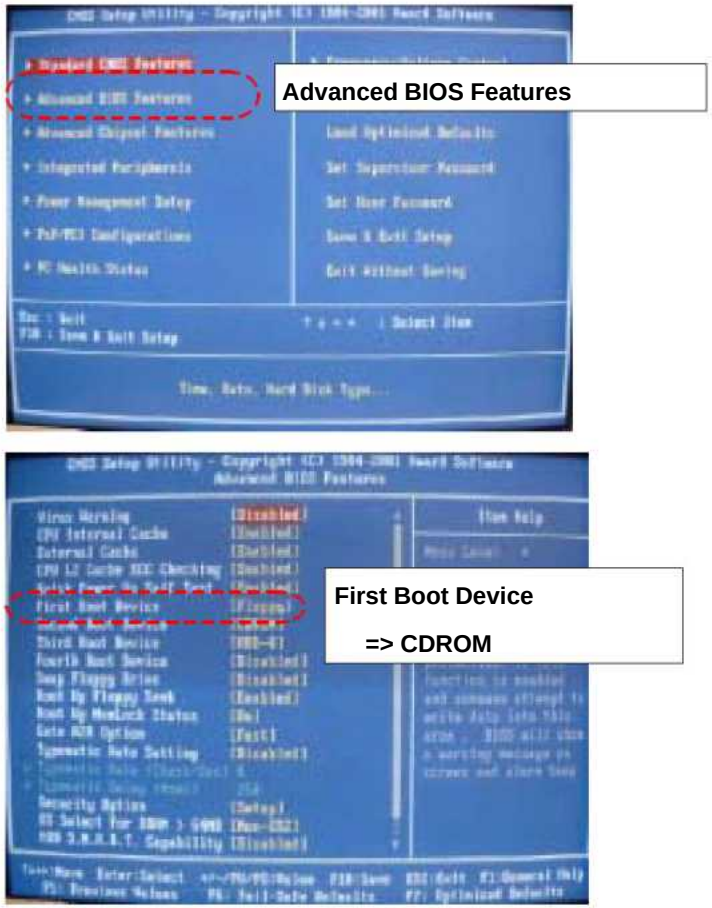


Fig.6-1-2-1 CMOS setting for CDROM booting.

6-1-2) HDD replacement

procedure Materials: HDD, Windows 98

Setup CD, DAO.exe file, MMI Setup File (CP45NEO: USB Memory, CP45: CD-ROM)

6-1-2-1) Prepare the formatted HDD, install it in the equipment, and connect the Power Cabel and Data Cable.

6-1-2-2) Insert the Windows98 setup CD into the CD-Driver and power on the device to install Windows98. (Around:

'Advanced BIOS Features' => 'First Boot Device' in C-MOS Setup of PC

It should be selected as CDROM (see Fig 6-1-2-1)

6-1-2-3) Install DAO.

- DAO Software can be downloaded from SGSS (www.samsungtechwin.com). - Navigate to the path where DAO.exe is located in Windows Explorer and click to extract the file.
- Click SETUP.EXE to start installation.
- If the DAO successfully installed message appears, the installation has been completed normally.

6-1-2-4) Install MMI.

- Save and use the MMI setup file on a USB Memory Stick (CP45NEO) or CD (CP45).
- If the name of the setup file is in the form of 'CP-45MMI_V2470.exe', V2.470 means the version.
- Open Windows Explorer, go to CP45 setup.exe, double-click - Select the installation language (Korean / English) - Enter the user name and company name - Set the installation path (C:\Mark3) - Select the installation type.

MMI only : Install only CP45 software.

MMI + TSG : CP45 + 3D trouble shooting video.

OPTION (IT): CP45 + Intelligent SW. - Select Yes (Y) when installing the program in actual equipment. - After re-checking that the installation information is correct, click Next (N) - Complete

Machine Translated by Google

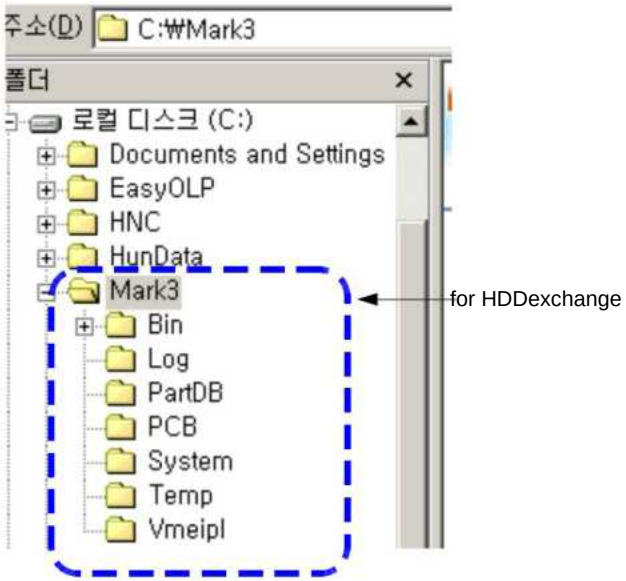


Fig.6-1-2-2 System file copy folder for HDD exchange

6-1-2-5) Copy system data from the original.

* When creating a new HDD

: Back up the entire C:\Mark3 Folder from the original (in the existing HDD).

After installing the new MMI on the HDD, overwrite the Mark3 Folder of the backed up file on the new HDD.

In case of MMI Upgrade (1)

Back up the existing Mark3 (in case restoration is required)

(2) Before upgrading, check if there are any changes in the constants. If there is no change, it is completed only by checking the constant value after installing the new version, but if there is a change, record the value of the current device (before upgrade). .

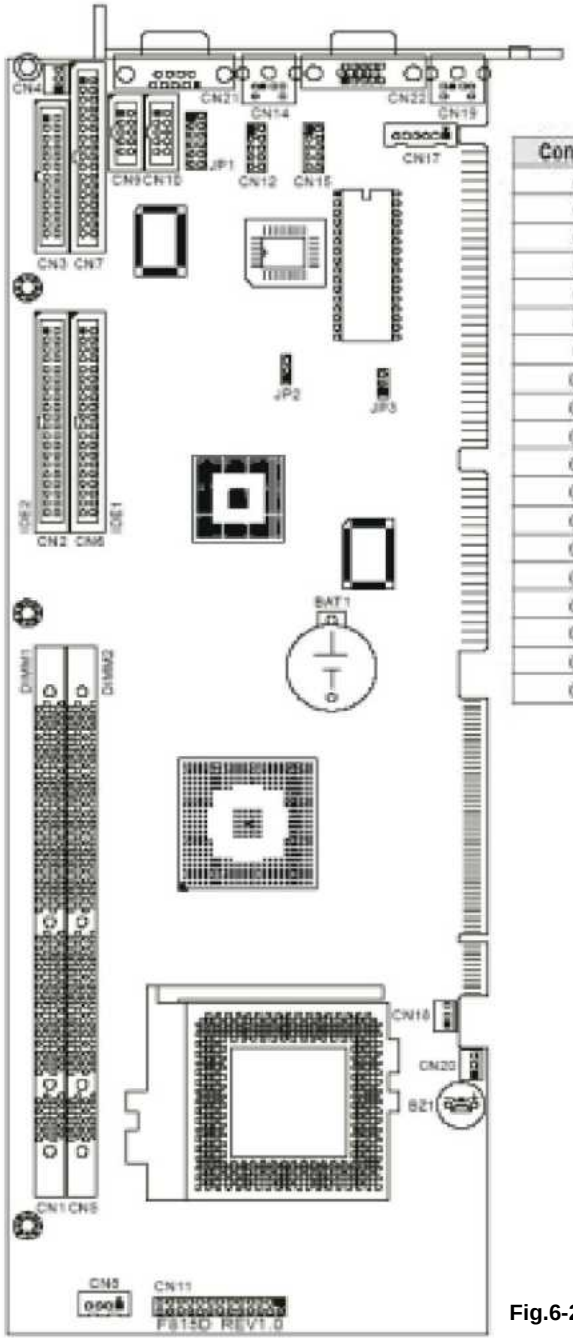


(4) Select install again, the new version is installed. (5) After completion, turn OFF-ON the equipment, drive Mark3, and home.

If the home is completed, re-enter the necessary parts after comparing and judging the constant value recorded earlier.

(6) After MMI Upgrade, the Componenet Library is read using the 'Merge Part Library' function. When copying, some data may not be compatible due to the difference in version.

Machine Translated by Google



6-2 Industrial PC

Industrial PC : Layout is as follows.

Connectors	Functions
CN2	Secondary IDE Connector
CN3	Parallel Port Connector
CN4	Power Fan Connector
CN6	Primary IDE Connector
CN7	Floppy Disk Connector
CN8	ATX Power Connector
CN9	COM2 RS-232 Serial Port Connector
CN10	COM2 RS-422 / 485 Serial Port Connector
CN11	System Panel Indicate Connector
CN12	USB3/USB4 Port Connector
CN14	PS/2 Mouse Connector
CN15	USB1/USB2 Port Connector
CN17	External Keyboard / Mouse Connector
CN18	System Fan Connector
CN19	PS/2 Keyboard Connector
CN20	CPU Fan Connector
CN21	COM1 RS-232 Serial Port Connector
CN22	CRT VGA *(F815D/V Series only)* Port Connector
CN22	COM2 *(F815D Series only)* Port Connector

Material **List of Industrial PC**

No.	Code	Item	Spec.
1	J9070051A	JOY-606A-INDUSTRIAL CHASSIS J9070051A	
2	J4801015A	SBC (Mothor Board)	F815D/V FULL-SIZE SBC
3	J4809047A	PCI-6S PCI/ISA BACK PLANE	PCI-6S PCI/ISA BACK PLANE
4	J4401032A	SWITCHING POWER SUPPLY	ATX250-SEV
5	J4901012A	CPU	INTEL CELERON 1.3GHZ(include FAN)
6	J5101020A	HARD DISK DRIVER	IC35L060AVV207-0(HITACHI(IBM)3.5
7	J5001008A	MODULE RAM	SDRAM 128M 168PIN PC133
8	J7070173A	PC BRACKET	J7070173A(Industrial)
9	J3802003A	USB PORT	USB 1.0

Fig.6-2 SBC (Industrial PC) Board Layout

Machine Translated by Google

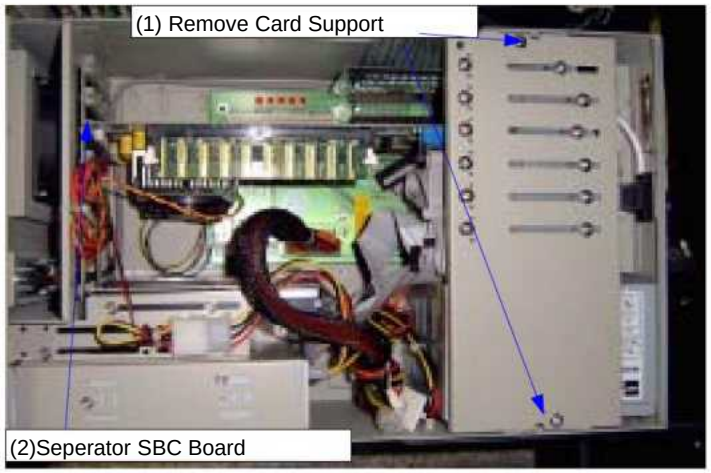


Fig.6-2-1 Seperator SBC Board.

6-2-1 SBC replacement procedure

(1) Separate the CARD support inside the Industrial PC.

(2) Separate the connectors attached to the SBC Board and separate the SBC Board from the Backplane. At this time, be careful not to damage the Pins.

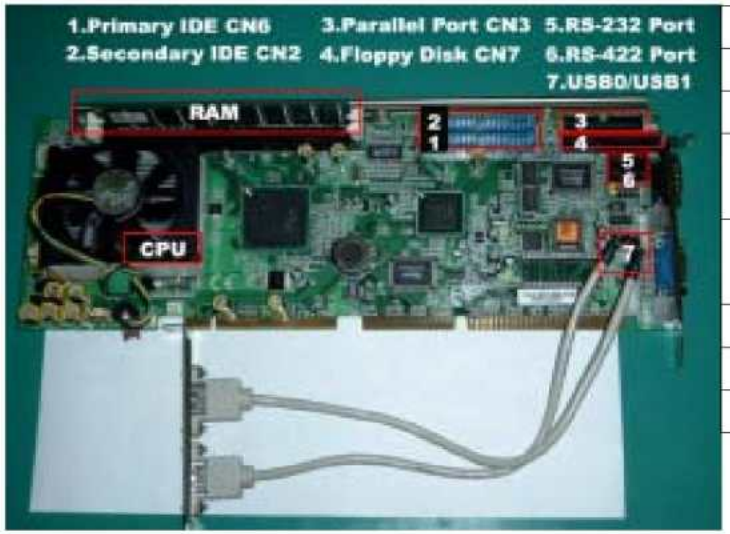
(3) Separate the CPU (integrated with fan) and RAM from the SBC.
When separating the CPU, be careful not to damage the chip mounted on the SBC.

(4) Replace SBC and assemble CPU, RAM, etc. Assemble various connectors to SBC.
(See Fig. 6-2-2)

(5) Check the jumper of SBC (Refer to Fig 6-2-3)

(6) Assemble the SBC to the Back Plane. Assemble the separated connector.
(See Fig 6-2-2 and Table)

(7) Check CMOS Setting (Refer to 6-2-2 CMOS Setting Procedure)



No.	Fuction	Cabel
1	Primary IDE CN6 HDD	
2	Secondary IDE CN2 CD Driver	
3	Parallel Port CN3	Pinter Port (PC01: J9061330A Cable)
4	Floppy Disk CN7	Floppy (PC05:J9061769A Cable)
5	COM2 RS232 CN9 RS232	
6	CON2 RS422 CN10 RS 422	
7	USB3/4 CN12 USB Port	

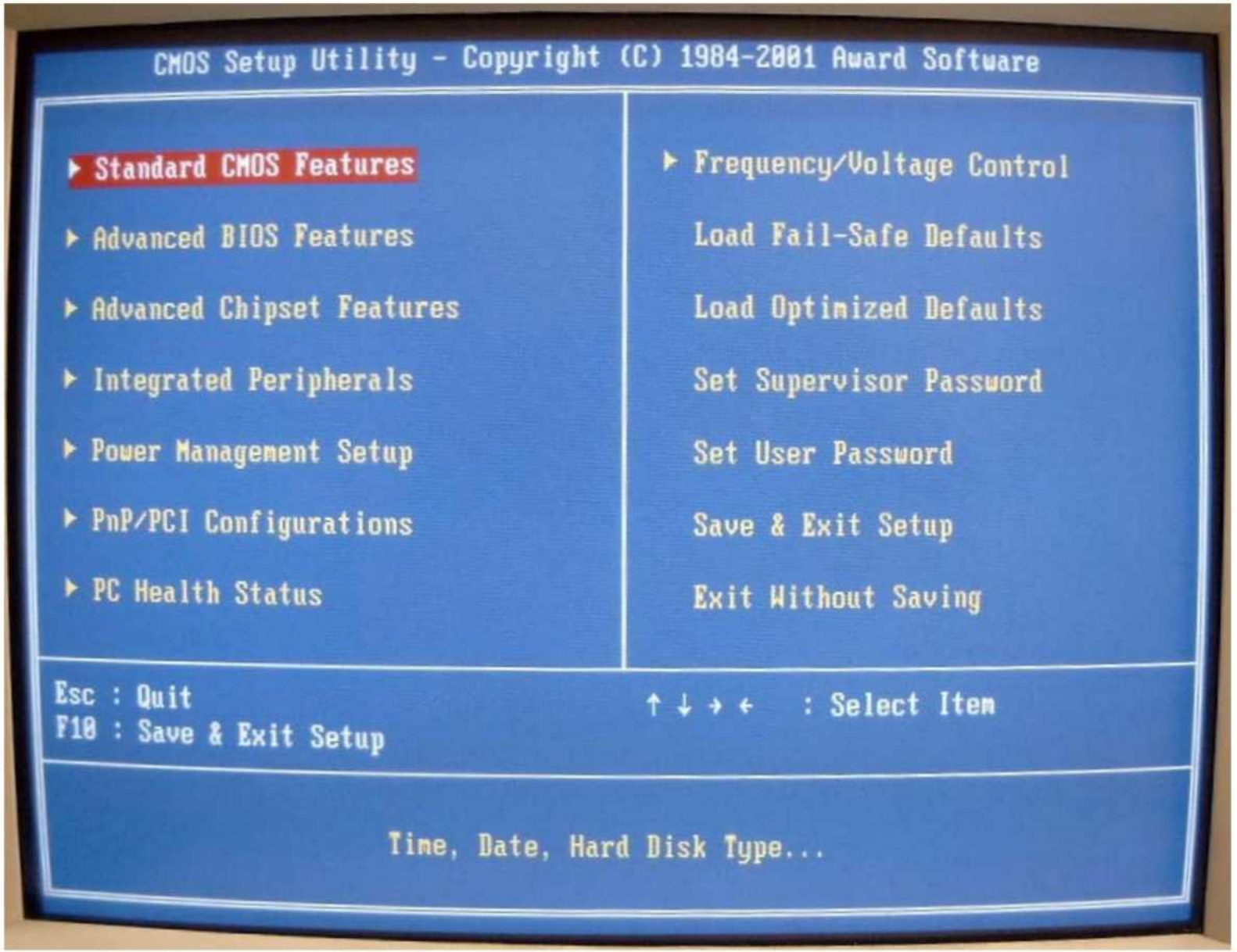
Fig.6-2-2 SBC Board(CPU,RAM,Connectors)



Fig.6-2-3 SBC Jumper Setting

Machine Translated by Google

6-2-2 CMOS Setting Procedure



Machine Translated by Google

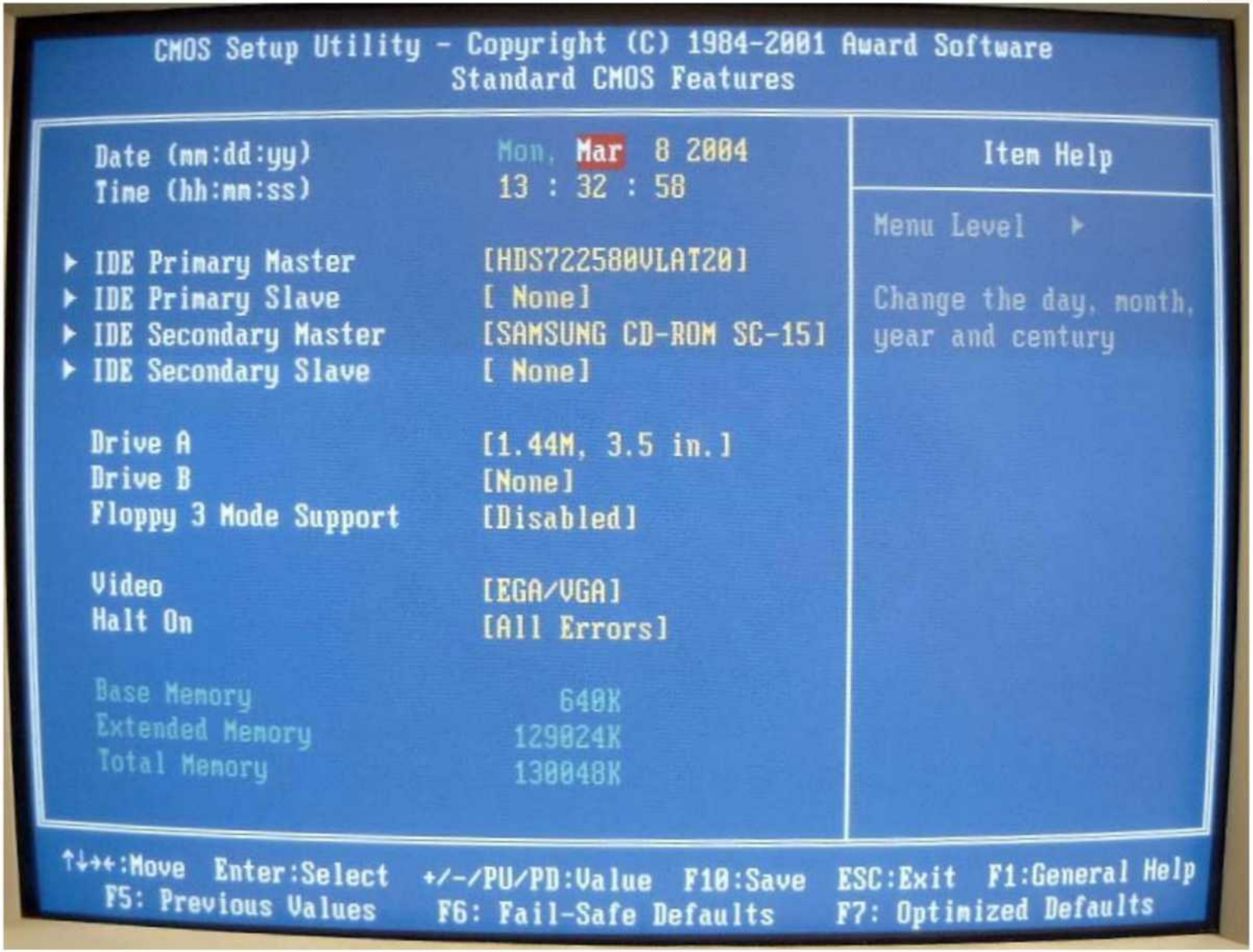


Fig.6-2-2-1 Standard CMOS Features

Machine Translated by Google

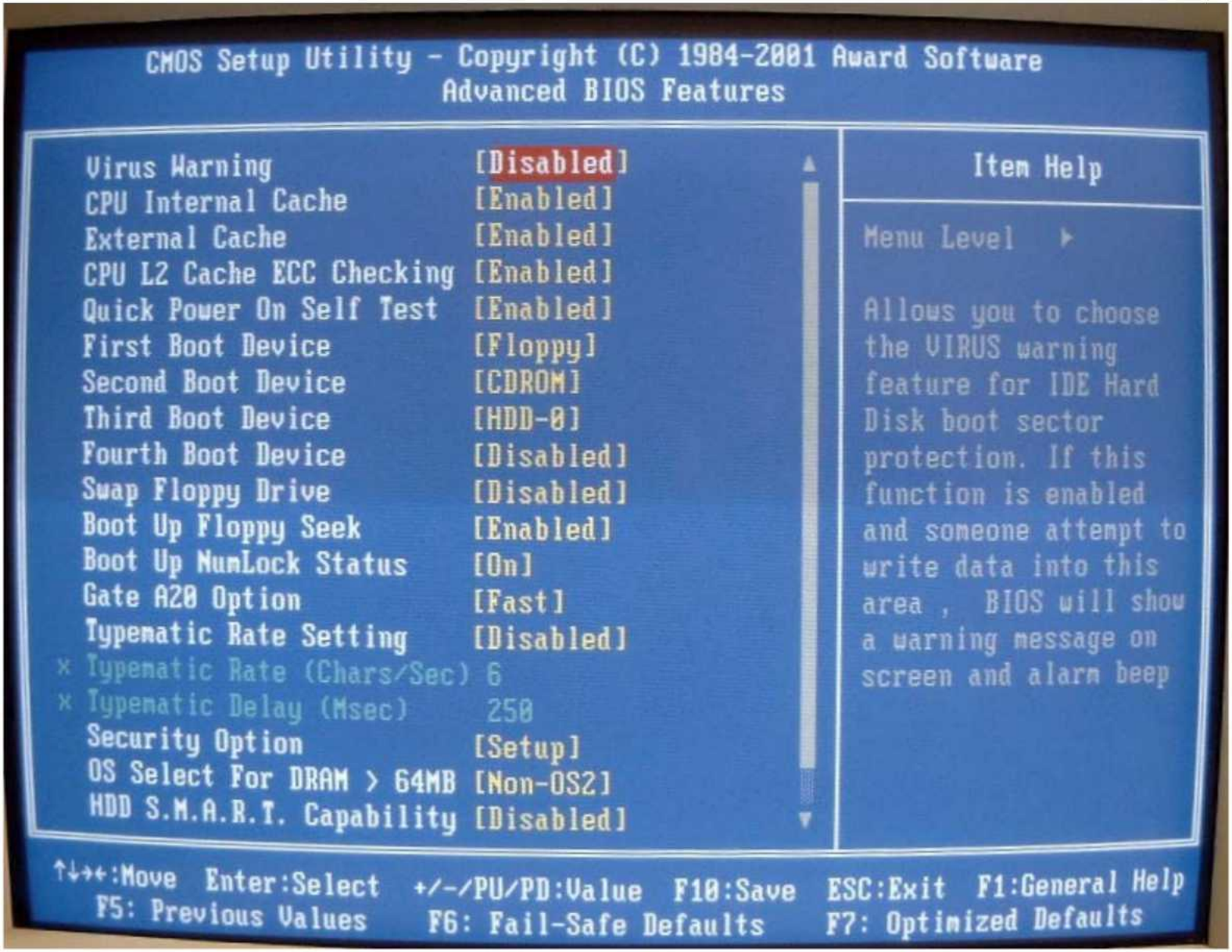
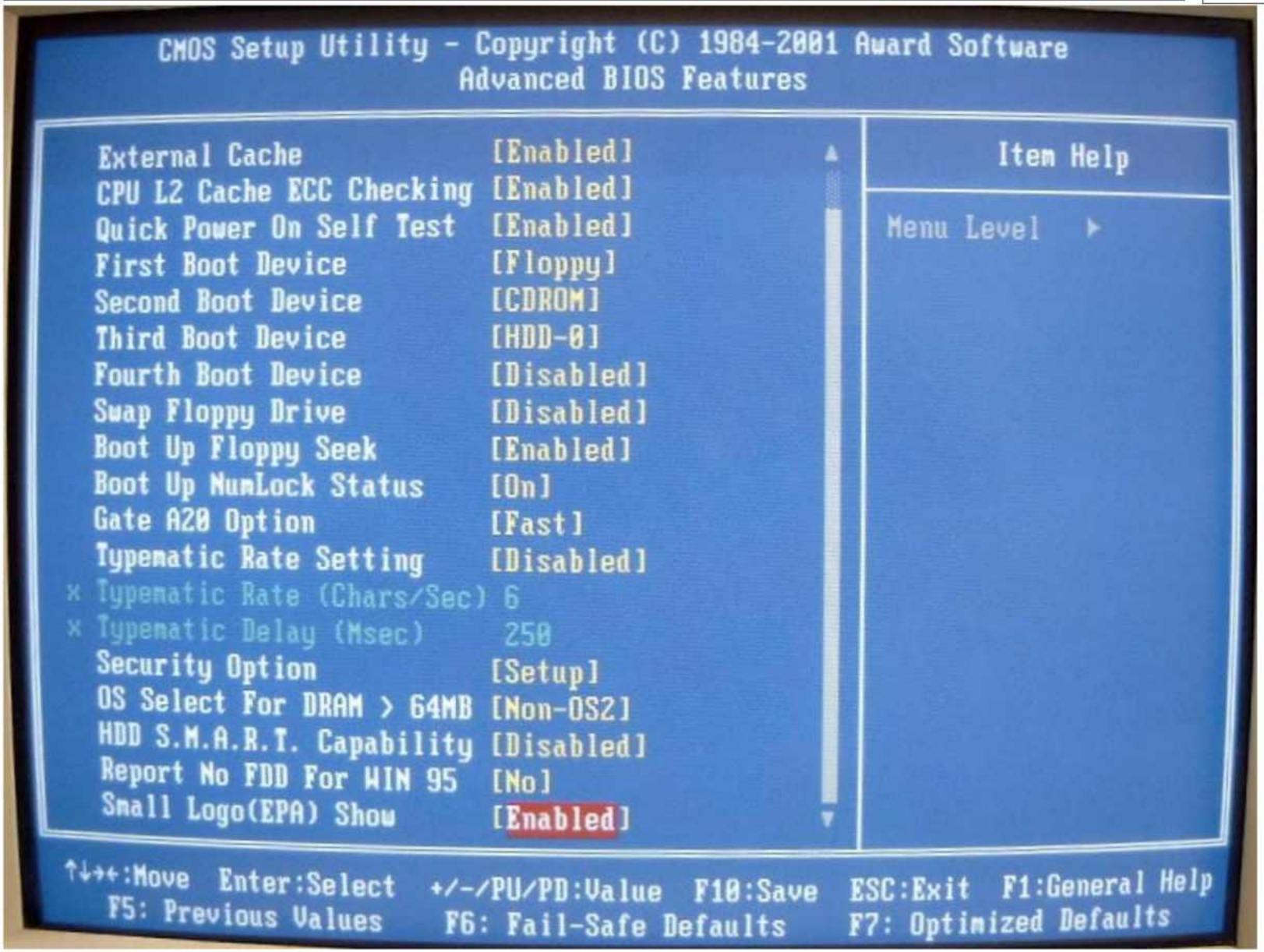


Fig.6-2-2-2 Advanced BIOS Features

Machine Translated by Google



Machine Translated by Google

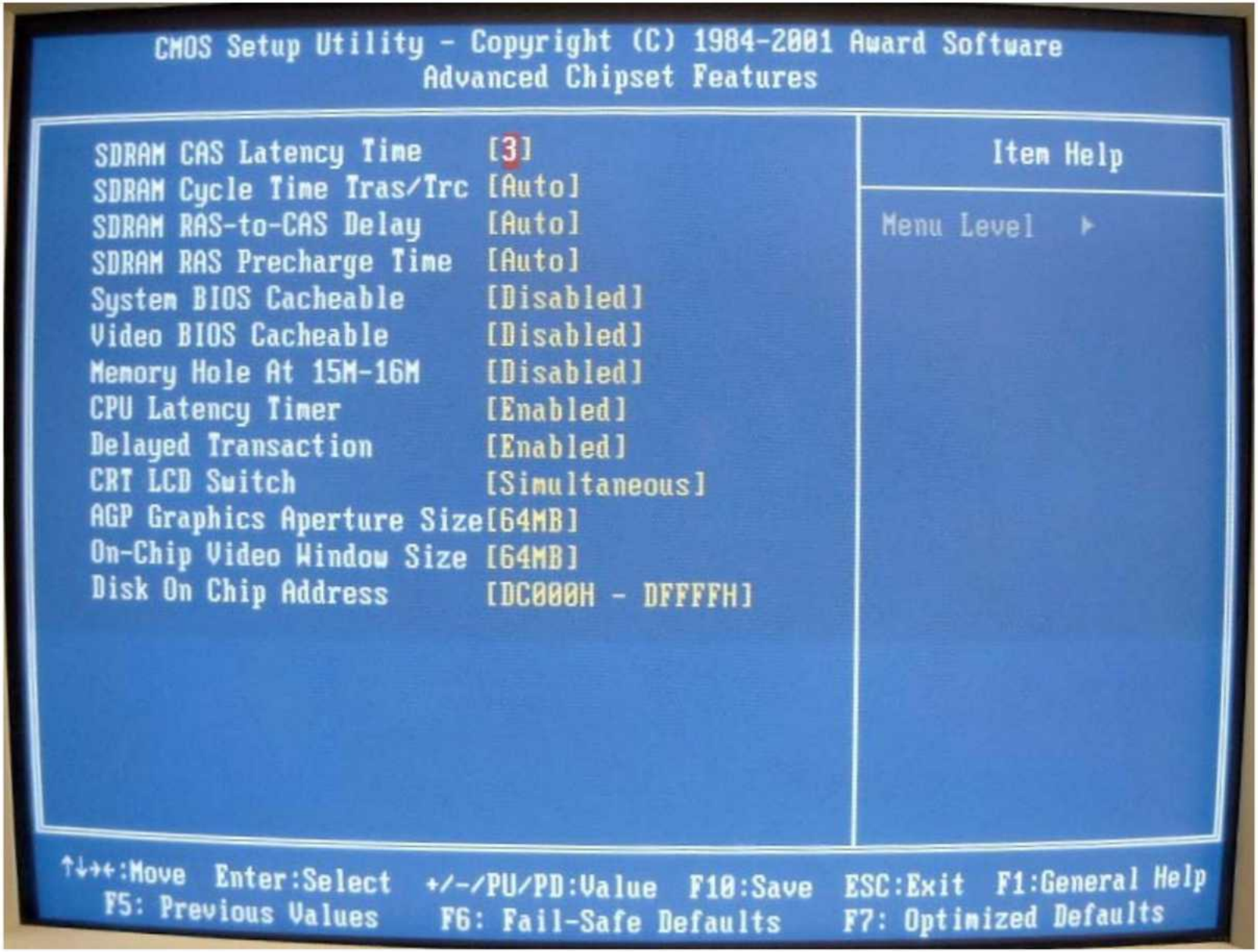


Fig.6-2-2-3 Advanced Chipset Features

Machine Translated by Google

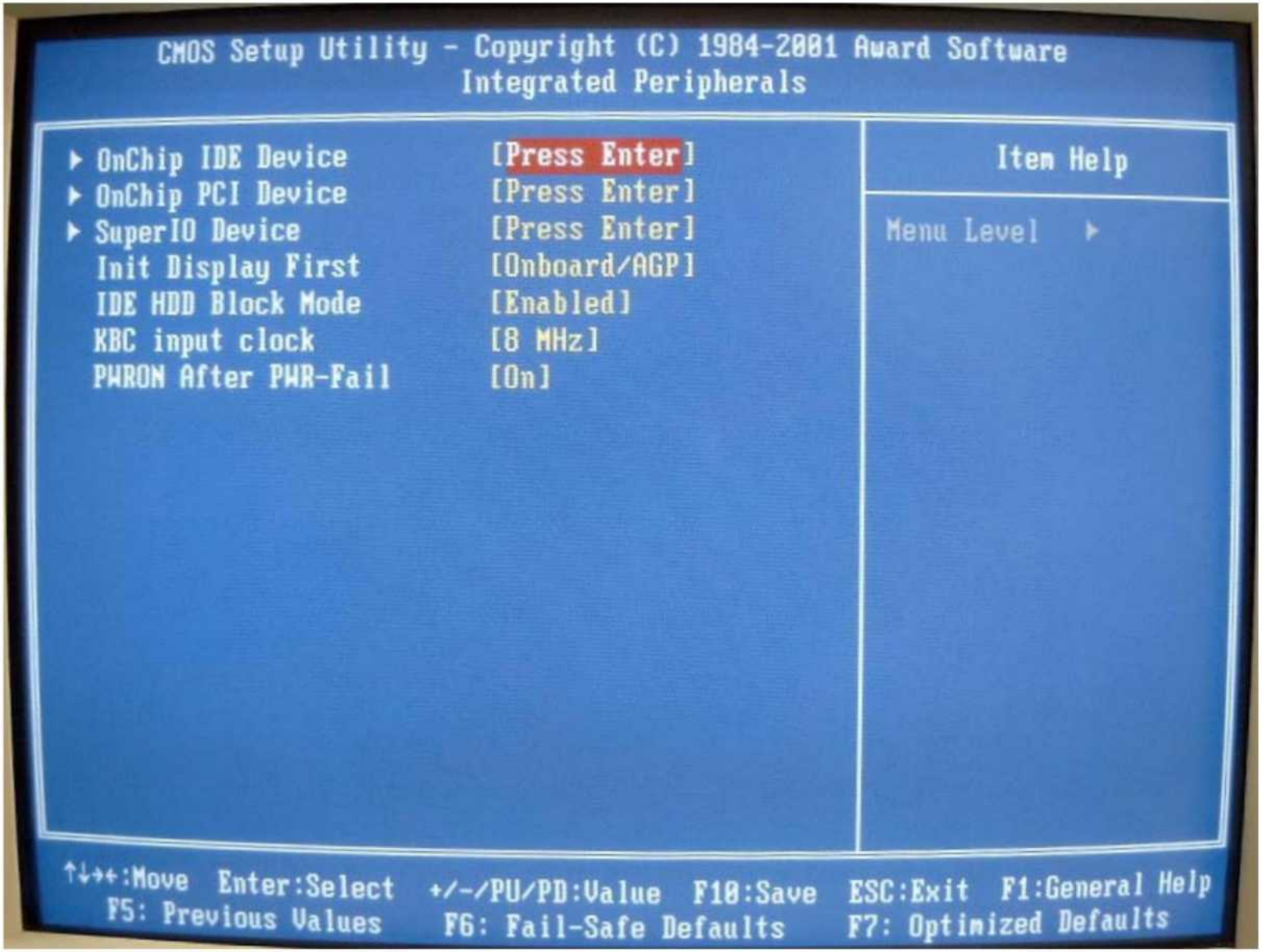


Fig 6-2-2-4 Integrated Peripheral

Machine Translated by Google

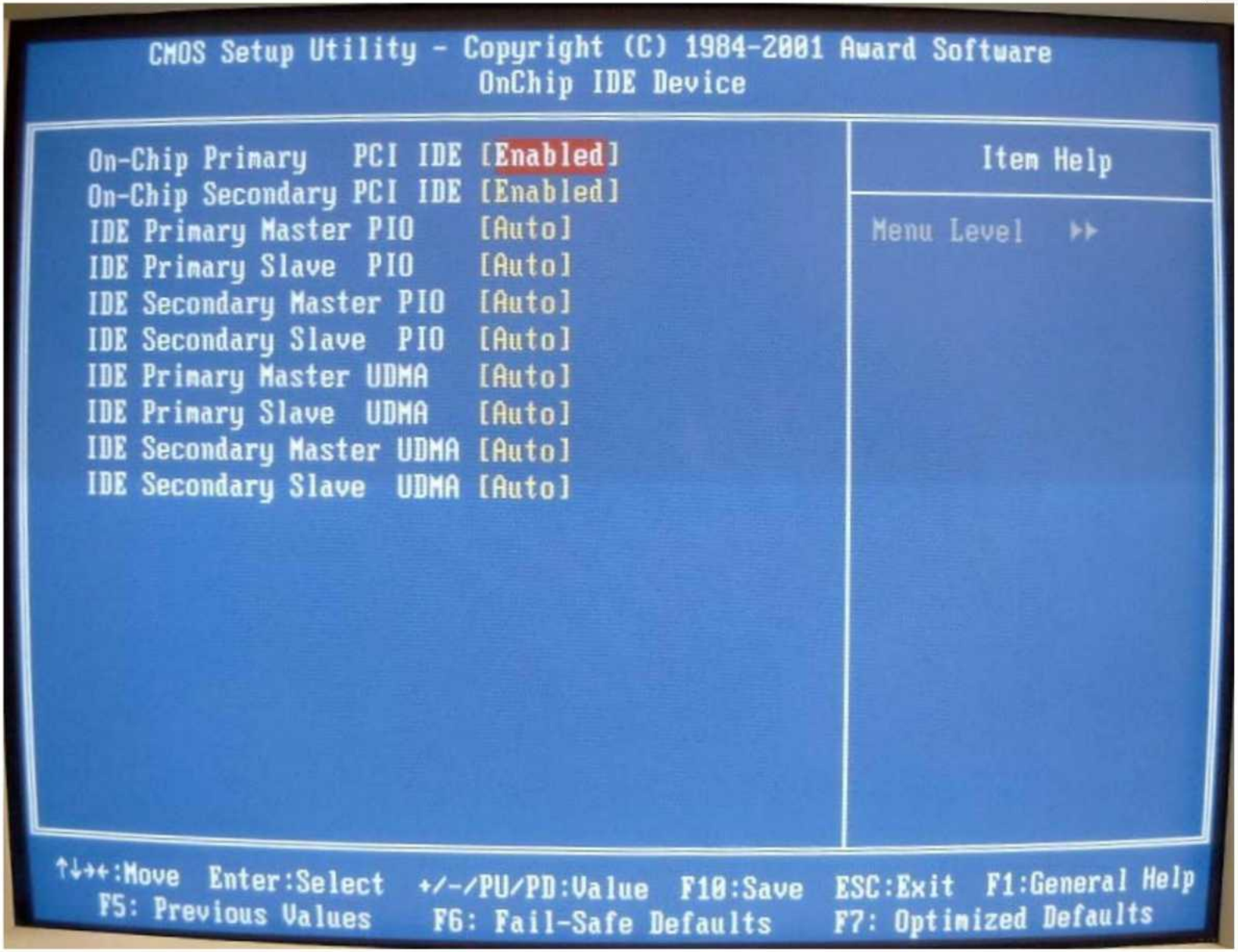


Fig 6-2-2-4-1 Integrated Peripherals=>OnChip IDE Device

Machine Translated by Google

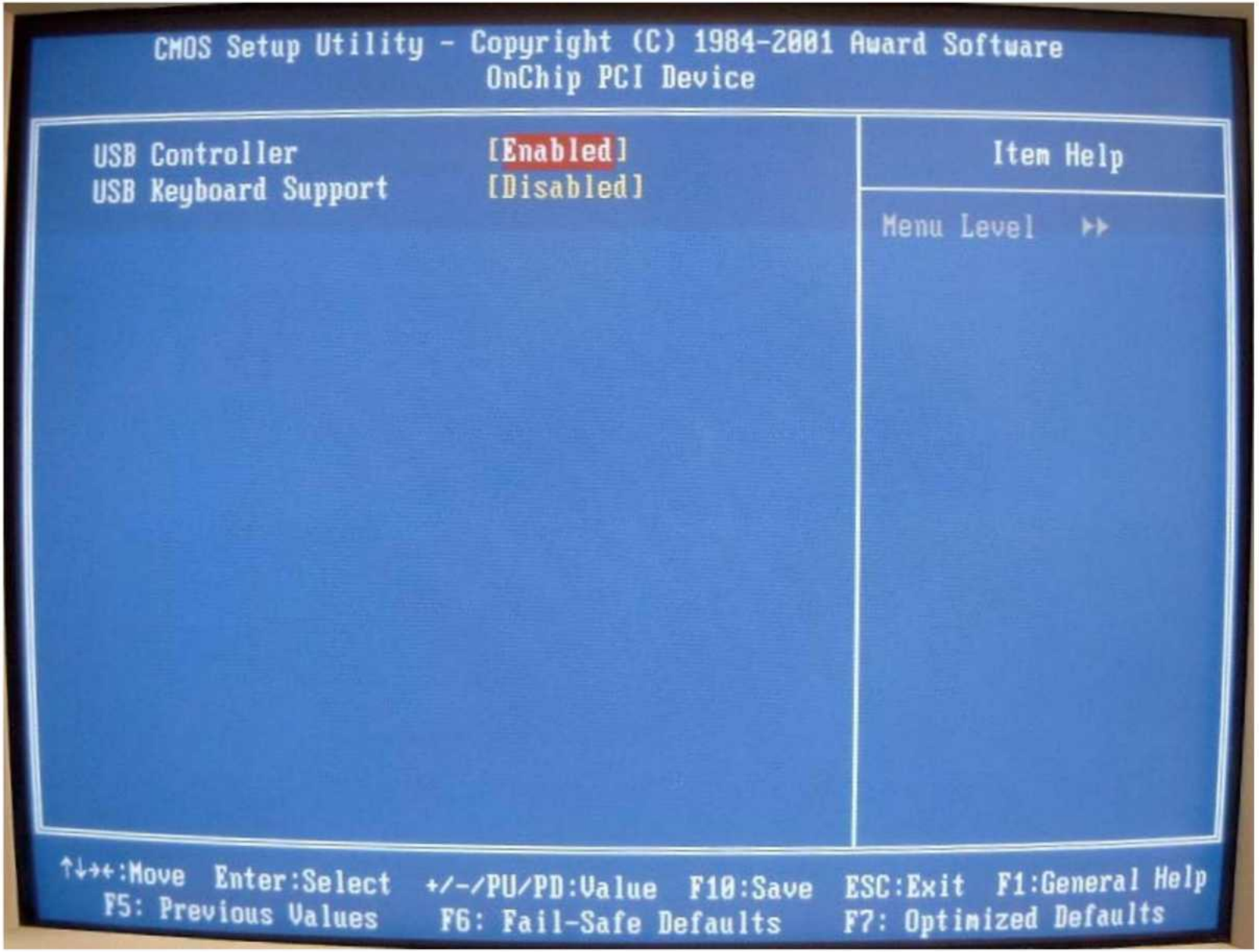


Fig 6-2-2-4-2 Integrated Peripherals=>OnChip IDE Device

Machine Translated by Google

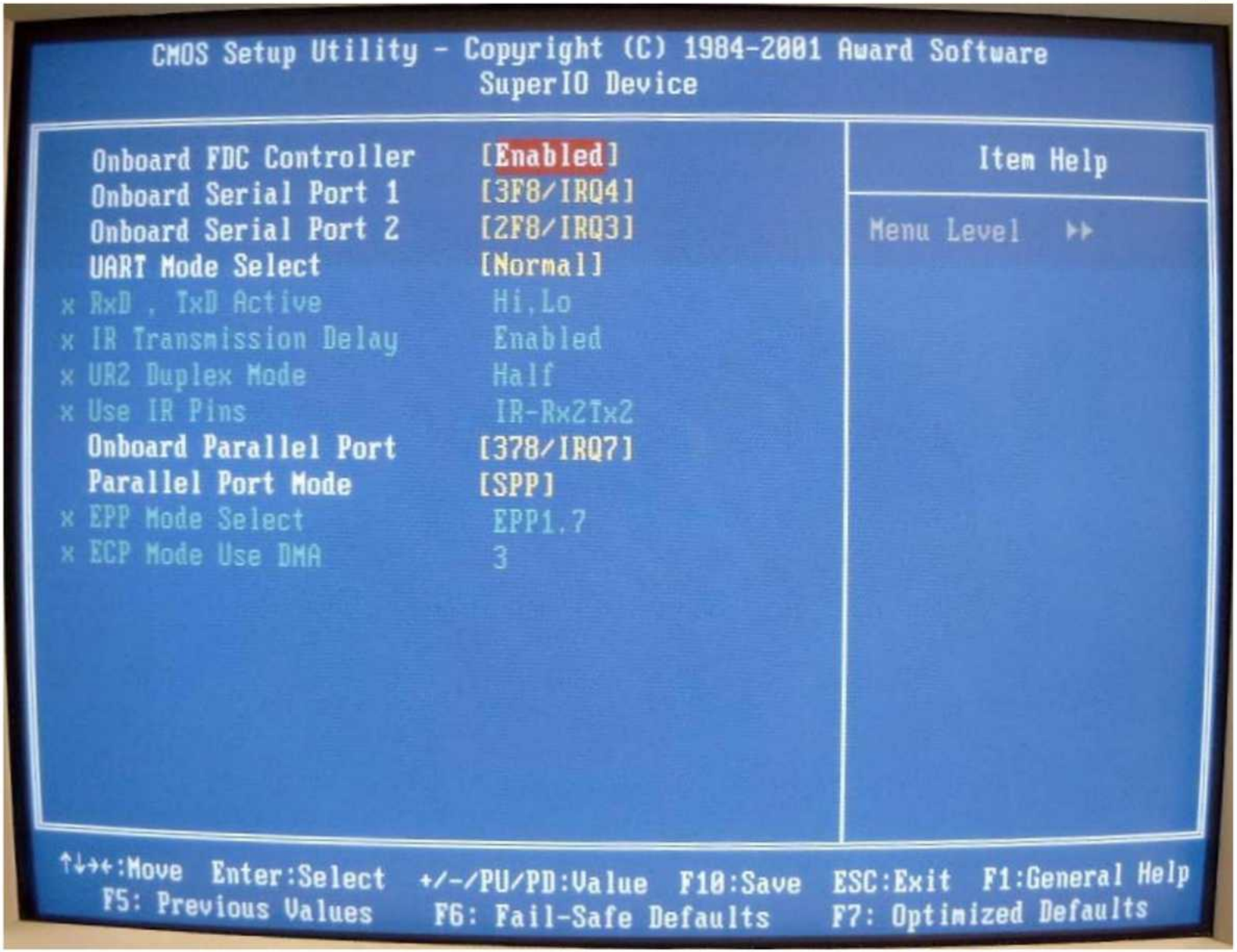


Fig 6-2-2-4-3 Integrated Peripherals=>IO Device

Machine Translated by Google

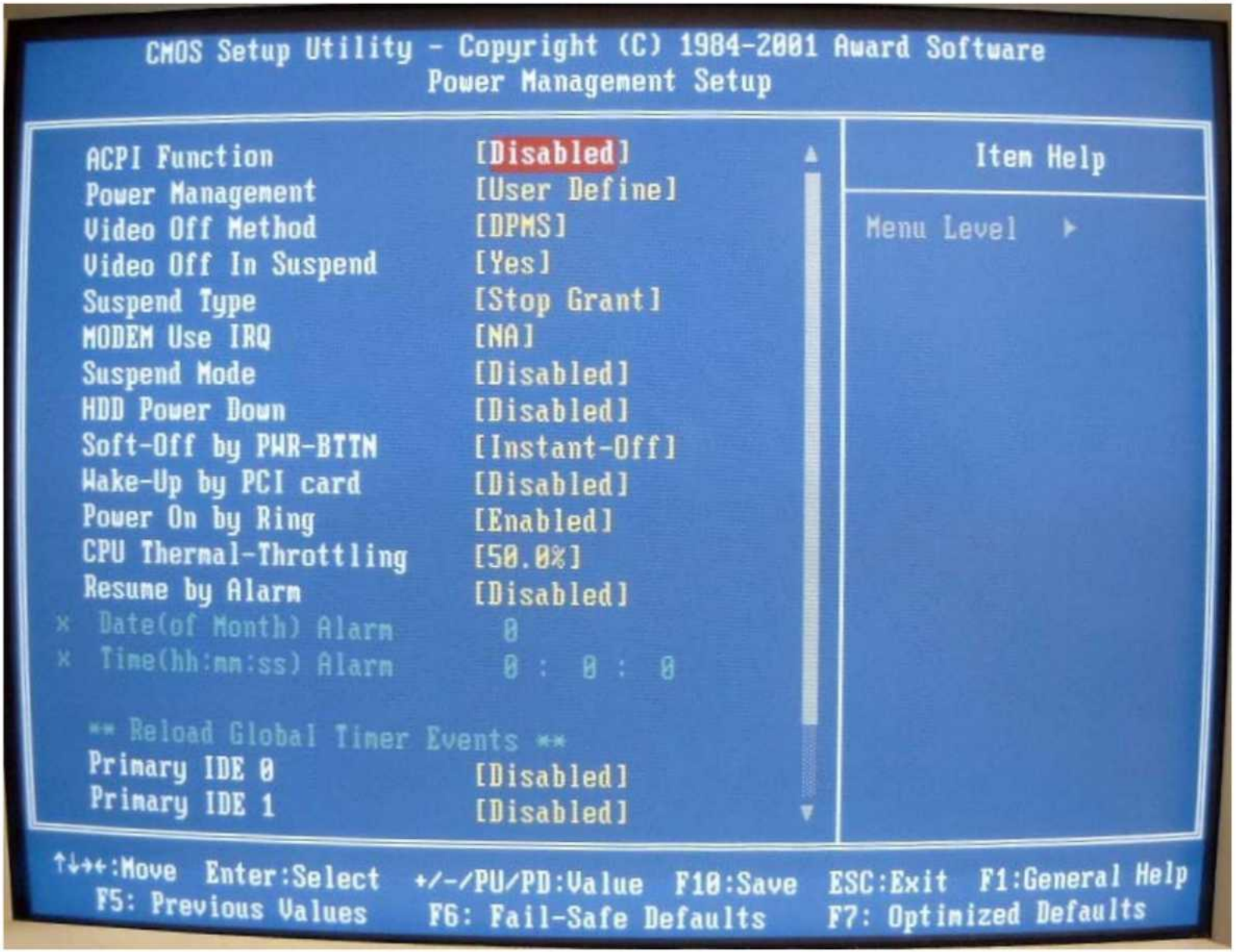
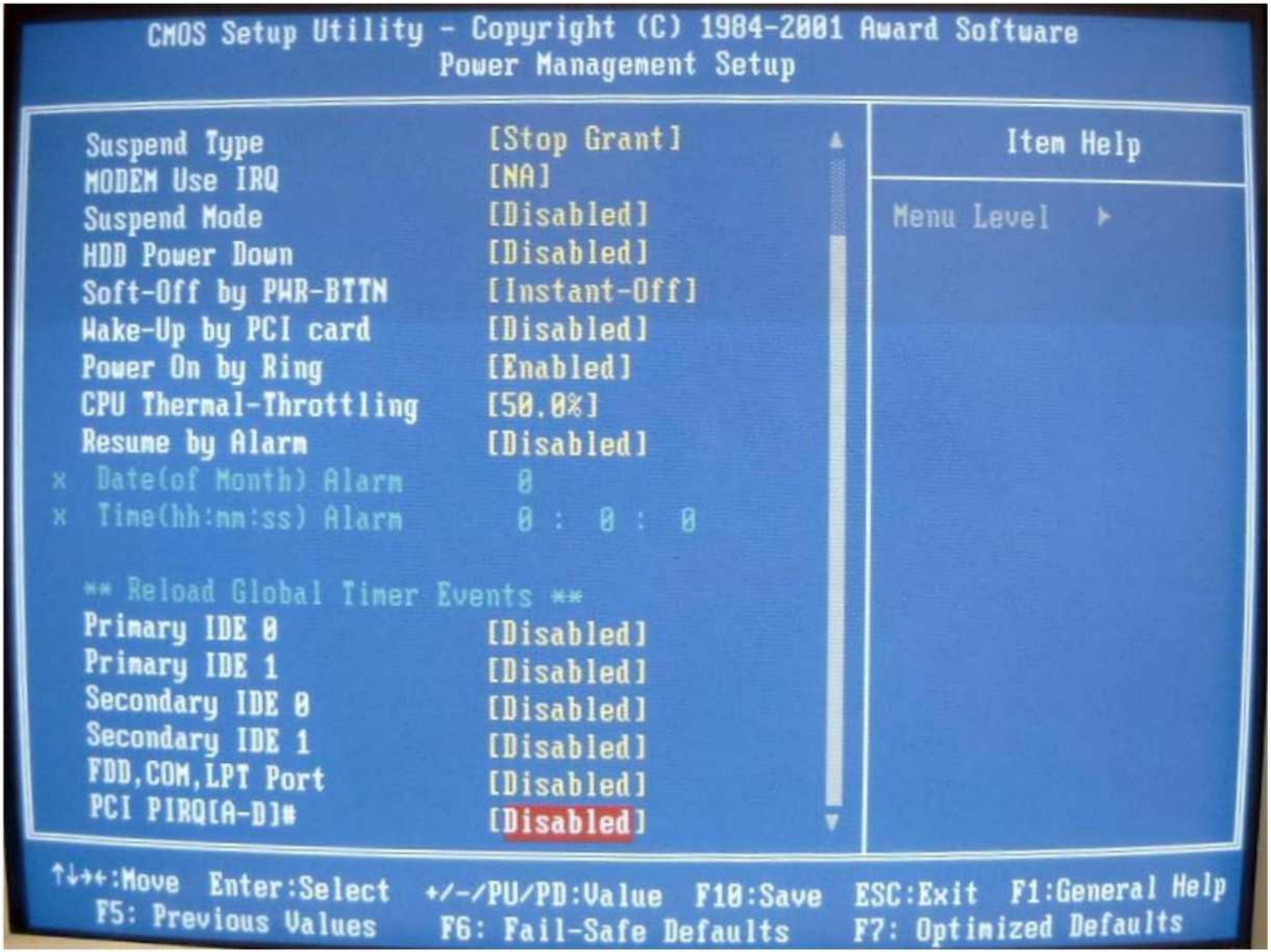


Fig.6-2-2-5 Power Management Setup

Machine Translated by Google



Machine Translated by Google

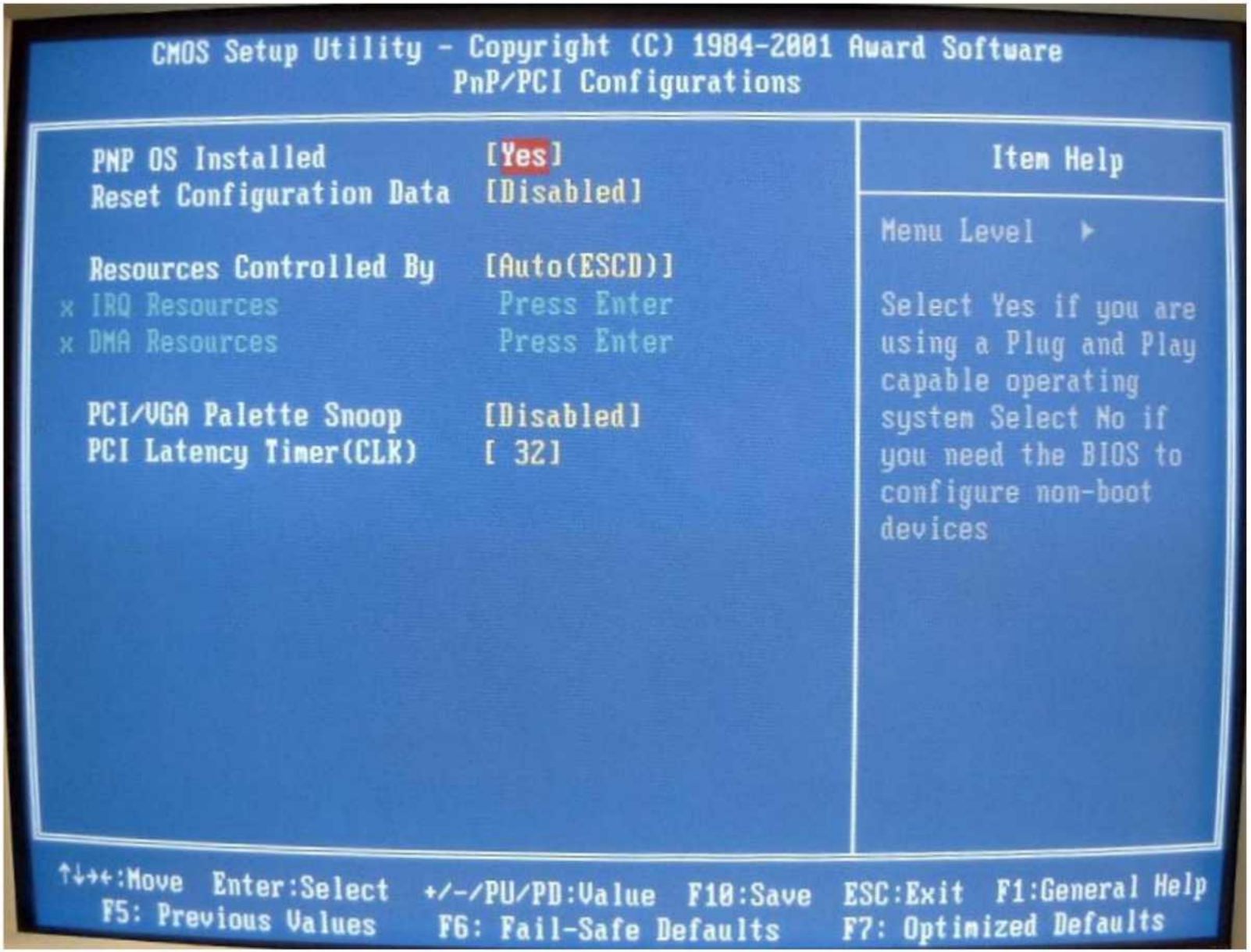


Fig.6-2-2-6 PnP/PCI Configurations

Machine Translated by Google

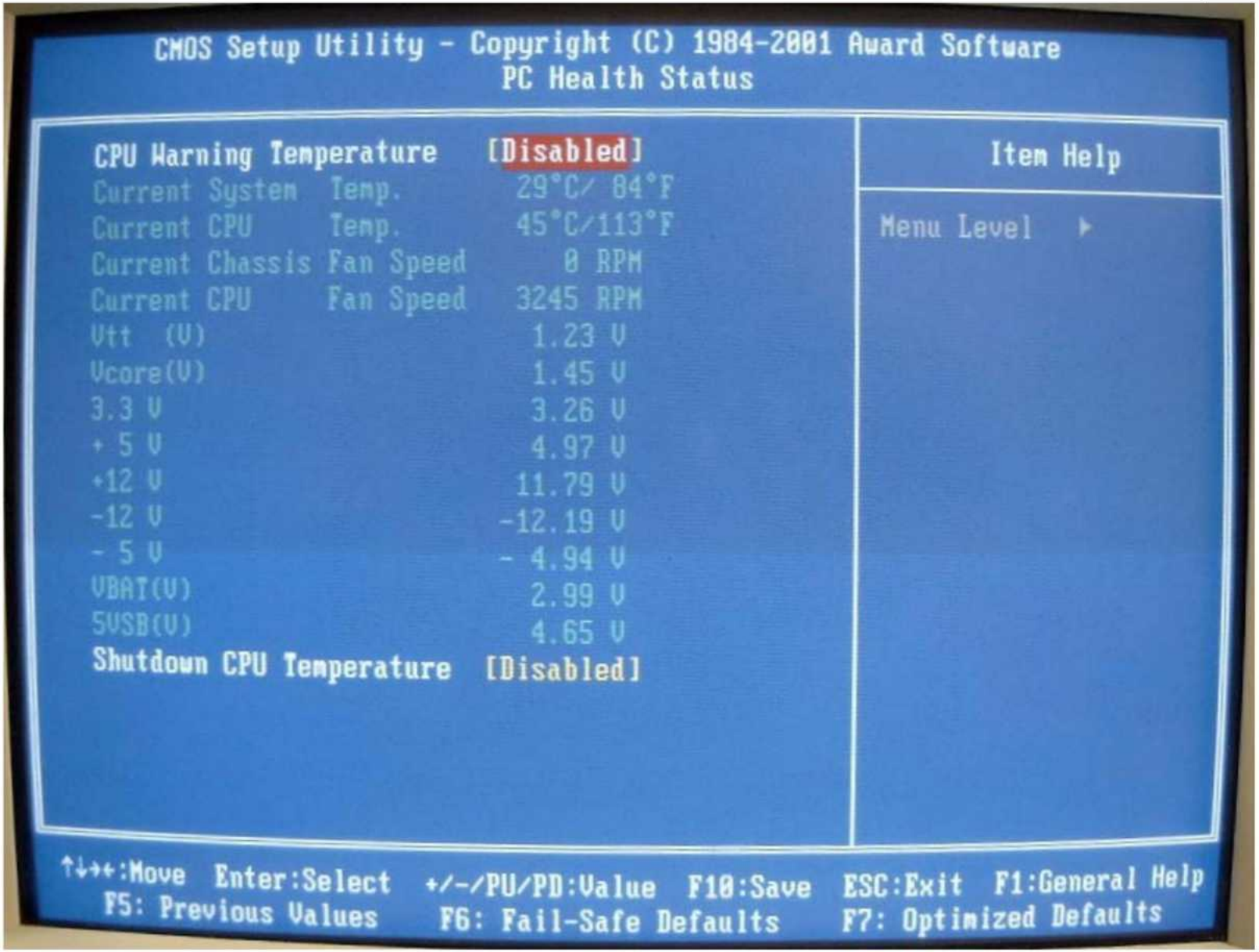


Fig.6-2-2-7 PC Health Status

Machine Translated by Google

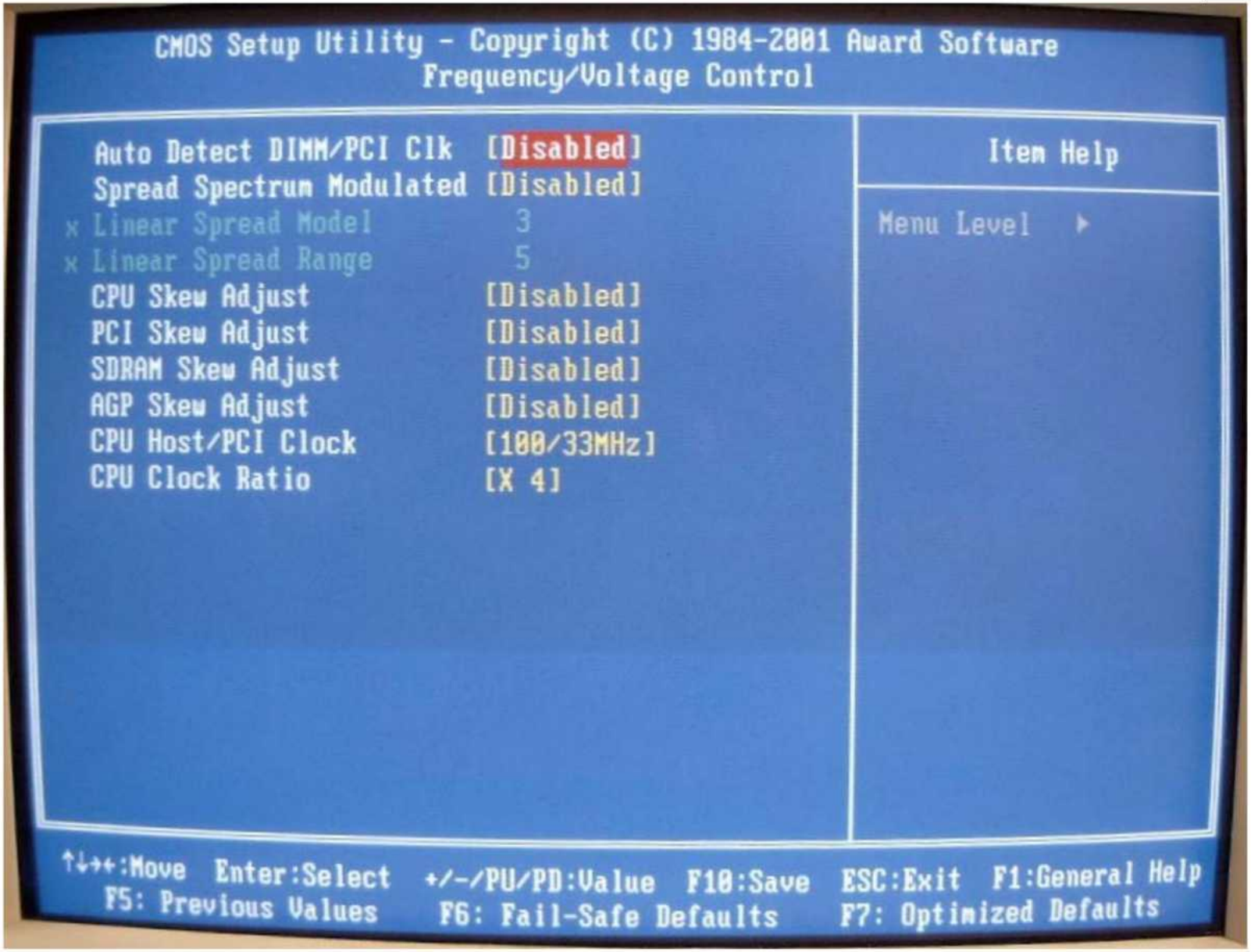


Fig.6-2-2-8 Frequency/Voltage Control

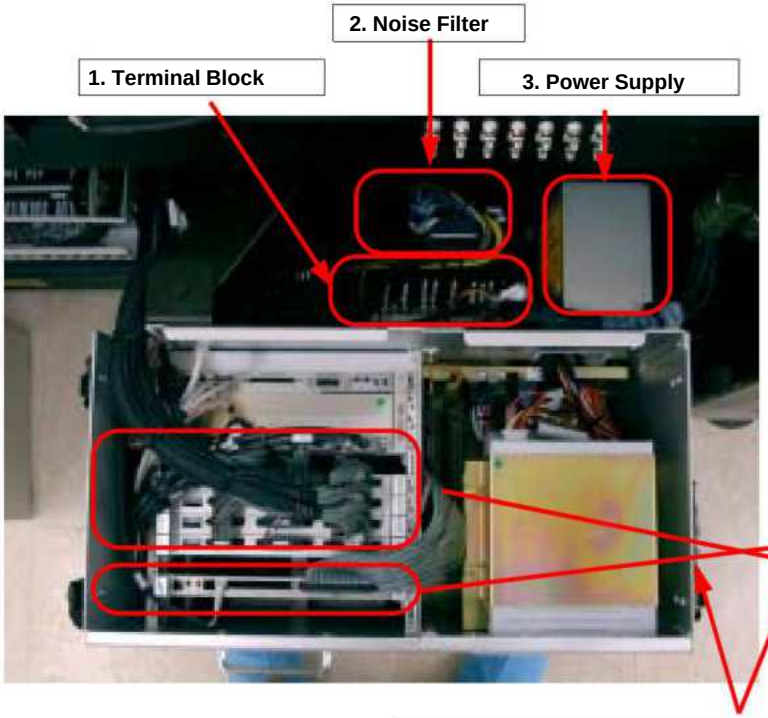
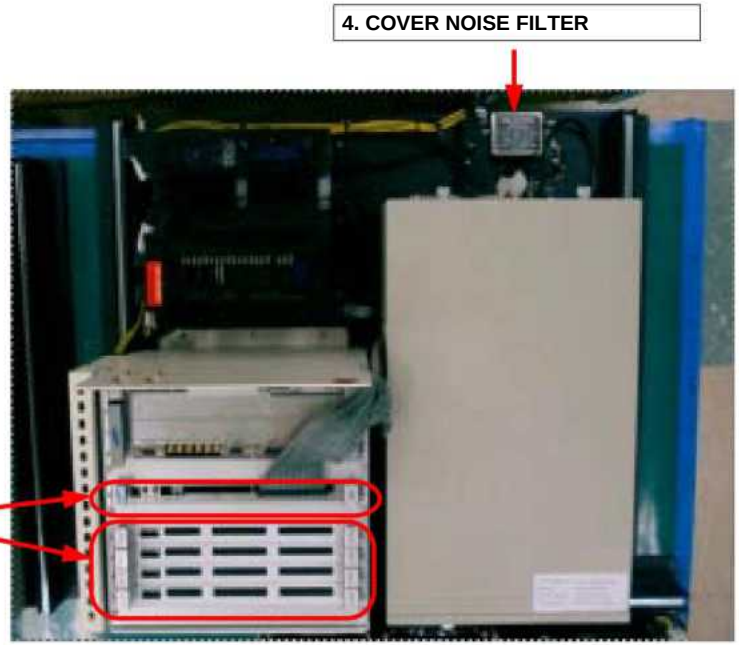
Machine Translated by Google

Trouble diagnosis

Defective content / check list	Vision screen				Axis Board	MMI Loading error occurs MPU-STOP (refer to the text for details)
	No picture Screen distorted	Screen smeared		When recognizing fiducial Timeout occurs	Error occurs while waiting for Flag at the end of motor operation	
Replace Vision Board Replace	2	1	1	2		
Flying Camera Reconnect Back	2	1				
plane and Vision Board Re-setup Vision File (Upgrade C:\Mark3\Vmeipl\vision.bin to the	1					
latest version)				1		
Replace Axis Board Re-					1	
detach the Can Master Board and PC ISA Card						1
Replacing the Can Master Board						2
Grounding for vision board noise countermeasures			2			
Replace VME Board						

Machine Translated by Google

7-1. Types and Classification of **Rack Ass'y** by Applied Equipment

division	Rack Ass'y (General PC Type)	Rack Ass'y (Indusrial PC Type)	Remark
CP45F(V)	**Up to serial number CJ-1673 (~1673)**	From **serial number** CJ-1674 (1674~)	
CP45F(v)NEO	**Up to Serial Number CM-0252 (~0252)**	**Serial Numder** From CJ-0523 (253~)	
Difference			
Terminal Block	THE	X	
Noise Filter	Nosie Filter location change	Add Noise Filter Cover	
Power Supply External Power Supply for PC		Changed to built-in power supply for PC	
Board location VME AXIS BOARD ASS'Y (SMD) and CAN MASTER BOARD ASS'Y location change			

Machine Translated by Google

7-2 Rack Ass'y Interface

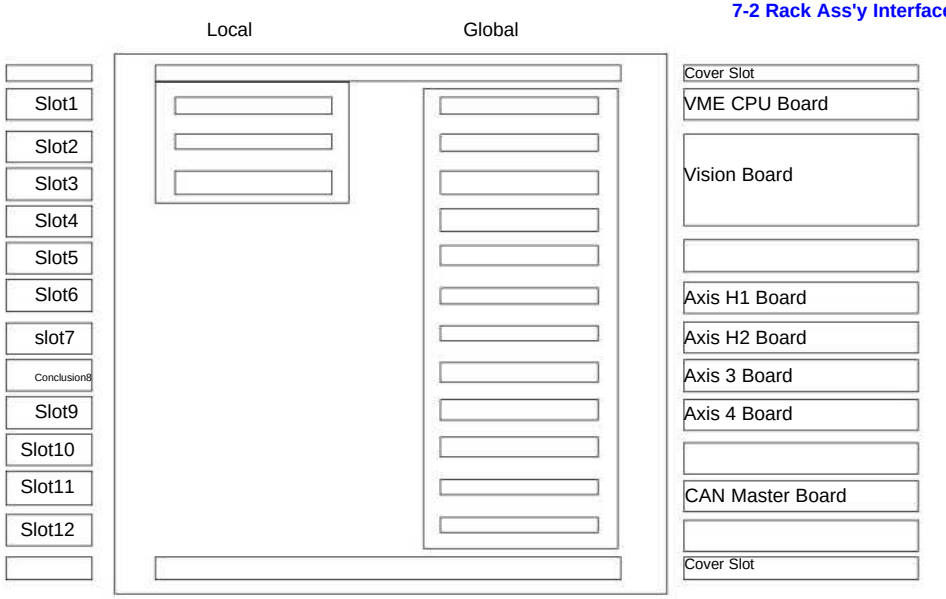


Fig.7-3-1 Baclplane Layout

- Local Interface

: Noise Filter, Power Supply, Terminal Block, VME, PC, FAN connection relationship indicate

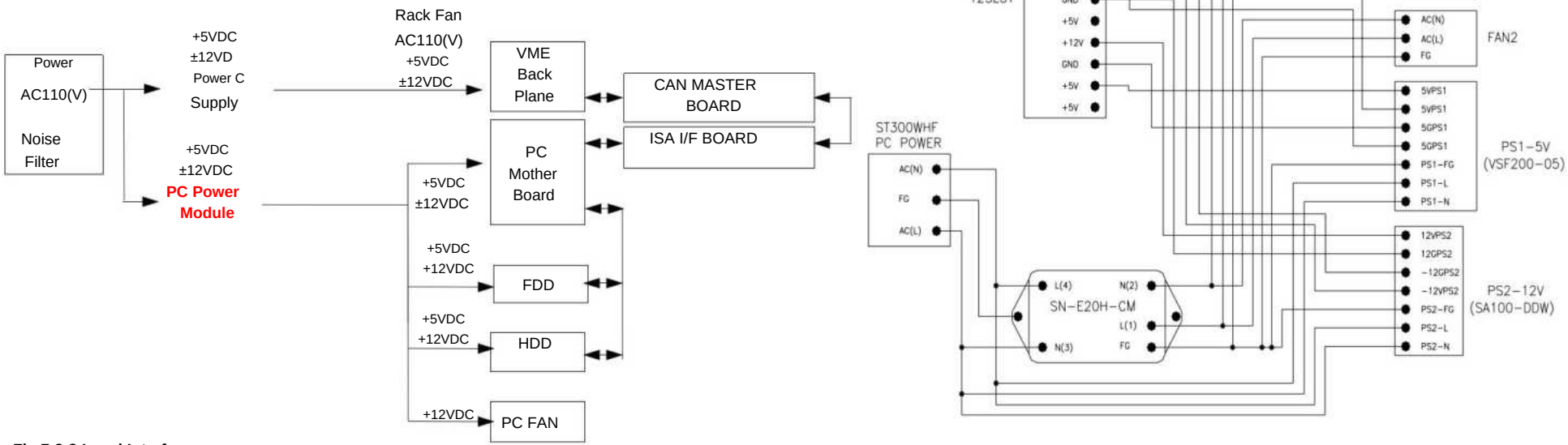


Fig.7-3-2 Local Interface

Machine Translated by Google

*Globall Interface

It shows the interface relationship between parts such as Noise Filter, VME Controller, and PC Control Board inside the Control Rack and various controllers, cameras, monitors, mouse, and key boards outside the Control Rack.

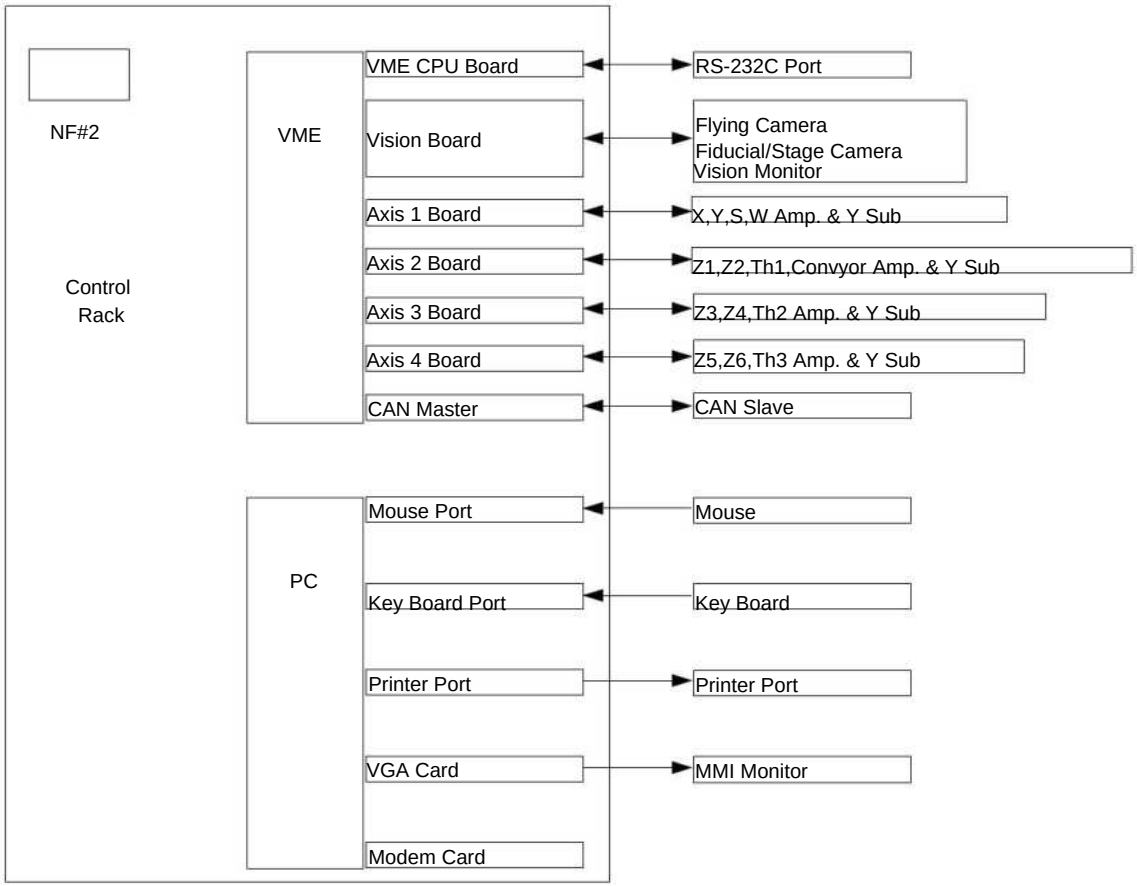
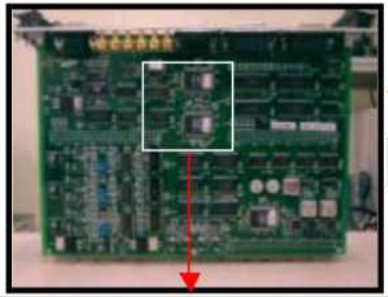
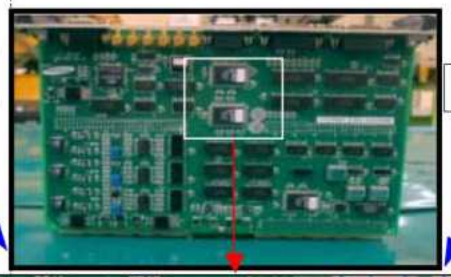


Fig.7-3-3 Global Interface

Machine Translated by Google

7-3. Type **of vision board for each** equipment Compatibility

Model	CP45F(V)			CP45F(V)NEO
Serial No.	**#1 ~ #1229**	**#1230 ~ #1972**	**#1973~**	**#1~**
Flying Vision	Flying Camera for CP45F(V) : J9059032B		FlyinggVision for CP45NEO : J9059032C	
Vision Board	ALTERA Chip type : J9060150A  		LATTICE Chip :J9060232A  	

Not compatable

Compatable

Compatable

Compatable

Machine Translated by Google

Note) Precautions when replacing **Vision Board**

1) Vision Board used ALTERA Chip Type in the past, and LATTICE Chip Type is currently applied.

2) In the case of Flying Camera, J9059032B material was used in the past and J9059032C material is currently used.

3) In the case of equipment equipped with **Altera Chip Type vision board** (based on factory **serial No. CP45F(V) #1~#1229) ,**

Flying Vision should not be combined with **J9059032C (for CP45F(V)NEO) .** => If used, the I/O Board in Flying Vision is damaged. => Must be combined with J9059032B (Flying Vision for CP45F(V)).

7-2-1) Exchange

procedure (1) Turn off

the power of the equipment (2) Separate the connector connected to the Vision Board

in the PCB RACK. (3) Unfasten the fixing bolt 6EA and push the handle outward to separate it from the

BackPlane. (4) Insert a new vision board into the rack and assemble

(Press the middle part of the board with force to easily assemble to the BackPlane)

(5) Fasten the fixing bolt and assemble the separated connector to its original position. (Connector fixing bolt) (6) Turn on the power of the equipment and check the image of the vision monitor.

(Sys. Setup => Camera => Camera Select)

(7) The Vision Board is composed of 3 boards (DSP, ADDA, MEMORY), which must be used integrally.

and should not be used separately.

Machine Translated by Google

7-4 MVME inspection and replacement

- Tools

  a) + Driver

- Parts

  a) J4809043 MVME CPU BOARD[MVME 162PA-252SE]

1) MVME162PA Board is common to 40 and 45, but EEPROM firmware is different.

- Existing 40, 45 are used for common use, and only the EP-ROM in the picture can be replaced by model -

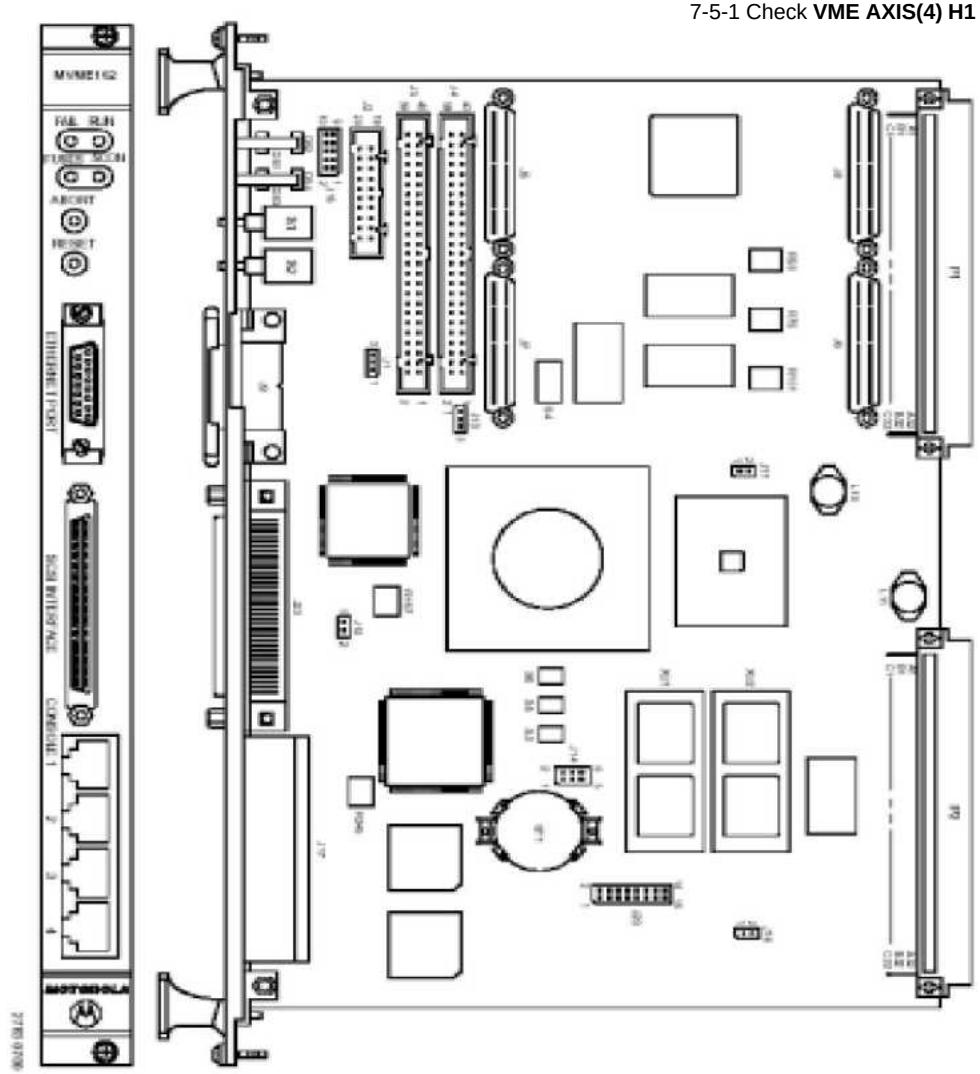
Memory battery may be discharged if left for a long time. In this case, it is necessary to replace with the same specifications.

(Refer to Fig 7-4-1)

2) When replacing, check the Jump Setting in Fig 7-4-2.

Machine Translated by Google

7-5-1 Check **VME AXIS(4) H1 BOARD Jump** (summary)



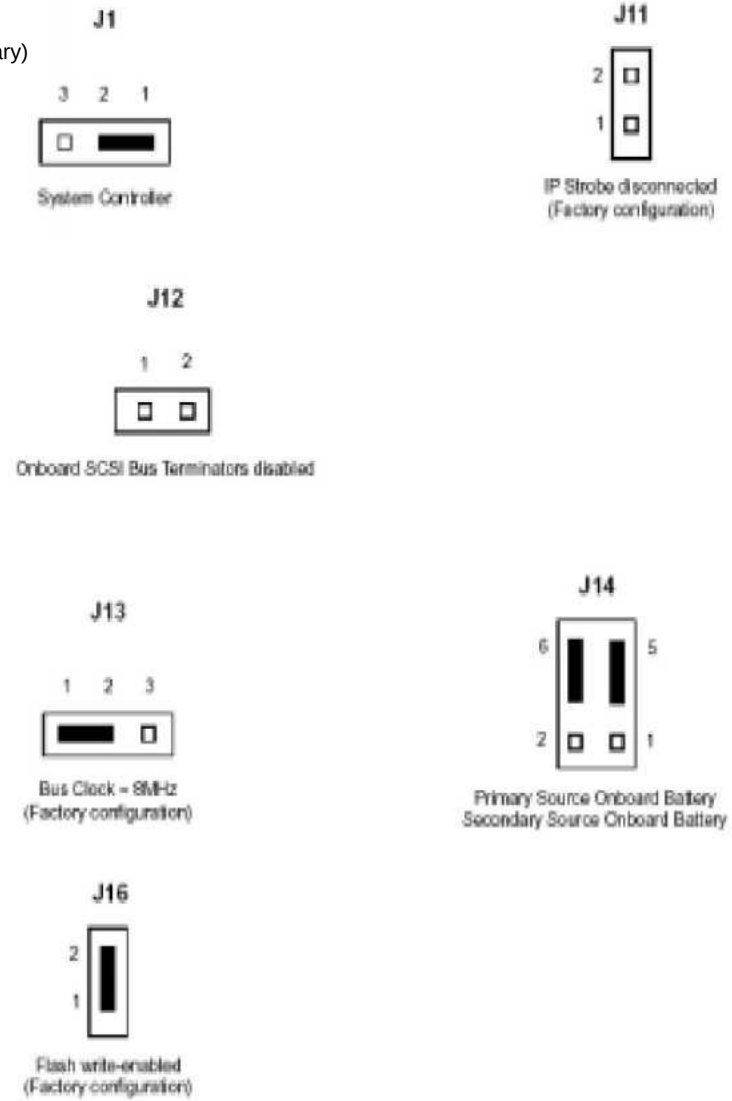
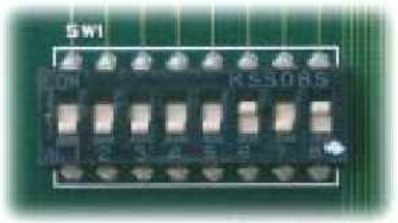


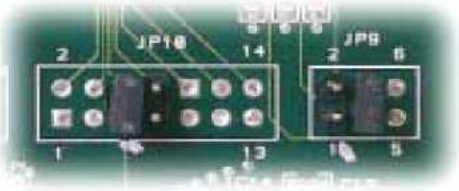
Fig.7-4-2 MVME Board Jump Seeting.

Machine Translated by Google

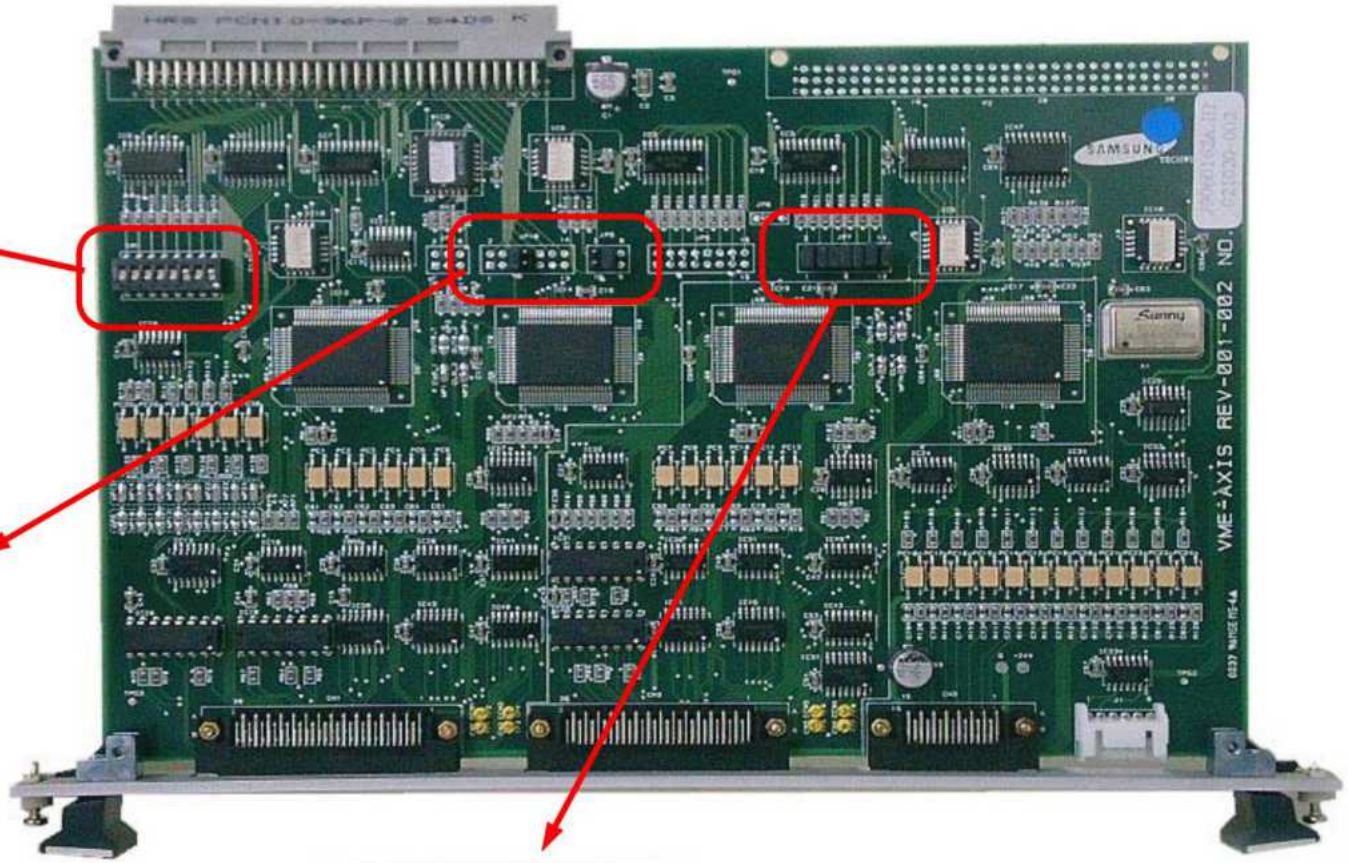
(Detail)



SW1; 6,8 ON



JP10; 5,6 CLOSE
JP9 ; 3,4 CLOSE





JP7; ALL CLOSE

Machine Translated by Google

7-5-2 Check **VME AXIS(4) H2 BOARD Jump** (summary)

MK3 AXIS : X, Y, S, W

Address : b00001~b001ff

INT_Vec : 3c~3f

JP5

Short=0

A16 A23

JP6

16AR

24AR

JP7

Short=0

A9 A15

SW1

INT_VEC

ON=0

ON

OFF

12345678

V0 v7

JP8

Short=0

AM3 AM5

01 2

JP9

INT

JP10

IRQ7 IRQ1

CLR_1 STRANGE_1

CN1 column A

CLR_2 WEIRD_2

CN1 Row B

CN1 column A

STEP PULSE OUT_1

CW1/CCW1 settings

AC AM_CODE_1

Input Port Setting

CN1 Row B

STEP PULSE OUT_2

CW2/CCW2 setting

AC AM_CODE_2

Input Port Setting

CLR_3 WEIRD_3

CN2 column A

CLR_4 WEIRD_4

CN2 row B

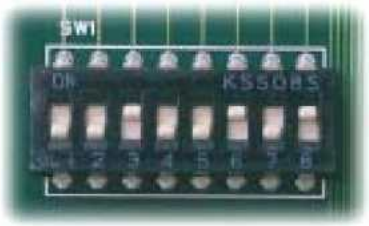
ÿ) Swing, Width Servo CN1 44,45,46 Pin

Connection Open

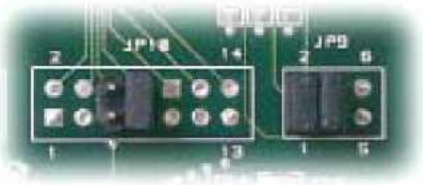
- 44(ALM2), 45(ALM3), 46(ALM4)

Machine Translated by Google

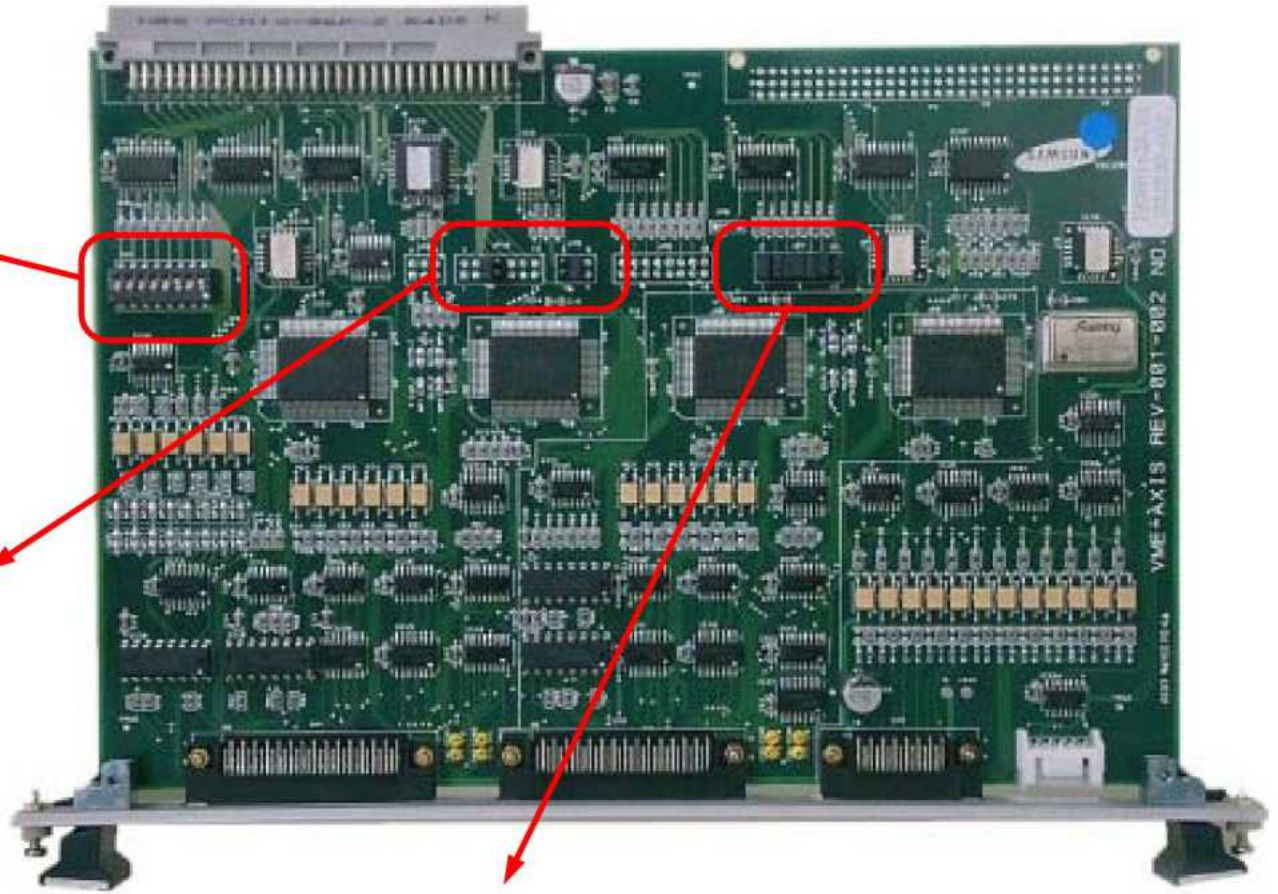
(Detail)



SW1; 3,6,8 ON



JP10; 7,8 CLOSE
JP9 ; 1,2 CLOSE
3,4 CLOSE

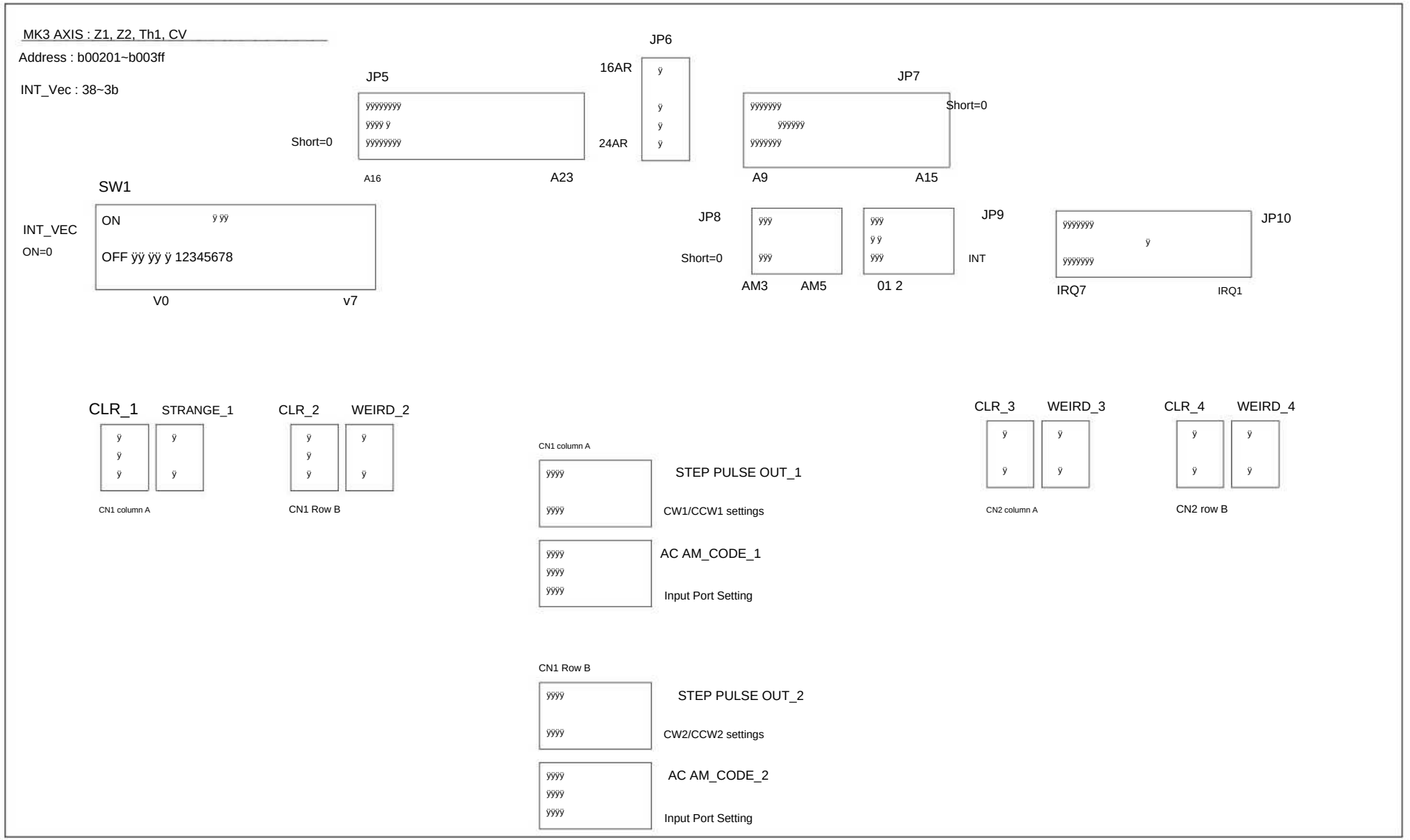




JP7; 1,2 OPEN

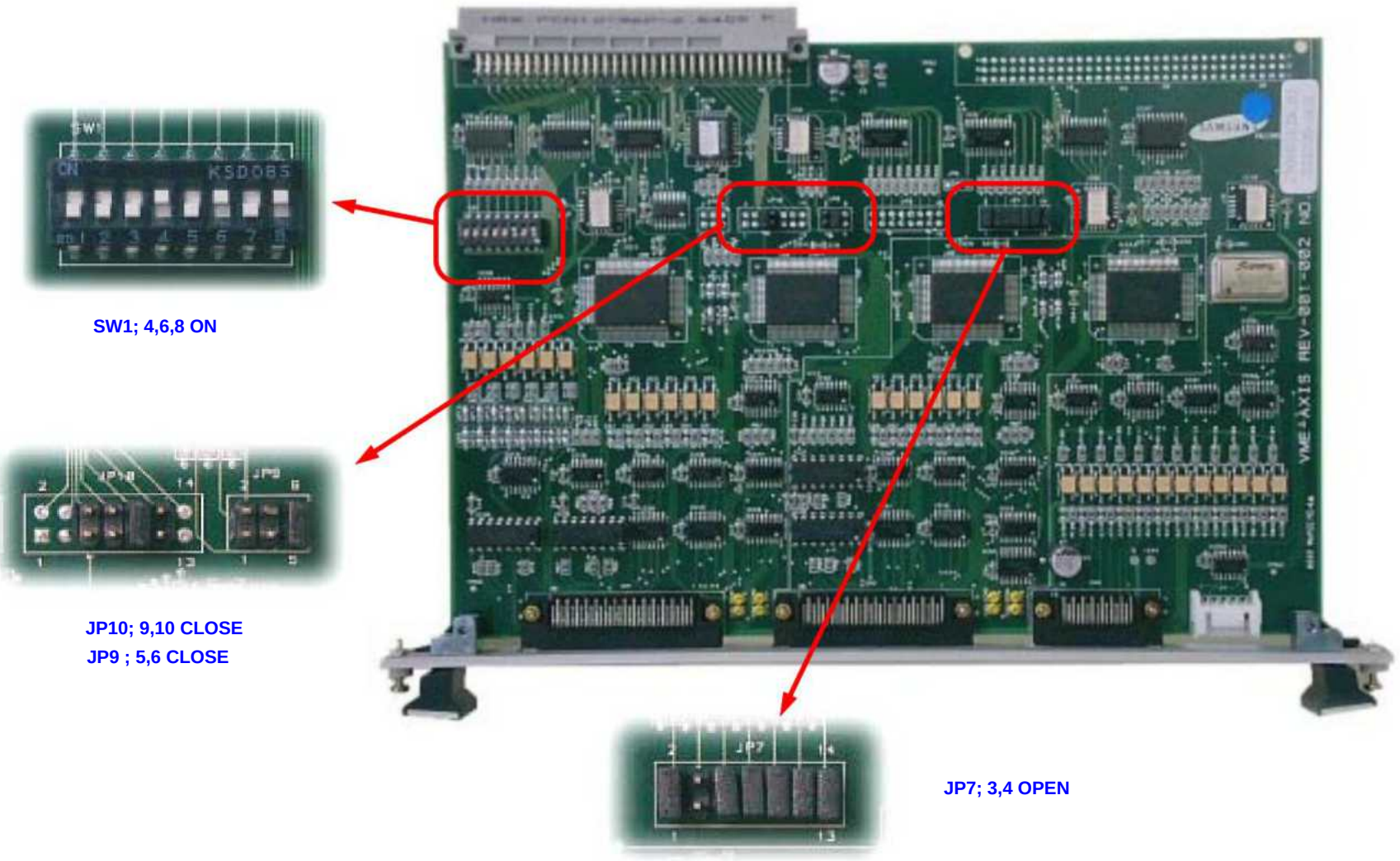
Machine Translated by Google

7-5-3 Check VME AXIS(3) H3 BOARD Jump (summary)



Machine Translated by Google

(Detail)



SW1; 4,6,8 ON

JP10; 9,10 CLOSE
JP9 ; 5,6 CLOSE

JP7; 3,4 OPEN

Machine Translated by Google

7-5-4 Check VME AXIS(3) H3 BOARD Jump (summary)

MK3 AXIS : Z3, ,Z4, Th2

Address : b00401~b005ff

INT_Vec : 34~37

JP5

Short=0

A16 A23

JP6

16AR

24AR

JP7

Short=0

A9 A15

SW1

INT_VEC

ON=0

ON ÿÿÿ

OFF ÿÿÿ ÿ 12345678

V0 v7

JP8

Short=0

AM3 AM5

01 2

JP9

INT

IRQ7 IRQ1

JP10

CLR_1 STRANGE_1

CN1 column A

CLR_2 WEIRD_2

CN1 Row B

CN1 column A

STEP PULSE OUT_1

CW1/CCW1 settings

AC AM_CODE_1

Input Port Setting

CN1 Row B

STEP PULSE OUT_2

CW2/CCW2 setting

AC AM_CODE_2

Input Port Setting

CLR_3 WEIRD_3

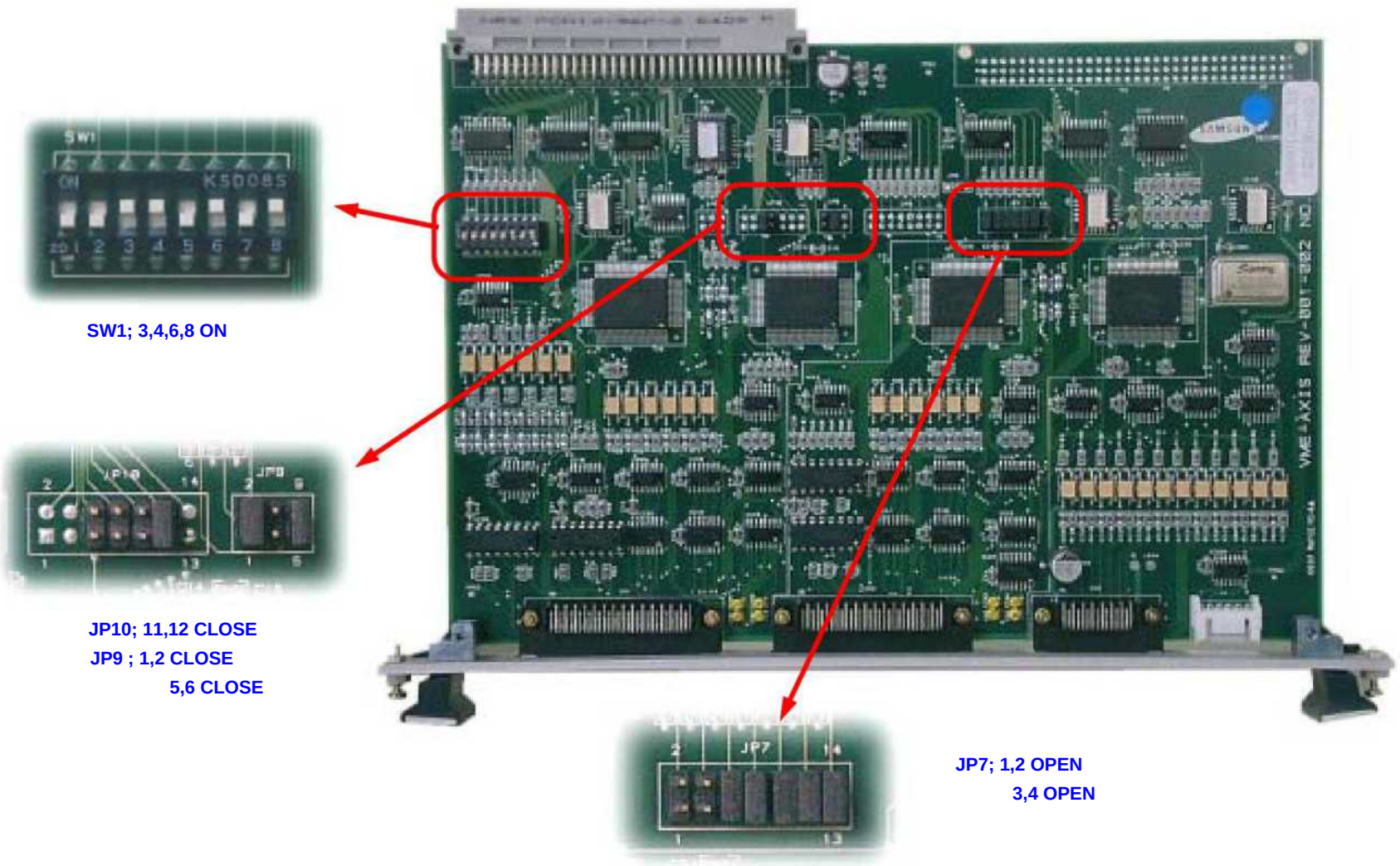
CN2 column A

CLR_4 WEIRD_4

CN2 row B

Machine Translated by Google

(Detail)



SW1; 3,4,6,8 ON

JP10; 11,12 CLOSE
JP9 ; 1,2 CLOSE
5,6 CLOSE

JP7; 1,2 OPEN
3,4 OPEN

Machine Translated by Google

7-6 MPU-STOP Error

MK3 AXIS : Z5, Z6, Th3

Address : b00601~b007ff

INT_Vec : 30~33

JP5

Short=0

A16 A23

JP6

16AR

24AR

JP7

Short=0

A9 A15

SW1

INT_VEC

ON=0

ON

OFF

12345678

V0 v7

JP8

Short=0

AM3 AM5

01 2

JP9

INT

IRQ7 IRQ1

JP10

CLR_1 STRANGE_1

CN1 column A

CLR_2 WEIRD_2

CN1 Row B

CN1 column A

STEP PULSE OUT_1

CW1/CCW1 settings

AC AM_CODE_1

Input Port Setting

CN1 Row B

STEP PULSE OUT_2

CW2/CCW2 setting

AC AM_CODE_2

Input Port Setting

CLR_3 WEIRD_3

CN2 column A

CLR_4 WEIRD_4

CN2 row B

Machine Translated by Google

About MPU Stop 1.

Error code e000

Appears in case of S/W BUG or H/W defect. 2. Error code e001

Appears in case of S/W BUG or H/W defect. Occurs when divided by 0.

3. Error code e011

This is a case where there is no response when accessing through vision board failure or VME BUS. 4. Error code e012

CAN-MASTER board is defective, there is no response when accessing through VME BUS.

5. Error code e013

In case of DP-RAM (CAN MASTER) board defect, there is no response when accessing through VME BUS. 6. Error code e014

AXIS 1 (XY, MIR, width control) board is defective, there is no response when accessing through the VME BUS.

7. Error code e015

AXIS 2 (Z1,Z2,R12,CONV) board is defective, there is no response when accessing through VME BUS. 8. Error code e016

AXIS 3 (Z3,Z4,R34) board is defective, there is no response when accessing through VME BUS. 9. Error code e017

AXIS 4 (Z5,Z6,R56) board is defective, there is no response when accessing through VME BUS.

10. Error code e100

There is no response from the SUB boards connected to CAN-MASTER. If it occurs in equipment that has gone out to the field, the main cause may be poor connection of the CAN connection cable. Also, if it comes out from 3 or 5 (i.e. HEAD I/F, HEAD lighting I/F), the cable going up from the CONVEYOR I/F board to the head may be damaged. (This is ROBOT CABLE.) Among the messages, the first number in the part called 0x.... indicates which board it is. The second number in the message indicates what kind of error it is.

First digit details

0 : Bad CAN-MASTER Board

Machine Translated by Google

1: Front Feeder I/F Board 2:

Rear Feeder I/F Board

3 : Head I/F Board

4 : C/V I/F Board

5 : Head Illumination I/F Board

6 : Stage Illumination I/F Board (Illumination for Upward Vision)

Second number details

0: Normal

1: Node no

response 64: CAN HARDWARE acknowledgment no response

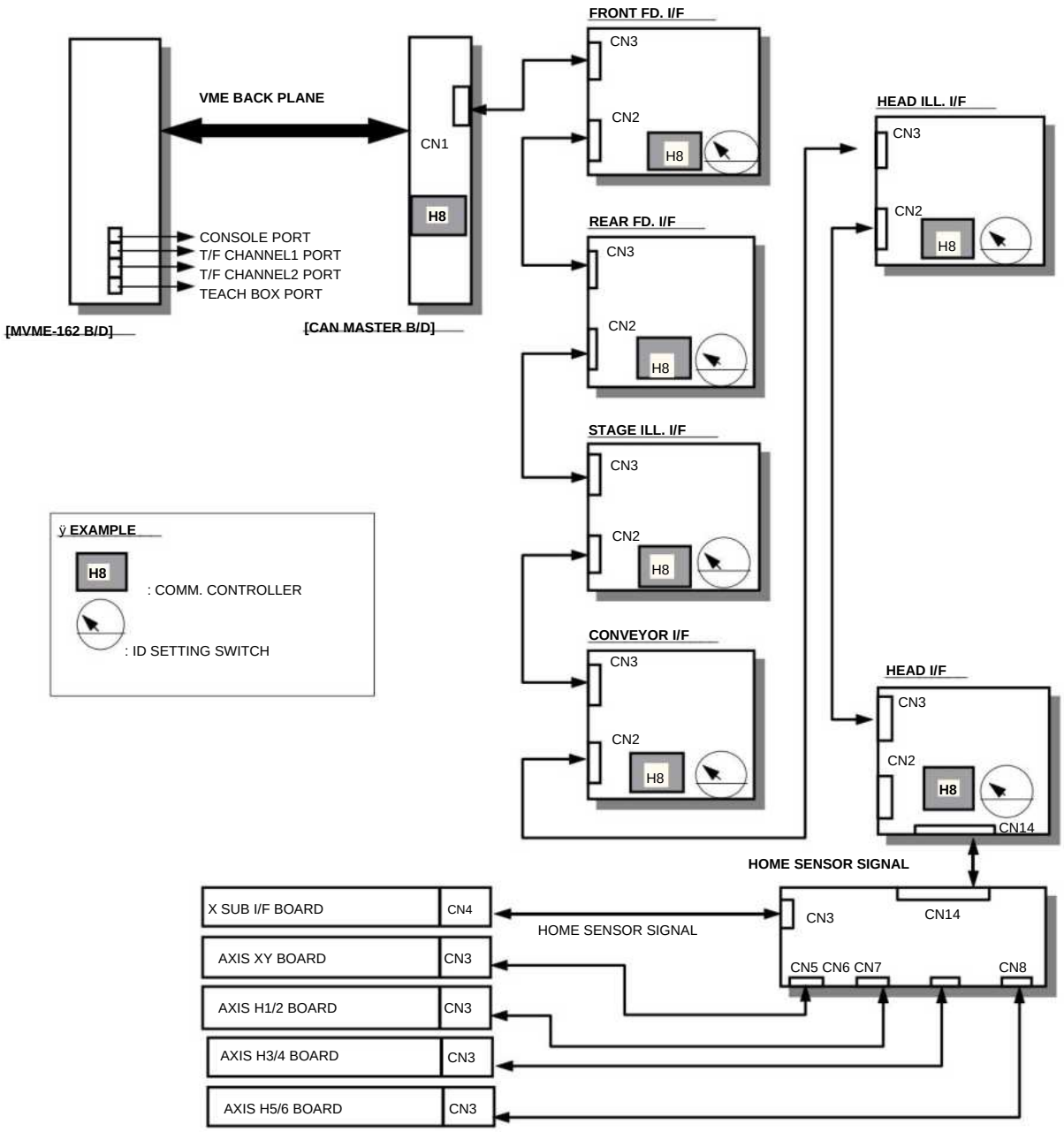
error 16: Unregistered node display 128: CAN BUS OFF error

(communication line SHORT) 2: Two nodes have the same rotary switches.

11.Connection sequence of CAN CAN

Master => Front Feeder I/F => Rear Feeder I/F => Stage Illuminator I/F => Conveyor I/F => Head Illumination I.F => Head I/F(ROBOT CABLE)

Machine Translated by Google

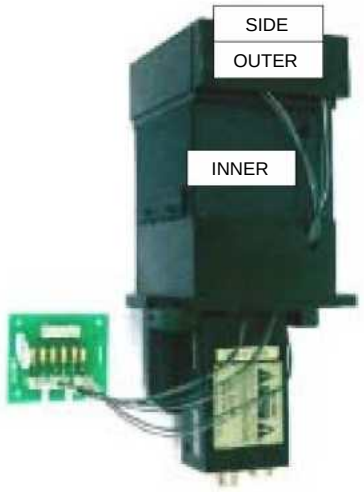


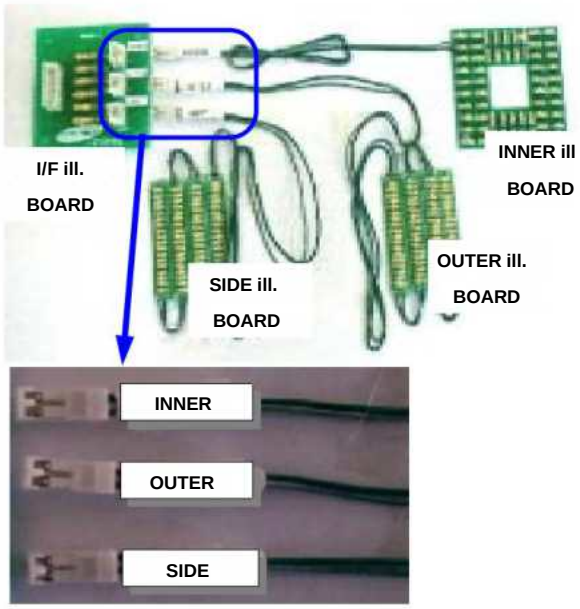
Machine Translated by Google

Trouble diagnosis

Defective content / Inspection	Stage Camera screen Part recognition error occurred Blinking		Excessive part discard rate on
items Check lighting conditions and reset lighting values	1	1	
Reset Stage Camera Position			
Stgae Camera Calibration	2	2	
Replace Stage Camera	3	3	2
Vision Board Replacement			1

Machine Translated by Google





8-1 Stage Camera lighting status check and lighting value re- **setting** procedure

- Tools

  a) + Driver, Hex Wrench

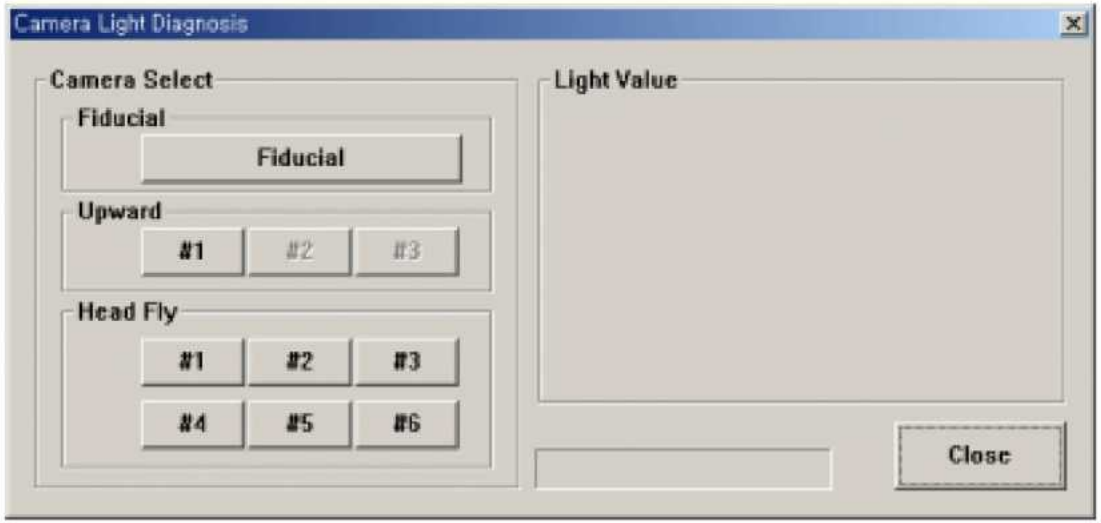
* Parts

FOV	CP45FV	CP45FVNEO	Remark
20mm · 20mm	J9059054H	J9059171A	Usable FOV is 17mm Usable FOV is 32mm
35mm · 35mm	J9059162A	J9059152B	Usable FOV is 42mm
45mm · 45mm	J9059172B	J9059163A	

1) Stage Camera should be distinguished between CP45FV and CP45FVNEO. (Refer to the table above)

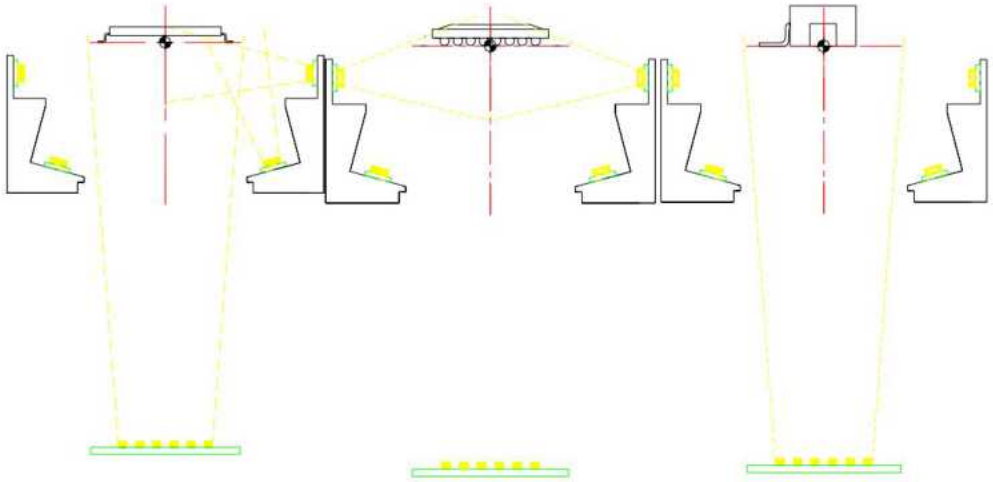
2) There are 3 lighting LED Boards in the Stage Camera (Side, Outer, Inner). You should check if these are normal.

(Diagnosis => Light => Upward)



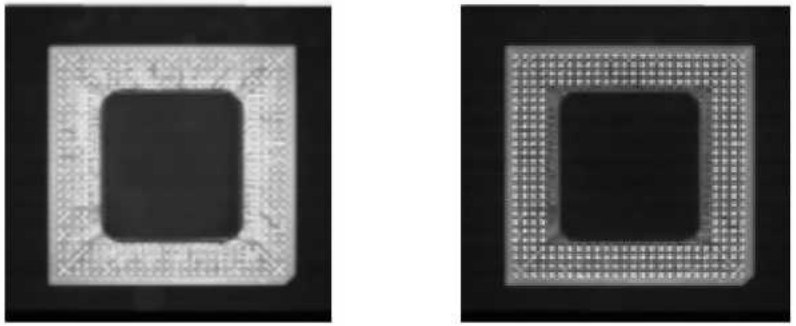
Machine Translated by Google

3) If you draw the optimal lighting direction with each part's solute, it is as follows



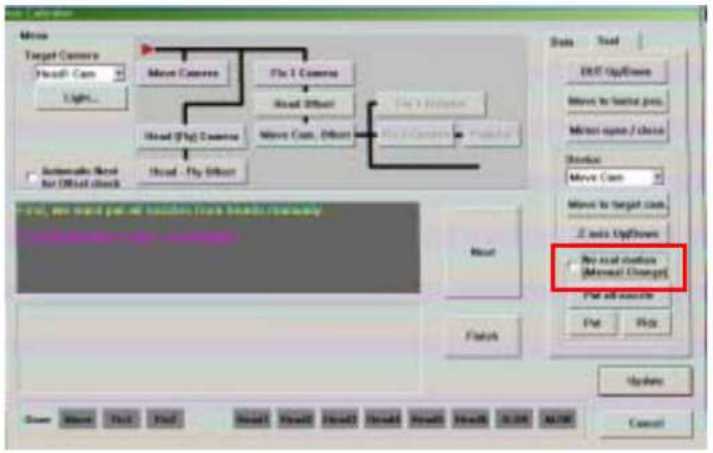
- Common parts - In case of CBGA - In case of Connector

General parts mainly use inner and outer lighting to set lighting conditions, and parts such as CBGA mainly use side lighting to make the shape of the ball clear. Since connectors have a lot of specular reflection, lighting conditions are selected using only inner lighting.



- Video using general lighting in CBGA - Video using side lighting

Machine Translated by Google



8-2-1 Stage Camera Calibration windows

8-2 Stage Camera Calibration

- Tools

  a) Calibration Nozzle (ANC Pocket #1)

- Parts

Calibration of Fix Camera. Place the calibration nozzle in ANC No. 1 pocket to perform this process.

please The following is the process of calibrating the Fix Camera.

1) Sys. If you select Setup => CAMERA, the Camera Setting dialog box appears and click the Calibration button here.

If selected, the Auto Calibration screen appears (Fig 7-2-1 screen appears).

2) Click the <Fix Camera> button in the <Menu> area of the Auto Calibration dialog box.

3) Do not select the <No Real Motion[Manual]> checkbox as shown in Fig-7-2-1. otherwise manually

The nozzle must be mounted on and detached from the head.

4) If there is a nozzle in the head, click the <Put> button in the ANC dialog box to place the nozzle in the pocket.

5)“ First, we must put all nozzles from heads manually. To moving down Z axis, Click [Next].”

message appears, click the <Next> button.

6)“ Get tool from ANC to Head1. To Get it, Click [Next]”

message appears, click the <Next> button.

Then, while the Z-axis of the head descends, the calibration nozzle is mounted on the head.

7)“ Move to center position of [Fix 1] camera. To move, Click [Next].”

message appears, click the <Next> button.

Head 1 then moves to the center of the Fixed Camera.

8) Set the lighting value in the <Default Light> area so that the fiducial mark of the calibration nozzle mounted on the head can be seen clearly.

light up.

Machine Translated by Google

9)“ Calibration is prepared. To Calibrate, Click [Next].”

message appears, click the <Next> button. Then Calibration starts.

10) When calibration is completed, Camera Calibration Date dialog box appears and Calibration Data

shows. At this time, you will be asked if you want to update. To update the calibration information, click <OK>

Click the button.

11) The reference value of the data resulting from calibration is as follows, and if it is out of this range

The Stage Camera must be sent to the factory to be calibrated or exchanged.

FOV	Y	R	Remark
20mm	20mm 71.3 ~ 74.3 um/pixel + - 0.2 deg. 35mm	92.3 ~ 95.3 um/	
35mm	pixel + - 0.2 deg. 45mm 40.5 ~ 42.5 um/pixel + - 0.2 deg.		
45mm			

12) This calibration must be performed when exchanging or re-installing the Stage Camera.

Machine Translated by Google

8-3 Stage Camera Compatibility (CP4FV - CP45NEO)

1) Stage Camera installed in CP45FV can be moved to CP45NEO and installed.

2) Mechanical interference may occur when moving the CP45NEO and the mounted Stage Camera to the CP45FV.

You must check directly.

3) There is no difference in the function/performance of the Stage Camera used in the two models.

However, one type of isolation plate is added to Stage Camera for CP45NEO.

Machine Translated by Google

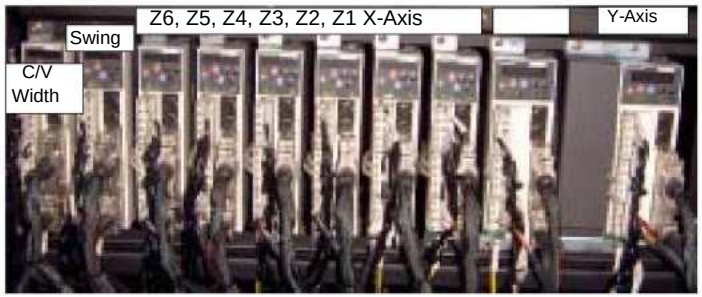


Fig.9-1-1 Servo Driver (PY Motor Driver)

9-1. Replace **Servo Motor Driver**

- Tools

  a) Motor Driver Data Cable (for PY Motor, Q-Motor, P-Motor)

- Part

  a) Driver (Refer to the next table for material numbers)

1) When exchanging a motor driver, basically download the parameters stored in the previous driver
You must load a new driver. (In equipment
shipped from the factory, the same parameters are downloaded for each axis, but there may be cases where the parameters
are slightly changed for precise tuning.) 2) If parameter download is not possible in the existing driver, download the distributed standard parameters.
and use it

3) When loading and using standard parameters, if noise or vibration occurs in the equipment, you must immediately contact
our C/S department to take action.

4) Parameter adjustment for servo motors is not possible in any case except for those distributed as service information.
also not allowed

5) Refer to the table on the next page for the material number according to the type of motor and motor driver of each model.

6) Refer to separate procedures for the download and uploader procedures of parameters.

7) The types of motor parameters are basically distinguished as follows. - Distinguished by
axis: X,Y,Z(1,3,5 2,4,6 2 types, Swing, Width(C/V) - Motor and Driver type: PY/Q =>
CP45F(V) , P = > CP45F(V)NEO)

Machine Translated by Google

9. Motor & Driver

Material number according to the type of **motor and motor driver of** the model

Axis	CP45F(V)						CP45F(V)NEO	
	PY Type(Sanyo)				Q Type (Sanyo)		P Type (Panasonic)	
	THIS		NUNCIO					
	Motor	Driver	Motor	Driver	Motor	Driver	Motor	Driver
X J9061225B J3153012A J9061931B J3153026A J9075955A J3153044A J9080103A J3153034A								
Y J3108012A J1301684 J3108022A J3153025A J3108049A J3153045A J3108040A J3153052A								
Z1	J9061962A	J3153014A	J9061968A	J3153024A	J9061962A	J3153043A	J9080110A	J3153032A
Z2					J9061963A		J9080111C	
Z3					J9061964A		J9080112A	
Z4					J9061965A		J9080115A	
Z5					J9061966A		J9080116A	
Z6					J9061967A		J9080117B	
Swing J9061238D			J9061934C		J9075961A	J3153043A	J9080120B	J3153033A
C/V Width J9061238D			J9061935C		J9075963B		J9080123A	
Theta J3104008A J3152008A J3104012A J3152008A J3104012A J3152008A J3104012A J3152008A								

Machine Translated by Google



Fig9-2-1-1 Interface Cable for Pana. Amplifier

9-2 panasonic Motor Driver(=Amplifier)ÿ Parameter Load/Unload

9-2-1 Connection between Panasonic Motor Amplifier and Computer

- Tools

  a) Notebook Computer b)

  Cable for interface

1) Open the bottom cover on the back of

the equipment. 2) Turn on the power of the entire equipment or apply power only to the motor amplifier.

3) Prepare a Note Book with Panaterm Software installed.

4) As shown in Fig 9-2-1-1, prepare a dedicated interface cable and connect it to the notebook. (RS232 Port)

5) As shown in Fig 9-2-1-2, connect the cable to the lower port among the two ports of the amplifier.



Fig.9-2-1-2 Connect I/F cable to Amplifier

9-2-2 Software execution and access to Amplifier

1) Execute Panaterm Software in Notebook.

2) When Panaterm Software is executed, a message like Fig 9-2-2-1 appears.

Select "Communicate with Amplifier directly connected with RS232" and click OK button.

3) When "Series Setting" appears as in Fig9-2-2-2, select MINAS-C specification at the bottom.

4) When the message "Detect the Amplifier at COM1. Do you connect?" appears, click "Yes".

Machine Translated by Google

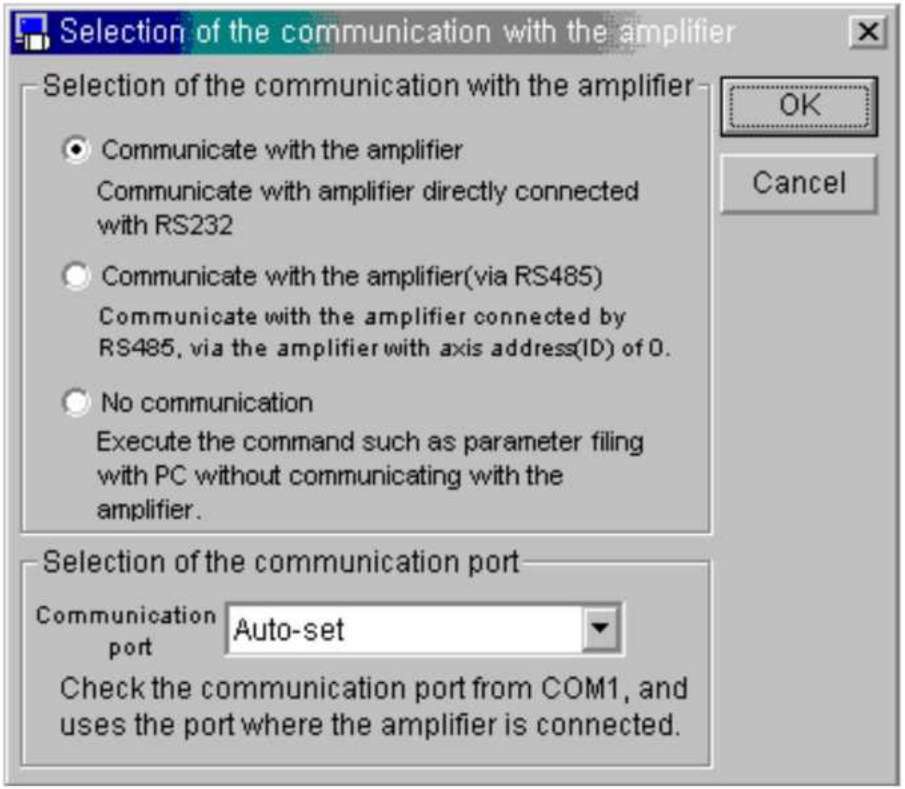


Fig.9-2-2-1 Communicate with Amp

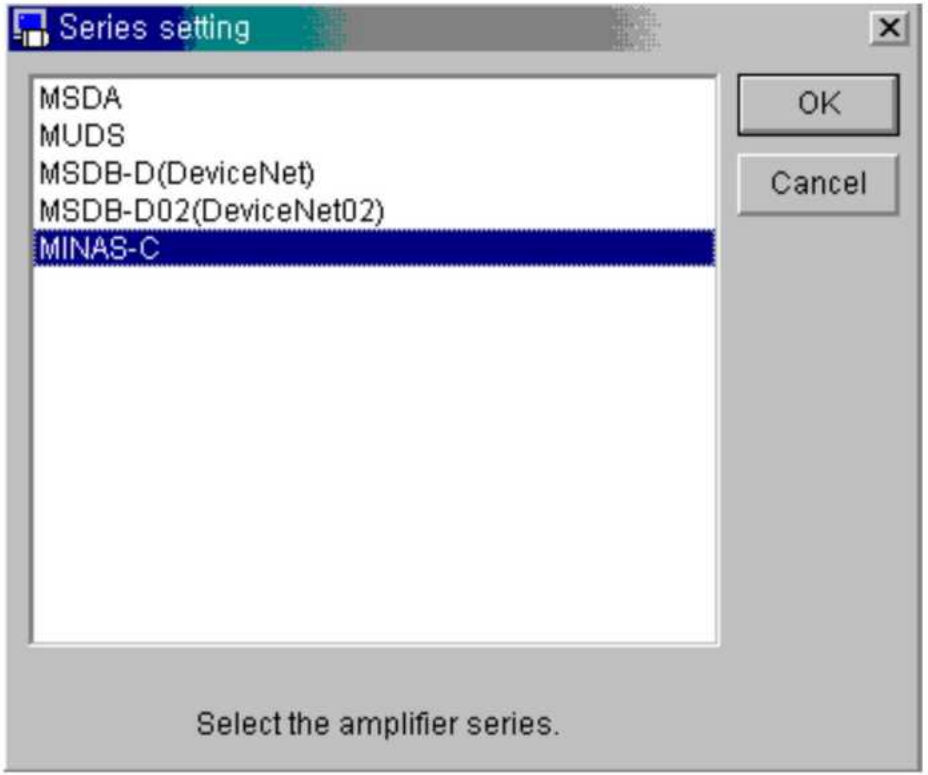


Fig.9-2-2-2 Select Amplifier type



Fig.9-2-2-3 Connect to Amp.

Machine Translated by Google

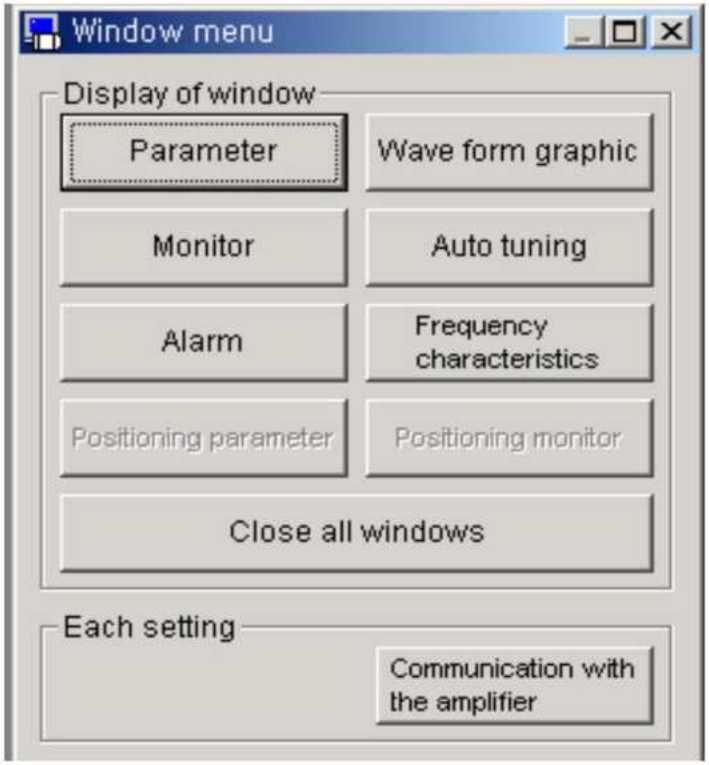


Fig.9-2-2-4 Select Parameter mode

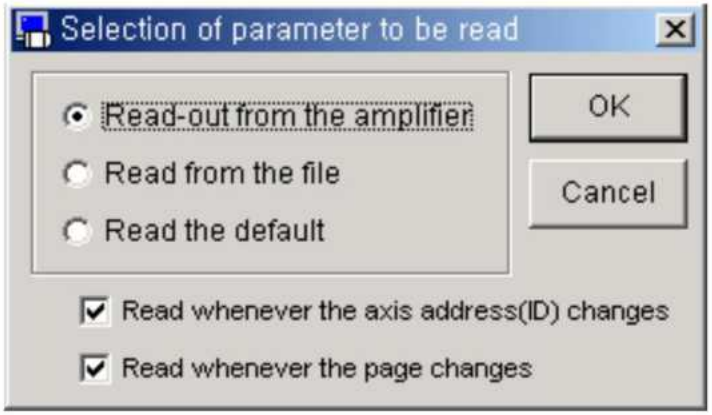


Fig.9-2-2-5 Select Parameter to be read

5) Select "Parameter" in Window Mode as shown in Fig 9-2-2-4. (Be careful not to use the other buttons as they are for experts only)

6) Select "Read-out from the amplifier" in the "Selection of parameter to be read" window as shown in Fig 9-2-2-5.

7) The state shown in Fig 9-2-2-6 is the state in which the connection to the Amplifier is normally made.

Machine Translated by Google

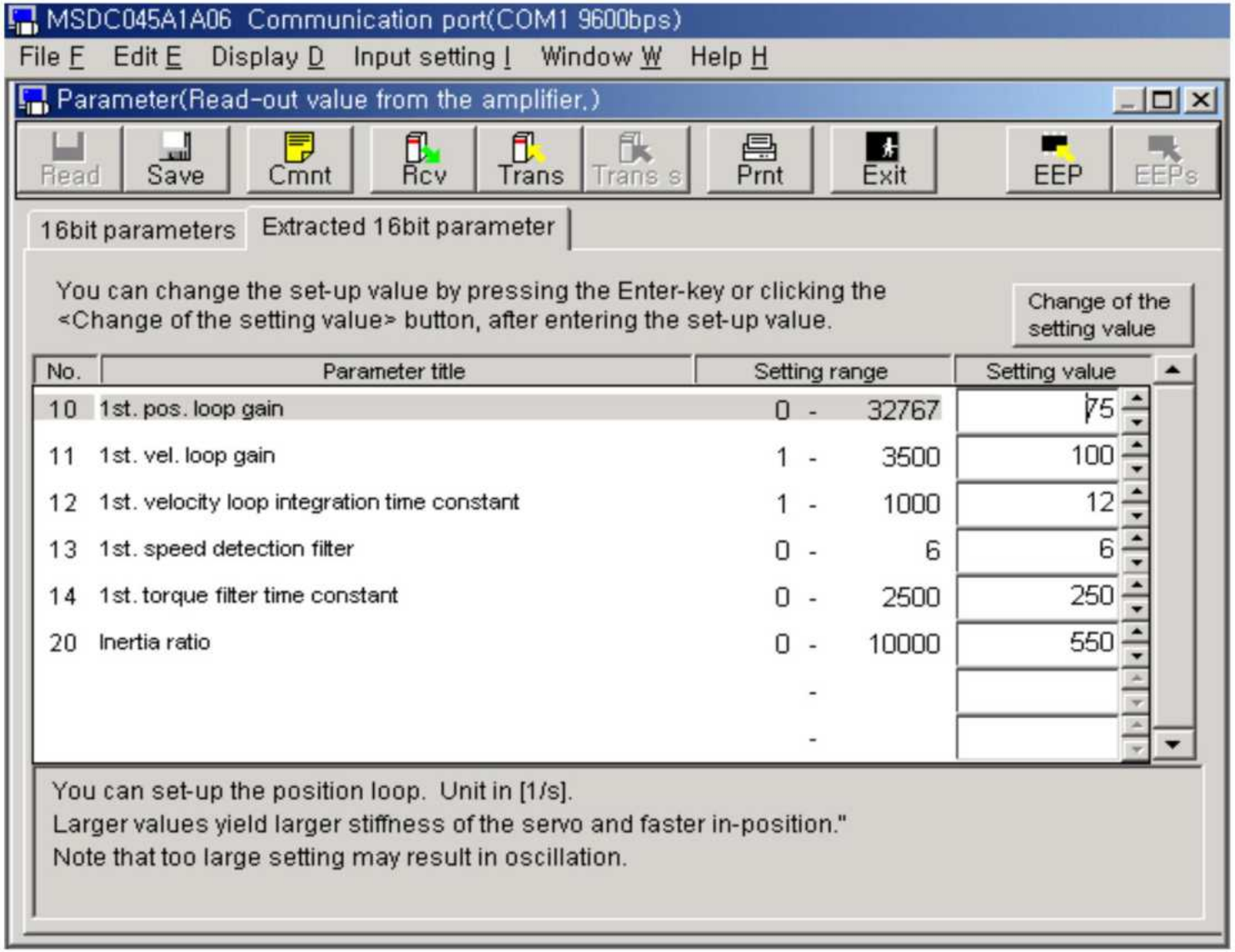


Fig.9-2-2-6 Communication with Amp.

Machine Translated by Google

9-2-3. Changing **Setting Value *** The

agency or customer should never change the **parameter** without our permission, and our company is not responsible for the equipment defect caused by this.

1) As shown in Fig 9-2-2-6, change the value after selecting the parameter to be modified in the state of communication and click "Change of the setting value".
2) To download to the Amplifier, click the "Trans" Icon and be sure to click the "EEPD" Icon to change the ROM value inside the Amp. 3) Be sure to turn off the power of the equipment and then turn it on again. (From then on, the new parameter values are normally reflected.)

9-2-4. **Download** the specified **file to Amplifier**

* We provide designated parameters for each amplifier.
(Drives for spare parts are set and shipped from our company before being delivered to an agency or customer.)
1) To download this parameter to Amplifier, first execute procedures 9-2-1 and 9-2-2
First of all, the Amplifier's Parameter must be read once.
2) In the state of Fig 9-2-2-6, if you close the window, that is, "Parameter (Read-out from the amplifier)", it will return to the state of Fig 9-2-2-4.
3) Select Parameter here and select "Read from the file" in Figure 7.
4) As shown in Fig 9-2-4-1, select an appropriate file and click the OK button.
5) When the file opens as shown in Fig 9-2-4-2, click the "Trans" Icon to set the parameter to Amplifier.
Download.

Machine Translated by Google

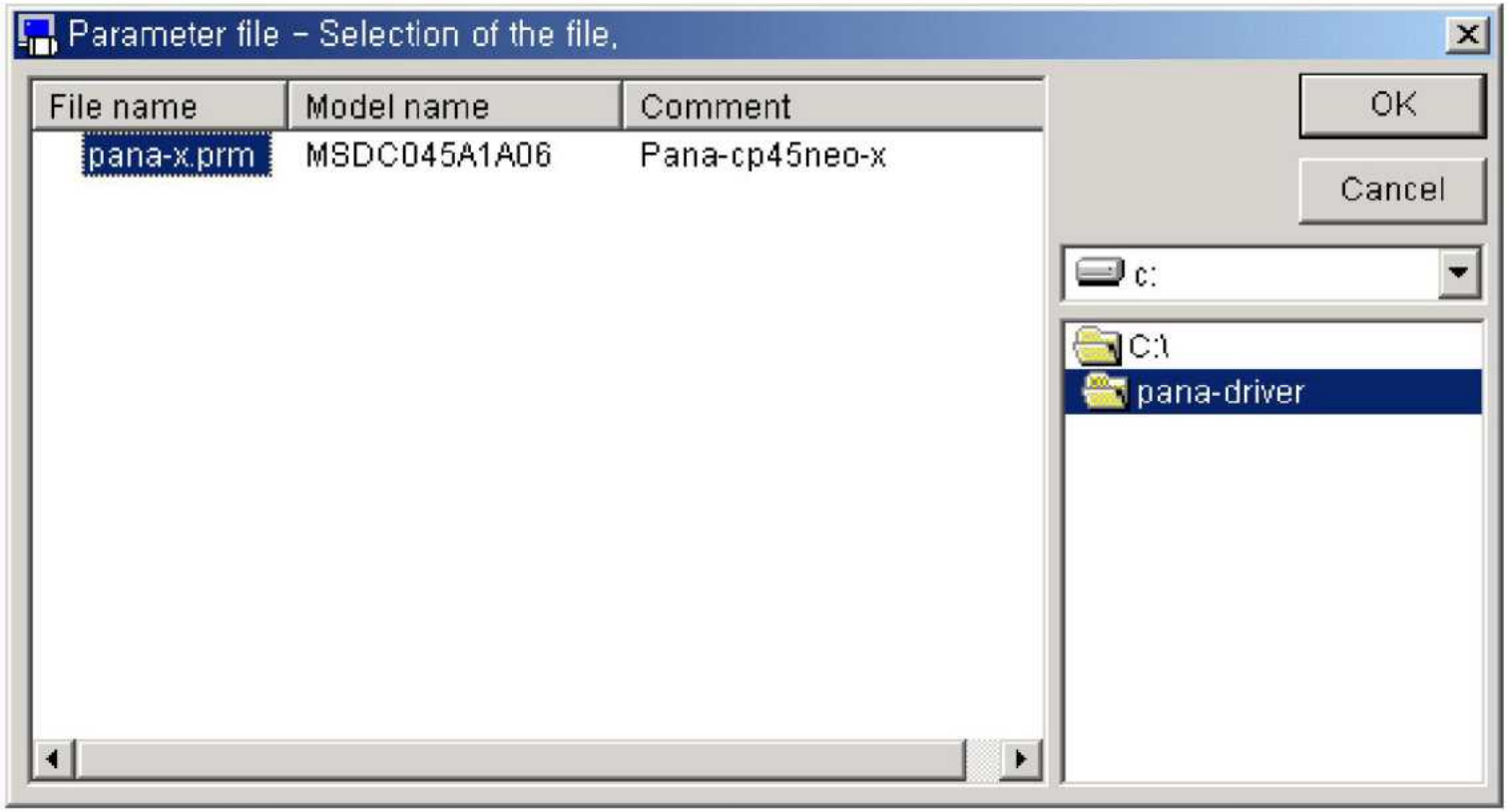


Fig.9-2-4-1 Select the file

6) Click the "EEPD" Icon. 7) Turn off

the power of the equipment or the corresponding Amp and turn it on again.

Machine Translated by Google

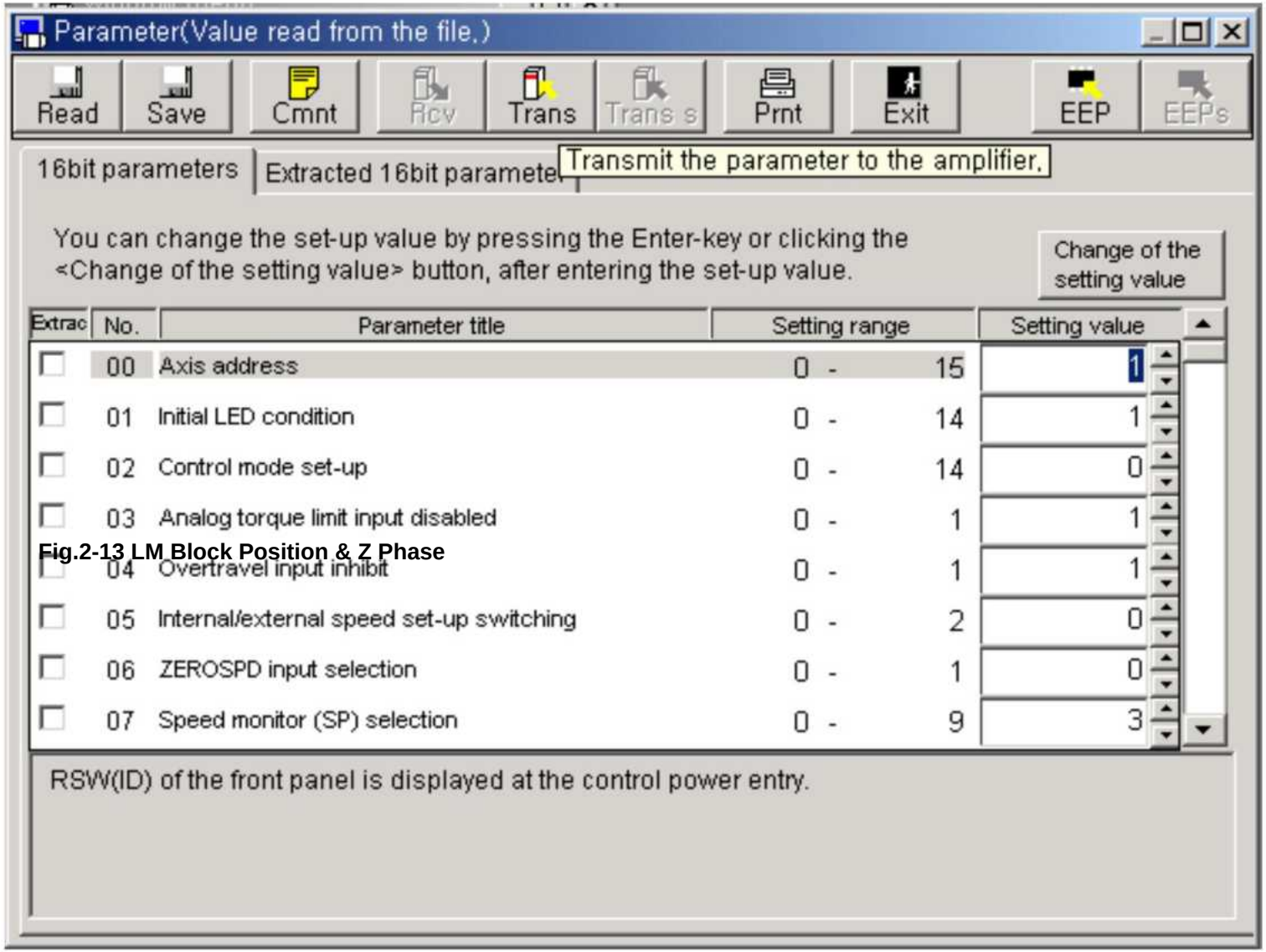
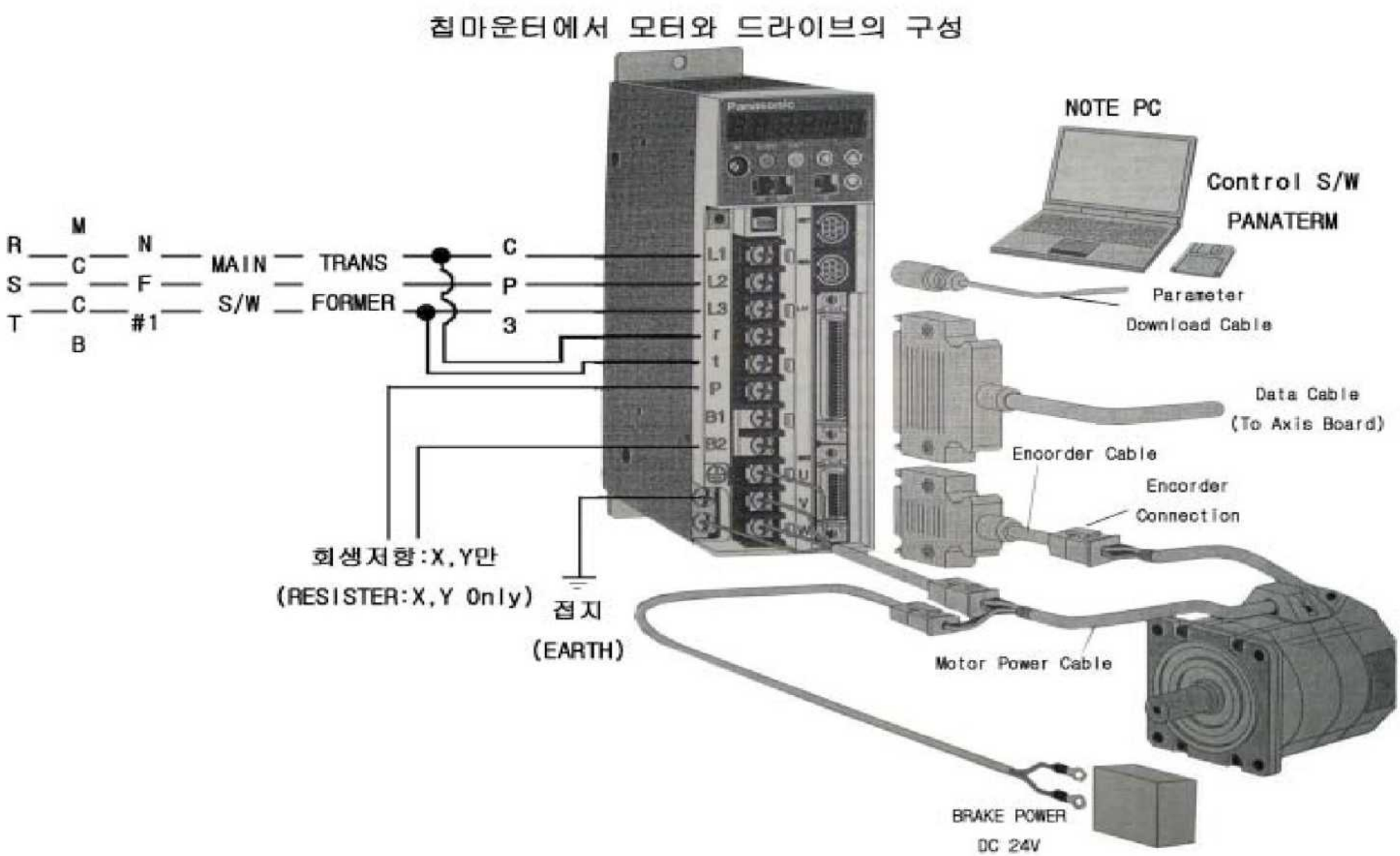


Fig.2-13 LM Block Position & Z Phase

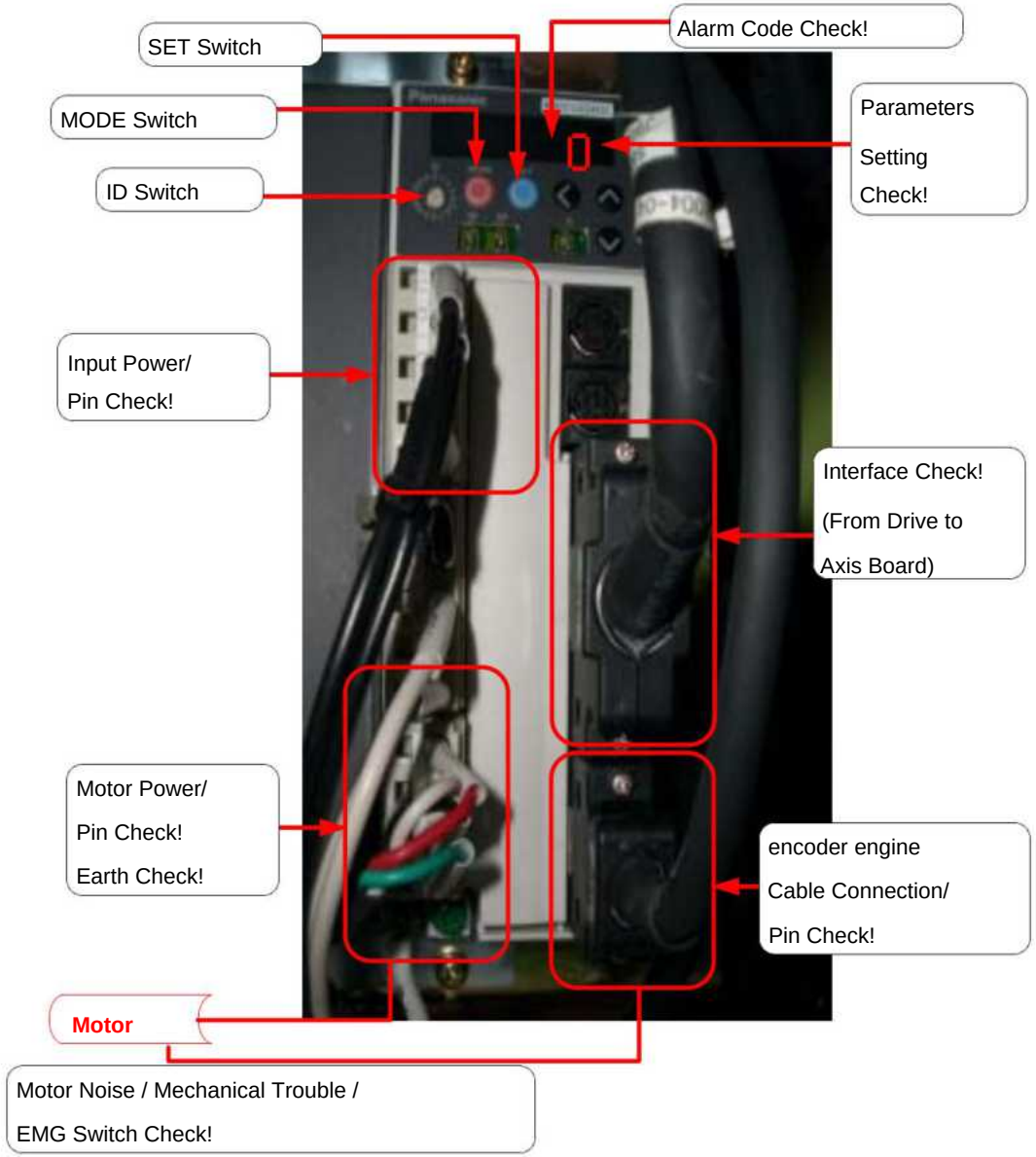
Fig.9-2-4-2 Read from the file

Machine Translated by Google

9-2-5. Configuration of P-Motor Driver and error handling method



Machine Translated by Google



9-2-5-1 Checkpoints for DRIVE Trouble -

Overview : *Sequence when a drive error occurs

(Occurrence of an error -> Dynamic Braker / Motor energization / Servo output / Alarm output -> Brake release) When this sequence operates, the motor stops and an alarm is generated.

9-2-5-2 Trouble conditions and actions (Refer to the following **"Appendix" page** for detailed alarms)

-When a trouble occurs, an alarm code is displayed on the LED of the front panel. -At this time, Servo is in OFF state, and A-CLR should be performed for more than 120 ms to release, but there is a method through EMG RESET or STOP->RESET->READY in the equipment. Power-related alarms require power OFF/ON.

- In the case of an alarm caused by overload, normal clearing is possible after more than 10 seconds have elapsed, so in case of an alarm due to a specific overload of an axis, you must wait more than 10 seconds and then apply READY POWER. When a problem occurs due to wiring error, be sure to install and check the wiring with all power turned off. - When the motor does not rotate, if there is no mechanical movement, recheck the parameter and replace it as it is damage to the internal circuit of the drive. There may be an abnormal value of , a change in the main power supply, or a noise effect on the cable, so check the shield wire of the cable. - When the origin position is out of position, there is a large difference between the Z phase and the home sensor or there are many cases of an axis board abnormality, so it is necessary to check the contact of the axis board. this is the cause

Machine Translated by Google

7세그먼트LED	알 람 내 용	원 인	대 책
11	제어	• 제어전압이 너무낮다.	• 전압값을 올린다.
	전압이상	• 제어전압용량부족	• 전원용량을 늘인다.
		• 서보앰프회로 손상	• 서보앰프 교환
12	과전압		• Tester로 측정시 저항값이 ∞라면
	방지	• 회생저항 절단	• 회생저항을 교체한다.
		• 외부회생저항이 적합치 않다	• Spec.상 적합한 회생저항으로교체
		• 서보앰프회로 손상	• 서보앰프 교환
13	주전원	• 전압값이 너무 낮을경우	• 전압값을 올린다.
	전압이상	• 전원용량부족	• 전원용량을 늘인다.
		• 3상용 서보앰프의 1상결상	• L1,L2,L3을 정확히 연결한다.
		• 서보앰프회로 손상	• 서보앰프교환
14	과전류	• 서보앰프손상	• 서보앰프 교환
	방지	• 모터Cable 상간단락	• 모터 Cable결선 바로잡음
		• 모터 Cable 1상의 지락	• 모터 Cable결선 바로잡음
		• 모터가 타버림	• 모터 교환
		• 모터 Cable접촉불량	• Cable결선을 확실히 고정함
		• 다이나믹브레이크용 Relay가	
		• 융착됨	• 서보앰프 교체
		• 모터와 서보앰프가 서로	
		• 맞지않음	• 모터에 맞는 서보앰프로 교환
		• 펄스입력이 Servo-ON보다 먼저 들어옴	• 펄스입력은 Servo-ON이후 최소 100ms이후에 들어오도록함
15		• 서보앰프의 온도가 정격치이상	• 서보앰프의 온도 쿨링조건을 개선
	과열방지	• 서보앰프의 과부하	• 서보앰프와 모타의 용량을 늘려서 부하를 줄인다.

Machine Translated by Google

7세그먼트LED	알 람 내 용	원 인	대 책
16	과부하 방지	• 과부하상태에서 모터를 장시간돌릴경우	• 서보앰프와 모타의 용량을 늘려서 부하를 줄인다.
		• 게인설정오류	• 게인조정을 다시한다.
		• 모터Cable의 오배선	• 배선수정
		• 모터동작경로에 장애물이 생김	• 장애요인을 제거하고 부하를 줄임
		• When the magnetic brake is on	• 브레이크단자를 개방시킴
		• 모터Cable결선이 모터간에 뒤바뀌었을때	• 배선수정
18	회생Overload	• PCB기판불량	• 서보앰프 교환
		• 전원전압저하	• 전원전압을 사양 내로 조정
		• 정류기파손	• 서보앰프 교환
		• 입력전원변동이 크다	• 전원전압사양 내로 조정
		• PCB 불량	• 서보앰프 교환
20	엔코더 A,B상보호	• 엔코더A/B상 펄스놀침	• 엔코더결선확인 및 오결선수정
		• 엔코더 결함	
21	엔코더 통신에러	• 엔코더Cable 단선으로	
		• 서보앰프와의 통신장애	
22	엔코더 결선에러	• 엔코더가 서보앰프에 연결되어 있지않음	• 엔코더파워가 5VDC(4.75~5.25V)인가를 확인하고,모터Cable과 엔코더Cable을 분리설치한다. • 엔코더선을 쉴드처리함.
23	엔코더 통신데이타 에러	• 노이즈로 인해 엔코더통신데이타가 손상됨	

Machine Translated by Google

7세그먼트LED	알 람 내 용	원 인	대 책
24	Position error limit 초과 에러	• 커맨드pulse대로 모터가 움직이지 않는다. • Pr.63세팅값이 너무 낮다.	• 게인조정 • 부하를 줄인다. • Pr.63세팅값을 올려준다.
25	Hybrid error limit 초과 에러	• Pr.73에 정의된 pulse값과 • 외부scale에 의한 load position • 값이 다르다.	• 모터와 부하의 연결상태확인 • Pr.73세팅값을 올려준다.
26	Overspeed에러	• 모터 속도가 정격치 이상임	• 커맨드pulse의 입력주파수확인 • 엔코더cable연결상태확인
27	커맨드펄스 범위에러	• Pr.46~Pr.4B에 정의된 scale비가 비정상이다.	• Pr.46~Pr.4B세팅값확인 및 조정
28	외부SCALE 에러	• Pr.77값이 "0"이면 scale error입력은 OFF된다.	• 외부 scale에러의 원인검사
29	에러카운터 overflow	• 에러카운트값이 2^27을 넘는다.	• 토오크검사확인 • 게인조정
35	외부SCALE 연결에러	• 외부scale의 연결상태가 좋지않거나, 손상되었음	• 외부scale전원확인 • 외부scale 연결상태확인
36	EEPROM 파라메터에러	• 파라메터 data가 손상됨	• 파라메터세팅을 다시한다.
37	EEPROM 체크코드에러	• 체크data가 손상됨	• 서보앰프를 교환한다.
38	Overtravel 에러	• CW/CCW Overtravel 입력이OFF	및 커넥터확인
40	절대치시스템 shutdown 에러	• 엔코더Power가 OFF됨	를 clear시킴
41	절대치카운터 overflow 에러	• multi-revolution counter의 counter값이 정격치 초과	• Pr.0B를 바르게 셋업

Machine Translated by Google

7세그먼트LED	알람 내용	원 인	대 책
42	절대치엔코더 overspeed 에러	• 밧데리power에의한 엔코더revolution이 정격치를 넘어간다.	• X4커넥터검사 • 엔코더Power검사(5VDC)
44	절대치엔코더 single-revolution카운터에러	• single-revolution counter에러검출	• 모터교환
45	절대치엔코더 multi-revolution counter 에러	• multi-revolution counter에러검출	• 모터교환
47	절대치status에러	• Power ON시 엔코더revolution이 정격치를 넘어간다.	• Power ON시 모터를 끈다.
48	엔코더Z상에러	• 엔코더Z상이 난나온다.	• 모터교환
49	엔코더CS시그날에러	• 엔코더cs시그날이 비정상	• 모터교환
95	모터자동인식에러	• 모터와 서보앰프가 맞지않다.	• 맞는 모터로 교환한다.
97	제어모드 세팅에러	• 엔코더와 세팅모드가 맞지않다.	• 바르게 세팅한다.
99	기타에러	• 내부에러에대한 서보앰프의 자기진단에러	• 일단 전원을 끄고 다시ON시킨다. 계속해서 에러가 발생하면, 대리점에 문의한다.

Machine Translated by Google



Fig.9-3-1-1 Interface Cable for Pana. Amplifier

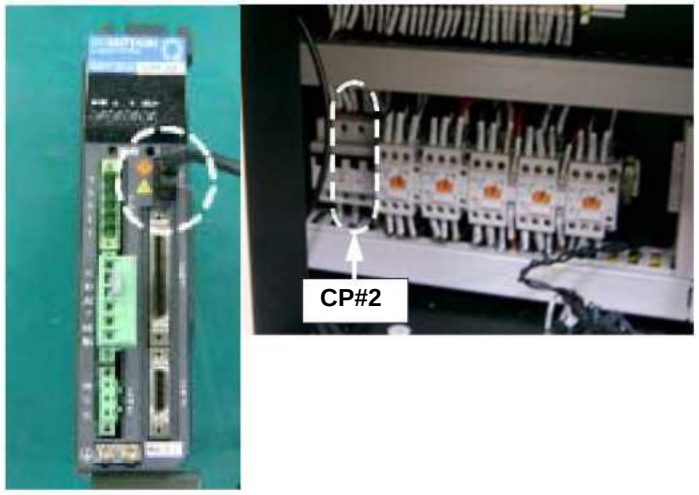


Fig.9-3-1-2 Connect I/F cable to Amplifier / CP#2 off for safety

9-3 SANYO Q-Type Motor Driver(=Amplifier)ÿ Parameter Load/Unload

9-3-1 Connection between Q-Motor Driver (=Amplifier) and Computer

- Tools

  a) Notebook Computer b)

  Cable for interface

1) Open the bottom cover on the back of the equipment.
2) Prepare a Note Book with Q-SETUP Software installed.
3) As shown in Fig.9-3-1-1, prepare a dedicated interface cable and connect it to the notebook. (RS232 Port)
4) In order to prevent damage to the driver (=amplifier) when connecting the interface cable, temporarily cut off the power branched from the chip mounter to the driver. (CP#2 Off : Fig 9-3-1-2)
5) As shown in Fig.9-3-1-2, connect the interface cable to the corresponding Amplifier port.
6) After connecting the cable, turn on CP#2 and apply power to the driver.

9-3-2. Run Software and connect to Amplifier

1) Execute Q-SETUP Software of Notebook.
2) When Q-SETUP Software is executed, a window like Fig 9-3-2-1 appears.
3) If you run the icon that connects online, you will see a communication state as shown in Fig 9-3-2-2. A window appears and press the 'Check' button to check the connection status.
4) If the error message "not corresponding" is displayed, install 'Q-Setup' software to the latest version. reinstall it

Machine Translated by Google

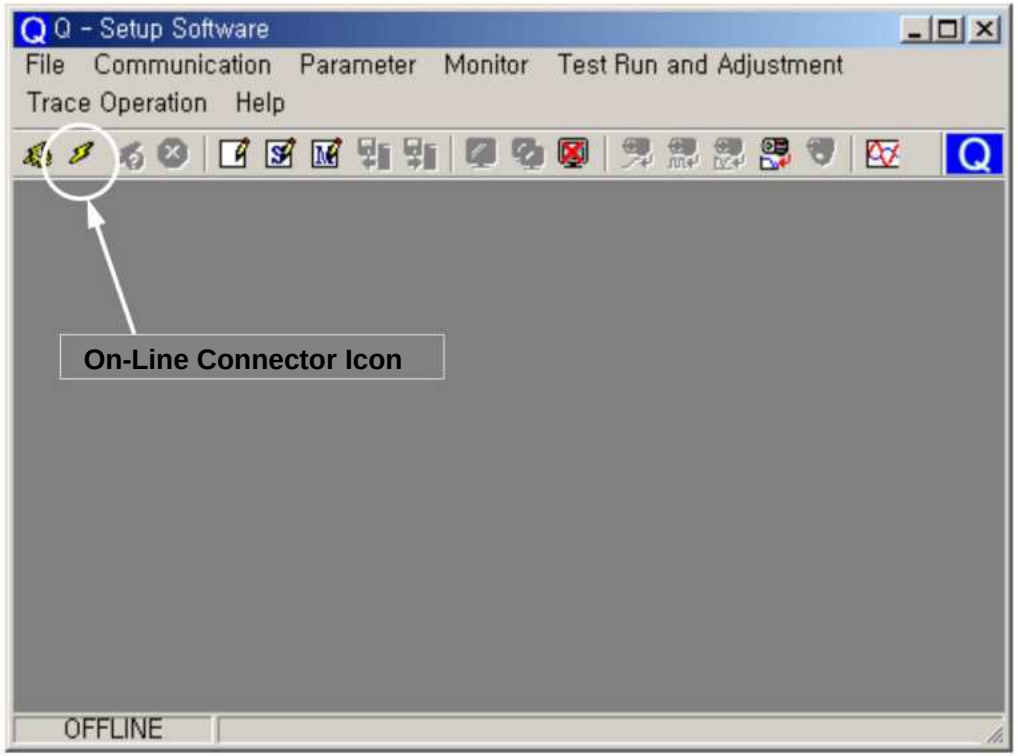


Fig.9-3-2-1 On-Line Connector Icon

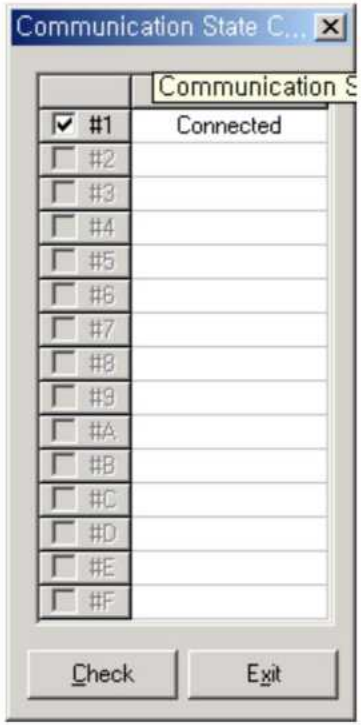


Fig.9-3-2-2Communication Stste Window

Machine Translated by Google

9-3-3. Change **Setting Value**

*** Parameters** must not be changed by agents or customers without our permission, and we are not responsible for equipment defects caused by this. However , an authorized person can change the contents propagated as **Service Information .**

1) Select 'Transmit Parameter [Amplifier => File]' on the Q-SETUP screen to download the parameters stored in Driver (=amplifier) to a file (refer to Fig 9-3-3-1)
2) Click General Parameter Setting and open the downloaded amplifier file (*,ap0).
(System parameters and motor parameters are for experts, and there is no case of modification on site)
3) Select the symbol to be changed and click 'edit'; to change. (Refer to Fig 9-3-3-2)

9-3-4. **Download** the specified **file to Amplifier**

* We provide designated parameters for each amplifier.
(Drives for spare parts are set and shipped from our company before being delivered to an agency or customer.)
1) In order to download the parameters to the Amplifier, first execute procedures 9-3-1 and 9-3-2, read the Amplifier's parameters once, and keep them for back-up.
2) Select 'Transmit Parameter [File => Amplifier]' on the Q-SETUP screen and
Load the parameter into the driver. Refer to Fig 9-3-4-1) At
this time, be sure to select all three types of parameters to transmit (the kinds of parameter to transmit)
(General parameter, System parameter, Motor parameter).

Machine Translated by Google

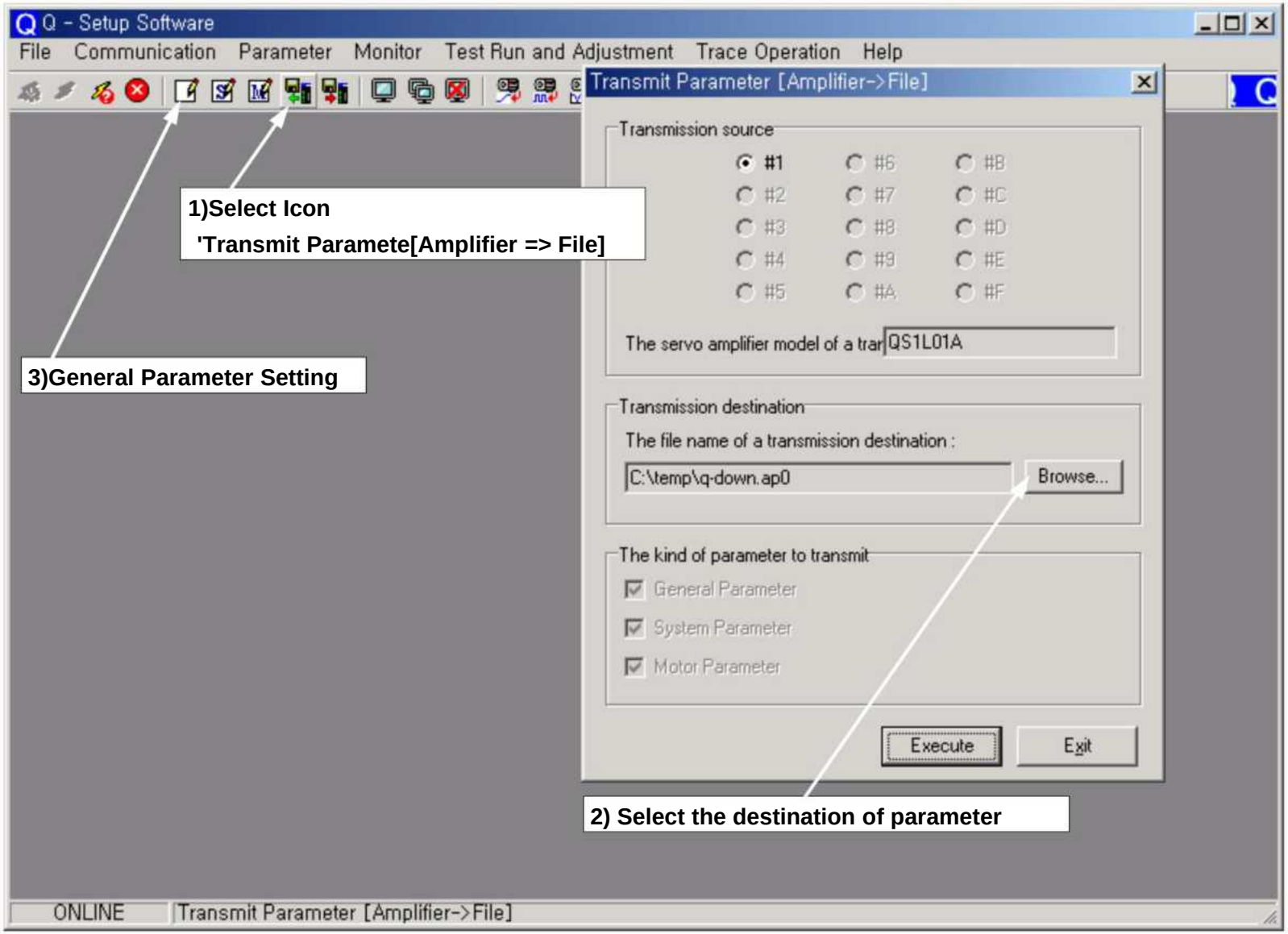


Fig.9-3-4-1 Transmit Parameter[Amplifier => File]

Machine Translated by Google

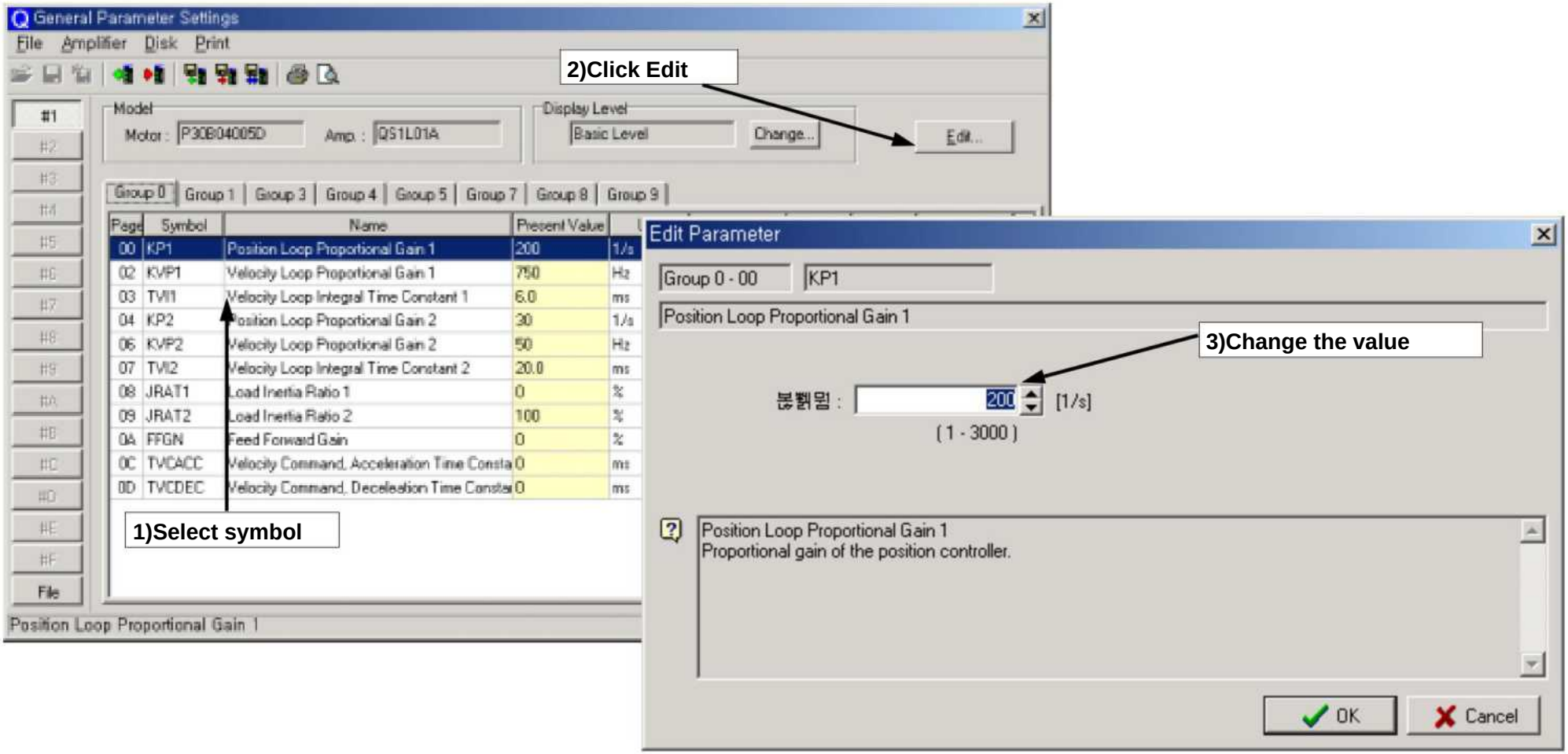


Fig.9-3-4-2. General Parameter Setting

Machine Translated by Google

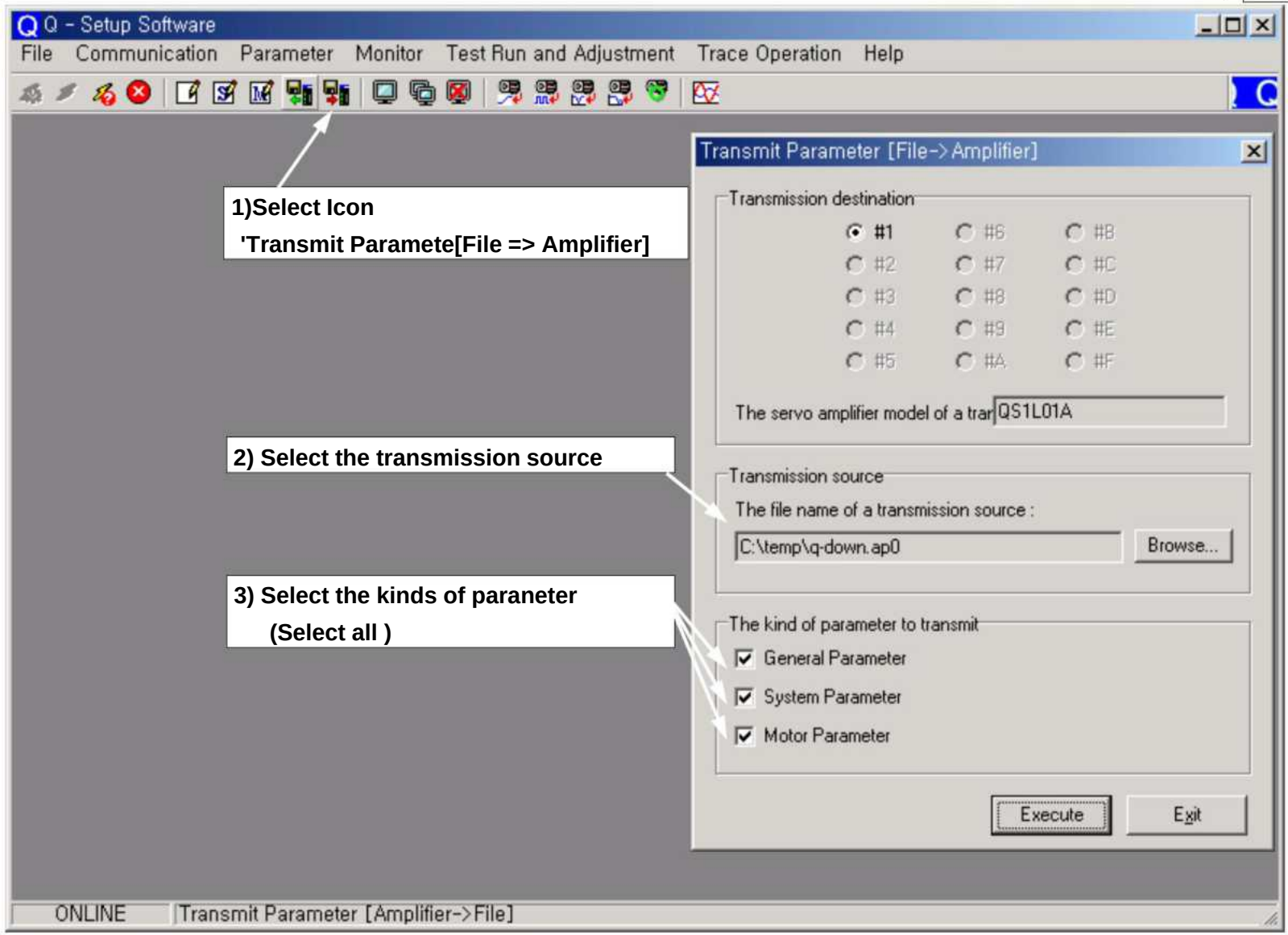


Fig.9-3-4-3 Transmit Parameter[File => Amplifier]

Machine Translated by Google



Fig.9-4-1-1 Interface cable for PY Motor

9-4 SANYO PY-Type Motor Driver(=Amplifier)ÿ Parameter Load/Unload

9-4-1 Connection between PY-Motor Driver (=Amplifier) and Computer

Tools

a) Notebook Computer b) Cable

for interface

1) Open the lower rear cover of the

equipment. 2) Turn on the entire equipment or apply power only to the motor amplifier.

3) Prepare a Note Book with PYIF (PY Motor Interface) program installed.

4) Prepare a dedicated interface cable as shown in Fig 9-4-1-1 and connect the NoteBook and Driver.

9-4-2 Execute Interface software and connect to Amplifier

1) Execute

PYIF.



Fig.9-4-2-1 Interface Program for PY Motor

2) Select the serial channel connected to the driver (COM1 or COM2)

3) Select Next to switch to the next screen.

4) If you select On-line, it asks 'Do you wish to connect with PY Amplifier?' and select Yse to connect.

Machine Translated by Google

9-4-3 Motor parameter download procedure 1) Select

'Load from file' to download motor parameters from computer (file). (Caution, when replacing the driver, the parameters in the existing driver must be backed up first.)

: See Fig9-4-3-1. 2)

Find the directory where the target parameter file is located, and click load to down load.

9-4-4 Motor parameter download procedure 1) Select

'Save to File' to receive a backup of the parameters in the driver. 2) Designate the directory to save, record the name to save, and click 'Save' to BackUp.

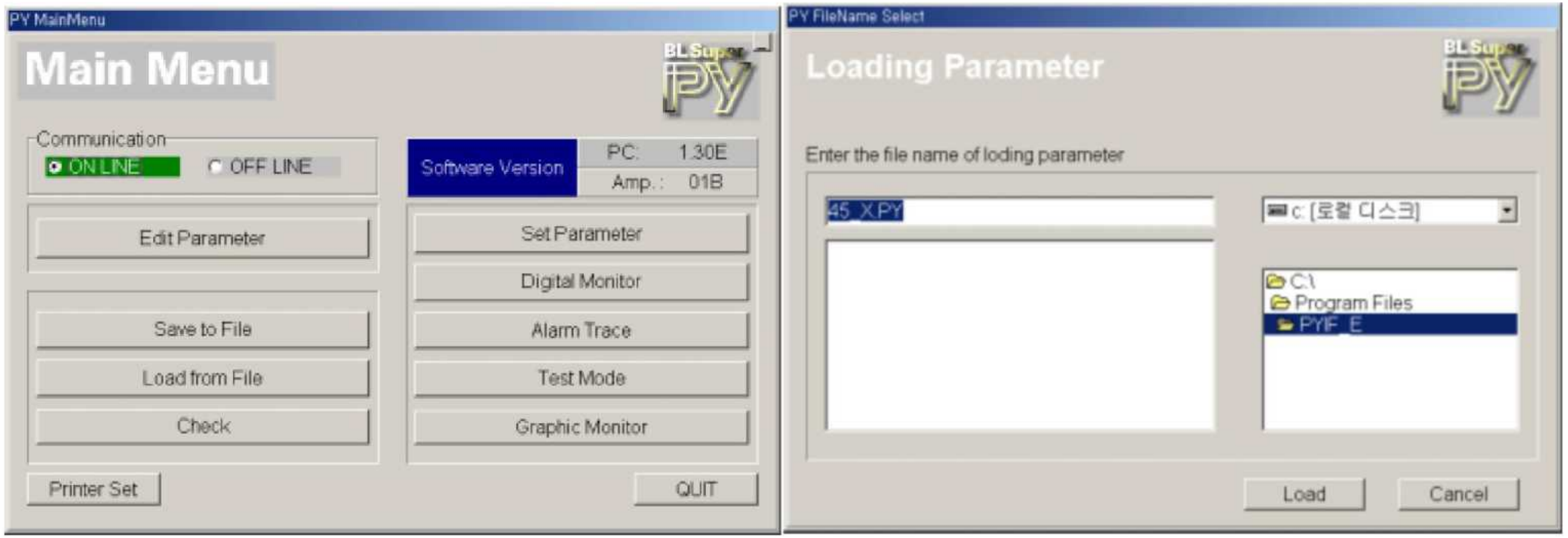


Fig.9-4-3-1 Interface Program for PY Motor

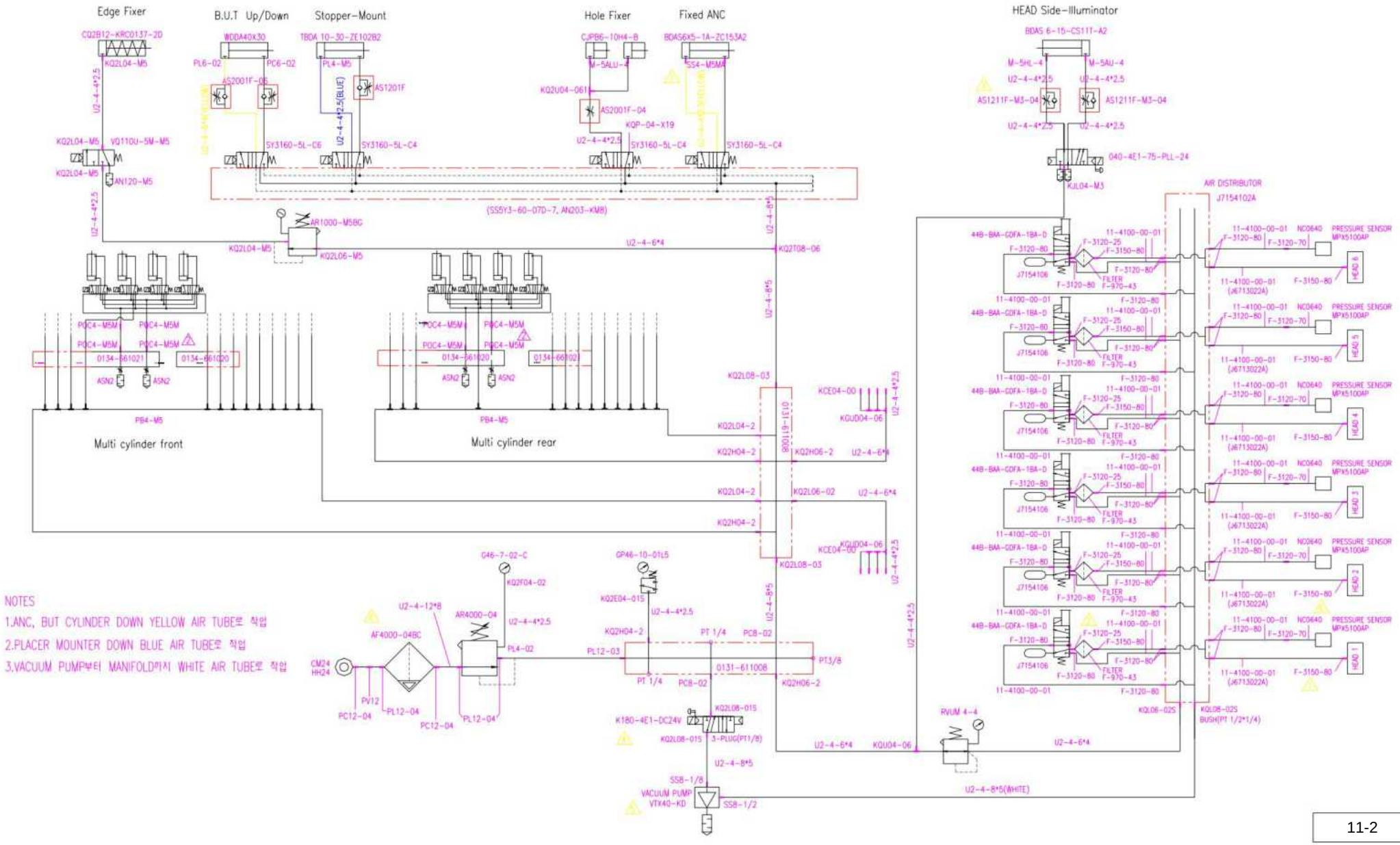
Machine Translated by Google

Trouble diagnosis

check list \ Defective content	lack of vacuum	Vacuum not working	no blow	Bad back up table cylinder movement	Vacuum Pump Noise Generation	Main Air Sensor defective
Inflow of foreign substances (oil, etc.) into Main Air => Main Filter cleaning and replacement	1	1	1	1		
Inspect vacuum pump foreign substances and filter condition => Clean and replace	4	2			1	
Air Filter Cleaning/Replacement	2					
Coil Tube Inspection and Replacement	3					
Inspection and replacement of V-Ring (Head part)	5					
Head Interface Board Inspection and Replacement (Check Harness(HD02) connected to CN5)		4				
Air Distributor Moduleÿ Solenoid Check valve operation => Clean and replace if necessary	6	3	3			
Air Distributor Module Inspection and Replacement	7					
Occupation and replacement of air pressure sensor						1
C/V interface board replacement inspection (CN18, check connected Harness(CV22))						2
Blow gage reset			2			
Solenoid Valve Inspection/Replacement				2		

Machine Translated by Google

11-1 Air Ass'y Diagram and Part List



Machine Translated by Google

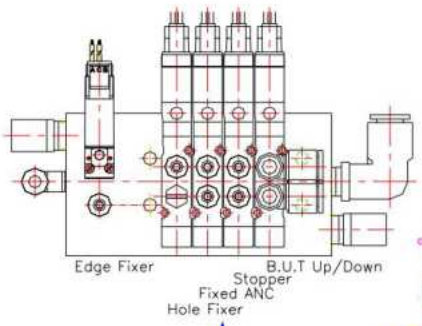
* Check the specification of the material in the diagram and find the part code in the table below.

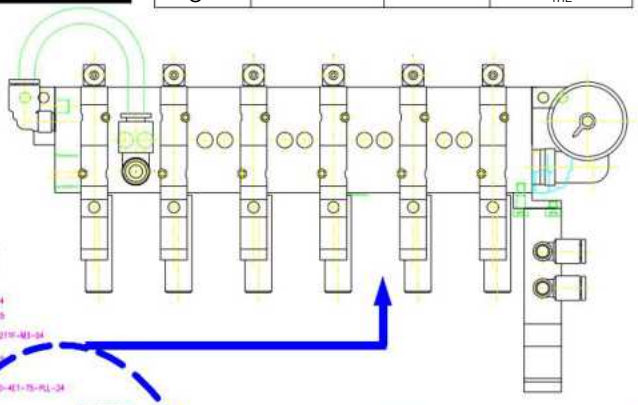
Part List

No.	Part Code	Part name	Specification	Remarks
1	J1300862	COUPLER (CORK) [CM24]	CM24	
2	J7500010A	COUPLER [J7500010A]	J7500010A	
3	J6709012A	REGULATOR [TAR4000-04]	TAR4000-04	
4	J1301177	PRESSURE GAGE [G46-7-02-C]	G46-7-02-C	
5	J1301340	STRAIGHT FITTING [KQ2F04-02/PCF04-02] KQ2F04-02/PCF04-02		
6	J1301133	FITTING [KQ2L04-02/PL4-02]	KQ2L04-02/PL4-02	
7	J6713016A	AIR TUBE (POLYURETHANE)	U2-4-4*2.5 (BLACK)	
8	J1300995	PRESSURE GAGE [GP46-10-01L5](ÿÿ) GP46-10-01L5 9 J6711116A BULKHEAD		
		UNION FITTING [KQ2E04-01S] KQ2E04-01S		
10	J1301421	STRAIGHT FITTING [KQ2H04-02/PC4-02] KQ2H04-02/PC4-02		
11	J6711134A	BOW FITTING [PL12-03]	PL12-03	
12	J1301212	PLUG [PT 1/4]	PT 1/4	
13	J6711135A	STRAIGHT FITTING [PC8-02]	PC8-02	
14	J1301213	PLUG [PT 3/8]	PT 3/8	
15	J2100009	MANIFOLD [0131-611008]	0131-611008	
16	J9061897A	AIR SOL V/V CABLE ASS'Y [J9061897A] J9061897A		
17	J6702021A	SOLENOID VALVE [K180-4E1-21-DC24V] K180-4E1-21-DC24V		
18	J6713018A	AIR TUBE (POLYURETHANE)	U2-4-8*5 (BLACK)	
19	J6711139A	STRAIGHT FITTING [SS8-1/2]	SS8-1/2	
20	J6707003A	VACUUM PUMP [X40F6-KN]	X40F6-KN	
21	J6711139A	STRAIGHT FITTING [SS8-1/2]	SS8-1/2	
22	J6713017A	AIR TUBE (POLYURETHANE)	U2-4-6*4 (BLACK)	
23	J2100009	MANIFOLD [0131-611008]	0131-611008	
24	J6713018A	AIR TUBE (POLYURETHANE)	U2-4-8*5 (BLACK)	
25	J1301364	ELBOW FITTING [KQ2L08-03/PL8-03]	KQ2L08-03/PL8-03	

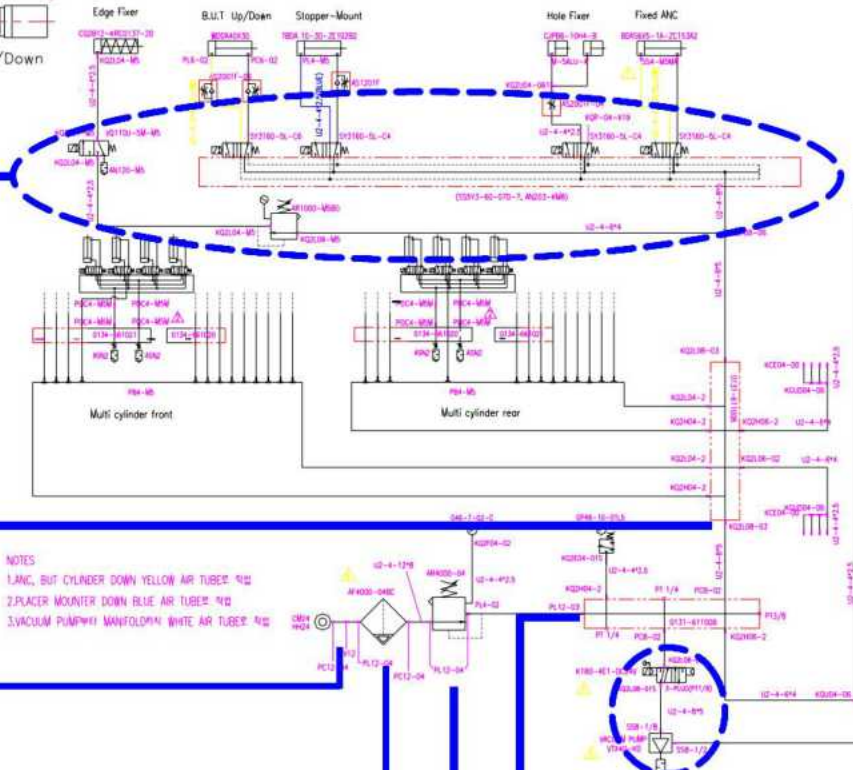
No.	Part Code	Part name	Specification	Remarks
26	J1301133	FITTING [KQ2L04-02/PL4-02]	KQ2L04-02/PL4-02	
27	J6713017A	AIR TUBE (POLYURETHANE)	U2-4-6*4 (BLACK)	
28	J1301700	CHECK UNION [KCE04-00]	KCE04-00	
29	J6713016A	AIR TUBE (POLYURETHANE)	U2-4-4*2.5 (BLACK)	
30	J1301364	ELBOW FITTING [KQ2L08-03/PL8-03]	KQ2L08-03/PL8-03	
31	J1301142	EXHAUST THROTTLE VALVE [ASN2-M5/ETM5 (P	ASN2-M5/ETM5 (PISCO)	
32	J1300279	FITTING [KQ2S04-M5/POC4-M5M]	KQ2S04-M5/POC4-M5M	
33	J6709004A	REGULATOR [AR1000-M5BG]	AR1000-M5BG	
34	J1300277	FITTING [KQ2L06-M5/PL6-M5M]	KQ2L06-M5/PL6-M5M	
35	J1301188	FITTING [KQ2L04-M5/PL4-M5M/SQL04-M5]	KQ2L04-M5/PL4-M5M/SQL04-M5	
36	J6711145A	TEE FITTING [KQ2T08-06]	KQ2T08-06	
37	J6701037B	EDGE CYLINDER [CQ2B12-KRC0137-2D]	CQ2B12-KRC0137-2D (fourth level)	
38	J7458001A	SOL VALVE MODULE(5ÿ)[J7458001A]	J7458001A	
39	J9058070A	AIR DISTRIBUTOR MODULE[J9058070A] J9058070A		
40	J6719038A	VALVE(J9058070A : AIR Distributor Module) SY3140R-5LZ		
41	J90658072A	FILTER ASSY (J9058070A : AIR Distributor Module)	J9058072A	

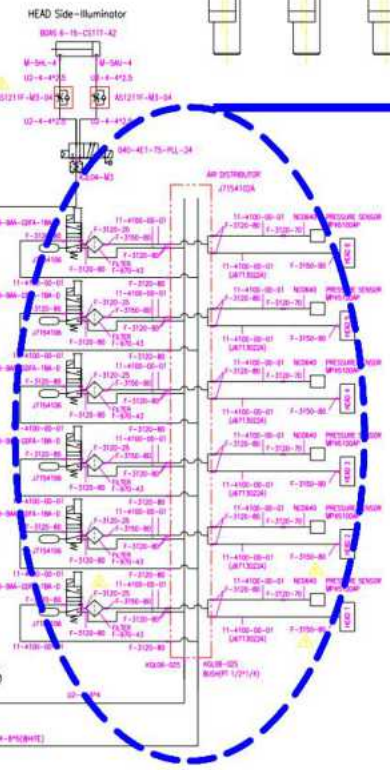
Machine Translated by Google























NOTES
1.ANC, BUT CYLINDER DOWN YELLOW AIR TUBE
2.PLACER MOUNTER DOWN BLUE AIR TUBE
3.VACUUM PUMPWH MANIFOLDWH WHITE AIR TUBE

Machine Translated by Google

11-2. Vacuum Pump Cleaning and Replacement

- Tools

  a) Air-Blower, + Driver, Hex. Wrench.

- Part

  a)

1) To clean the vacuum pump, separate the vacuum pump from the equipment. 2) Separate the silencer and clean it by air flushing.

3) Separate the pump part in a clean state in a clean place and clean foreign substances.

Air flush the orifice part in the opposite direction to the air flow. If contamination by foreign substances is serious, it must be replaced. 4) Be careful not to let the seal fall off when assembling the pump part.

Machine Translated by Google

11-3. Air Filter Cleaning and Replacement

Refer to 1-15 Vacuum level inspection of Head Module.

Machine Translated by Google

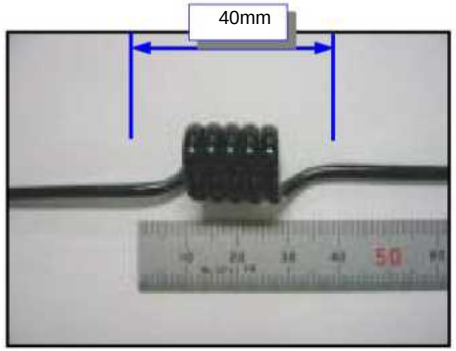


Fig.11-4-1 Cutting Length



Fig.11-4-2 Coul tube direction1

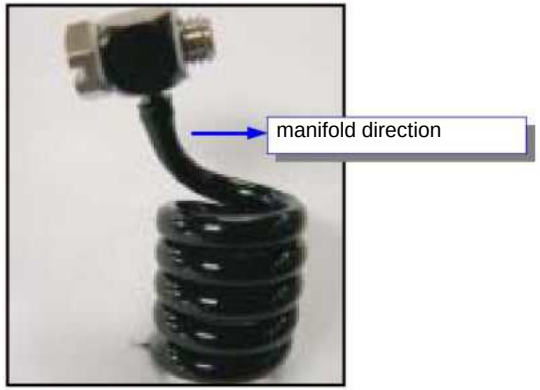




Fig.11-4-3 Coul tube direction 2

11-4. Coil Tube Replacement

- Tools

  a)Rule, Cutter, -Driver, Spanner(7mm), Hex.Wrench.

When replacing the coil tube, be careful not to cause abrasion of the coil tube due to interference between adjacent parts and the coil tube.

1) Coil cutting position and length (refer to Fig 11-4-1)

- Coil tube cutting location: cutting vertically symmetrically
- Coil tube cutting length: 40 mm (length that does not swell at maximum compression)

2) Check the coil tube press-fitting direction (refer to Fig 11-4-2, 11-4-3)

When inserting the tube, the maximum radius of the coil tube is directed toward the manifold side.

Machine Translated by Google

11-5. V-ring part (Head part) inspection

Head Module maintenance '1-10. Proceed by referring to Paragraph 10 of 'Ball Spline Replacement, Inspection'.

Machine Translated by Google

11-6. Blow adjustment and re- setting

- Tools

a) Blow Adjust Tool or Manometer. (Fig 11-6ÿÿ)

Head Module maintenance '1-14. Proceed by referring to 'Checking Blow Set Amount'.

Machine Translated by Google



Fig.11-7-1 Connect tube between in and out

11-7 Periodically inspect and replace the **filter** inside the **AIR Distributor**

- Tools
- Part

Check the pre-contamination status and cleaning procedure

1) Preparation of TUBE[TU0425] (length: 300mm), cut off equipment air pressure, connect tube (refer to Fig 11-7-1), Speed Controller Close, Pneumatic Supply

2) Down the Z-axis, remove the nozzle for each head (refer to Fig 11-7-2)

3) Place clean gauze on the bottom of the nozzle holder. (Refer to Fig 11-7-3) 4) Operate the solenoid valve 10 times while supporting the gauze (Refer to Fig 11-7-4) Clean the filter every 2 months depending on the condition of the stain. (Refer to Fig 11-7-5)

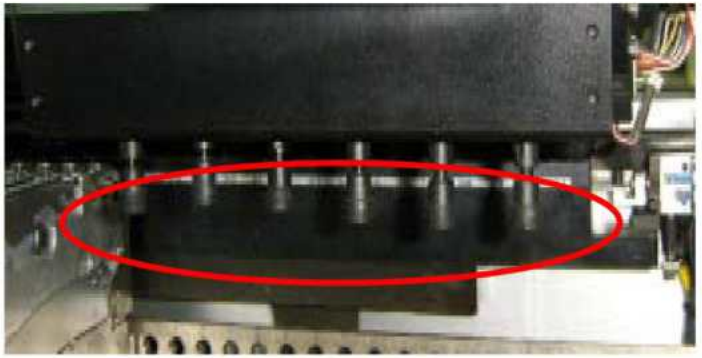


Fig.11-7-2 Down Z-axis, remove nozzle





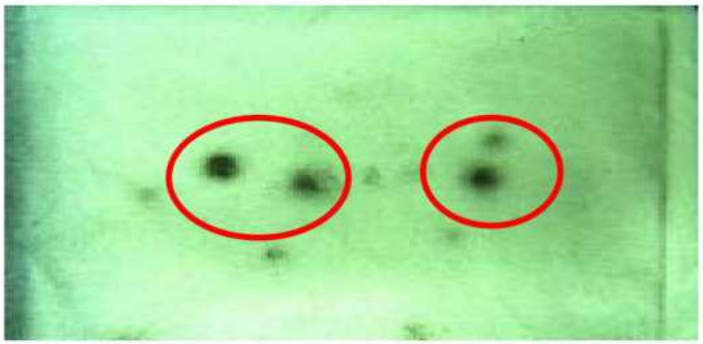


Fig.11-7-3 Put the clean cloth under the nozzle Fig.11-7-3 Push solenoid valve 10 times Fig.11-7-3 Check the dirtiness to clean

Machine Translated by Google

12-1. Mark3. ini

=>If you open C:\Mark3\BIN\mark3.ini in Windows Explorer using NotePad, the output is as shown on the left.

- C:\Mark3\Bin\Mark3.ini => Set the device name displayed on the SPLASH screen when initializing the device.
- C:\Mark3\system\Config.DB => Specifies the model group of the equipment.
- C:\Mark3\system\factory.htm => Within the model group specified in Config, detailed by software internal needs
  It is used when it is necessary to differentiate by option.

```
[TARGET]
MachineType=21
Real=1
Sync=1
ModuleDown=1
VisModDown=1
Language=0

[Directory]
InstallDrive=c:
HomeDir=C:\Mark3
BinDir=C:\Mark3\bin
PartDir=C:\Mark3\partdb
SystemDir=C:\Mark3\system
PCBDir=C:\Mark3\pcb
LogDir=C:\Mark3\log
TempDir=C:\Mark3\temp
VmeIplDir=C:\Mark3\vmeipl
SpAncOrgY=16305
ConveyorTime=10000
ShuttleTime=8000
```

No	Group	Item	Type	Description
1	TARGET	Machine Type	0	It is an F model.
			1	This is the FV Model.
			2	This is the FS Model. Equipment equipped with Fling Camerark for mounting 0603 parts When
2		Real	0	booting the equipment, initialize each board offline I don't check. When booting,
			1	check the initial signal on each interface board to boot. (Real equipment) Refers to the offline state in which synchronization signals are not checked when equipment is
3		Sync	0	booted.
			1	When booting, download is performed according to the synchronization signal (actual device).
4		ModuleDown		Do not down load the module. 0
			1	Download each module (actual device). It means operating offline
5		VisModDown	0	without downloading the vision module.
			1	Download the vision module (actual equipment). 0 When using Korean
6		Language		Windows 1 When using English Windows

Machine Translated by Google

12. Software

[Data_File] / /
h:Korean, e:English
Check=e
Error=e
Output=e
Input=e

[Optimizer]
UseHead1=1
UseHead1Vision=1
UseHead2=1
UseHead2Vision=1
UseHead3=1
UseHead3Vision=1
UseHead4=1
UseHead4Vision=1
UseHead5=1
UseHead5Vision=1
UseHead6=1
UseHead6Vision=1
AncTime=2000
FiducialTime=1000
VisionTime=1000
TrayYTime=1000
TrayZTime=2000
CycleRangeOption=1100
SearchLoopOption=0
QAancOrgX=-14000
QAancOrgY=0
NorAncOrgX=-8650
NorAncOrgY=16420
SpAncOrgX=-7375
SpAncOrgY=16305
ConveyorTime=2500
ShuttleTime=8000

No	Group	Item	Type	Description
7	Directory	InstallDrive	C:\	Means the main path for software to run
8		HomeDir	C:\Mark3	location of MMI
9		ThousandDirect	C:\Mark3\Bin	location of executable file
10		system dir	C:\mark3\system	Location of System Parameter values
11		PCBDir	C:\mark3\pcb	Save location of created PCB and OPT files
12		LogDir	C:\Mark3\log	Log file storage location
13		TempDir	C:\Mark3\temp	Location of temporary folder where temporary files are created
14		VmeIplDir	C:\Mark3\vmeipl	Location of files used for equipment and vision 16305=163.05mm Y
15		SpAncOrgY	distance from equipment origin to ,ANC origin 2500(ms) = 2.5sec 8000(ms) = 8.0sec Suttle	
16		ConveyorTime	Tray response time Error message in Korean h Output Error message in English Head #1	
17		ShuttleTime	not used Head #1 used Is Head #1 not a Vision Head?	
18	Data File Error			
			and	
19	Optimizer	UseHead1	0	
			1	
20		UseHead1Vision	0	
			1	Is Head #1 a Vision head?
21		AncTime		
22		FiducialTime		
23		VisionTime		
24		TrayYTime		
25		TrayZTime		
26		CycleRangeOption		
27		SearchLoopOption		

Machine Translated by Google


```
[ETC]
ToolbarPos=0
ViewErrorMsgBar=1
CheckWarning=0
UpdatePart=0
ConfirmSkip=1

[Option]
ManufactLog=1
Adjust=1
Welcome=0
UseHoleFixer=0
IQFEEDER=0
LotTracking=0
JobManager=0
TSG=1
TSGShowWarning=1
TSGShowAnime=1
```

No	Group	Item	Type	Description
28	ETC	ToolbarPos	0	
			1	
29		ViewErrorMsgBa	0	
			1	
30		CheckWarning	0	
			1	
31		UpdatePart		
32		ConfirmSkip		
33	Option	ManufactLog	0	Select whether to save production history information do not save save
			1	Select whether to save production history information
34		Adjust	0	Conveyor width control room (manual control)
			1	Conveyor width control room (controlled by motor)
35		Welcome	0	Do not display welcome note at initial boot 1 Enable display of welcome
				note at initial boot
36		IQFEEDER	0	Whether to use Intelligent Feeder or not
			1	Whether to use Intelligent Feeder, use
37		LotTracking	0	
			1	
38		JobManager	0	
			1	
39		TSG	0	Select whether or not to use the Trouble Shooting Guide. Select 0 or 1 for all 3 options. 0 => not used, 1 => used.
		TSGShowWarning		
		TSGShowAnime	1	

Machine Translated by Google


```
[PARTNAME]
PartNamePostFix=0
PARTTYPE_CHPCIR=_CHPCIR
PARTTYPE_CHIPRECT=_CHPREC
PARTTYPE_CHIPRECT_R3216=_CHPR3216
PARTTYPE_CHIPRECT_R2012=_CHPR2012
PARTTYPE_CHIPRECT_R1608=_CHPR1608
PARTTYPE_CHIPRECT_R1005=_CHPR1005
PARTTYPE_CHIPRECT_R0603=_CHPR0603
PARTTYPE_CHIPRECT_C3216=_CHPC3216
PARTTYPE_CHIPRECT_C2012=_CHPC2012
PARTTYPE_CHIPRECT_C1608=_CHPC1608
PARTTYPE_CHIPRECT_C1005=_CHPC1005
PARTTYPE_CHIPRECT_C0603=_CHPC0603
PARTTYPE_CHIPRECT_TANTAL=_TANTAL
PARTTYPE_CHIPRECT_ALUMINUM=_AL
PARTTYPE_MELF=_MELF
PARTTYPE_TR=_TR
PARTTYPE_TRIM=_TRIM
PARTTYPE_HEMT=_HEMT
PARTTYPE_SOP=_SOP
PARTTYPE_SMALL_SOP=_SSOP
PARTTYPE_SOJ=_SOJ
PARTTYPE_SOP2=_SOP2
PARTTYPE_SOJ2=_SOJ2
PARTTYPE_QFP=_QFP
PARTTYPE_PLCC=_PLCC
PARTTYPE_CONN1=_CONN1
PARTTYPE_CONN2=_CONN2
PARTTYPE_USERIC=_USRIC
PARTTYPE_BGA=_BGA
```

Machine Translated by Google

12-2. CP45NEO-Factory Constant Value Unit

No	Name	Class.			Contents	Remarks
0			0			
1			0			
2			0			
3			0			
4			0			
5			0			
6			0			
7			0			
8			0			
9			0			
10			0			
11			0			
12			0			
13			0			
14			0			
15	TMV_PCB_LOCK_DELAY	Use 400		msec	The delay time from when PCB Lock is confirmed by the sensor to recognition may vary for each device (200-1000) If the PCB moves after Fiducial recognition, increase the value Time delay until inspection after	Equipment-specific settings
16	READY_RELAY_DELAY	Use 300		msec	Ready Relay On 0: default value Application is about 150msec. Others: According to the set value.	Equipment-specific settings
17	USE_UPS	Use 0		Const	0 : UPS is not used. 1 : Use UPS.	Settings for each option
18	CE_TYPE	Use 0		Const	0 : CE is not applied. 1 : CE applied.	Settings for each option
19	MACHINE_NO	Use		Const	device number Set for each device Type of	
20	MACHINE_TYPE	Use 1		Const	device Const 0 : Right Key + Dir, 1 : Left Key +	
21	CONV_JOG_DIR	Use 0		Dir	Const 0 : Down Key + Dir 1 : Up Key - Dir 0 : Front side 1 : Back side	Settings for each option
22	CONV_WIDTH_JOG_DIR	Use 0				Settings for each option
23	CONV_FIX_TYPE	Use 0		Const		Settings for each option
24	BOARD_FLOW_METHOD	Use 0		Const	0 : Normal 1 : Back Return msec Delay	
25	SYS_DELAY_ANC	Use 200		time	after checking the ANC Sensor When the Head	Equipment-specific settings
26	NZ_GET_DN_MARGIN	Use 800		a	goes down to pick up the Nozzle, it falls further	

Machine Translated by Google

27 (CONV_1_TYPE)	Use 1		Const	Conveyor Type 0 : 1 Conveyor 1 : 3 Conveyor Not used.	Settings by option
28 (CONV_2_TYPE)	Reserved 0				
29 CONV_1_AUTOWIDTH	Use 1		Const Automatic width adjustment 0: No automatic width adjustment 1: Automatic width adjustment enabled. Setting by		
30 (CONV_2_AUTOWIDTH)	Reserved 0			option is not used.	
31 BOARD_FLOW	Use 0		Const	PCB transfer direction 0: left to right 1: right to left Time	Settings by option
32 TMV_PCB_DELAY	Use 300		msec	to keep pushing the PCB after work sensor detection and deceleration to stop TimeOut when operating Edge Fix TimeOut when moving PCB	Equipment-specific settings
33 TMV_STP	Use 3,000		msec	TimeOut when moving PCB from one zone to the next equipment	
34 TMV_BUT	Use 3,000		msec	TimeOut when moving PCB out Time to continue pushing after getting	
35 TMV_PIN_DELAY	Use 200		msec	out of sensor Setting for each equipment msec Daley used in general	Equipment-specific settings
36 TMV_EDGE	Use 3,000		msec	XY operation msec Pickup of parts Delay used in XY operation to mount	
37 TMV_IN	Use 10,000 msec			parts msec Delay used in XY operation to mount parts (Polling) msec	
38 TMV_OUT	Use 10,000 msec			Delay used in XY operation requiring high accuracy	
39 TMV_OUT_PUSH	Use 2,000		msec		
40 SYS_DELAY_XY1	Use 20				
41 SYS_DELAY_XY2	Use 20				
42 SYS_DELAY_XY3	Use 13				
43 SYS_DELAY_XY4	Use 50				
44 SYS_BACKLASH_XY	Use 100		a	Zone msec used in XY backlash prevention algorithm	
45 SYS_DELAY_Z1	Use 0		Daley used in general Z motion		
46 SYS_DELAY_Z2	Reserved 0		msec		
47 SYS_DELAY_Z3	Reserved 0		msec		
48 SYS_DELAY_Z4	Use 40		Delay used in Z operation requiring msec high precision		
49 SYS_BACKLASH_Z	Reserved 0		a		
50 SYS_DELAY_R1	Use 50		msec Daley used in general R operation msec Delay used		
51 SYS_DELAY_R2	Use 50		in R operation to PickUp parts msec Delay used in R operation to mount		
52 SYS_DELAY_R3	Use 20		parts msec Delay used in R operation requiring high accuracy		
53 SYS_DELAY_R4	Use 50				
54 SYS_BACKLASH_R	Use 3,000			Zone mdeg used in R Backlash Prevention Algorithm	
55 SYS_DELAY_M1	Use 0		msec	Delay when Mir Close in FLY_SS Cycle	
56 SYS_DELAY_M2	Reserved 0		msec		

Machine Translated by Google

57	SYS_DELAY_M3	Reserved 0		msec		
58	SYS_DELAY_M4	Use 10		msec	Delay when Mir Close	
59	SYS_BACKLASH_M	Reserved 0		a		
60	HEAD_SIDE_DN_TIME	Use 150		msec	The minimum time required to drive the side lighting of the head	
61	HEAD_SIDE_DN_TIMEOUT	Use 500		msec	Timeout when driving the side lighting of the head	
62	SYS_FLY_OUTER_LEVEL	Use 256		Const	Fly Outer Lighting Control Algorithm Settings	
63	SYS_HEAD_VAC_DELAY	Use 0 17		msec	Delay from Z Pulse End to Vacuum Sol Off Signal Generation	
64	SYS_HEAD_VAC_TIME	Use		msec	Time from Vacuum Sol Off to Vacuum release	
65	SYS_HEAD_VAC_GEN_TIME	Use 55		msec	Time from Vacuum Sol On until Vacuum is created	
66	SYS_HEAD_VAC_REL_TIME	Use 40		msec	Time from Vacuum Sol Off until the vacuum is stabilized	
67	SYS_HEAD_VAC_TIME2	Reserved 0		msec	Minimum change time when releasing vacuum	
68	SMALL_COMP_METHOD	Use 15		Const	Methods related to Small Comp	
69	SYS_HEAD_VAC_METHOD	Use 34		Const	Add each value of each method related to Vacuum Control. 1 : Inspect the open level every cycle. 2: Open Level is checked every time ANC is performed. 8 : Inspection of Open Level only when performing Vac Check (Pick Check). 16 : Inspect nozzle clogging every cycle. 32 : Inspection of Nozzle blockage at every Dump.	
70	SMALL_COMP_SIZE	Use 650		a	Difference from actual value in	
71	SYS_Z_OFFSET_VAC	Use 40		a	Z measurement using Small Comp's standard size Vacuum. Difference value when using TN05.	
72	VERY_SMALL_COMP_METHO	Use 7		Const	Reference size for Method Very Small	
73	VERY_SMALL_COMP_SIZE	Use 400		a	Comp related to Very Small Comp	
74	PICK_TEACH_VAC_METHOD	Reserved 0		Const	When a Retry error occurs (PICK UP) Whether to use height compensation using Vac in small parts (1 used / 0 not used)	This feature has not yet been tested. do 0

Machine Translated by Google

75	PICK_TEACH_VAC_DIST	Reserved 0		a	When using pick position correction function using Vac. The difference between the measured value and the corrected value (50 is obtained during the experiment.)	This feature has not yet been tested. do 0
76		Reserved 0 0				
77						
78	STOP_2_RUN_DELAY	Use 1,000		msec	Warning time 0: No warning when moving by panel switch operation in IDLE. 1 : Warning for the applicable msec.	
79	STOP_2_RUN_METHOD	Use 1		const	Whether to warn when moving by panel switch operation in IDLE 0: No warning. 1 : Warning.	
80	ESCAPE_M_FAST	Use 170,000 mdeg			The angle between 80000 and 175000 at which the Z-axis starts to move when the Mirror in FLY_SS Cycle comes out. Other values are treated as 80000. When the Z-axis picks up during the FLY_SS Cycle and the mirror	
81	ESCAPE_Z_FAST	Use 11,000 um			comes in, the Z-axis position where the mirror starts to come in is between 6000 and 45000.	
82	ESCAPE_Z_MNT_FAST	Use 2,500		a	During FLY_SS Cycle, the height that XY can move when Z-axis is mounted and Up is between 1000 and 6000. Other values are treated as 8000.	
83	HEAD_AUX_HOME	Use 1		Const	Head's R auxiliary home sensor use or not 0: not use, 1: use. Settings for each option 0: Do not	
84	USE_FAST_PICK_UP	Use 1		Const	use Fast PickUp. 1: Enable Fast PickUp.	
85	TMV_EDGE_DELAY	Use 300		msec	0 : Edge Fix sensor is used. Others: It is recognized that Edge Fix operates normally after a given delay without using the sensor of Edge Fix. (300msec)	Settings by option
86			0			
87			0			
88			0			
89			0			
90	NZ_EXIST_CHK_METHOD		1	Const	0: Use the nozzle check sensor to check the presence of nozzles. 1: Check the presence of nozzles using vision. Reference value	
91	NZ_VIS_USE_CHK_VALUE		30	%	when checking the existence of a nozzle using vision.	

Machine Translated by Google

92			0			
93			0			
94			0			
95			0			
96			0			
97			0			
98			0			
99 IsESCamera		Reserved 0		0 1	Cameras for E/S have a different direction from cameras for P/P. Set it to 1 only for equipment using E/S cameras.	

Machine Translated by Google

12-3. CP45NEO-Factory DEBUG Value 0 0 0 0

No	Name	Class.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Unit	Contents	Remarks
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Machine Translated by Google

28	MOUNT_POS_CHECK_METHOD	Use		0	CONST	A function to check if it is in the PCB before mounting 0: Not checked 1: The mounting stopper is on the right side of the front. 2 : Mounting stopper is on the left side of the front. 3 : Mounting stopper is on the right side of the rear. 4 : Mounting stopper is on the left side of the rear.	
29				0			
30				0			
31				0			
32				0			
33				0			
34				0			
35				0			
36				0			
37				0			
38				0			
39				0			
40				0			
41				0			
42				0			
43				0			
44				0			
45				0			
46				0			
47				0			
48				0			
49	FLY_INNER_LIGHT_TYPE	Use		0	0,1	0: Head lighting board for mass production 1: Old lighting board If	
50	IGNORE_NOZ_CHK_SENSOR	Use		0 0	1	there is a problem with the nozzle check sensor, if this value is set to 1, the sensor will not be checked. If set to 1, FLY_AUTOTEACH_RANGE (No. 52) is used as the recognition area	
51	USE_FLY_AUTOTEACH_RANGE	Use		0	0, 1	during parts auto-teaching. (Only fly camera only) If set to 0, the entire screen is recognized.	

Machine Translated by Google

52	FLY_AUTOTEACH_RANGE	Use	17,000	Refer to um	No. 51. In case of misrecognition due to slow Z-axis operation time due to mechanical problems, delay time is given before vision recognition. Whether to use R0 value automatic calculation function in speed profile 0: Not used 1: Used	
53	VIS_NZ_CHK_DELAY_TIME	Use	30 msec			
54	AUTO_SPEED_RANGE	Reserved		const		
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81			0 00000000000000000000000000000			

Machine Translated by Google

52	FLY_AUTOTEACH_RANGE	Use	17,000		Refer to um No. 51. In case of misrecognition due to slow Z-axis operation time due to mechanical problems, delay time is given before vision recognition. Whether to use R0 value automatic calculation function in speed profile 0: Not used 1: Used	
53	VIS_NZ_CHK_DELAY_TIME	Use	30 msec			
54	AUTO_SPEED_RANGE	Reserved	0 const 0 0 0 0			
55			0 0 0 0 0 0 0 0 0 0			
56			0 0 0 0 0 0 0 0 0 0			
57			0 0 0 0 0			
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						

Machine Translated by Google

12-4. CP45NEO-System Constants Value 0 0 0 0

No	Name	Class.		Unit	Contents	Remarks
0	OPT_MECHA	Reserved				
1	OPT_MMI	Reserved				
2	OPT_UNIT	Reserved				
3	OPT_MOVEMESSAGE	Reserved				
4	OPT_SIG_TYPE	Use	0	Type of Const	tower lamp (used in MMI)	Changed according to MMI PREF setting.
5	OPT_SIG_RED	Use	2,112	Const	Sets the operation of the tower lamp.	Changed according to MMI PREF setting.
6	OPT_SIG_YEL	Use	257	Const	D0-D1 : IDLE, D2-D3 : RUN, D4-D5 : PAUSE	Changed according to MMI PREF setting.
7	OPT_SIG_GRN	Use	36	Const	D6-D7 : FREEZE, D8-D9 : ADJUST, D10-D11 : EMER	Changed according to MMI PREF setting.
8	OPT_SIG_BLUE	Use	0	Const	0 : ACT_OFF 1 : ACT_ON 2 : ACT_BLINK	Changed according to MMI PREF setting.
9	OPT_SIG_PART_EMPTY	Use	1	Const	Function to make TOWER LAMP flash when AUTOLINK occurs 0 : Not Use 1 : Use	

Machine Translated by Google

10	OPT_IQ_FEEDER	Use	0	Const	Front Feeder Type 0: Pneumatic 1 : IQ 2 : Pneumatic NON-STOP NO BUZZER 3 : Pneumatic NON-STOP BUZZER Rear feeder type 0 : Pneumatic 16 : IQ 17 : Pneumatic NON-STOP NO BUZZER 18 : Pneumatic NON-STOP NO BUZZER	Changed according to MMI PREF setting.
11	OPT_BADFIRST	Use	0	Const	0 : Fiducial Mark comes first. 1: BAD Mark first.	Changed according to MMI PREF setting.
12	OPT_TRAYTIME	Use	1	Const	0 : Pallete change as Basic. Stable 1: Pallete change is fast.	Changed according to MMI PREF setting.
13	OPT_AUTOSKIP	Use	0	Const	When there is no part or an error occurs during work, the PCB work is skipped once, and the function performed after the PCB work is finished. 0 : AUTO SKIP is not used. 1 : Use AUTO SKIP.	Changed according to MMI PREF setting.
14	OPT_AUTOSRHRUN	Reserved	0			
15	OPT_BUZONOFF	Use	0	Const	0 : Buzzer On 1 : Buzzer Not On	Changed according to MMI PREF setting.
16	OPT_TRAY_NONSTOP	Use	0	Const	0 : Tray Non Stop is not used. 1 : Enabled.	
17	OPT_LARGE_PCB_SUPPORT	Use	0	Const	0 : Not supported. 1 : Supported.	Depending on the equipment option, it is set in MMI.

Machine Translated by Google

18	OPT_INLINE_TYPE	Use	257 Const		IN-LINE D0-D7 : In D8-D15 : Out >> 0:Stand alone(ALONE), 1:Use Busy(BUSY), 2:SMEMA Before, After 0:STAND,STAND 1:BUSY,STAND 2:SMEMA STAND 256:STAND, BUSY 257:BUSY, BUSY 258:SMEMA, BUSY 512:STAND, SMEMA 513:BUSY, SMEMA 514:SMEMA, SMEMA Use	Changed according to MMI PREF setting.
19	OPT_QUICKLOAD	Use	17 Const		sensors for QuickLoad Registered if 1: Using Quick Work->Out Sensor 16: Sync Move (old Quick Load)	Changed according to MMI PREF setting.
20	OPT_FFED_OVER	Use	34 Const		How to use the Feeder lift sensor >> D0-D3 : Front D4-D7 : Rear 0 : No Check(NO) 1 : Check(CH) 2 : INT Check(INT) Value: Front, Rear 0 : NO, NO 1 : CH, NO 2 : CH-INT, NO 16 : NO, CH 17 : CH, CH 18 : CH-INT, CH 32 : NO, CH-INT 33 : CH, CH-INT 34 : CH-INT, CH-INT	17 : Only SENSOR is checked. 34 : SENSOR Check with NTERRUPT. (Add to existing equipment HARNESS required)

Machine Translated by Google

21	OPT_DOOR_OPEN	Use	34	Const	D0-D3 : Front Door D4-D7 : Rear Door >>0:No Check(NO) 1:Low Speed(LOW) 2:Emergency(EMER) Value: Front, Rear 0 :NO, NO 1:LOW, NO 2:EMER, NO 16:NO, LOW 17:LOW, LOW 18:EMER, LOW 32:NO, EMER 33:LOW, Whether EMER Tape parts use Auto Link 0: AUTO LINK 1: NOT LINK 0 Stick parts use Auto Link 0:	
22	OPT_TAPE_LINK	Reserved	0	1 Const	1 : If XY Home was done before turning on the power, it is not done. AUTO LINK 1: NOT LINK 0 Tray parts use Auto Link 0: AUTO LINK 1: NOT LINK	
23	OPT_STICK_LINK	Reserved				
24	OPT_TRAY_LINK	Reserved				
25	OPT_HOME_METHOD	Use				
26	OPT_QUICKLOAD_ETC	Use	373	Const	Other settings related to conveyor speed	
27		Use	0	Const	0 : Do not use docking cart. 1: Using the front docking cart 16: Using the rear docking cart 17: Using the front and rear docking carts	
28	OPT_NO_FEEDER_CHG	Use	0	Const	0 : Feeder Change Button Use 1 : Feeder Change No Use 0 : In Out Buffer ÿÿÿ.	
29	OPT_DISABLE_BUFFER	Reserved	0	Const	1 : In Buffer is not used. 2 : Out Buffer is not used. 3 : In, Out Buffer is not used.	
30	OPT_PROD_COUNT_METHOD	Use	0	Const	0: based on production, 1: based on input	In the general case without LC, it is always 0.
31	OPT_USE_HOLE_FIX	Use	0	Const	0 : Use. 1 : Not used.	Used in MMI

Machine Translated by Google

32	OPT_USE_MIR_SAFETY	Use	0	Const	0 : Mirror safety sensor is not checked. 1 : Confirmed only when the mirror safety sensor is HOME. 2 : Confirmed during mirror safety sensor AUTO-RUN.	
33	OPT_LTS_METHOD	Use	0	Const	0: Disable Lot Tracking System. 1: Use Lot Tracking System.	
34						
35						
36						
37						
38						
39						
40						
41						
42						
43	OPT_USE_VAC_PLATE	Use	0 0 0 0 0 0 0 0 0 0	Const	0 : Vacuum Plate function is not used. 1 : Enabled. 0	
44	OPT_VAC_PLATE_CHK_DELAY Use		msec Waiting time before checking Vacuum Plate Sensor after PCB Lock 100 msec Waiting time until			
45	OPT_VAC_PLATE_OFF_DELAY Use		next operation after Vacuum Plate Vac Off when PCB is unlocked sec 0: Not used. Heat sensor detection			
46	OPT_HEAT_SENSOR_TERM	Use	notification at intervals of input time 300 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
47	48 49 50 51 52 53 54 55 56 57 58 59 60					

Machine Translated by Google

61			0			
62			0			
63			0			
64			0			
65			0			
66			0			
67			0			
68			0			
69			0			
70			0			
71			0			
72			0			
73			0			
74			0			
75			0			
76			0			
77			0			
78			0			
79			0			
80			0			
81			0			
82			0			
83			0			
84			0			
85			0			
86			0			
87			0			
88			0			
89			0			
90			0			
91			0			
92			0			

Machine Translated by Google

93			0			
94			0			
95			0			
96			0			
97			0			
98	FID_LIGHT_99	Use		0,1	0: 1 light System(Old) 1: 2Light System (New)	
			1 0			

Machine Translated by Google

12-5. CP45- Factory Constants Value Unit

No	Name	Class.			Contents	Remarks
0			0			
1			0			
2			0			
3			0			
4			0			
5			0			
6			0			
7			0			
8			0			
9			0			
10			0			
11			0			
12			0			
13			0			
14			0			
15	TMV_PCB_LOCK_DELAY	Use 400		msec	The delay time from when the PCB Lock is confirmed by the sensor to when it is acknowledged may be different for each device (200-1000) If the PCB moves after recognizing the Fiducial, increase the value.	Equipment-specific settings
16	READY_RELAY_DELAY	Use 300		msec	Application is about 150msec. Others: According to the set value.	Equipment-specific settings
17	USE_UPS	Use 0		Const	0 : UPS is not used. 1 : Use UPS.	Settings for each option
18	CE_TYPE	Use 0		Const	0 : CE is not applied. 1 : CE applied.	Settings for each option
19	MACHINE_NO	Use		Const	device number Set for each device Type of	
20	MACHINE_TYPE	Use 1		Const	device Const 0 : Right Key + Dir, 1 : Left Key +	
21	CONV_JOG_DIR	Use 0		Dir	Const 0 : Down Key + Dir, 1 : Up Key - Dir 0 : Front side 1 : Back side	Settings for each option
22	CONV_WIDTH_JOG_DIR	Use 0				Settings for each option
23	CONV_FIX_TYPE	Use 0		Const		Settings for each option
24	BOARD_FLOW_METHOD	Use 0		Const	0 : Normal 1 : Back Return msec Delay	
25	SYS_DELAY_ANC	Use 200		time	after checking the ANC sensor When the head	Equipment-specific settings
26	NZ_GET_DN_MARGIN	Use 1,400		a	goes down to pick up the nozzle, the amount that falls further	

Machine Translated by Google

27 (CONV_1_TYPE)	Use 1		Const	Conveyor Type 0 : 1 Conveyor 1 : 3 Conveyor Not used.	Settings by option
28 (CONV_2_TYPE)	Reserved 0				
29 CONV_1_AUTOWIDTH	Use 1		Const	Automatic width adjustment 0: No automatic width adjustment 1: Automatic width adjustment enabled. Setting by	
30 (CONV_2_AUTOWIDTH)	Reserved 0			option is not used.	
31 BOARD_FLOW	Use 0		Const	PCB transfer direction 0: left to right 1: right to left Time	Settings by option
32 TMV_PCB_DELAY	Use 300		msec	to keep pushing the PCB after work sensor detection and deceleration to stop TimeOut when operating Edge Fix TimeOut when moving PCB	Equipment-specific settings
33 TMV_STP	Use 3,000		msec	TimeOut when moving PCB from one zone to the next equipment	
34 TMV_BUT	Use 3,000		msec	TimeOut when moving PCB out Time to continue pushing after getting	
35 TMV_PIN_DELAY	Use 200		msec	out of the sensor Setting for each equipment msec Daley used in general	Equipment-specific settings
36 TMV_EDGE	Use 3,000		msec	XY operation msec Pickup of parts Delay (Polling) msec used in XY	
37 TMV_IN	Use 10,000 msec			operation to mount parts Delay (Polling) msec used in XY operation	
38 TMV_OUT	Use 10,000 msec			requiring high accuracy Zone msec used in XY backlash prevention	
39 TMV_OUT_PUSH	Use 2,000		msec	algorithm Daley used in general Z operation	
40 SYS_DELAY_XY1	Use 20				
41 SYS_DELAY_XY2	Use 20				
42 SYS_DELAY_XY3	Use 15				
43 SYS_DELAY_XY4	Use 50				
44 SYS_BACKLASH_XY	Use 100		a		
45 SYS_DELAY_Z1	Use 0				
46 SYS_DELAY_Z2	Reserved 0		msec		
47 SYS_DELAY_Z3	Reserved 0		msec		
48 SYS_DELAY_Z4	Use 40		Delay used in Z operation requiring msec high precision		
49 SYS_BACKLASH_Z	Reserved 0		a		
50 SYS_DELAY_R1	Use 50		msec Daley used in general R operation msec Delay used		
51 SYS_DELAY_R2	Use 50		in R operation to PickUp parts msec Delay used in R operation to mount		
52 SYS_DELAY_R3	Use 20		parts msec Delay used in R operation requiring high accuracy		
53 SYS_DELAY_R4	Use 50				
54 SYS_BACKLASH_R	Use 3,000			Zone mdeg used in R Backlash Prevention Algorithm	
55 SYS_DELAY_M1	Use 0		msec	Delay when Mir Close in FLY_SS Cycle	
56 SYS_DELAY_M2	Reserved 0		msec		
57 SYS_DELAY_M3	Reserved 0		msec		

Machine Translated by Google

58	SYS_DELAY_M4	Use 10		msec	Delay when Mir Close	
59	SYS_BACKLASH_M	Reserved 0		a		
60	HEAD_SIDE_DN_TIME	Use 150		msec	The minimum time required to drive the side lighting of the head	
61	HEAD_SIDE_DN_TIMEOUT	Use 500		msec	Timeout when driving the side lighting of the head	
62	SYS_FLY_OUTER_LEVEL	Use 256		Const	Fly Outer Lighting Control Algorithm Settings	
63	SYS_HEAD_VAC_DELAY	Use 6		msec	Delay from Z Pulse End to Vacuum Sol Off Signal Generation	
64	SYS_HEAD_VAC_TIME	Use 17		msec	Time from Vacuum Sol Off to Vacuum release	
65	SYS_HEAD_VAC_GEN_TIME	Use 55		msec	Time from Vacuum Sol On until Vacuum is created	
66	SYS_HEAD_VAC_REL_TIME	Use 40		msec	Time from Vacuum Sol Off until the vacuum is stabilized	
67	SYS_HEAD_VAC_TIME2	Reserved 0		msec	Minimum change time when releasing vacuum	
68	SMALL_COMP_METHOD	Use 15		Const	Methods related to Small Comp	
69	SYS_HEAD_VAC_METHOD	Use 34		Const	Add each value of each method related to Vacuum Control. 1 : Inspect the open level every cycle. 2: Open Level is checked every time ANC is performed. 8 : Inspection of Open Level only when performing Vac Check (Pick Check). 16 : Inspect nozzle clogging every cycle. 32 : Inspection of Nozzle blockage at every dump.	
70	SMALL_COMP_SIZE	Use 650		a	Difference from actual value in Z	
71	SYS_Z_OFFSET_VAC	Use 40		a	measurement using Small Comp's standard size Vacuum. Difference value when using TN05.	
72	VERY_SMALL_COMP_METH	Use 7		Const	Method related to Very Small Comp	
73	VERY_SMALL_COMP_SIZE	Use 400		a	Reference size of Very Small Comp	
74	PICK_TEACH_VAC_METHOD	Reserved 0		Const	Retry error occurs (PICK UP) Height using Vac in small parts This function has not yet been verified. Use of correction (1 used / 0 not used) to be set to 0 yet	Yet verified
75	PICK_TEACH_VAC_DIST	Reserved 0		a	When using pick position correction function using Vac. function that is not. The difference between the measured value and the corrected value (50 is obtained during the experiment.) Set to 0	
76		Reserved 0				
77			0			

Machine Translated by Google

78	STOP_2_RUN_DELAY	Use 1,000		msec	Warning time 0: No warning when moving by panel switch operation in IDLE. 1 : Warning for the applicable msec.	
79	STOP_2_RUN_METHOD	Use 1		const	Whether to warn when moving by panel switch operation in IDLE 0: No warning. 1 : Warning.	
80	ESCAPE_M_FAST	Use 170,000 mdeg			The angle between 80000 and 175000 at which the Z-axis starts to move when the Mirror in FLY_SS Cycle comes out. Other values are treated as 80000.	
81	ESCAPE_Z_FAST	Use 11,000 um			When the Z-axis picks up during FLY_SS Cycle and the mirror comes in, the Z-axis position where the mirror starts to come in is between 6000 and 45000.	
82	ESCAPE_Z_MNT_FAST	Use 2,500		a	During FLY_SS Cycle, the height that XY can move when Z-axis is mounted and Up is between 1000 and 6000. Other values are treated as 8000.	
83	HEAD_AUX_HOME	Use 1		Const	Head's R auxiliary home sensor use or not 0: not use, 1: use. Settings for each option 0: Do not	
84	USE_FAST_PICK_UP	Use 1		Const	use Fast PickUp. 1: Enable Fast PickUp.	
85	TMV_EDGE_DELAY	Use 300		msec	0 : Edge Fix sensor is used. Others: It is recognized that Edge Fix operates normally after a given delay without using the sensor of Edge Fix. (300msec)	Settings by option
86			0			
87			0			
88			0			
89			0			
90	NZ_EXIST_CHK_METHOD		ı	Const	0: Use the nozzle check sensor to check the presence of nozzles. 1: Check the presence of nozzles using vision. Reference value	
91	NZ_VIS_USE_CHK_VALUE_92_93		30	%	when checking the existence of a nozzle using vision.	
94	95 96 97		0 0			
			0 0			
			0 0			

Machine Translated by Google

98			0			
99	IsESCamera	Reserved 0		0 1	Cameras for E/S have a different direction from cameras for P/P. Set it to 1 only for equipment using E/S cameras.	

Machine Translated by Google

12-6. CP45-Factory DEBUG

No	Name	Class.	Value 0	Unit	Contents	Remarks
0			0 0			
1			0			
2			0			
3			0			
4			0			
5			0			
6			0			
7			0			
8			0			
9			0			
10			0			
11			0			
12			0			
13			0			
14			0			
15			0			
16			0			
17			0			
18			0			
19			0			
20			0			
21			0			
22			0			
23			0			
24			0			
25			0			
26						
27						

Machine Translated by Google

28	MOUNT_POS_CHECK_METHOD Use		0	CONST	A function to check if it is in the PCB before mounting 0: Not checked 1: The mounting stopper is on the right side of the front. 2 : Mounting stopper is on the left side of the front. 3 : Mounting stopper is on the right side of the rear. 4 : Mounting stopper is on the left side of the rear.	
29			0			
30			0			
31			0			
32			0			
33			0			
34			0			
35			0			
36			0			
37			0			
38			0			
39			0			
40			0			
41			0			
42			0			
43			0			
44			0			
45			0			
46			0			
47			0			
48			0			
49	FLY_INNER_LIGHT_TYPE	Use	0	0,1	0: Head lighting board for mass production 1: Old lighting board If	
50	IGNORE_NOZ_CHK_SENSOR	Use	0 0	1	there is a problem with the nozzle check sensor, if this value is set to 1, the sensor will not be checked. If set to 1, FLY_AUTOTEACH_RANGE (No. 52) is used as the recognition area	
51	USE_FLY_AUTOTEACH_RANGE Use		0	0, 1	during parts auto-teaching. (Only fly camera only) If set to 0, the entire screen is recognized.	

Machine Translated by Google

52	FLY_AUTOTEACH_RANGE	Use	17,000	Refer to um	No. 51. In case of	
53	VIS_NZ_CHK_DELAY_TIME	Use	30 msec		misrecognition due to slow Z-axis operation time due to mechanical problems, delay time is given before vision recognition. Whether to use R0 value automatic	
54	AUTO_SPEED_RANGE	Reserved	0 const 0 0 0 0		calculation function in speed profile 0: Not used 1: Used	
55			0 0 0 0 0 0 0 0 0			
56			0 0 0 0 0 0 0 0 0			
57			0 0 0 0 0			
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						

Machine Translated by Google

82			0			
83			0			
84			0			
85			0			
86			0			
87			0			
88			0			
89			0			
90			0			
91			0			
92			0			
93			0			
94			0			
95			0			
96			0			
97			0			
98			0			
99			0			

Machine Translated by Google

12-7. CP45-System Constant

No	Name	Class.	Value	Unit	Contents	Remarks
0	OPT_MECHA	Reserved	0			
1	OPT_MMI	Reserved	0			
2	OPT_UNIT	Reserved	0			
3	OPT_MOVEMESSAGE	Reserved	0			
4	OPT_SIG_TYPE	Use	0	Type of Const	tower lamp (used in MMI)	Changed according to MMI PREF setting.
5	OPT_SIG_RED	Use	2,112	Const	Sets the operation of the tower lamp.	Changed according to MMI PREF setting.
6	OPT_SIG_YEL	Use	257	Const	D0-D1 : IDLE, D2-D3 : RUN, D4-D5 : PAUSE	Changed according to MMI PREF setting.
7	OPT_SIG_GRN	Use	36	Const	D6-D7 : FREEZE, D8-D9 : ADJUST, D10-D11 : EMER	Changed according to MMI PREF setting.
8	OPT_SIG_BLUE	Use	0	Const	0 : ACT_OFF 1 : ACT_ON 2 : ACT_BLINK	Changed according to MMI PREF setting.
9	OPT_SIG_PART_EMPTY	Use	1	Const	Function to make TOWER LAMP flash when AUTOLINK occurs 0 : Not Use 1 : Use	

Machine Translated by Google

10	OPT_IQ_FEEDER	Use	0	Const	Front Feeder Type 0: Pneumatic 1 : IQ 2 : Pneumatic NON-STOP NO BUZZER 3 : Pneumatic NON-STOP BUZZER Rear feeder type 0 : Pneumatic 16 : IQ 17 : Pneumatic NON-STOP NO BUZZER 18 : Pneumatic NON-STOP NO BUZZER	Changed according to MMI PREF setting.
11	OPT_BADFIRST	Use	0	Const	0 : Fiducial Mark comes first. 1: BAD Mark first.	Changed according to MMI PREF setting.
12	OPT_TRAYTIME	Use	1	Const	0 : Pallete change as Basic. Stable 1: Pallete change is fast. When there is no part or an error occurs during work, the PCB	Changed according to MMI PREF setting.
13	OPT_AUTOSKIP	Use	0	Const	work is skipped once, and the function performed after the PCB work is finished. 0 : AUTO SKIP is not used. 1 : Use AUTO SKIP.	Changed according to MMI PREF setting.
14	OPT_AUTOSRHRUN	Reserved	0			
15	OPT_BUZONOFF	Use	0	Const	0 : Buzzer On 1 : Buzzer Not On	Changed according to MMI PREF setting.
16	OPT_TRAY_NONSTOP	Use	0	Const	0 : Tray Non Stop is not used. 1 : Enabled.	
17	OPT_LARGE_PCB_SUPPORT	Use	0	Const	0 : Not supported. 1 : Supported.	Depending on the equipment option, it is set in MMI.

Machine Translated by Google

18	OPT_INLINE_TYPE	Use	257	Const	IN-LINE D0-D7 : In D8-D15 : Out >> 0:Stand alone(ALONE), 1:Use Busy(BUSY), 2:SMEMA Before, After 0:STAND,STAND 1:BUSY,STAND 2:SMEMA STAND 256:STAND, BUSY 257:BUSY, BUSY 258:SMEMA, BUSY 512:STAND, SMEMA 513:BUSY, SMEMA 514:SMEMA, SMEMA Use	Changed according to MMI PREF setting.
19	OPT_QUICKLOAD	Use	17	Const	sensors for QuickLoad Registered if 1: Using Quick Work->Out Sensor 16: Sync Move (old Quick Load)	Changed according to MMI PREF setting.
20	OPT_FFED_OVER	Use	34	Const	How to use the Feeder lift sensor >> D0-D3 : Front D4-D7 : Rear 0 : No Check(NO) 1 : Check(CH) 2 : INT Check(INT) Value: Front, Rear 0 : NO, NO 1 : CH, NO 2 : CH-INT, NO 16 : NO, CH 17 : CH, CH 18 : CH-INT, CH 32 : NO, CH-INT 33 : CH, CH-INT 34 : CH-INT, CH-INT	17 : Only SENSOR is checked. 34 : SENSOR Check with NTERRUPT. (Add to existing equipment HARNESS required)

Machine Translated by Google

21	OPT_DOOR_OPEN	Use	34	Const	D0-D3 : Front Door D4-D7 : Rear Door >>0:No Check(NO) 1:Low Speed(LOW) 2:Emergency(EMER) Value: Front, Rear 0 :NO, NO 1:LOW, NO 2:EMER, NO 16:NO, LOW 17:LOW, LOW 18:EMER, LOW 32:NO, EMER 33:LOW, Whether EMER Tape parts use Auto Link 0: AUTO LINK 1: NOT LINK 0 Stick parts use Auto Link 0:	
22	OPT_TAPE_LINK	Reserved	0	1 Const	1 : If XY Home was done before loading tape parts, Auto Link is AUTO LINK 1: NOT LINK	
23	OPT_STICK_LINK	Reserved				
24	OPT_TRAY_LINK	Reserved				
25	OPT_HOME_METHOD	Use				
26	OPT_QUICKLOAD_ETC	Use	373	Const	Other settings related to conveyor speed	
27		Use	0	Const	0 : Do not use docking cart. 1: Using the front docking cart 16: Using the rear docking cart 17: Using the front and rear docking carts	
28	OPT_NO_FEEDER_CHG	Use	0	Const	0 : Feeder Change Button Use 1 : Feeder Change No Use 0 : In Out Buffer ÿÿÿ.	
29	OPT_DISABLE_BUFFER	Reserved	0	Const	1 : In Buffer is not used. 2 : Out Buffer is not used. 3 : In, Out Buffer is not used.	
30	OPT_PROD_COUNT_METHOD	Use	0	Const	0: based on production, 1: based on input	In the general case without LC, it is always 0.
31	OPT_USE_HOLE_FIX	Use	0	Const	0 : Use. 1 : Not used.	Used in MMI

Machine Translated by Google

32	OPT_USE_MIR_SAFETY	Use	0	Const	0 : Mirror safety sensor is not checked. 1 : Confirmed only when the mirror safety sensor is HOME. 2 : Confirmed during mirror safety sensor AUTO-RUN.	
33	OPT_LTS_METHOD	Use	0	Const	0: Disable Lot Tracking System. 1: Use Lot Tracking System.	
34			0			
35			0			
36			0			
37			0			
38			0			
39			0			
40			0			
41			0			
42			0			
43	OPT_USE_VAC_PLATE	Use	0	0 Const	0 : Vacuum Plate function is not used. 1 : Enabled. 0 msec Waiting time	
44	OPT_VAC_PLATE_CHK_DELAY	Use			before checking Vacuum Plate Sensor after PCB Lock 100 msec Waiting time until next operation after	
45	OPT_VAC_PLATE_OFF_DELAY	Use			Vacuum Plate Vac Off when PCB is unlocked 0 msec 0: Not used. Heat sensor detection notification at intervals of	
46	OPT_HEAT_SENSOR_TERM 47 48 49	Use			input time 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
50	51 52 53 54 55 56 57 58 59 60 61					

Machine Translated by Google

62			0			
63			0			
64			0			
65			0			
66			0			
67			0			
68			0			
69			0			
70			0			
71			0			
72			0			
73			0			
74			0			
75			0			
76			0			
77			0			
78			0			
79			0			
80			0			
81			0			
82			0			
83			0			
84			0			
85			0			
86			0			
87			0			
88			0			
89			0			
90			0			
91			0			
92			0			
93			0			
94			0			

Machine Translated by Google

95			0			
96			0			
97			0			
98	FID_LIGHT 99	Use	1	0,1	0: 1 light System(Old) 1: 2Light System (New)	
			0			

Machine Translated by Google

12-8. Difference between CP45NEO and CP45 Constant setting

NO	Item	CP-45 CP-45Neo 1400
1	FACTORY CONST 26 (NZ_GET_DN_MARGIN)	800 15 13 6 0
2	FACTORY CONST 42 (SYS_DELAY_XY3)	
3	FACTORY CONST 63 (SYS_HEAD_VAC_DELAY)	
4	Speed Profile Zÿ : Enc. Pulse. Res. Move Fastest	
5	Speed Profile X. Y. Mirror. Width : Res	
6	Neo Width : FV<->Neoÿÿÿ(1~5) + Speed Profile Y : Type.	

Machine Translated by Google

12-9. Setting difference by CP45FV model

Setting difference by CP-45FV model

common			CP-45FV Front	CP-45FV Front	CP-45FV Rear	
name standard			Standard		rear standard	
Model						
Conveyor reference plane board direction 1st, 3rd division width adjustment method			Front-Fix L->R 3 steps available Normal	Front-Fix R->L 3 steps available Normal	Rear-Fix R->L 3 steps available Normal	Rear-Fix L->R 3 steps available Normal
CONFIG DB AXIS	TYPE	Width Conv	0x01105321 0x40080001	0x01105321 0x40080021	0x01105101 0x40080001	0x01105101 0x40080021
Factory Const	CONV_JOG_DIR 21		0	0	1	1
	CONV_WIDTH_JOG_DIR 22		0	0	1	1
	CONV_FIX_TYPE 23		0	0	1	1
	BOARD_FLOW_METHOD 24		0	0	0	0
	CONV_1_TYPE 27		1	1	1	1
	CONV_1_AUTOWIDTH 29		1	1	1	1
	BOARD_FLOW 31		0	0	1	1
Facroty	Scale (um/pulse)	Conv	235.600006	235.600006	235.600006	235.600006

Machine Translated by Google

CP-45 TROUBLE SHOOTING GUIDE

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$0001	* The Emergency switch was pressed.	Warning If the equipment is restarted without removing the cause of the emergency stop, not only serious damage to the machine may occur, but it may also cause personal injury in an unexpected accident. Be sure to remove the cause of emergency stop before pressing Ready again to release EMG. * Press the Stop key on the front (to mute the buzzer). * Rotate the front emergency stop switch clockwise to release it. * Press	
	$0002	* The front emergency stop (Emergency) switch was pressed.	the Resrt key on the front. * Press the motor's power switch. * Press the Ready key on the front.	
	$0003	* The emergency stop (Emergency) switch on the back was pressed.	* Press the Stop key on the front (to mute the buzzer). * Rotate the front emergency stop switch clockwise to release it. * Press the Resrt key on the front. * Press the motor's power switch. * Press the Ready key on the front.	
	$0004	* The motor free switch of the teaching box was pressed.	* Press the Stop key on the front. * Press the Reset key on the front. * Press the motor's power switch. * Press the Ready key on the front.	
	$0006	* The I/O power switch is off. [Cause] * When the main start switch of the motor is turned off.	* Press the Stop key on the front. (Mute the buzzer sound) * Press the Reset key on the front. * Press the main start switch of the motor. * Press the Ready key on the front.	
	$0007	* The I/O power switch is not turned on. [cause] . In case the Ready Relay is turned on, but the power is not turned on within the set time.	* Check whether the emergency stop buttons on the front and rear are pressed. . Check the wiring of the I/O part of the Main Start Switch. . Check the wiring of the relevant parts of the Ready Relay. *	
	$0008	* The Jogbox was disconnected during axis movement. [Cause] * When the device is in Idle state, the connection is disconnected when moving the axis using the JogBox.	Press the Stop key on the front. (Mute the buzzer sound) * Press the Reset key on the front. * Connect the connector part of the equipment and JogBox. * Check the connection wiring of the related part of the JogBox	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$0010	The front feeder drop sensor has been detected. [Cause] * There is a less fixed feeder in the front feeder station. is. *If the front feeder station detects a drop sensor for other reasons.	* Press the Stop key on the front. (Mute the buzzer sound) * Press the Reset key on the front. * Check if there is a loose feeder in the front feeder station and take action. * Remove foreign substances detected by the floating sensor.	
	$0011	The rear feeder dropping sensor has been detected. [Cause] * There is a less fixed feeder in the rear feeder station. is. * The rear feeder station has a floating sensor due to other causes is detected.	* Press the Stop key on the front. (Mute the buzzer sound) * Press the Reset key on the front. * Check if there is a loose feeder in the front feeder station and take action. * Remove foreign substances detected by the floating sensor.	
	$0020	The front door is open or a safety sensor has detected it. [Cause] * When the front door is open. * If the front door sensor or wiring part is wrong	* Close the front door. * Check the sensor or wiring part.	
	$0021	Rear door is open or safety sensor detected. [Cause] * When the rear door is open. * If the rear door sensor or wiring part is wrong	* Close the rear door. * Check the sensor or wiring part.	
	$0030	* When the front cart is released in an XY unsafe position.	* Check if the front cart is released at the position where XY is not safe. * Press the Stop key on the front panel. (Mute	
	$0031	The front cart was released while the cart could not be released [Cause] · When using the Docking Cart, when the Clamp/Release switch is released while XY is not in the safe area (Y : 140.0 or higher).	the buzzer sound) * Set the Clamp/Release switch on the front panel to Clamp. * Press the Reset key on the front. * Press the motor's power switch. * Press the Ready key on the front. * Use the JogBox to catch the entire Home of the equipment. · Press the F/Feeder Change key or use the JogBox to move XY to the safe area (Y Position: 140.0 or higher). * Set the Clamp/Release switch on the front to Release. * Set the Up/Down switch of the front Docking Cart to Up all. * Release the front Docking Cart.	
	$0032	* Rear Cart released in XY unsafe position	* Check if the front cart is released at an unsafe position in XY	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$0033	* The rear cart was released while the cart could not be released. [cause] . When using the Docking Cart, when the Clamp/Release switch is released while XY is not in the safe area (Y : 370.0 or less).	*Press the Stop key on the front. (Mute the buzzer) * Set the Clamp/Release switch on the back to Clamp. * Press the Reset key on the front. * Press the motor's power switch. * Press the Ready key on the front. * Use the JogBox to catch the entire Home of the equipment. . Press the R/Feeder Change key or use the JogBox to move XY to the safe area (Y Position : 370.0 or less). * Set the Clamp/Release switch on the back to Release. * Set the UP/Down switch of the rear Docking Cart to Up all. * Release the rear Docking Cart.	
	$0100	. Vme Module Ver %d executed. [cause] . It is checked when VME Program starts, and it is a normal operation.	* No action required	
	$0120	* <NORMAL> Feed Change Request * When	* Resupply because there are no parts.	Add
	$0800	trying to move the $A axis, the other axis is interfering. [Cause] * When one axis tries to move, the other axis is not in the safe position.	* After pressing the Stop, Reset, and Ready keys, grab the Hhome of the entire equipment and run it again.	
	$0801	* AXIS_SAFE_POS_MOVE_ERROR. [Cause] * An error occurred when trying to move a specific axis to a safe position.	* After pressing the Stop, Reset, and Ready keys, grab the Hhome of the entire equipment and run it again.	
	$0802	* When trying to move the $A axis, the other axis is interfering. [Cause] * When one axis is trying to move, the other axis is not in the safe position.	* After pressing the Stop, Reset, and Ready keys, grab the Hhome of the entire equipment and run it again.	
	$0803	* When trying to move %d axis during manual operation, %d axis interferes. [Cause] * When one axis is trying to move, the other axis is not in the Home state or is not in the safe position.	* Press the Stop key on the front. (Mute the buzzer sound) * Press the Reset key on the front. * Press the Ready key on the front. * Use the JogBox to catch the entire Home of the equipment. * Redo the desired manual operation.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$0804	* When trying to move %d axis or %d axis during manual operation, %d axis causes interference. [Cause] * When one axis is trying to move, the other axis is not in the Home state or is not in the safe position.	* Press the Stop key on the front. (Mute the buzzer sound) * Press the Reset key on the front. * Press the Ready key on the front. * Use the JogBox to catch the entire Home of the equipment. * Redo the desired manual operation.	
	$1000	* In the $A axis - H/* Limit was detected. [Cause] The H/* Limit sensor of the – direction is detected in the * designated axis if done.	* Press the Stop key on the front panel. (Mute the buzzer sound) * Manually move each axis to a position where the H/* Limit sensor cannot detect it. * Press the Reset key on the front. * MMI's Sys. Reset the S/* Limit of the axis specified in Setup. * Press the motor's power switch. * Press the Ready key on the front.	
	$1001	* + H/* Limit was detected on the $A axis. [Cause] When the H/* Limit sensor in the + direction is detected on the * designated axis	* Press the Stop key on the front panel. (Mute the buzzer sound) * Manually move each axis to a position where the H/* Limit sensor cannot detect it. * Press the Reset key on the front. * MMI's Sys. Reset the S/* Limit of the axis specified in Setup. * Press the motor's power switch. * Press the Ready key on the front.	
	$1002	* ALRAM was detected on axis $A. [Cause] In the case of the * axis, excessive pressing may occur. is. * An error has occurred in the motor on the specified axis.	* Press the Stop key on the front. * Check the height when working on the Z axis.	
	$1003	* Axis $A did not stop within the specified time. [Cause] * After the specified axis moves, it stops within the specified time If not.	* Check the operation status of the actuator and sensor of the corresponding axis. (Motor, Z/R Sensor, Z-axis Offset, etc.)	
	$1004	* An error was detected on the $A axis. [Cause] * When an error occurred in the designated axis.	* Press the Stop key on the front panel (silence the buzzer sound) * Check if there is any mechanical interference in the designated axis. * Check the wiring related to the specified axis. * Turn OFF/ON the power of the equipment. * Press the Stop key on the front.	
	$2000	* An encoder error was detected on the conveyor width adjustment axis. [Cause] * Conveyor-related encoder error occurred.	(Mute the buzzer) * Check the wiring related to conveyor width adjustment.	2-1

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$2001	* Cannot be raised BUT. [cause] . If you try to raise the BUT (Back Up Table) but it does not move In case the BUT (Back Up Table) is raised but not detected by the Up sensor or . if the BUT (Back Up Table) is raised but the Down sensor detects it. .	* Press the Stop key on the front. (Mute the buzzer) * Check if the air pressure is normally supplied (4.5- 5.5kg/cm2) from the air pressure gauge on the rear. * Manually move the BUT and check for physical interference. * Check if the Conveyor I/O board is normal. * Check the operation status of the BUT UP sensor in Diagnosis I/O of MMI. * Check the operation status of the BUT Down sensor in Diagnosis I/O of MMI. . Check the location of the BUT UP sensor. . When checking the location of the BUT Down sensor, be sure to contact our designated C/S company (STS).	
	$2002	Can't BUT off. [cause] . If you try to lower the BUT (Back Up Table) but it does not move In case the BUT (Back Up . Table) is lowered but the Down sensor does not detect it or the BUT (Back Up Table) is lowered . but the Up sensor detects it.	* Press the Stop key on the front. (Mute the buzzer) * Check if the air pressure is normally supplied (4.5- 5.5kg/cm2) from the air pressure gauge on the rear. * Manually move the BUT and check for physical interference. * Check if the Conveyor I/O board is normal. * Check the operation status of the BUT UP sensor in Diagnosis I/O of MMI. * Check the operation status of the BUT Down sensor in Diagnosis I/O of MMI. . Check the location of the BUT UP sensor. . When checking the location of the BUT Down sensor, be sure to contact our designated C/S company (STS).	
	$2210	. Hole Fixer sensor is not detected. [cause] . When fixing the PCB using the Hole Fixer fixing method, the sensor detects didn't get	* Press the Stop key on the front panel. (Mute the buzzer) . Check the position of the Hole Fixer. . Check the wiring related to the Hole Fixer.	
	$2211	. The right sensor of Hole Fixer is not detected. * Press the STOP key on the front. (Mute the buzzer sound) [Cause] * Check the location of the right Hole Fix. . In the case of fixing the PCB using the Hole Fixer fixing method, the right If the document is not detected.	* Check the operation status of Hall Fixer #1 (right) sensor in Diagnosis I/O of MMI. * Check the position, size and orientation of the PCB. . Align the Hole Fixer to the Fix Hole and fix it. * Check the wiring related to the right Hole Fix.	
	$2212	. The left sensor of the Hole Fixer is not detecting. * Press the Stop key on the front (to mute the buzzer. [Cause] * Check the location of the left Hole Fixer. . Left sensor in case of fixing PCB using hole fixer fixing method * Check the operation status of Hple Fixer #2 (left) sensor in Diagnosis I/O of MMI. was not detected.	* Check the position, size and orientation of the PCB. . Align the Hole Fixer to the Fixer Hole and fix it. * Check the wiring related to the left Hole Fixer.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$2301	Edge Fix cannot be advanced. [cause] . If you try to advance the Edge Fix but it doesn't move	* Press the Stop key on the front (silence the buzzer sound) * Check if the air pressure is normally supplied (4.5-5kg/cm2) from the air pressure gauge (Air Pressure) on the rear. * Manually move the Edge Fixer and check for physical interference.	
	$2302	. Edge Fixer cannot be reversed. [cause] . If you try to reverse the Edge Fixer but it doesn't move	* Press the Stop key on the front (silence the buzzer sound) * Check if the air pressure is normally supplied (4.5-5kg/cm2) from the air pressure gauge (Air Pressure) on the rear. * Manually move the Edge Fixer and check for physical interference.	
	$2400	* An error occurred when adjusting the conveyor width.	* Press the Stop key on the front panel. (Mute the buzzer) * Check if there is any physical interference when adjusting the conveyor width. * Check the wiring related to conveyor width adjustment.	2-1
	$3000	* There is a PCB in the conveyor area. [Cause] * When trying to adjust the conveyor width, there is a PCB on the conveyor	* Press the Stop key on the front panel. (Mute the buzzer) * Remove the PCB from the conveyor. . Check that XY is detected by the sensor on the conveyor. Warning Adjusting the sensor or taking error measures while the equipment is ready may result in personal injury. Be sure to cancel Ready and perform sensor adjustment and error measures in the Stop state (Idle mode). * If there is one PCB at the conveyor input, press Start. * If there are multiple PCBs at the conveyor input, remove the PCBs.	2-3
	$3001	* There is a PCB in the input sensor area. [Cause] * When trying to work, there is a PCB in the input sensor area		2-3
	$3002	* There is a PCB in the atmospheric sensor area. [Cause] * When trying to work, there is a PCB in the standby sensor area.	* If there is one PCB at the conveyor input, press Start. * If there are multiple PCBs at the conveyor input, remove the PCBs.	2-3
	$3003	* There is a PCB in the mounting sensor area. [Cause] * When trying to work, there is a PCB in the sensor area.	* If there is one PCB on the conveyor mounting end and it is okay to continue working, press Start. * If there are multiple PCBs on the conveyor mounting end, remove the PCBs.	2-3
	$3004	* There is a PCB in the take-out sensor area. [Cause] * When trying to work, there is a PCB in the take-out sensor area	* Press START when there is one PCB at the conveyor output end and it is OK to work. * If there are multiple PCBs at the conveyor output end, remove the PCBs.	2-3
	$3010	* There are two PCBs in the input buffer. [Cause] * When the input sensor and the standby sensor are detected at the same time while trying to work	* If the actual PCB size is the size that is detected at the same time, check the PCB Size registration in Board of PCB Edit. * After checking the sensitivity of the sensor, adjust it if there is something wrong.	2-3

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$3023	* There is a PCB in the export buffer. [Cause] * When trying to work, there is a PCB in the take-out sensor area	* If there is one PCB at the conveyor output end and it is OK to work, press Start. * If there are multiple PCBs at the conveyor output end, remove the PCBs.	2-3
	$3101	* The PCB has not arrived at the atmospheric sensor area. [cause] * In case the PCB is dropped during transfer * In case the PCB is not transferred due to mechanical interference during transfer * In case the sensitivity control of the standby sensor is incorrect * In case the TimeOut value is too small	* If the conveyor width is too wide and the PCBs fall off, narrow the conveyor width, remove the fallen PCBs, and start again. * If the conveyor width is too narrow and the PCB is jammed, increase the width of the conveyor. * Remove any mechanical interference. * Re-adjust the sensitivity of the atmospheric sensor. * Adjust the TimeOut value related to conveyor transfer. (Factory setting) * If the conveyor width is too wide and the PCB falls off, narrow the conveyor width, remove the fallen PCB, and start again. * If the conveyor width is too narrow and the PCB is jammed, increase the width of the conveyor. * Remove any mechanical interference. * Adjust the sensitivity of the installed sensor again. * Adjust the TimeOut	2-3
	$3102	* The PCB has not arrived at the sensor area. [cause] * In case the PCB is dropped during transfer * In case the PCB is not transferred due to mechanical interference during transfer * In case the sensitivity control of the mounting sensor is incorrect In case the Time Out value is too small	value related to conveyor transfer. (This is a Factory setting) Warning Adjusting the sensor or taking error measures while the equipment is ready may result in personal injury. Be sure to cancel Ready and perform sensor adjustment and error measures in the Stop state (Idle mode). * If the conveyor width is too wide and the PCBs fall off, narrow the conveyor width, remove the fallen	2-3
	$3103	The PCB did not arrive at the take-out sensor area. [cause] * When the PCB is dropped during transportation * When the PCB is not transferred due to mechanical interference during transportation * When the sensitivity control of the transport sensor is incorrect When the Time Out value is too small	PCBs, and start again. * If the conveyor width is too narrow and the PCB is jammed, increase the width of the conveyor. * Remove any mechanical interference. * Adjust the sensitivity of the take-out sensor again. * Adjust the TimeOut value related to conveyor transfer. (Factory setting) * Check the cause and take action. * Remove any mechanical interference. * Adjust the sensitivity of the take-out sensor again. * Adjust the Time Out value related to conveyor transfer. (This is a Factory setting)	2-3
	$3104	* An error occurred when exporting the PCB. [cause] * In case the PCB is not fully carried out * In case the PCB is not transported due to mechanical interference during transfer * In case the sensitivity control of the export sensor is incorrect * In case the TimeOut value is too small		2-3

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$3401	The Place Stopper cannot be raised. [Cause] * When the mounting stopper cannot rise due to mechanical interference, * When air pressure is not properly supplied to the equipment, or * When there is an error in the location and wiring of the mounting stopper sensor.	* Press the Stop key on the front panel. (Mute the buzzer) If there is mechanical interference in the path of Edge Fixer, remove it. * Check if air pressure is normally supplied (4.5- 5.5kg/cm2) from the air pressure gauge on the rear side. * Adjust the position after checking whether the sensor is operating (rising the mounting stopper) in Diagnosis I/O of MMI. * Check the wiring related to the mounting stopper sensor. WARNING Check whether the sensor is operating in MMI Diagnosis I/O. There is a risk of injury if the sensor is operating during equipment operation, so be sure to release the equipment from Ready and check it in the Stop state (Idle mode). * Press the Stop key on the front panel. (Mute the buzzer)	
	$3402	The Place Stopper cannot be lowered. [Cause] * When the mounting stopper cannot descend due to mechanical interference, * When air pressure is not properly supplied to the equipment, or * When there is an error in the location and wiring of the mounting stopper sensor.	If there is mechanical interference in the path of Edge Fixer, remove it. * Check if air pressure is normally supplied (4.5- 5.5kg/cm2) from the air pressure gauge on the rear side. * Adjust the position after checking whether the sensor is operating (mounting stopper descending) in Diagnosis I/O of MMI. * Check the wiring related to the mounting stopper sensor. WARNING Check whether the sensor is operating in MMI Diagnosis I/O. There is a risk of injury if the sensor is operating during equipment operation, so be sure to release the equipment from Ready and check it in the Stop state (Idle mode). * Remove mechanical interference parts. * After checking the operation of the sensor, adjust the position.	
	$3502	* Out Stopper cannot be lowered. [Cause] * It occurs when there is an out stopper on the 1st conveyor. * In case the carry-out stopper cannot descend due to mechanical interference, or * In case the position of the sensor of the carry-out stopper is abnormal.		
	$3701	* A Time Out error occurred in the Conveyor during work. [Cause] * Time Out occurred while transferring PCB from the conveyor during work. Occation	* Restart after removing the cause.	2-3
	$3fff	CONV_NOT_DEFINED . [Cause] * Conveyor-related settings are incorrect.	* Please reboot by turning off/on the power of the device.	
	$4000	* There are parts that cannot be worked together in one cycle. * Press the Stop key on the front panel. (Mute the buzzer sound) [Cause] * If the type of error is MPU-Stop, turn off/on the power of the device. * If there are parts that cannot work together in one cycle, or * Align Type and Camera Method of the part with the specified cycle, divide the cycle into two and work on it. Occation.		7-6

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$4001	* An error occurred during manual operation. [Cause] * When an error occurs during manual operation	* Grab the entire Home of the equipment and run it again.	
	$4002	* Attempting to use an undefined Operation Mode. [Cause] * When trying to use an undefined Operation Mode.	* Press the Stop key on the front panel. (Mute the buzzer) * Try setting the Operation Mode again in Production of MMI. * The defined operation modes are Normal Run, Dry Run, Dry Repeat Run, Dry1 Run, Dry1 Repeat Run, Dry2 Run, and Dry2 Repeat Run. * Press the Reset key on the front. * Press the Stop key on the front panel. (Mute the buzzer)	
	$4004	Bad mark positioning method is wrong. [Cause] * When trying to use an undefined bad mark Position Type.	* Click the Bad Mark item on the PCB Edit Board of MMI and try to set the Position Type again. * In the case of non-array PCB (1EA), the position type of the defined bad mark is one of allocating bad marks per PCB, and in the case of an array PCB, there are two types of bad mark allocation per PCB and guide line method. . * Press the Reset key on the front.	
	$4005	* Undefined door method. [cause] * If the type of door is set incorrectly	* Press the Stop key on the front. (Mute the buzzer sound) * The defined Door Type is a method that does not check the sensor regardless of the opening and closing of the door, a method that operates at a low speed during opening and closing, and a method that emergency stops occur during opening and closing. * Check the Door Type (No. 21) in System Constant and set it again. (Factory setting) * Press the Reset key on the front panel. * Press the Stop key on the front panel. (Mute the buzzer sound)	12-4 12-7
	$4200	* Trying to adsorb a part at the position of %d where $H is outside the limit of %d. [Cause] * When the head tries to adsorb a part, the adsorption height is out of the Z-axis S/* Limit.	* Check if the adsorption height Z of the actual part is set properly in MMI's PCB Edit Feeder * MMI's Sys. Check the Z-axis S/* Limit of the head in Setup Limit and set it again. * MMI's Sys. In Setup Offset, check if the Z-axis Offset value of the head is properly set. * Press the Reset key on the front.	
	$4202	* If you want to replace the nozzle at %d position where $H is out of the limit of %d * Press	he Stop key on the front (silence the buzzer). * Hole Position Detail in ANC of MMI… Click and the nozzle exchange height [Cause] Check if Z is set properly, and if so, correct it. if you are out of . * MMI's Sys. Check the Z-axis S/W Limit of the head in Setup Limit and set it again. * MMI's Sys. In Setup Offset, check if the Z-axis Offset value of the head is properly set. * Press the Reset key on the front	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$4300	• The $A axis was detected at - S/* Limit using the Jog Box. [cause] • In case -S/* Limit is detected when trying to move using the jog box.	* Use JogBox to move within S/* Limit.	
	$4301	• The $A axis was detected at the + S/* Limit using the Jog Box. trying to move using the jog box, +S/* Limit is detected. •	* Move within the + S/* Limit by using the JogBox. [Cause] Warning When Injury may occur if the equipment is operated without checking whether there is a worker around the equipment during X, Y movement in Jog Mode. Be sure to operate Jog after checking whether there is a worker around the equipment. * Press the Stop key on the front panel. (Mute the buzzer sound)	
	$4400	* The side lights of the head cannot be raised.	* Check if the cylinder for driving the head side light operates in Diagnosis I/O of MMI. * Check the position of the sensor for driving the head side light.	
	$4401	* The side lights of the head cannot be lowered.	* Press the Stop key on the front panel. (Mute the buzzer sound) * Check if the cylinder for driving the head side light operates in Diagnosis I/O of MMI. * Check the position of the sensor for driving the head side light.	
	$5000	* This is an undefined feeder method. [Cause] * When trying to use an undefined Feeder Type.	* Press the Stop key on the front panel. (Mute the buzzer) * In MMI's PCB Edit Part, check if the Feeder Type of the part is properly set, and if it is not set properly, click Common Data and set to the Feeder position. * In MMI's PCB Edit Feeder, check if the part is set to the desired feeder. * The defined Feeder Types are Feeder Base (Tape), Stick Unit, and Tray Unit. * Press the Reset key on the front. * Resupply parts.	
	$5001	* There are no parts in the Feeder. [Cause] * When the tray feeder runs out of parts. * If there are no parts in the feeder.		
	$5011	* There is an empty slot on the feeder base. [cause] • If you are using the IT Feeder system. • After registering the feeder in the IT Feeder system, when downloading the PCB file When the feeder does not actually exist in the registered feeder base.	* Install the registered feeder on the corresponding feeder base	
	$5012	[cause] • Occurs only when using the IT Feeder system. • After registering the feeder in the IT Feeder system, when downloading the PCB file This is the case where the registered feeder and the actual feeder are different.	* Remove the wrong feeder from the corresponding feeder base and install the registered feeder. * To ignore the error, right-click the checkbox of the wrong feeder on the IT Feeder system screen and click Close.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$5100	There are no parts in the Tape Feeder. [cause] If there are no parts in the Tape Feeder.	* Resupply parts.	
	$5101	An error occurred more than the number of retries in the tape feeder. [cause] In case there is no actual part in the tape feeder, in case the adsorption position of the part in the tape feeder is wrong, in case the tape feeder is covered with foreign substances such as vinyl, in case the pitch of the tape feeder is out of sync, or in case the tape feeder is not installed properly.	Re-feed the parts into the Tape Feeder. * Reset the part adsorption position (X, Y, Z) in MMI's PCB Edit Feeder. Remove vinyl or foreign substances stuck in the Tape Feeder. Adjust the pitch of the Tape Feeder. Reinstall the Tape Feeder normally.	
	$5200	* There are no parts in the Stick Feeder. [cause] * If there are no parts in the Stick Feeder.	* Resupply of parts.	
	$5201	* An error occurred more than the number of retries in Stick Feeder $F. [cause] * In case there are no actual parts in the Stick Feeder, * In case the adsorption position of parts in the Stick Feeder is wrong, * In case the parts in the Stick Feeder are not supplied smoothly, or * In case the Stick Feeder is not properly installed.	* Re-supply the parts to the Stick Feeder. * Reset the part adsorption position (X, Y, Z) in MMI's PCB Edit Feeder. * Take measures to ensure that the parts of the Stick Feeder are supplied smoothly. * Reinstall Stick Feeder normally.	
	$5300	There are no parts in the Tray Feeder. [cause] There are no parts in the Tray Feeder.	* Resupply of parts.	
	$5301	An error occurred more than the number of retries in the Tray Feeder. [cause] There is actually no part in the Tray Feeder, or the part is placed incorrectly in the Tray Feeder, or the Pocket Teaching of the Tray Feeder is not properly performed, or the Tray Feeder is not properly installed.	Re-feed the parts into the Tray Feeder. * Reset the part adsorption position (X, Y, Z) in MMI's PCB Edit Feeder. * In MMI's PCB Edit Feeder, check if the Tray Feeder's Pocket Position is properly taught. Reinstall Tray Feeder normally.	
	$5500	* TRAY_COMM_ERROR. [cause] In case the tray feeder is turned off In case the tray feeder and communication line are abnormal	Check the Tray Feeder's power status. Check the communication cable between Tray Feeder and Chip Mounter	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$5501	. Tray Feeder is in an error state. [Cause] * When the Tray Feeder is in an error state after requesting the Tray Feeder's status from the device. . Palette Align Error occurs in the Tray Feeder.	* Press the STOP key on the front. (Mute the buzzer) . Check the cause of the error on the LCD screen of the Tray Feeder and take action. * Press the RESET key on the front.	
	$5502	. Tray Feeder is not ready. [Cause] * When the tray feeder status is NOT READY after requesting the status of the tray feeder from the device.	* Press the Stop key on the front panel. (Mute the buzzer) . Press the Start key of the Tray Feeder to set it to Ready status. * Execute the 'Update Status' command in Diagnosis Tray of MMI and check if 'Tray unit ready' is displayed in the Status window. If there is something wrong, check the communication cable, etc. * Press the RESET key on the front.	
	$5503	. An error occurred in the Tray Feeder communication command. [cause] . An error occurred during communication between Tray Feeder and Chimp Mounter, or * Tray Feeder Type was set incorrectly in Chip Mounter.	* Check the communication cable. * MMI's Sys. Check the Tray Feeder's Type and other settings in the Setup Tray.	
	$5504	. An error occurred in Tray Feeder communication data. [cause] . An error occurred during communication between Tray Feeder and Chimp Mounter, or * Tray Feeder Type was set incorrectly in Chip Mounter.	* Check the communication cable. * MMI's Sys. Check the Tray Feeder's Type and other settings in the Setup Tray.	
	$5505	. There are no pallets in the Tray Feeder. [cause] . If the tray feeder does not have a specified pallet	* We supply specified pallets.	
	$5506	. A Time Out error has occurred in the Tray Feeder. Tray Feeder from the device, check if it is properly specified in the Tray Feeder. In case of Time Out due to no response within the time limit. * When the connection communication cable is disconnected.	. Check if the Tray Feeder communication cable is unplugged. [cause] * MMI's Sys. In Setup Tray, Tray Feeder-related settings (Type, Ch, Id) * After requesting the status of the	
	$5507	* TRAY_NO_DATA_ERROR. [Cause] * This is the case where the waiting data (D) structure did not come after requesting the Tray Feeder status from the device and Time Out occurred. * When the connection communication cable is disconnected.	. Check if the Tray Feeder communication cable is unplugged. * MMI's Sys. Check if the Tray Feeder-related settings (Type, Ch, Id) are properly set in the Setup Tray.	
	$5508	* TRAY_INVALID_PR_ERROR(CH %d). [Cause] * After requesting the status of the Tray Feeder from the device, the status (S) structure came instead of the data (D) structure that was waiting.	* MMI's Sys. Check if the Tray Feeder-related settings (Type, Ch, Id) are properly set in the Setup Tray. * Perform communication test with Tray Feeder in Diagnosis Tray of MMI.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$5509	* TRAY_SENDING_ERROR(CH %d). [Cause] * An error occurred in the serial transmission function that requests status from the device to the Tray Feeder.	* MMI's Sys. Check if the Tray Feeder-related settings (Type, Ch, Id) are properly set in the Setup Tray.	
	$550a	* TRAY_INVALID_RES_ERROR. * Check the communication cable. [cause] receive results not defined in the * communication protocol between the device and the Tray Feeder. one case.	* MMI's Sys. In the Setup Tray, check if the Tray Feeder-related settings (Type, Ch, Id) are set correctly to	
	$550b	* TRAY_INVALID_CMD_ERROR(CH %d). [Cause] * When the device sends a command (C) not defined in the communication protocol to the Tray Feeder.	* Check the communication cable. * MMI's Sys. Check if the Tray Feeder-related settings (Type, Ch, Id) are properly set in the Setup Tray.	
	$55ff	* TRAY_NOT_DEFINED. [Cause] * When the equipment tries to discard the parts adsorbed from the Tray Feeder, the tray feeder requests information on the palette adsorbed, but cannot find it.	* In MMI's PCB Edit Feeder, check if the Tray Unit's dump position is properly set. · The dump locations defined in the Tray Unit are 'Return to Tray' and '1 User Dump'. * MMI's Sys. Check if the Tray Feeder-related settings (Type, Ch, Id) are properly set in the Setup Tray.	
	$5800	* A vacuum check error occurred in the parts supplied from the feeder. [cause] option for supplied parts. * If all parts are exhausted, parts will be resupplied. * When parts are adsorbed, the supplied part is not actually adsorbed, or if the part is not properly adsorbed by checking with the Vision incorrectly set, or * The MMI's Sys. Check the vacuum level of the nozzle in the setup device. · When an error occurs in the vacuum sensor.	· If you do not want to vacuum check, MMI's PCB Edit Part Click 'Common Data' and turn off the Vacuum Check option. * In the case of vacuum check change part size in the appropriate vision data and the nozzle is checked. * If the nozzle is worn out or damaged, the MMI cannot be adsorbed accurately to the center, which does not Sys. Perform calibration again in Setup Camera. * The Vacuum Level is · Check the vacuum and replace it if there is something wrong.	
	$5801	* A vision check error occurred in the parts supplied from the feeder. the part. * If an error occurs during vision check of the supplied parts or * if all parts are exhausted, the part will be resupplied. * If the parts are adsorbed in an abnormal position or not adsorbed,	* In the PCB Edit Part of MMI, check and modify the vision-related setting (Align Data) data [Cause] of the Feeder. * If the part cannot be	
	$6001	* Unable to open MIrror. [cause] * If Mirror cannot be opened	* Grab the entire Home of the equipment and run it again. · Check the mirror motor and sensor status. · Check if there is any interference in the mirror operation.	1-4 1-7

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$6002	* Unable to open ANC. [cause] * In case ANC does not open due to mechanical interference * In case the position of ANC sensor is wrong	* If there is mechanical interference, remove it. * In Diagnosis I/O of MMI, check whether ANC Shutter operates normally or is detected by sensor. * Check the position of the sensor	4-3 4-4 4-5 4-6
	$6003	* Cannot close ANC. [cause] * In case ANC does not close due to mechanical interference * In case the position of ANC sensor is wrong	* If there is mechanical interference, remove it. * In Diagnosis I/O of MMI, check whether ANC Shutter operates normally or is detected by sensor. * Check the location of the sensor.	4-3 4-4 4-5 4-6
	$6004	· XY failed to move to nozzle PUT position. [cause] * If an error occurred when trying to move XY for ANC.	· Check the XY-Axis board. · Check the XY related wiring.	7-5
	$6005	* Could not find Z-axis port. [Cause] * In case the port of the Z-axis motor cannot be found due to an error in equipment setting or a problem with S/W.	· Motor setting value in Config.DB file in mark3/system/ directory check it out · Check the motor setting value in Factory Setup. (Factory setting)	12-1
	$6006	* SET_AXIS_ADDON_ERROR. [cause] * When SET_AXIS_ADDON cannot be performed due to S/W problems.	* Please reboot by turning off/on the power of the device.	
	$6008	* ANC has a nozzle. [Cause] * This is a case where the equipment is trying to return the nozzle currently mounted on the head to ANC for nozzle replacement, but there is another nozzle at the location.	* Remove any misplaced nozzles in the ANC	
	$6009	* No nozzle in ANC. * [Cause] of MMI when the nozzle exists but is not recognized in the database is trying to mount the nozzle with ANC, but there is no nozzle * in the relevant position, put the nozzle in	ANC registers the nozzle at the location. * If the equipment exist in the corresponding position. If the nozzle does not	
	$600a	* The nozzle failed to move to the PICK position. [cause] * If an error occurred when trying to move XY for ANC.	· Check the XY-Axis board. · Check the XY related wiring.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$600b	. Chuck Sum from Back Up SRam doesn't fit. * Initialize ANC and nozzle data. data will be downloaded. When the Check Sum does not match by comparing the ANC data in the Back Up SRam with the Head Real data. * When the ANC setting data stored on the CPU board is erased.	* If the head is equipped with nozzles, remove all nozzles manually. * If the ANC of MMI indicates that the head is equipped with a nozzle, [Cause] Check 'No real motion (Manual)' and press 'Put all nozzle' * If you turn on the equipment, system	
	$600c	* There is no Nozzle ID in Part Data. [Cause] * Nozzle-related settings are not set in the parts data.	* In MMI's PCB Edit Part, click 'Common Data' of the part and register the nozzles you want to work on in Nozzle1 and Nozzle2.	
	$600d	* Cannot automatically find Nozzle ID to use (Put operation) * If you want to designate a specific nozzle instead of automatically designating it [Cause], set the nozzle again in the PCB Edit Step of MMI. * Automatically (A) without specifying a specific nozzle to be used in the Step program * In case the nozzles (Nozzle1, Nozzle2) specified in the PCB Edit Part of MMI are actually set. of nozzles to be used, set to automatic, check that two specified nozzles for that part exceed the o If it is in an ANC pocket, or if the number of available nozzles in one cycle exceeds the * number l content. If you can't find it because you don't have a spare.		
	$600e	* Nozzle ID to be used can not be found automatically (Get operation) * If you want to designate a specific nozzle instead of automatically designating it [Cause], set the nozzle again in the PCB Edit Step of MMI. * Automatically (A) without specifying a specific nozzle to be used in the Step program * In case the nozzles (Nozzle1, Nozzle2) specified in the PCB Edit Part of MMI are actually set. of nozzles to be used, set to automatic, check that two specified nozzles for that part exceed the o If it is in an ANC pocket, or if the number of available nozzles in one cycle exceeds the * number l content. If you can't find it because you don't have a spare.		
	$600f	* Wrong nozzle length. [Cause] * When the nozzle length is registered as 0.	* MMI's Sys. Select Nozzle in Setup Device and check if the nozzle length is properly entered in Length. * The length of the nozzle is CP45F(V): 9.400, CP45NEO: 13.5	
	$6010	* The Z-axis failed to move to the position of the nozzle inspection sensor. [Cause] * The setting of the nozzle check position is wrong * The position or setting of the nozzle check sensor is wrong.	* MMI's Sys. Check if the value of 'Nozzle Check Height' is properly set (Default Value: 59.000) in the Setup Head. * Check the position or setting of the nozzle check sensor.	1-12
	$6020	. Cannot PUT because there is no nozzle in Head $H. [Cause] * When attempting to put the nozzle, there is actually no nozzle in the head. * There is a nozzle, but the nozzle check sensor does not detect it.	* Manually check whether the head has a nozzle or not. * If the actual nozzle does not exist, but the nozzle exists in ANC of MMI, check 'No real motion (Manual)' and PUT. * If the nozzle exists but the nozzle check sensor does not detect it, perform [Measures] of $6010	1-12

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$6030	Head $H has a nozzle. Failed to put. Go to Location and verify that the location is correct. [cause] pocket, check whether the center of the ANC pocket is not aligned or the location of the improper height is correct. * Check if the Z-axis offset is set properly. * If the nozzle check sensor does not work properly. Check if it works.	* In MMI's ANC, 'Hole Position Detail... After clicking ', after the nozzle PUT operation of the head * Click 'Shutter On/Off' in ANC of MMI to check whether the shutter operates normally. * Check the operation of the nozzle check sensor in Diagnosis I/O of MMI. * If there is a problem with the nozzle check sensor, perform the $6010 [Measures].	4-3 4-4 4-5
	$6040	* The Z-axis failed to move to the PUT position. [cause] * Error occurred while the Z-axis was going down for nozzle put operation.	* Check the corresponding ANC Hole location and Z-axis Offset.	4-3 4-4 4-5 4-6
	$6050	* Z axis failed to move to safe height after put. [cause] * Z-axis error occurred during Up after Nozzle Put operation.	* Check the corresponding ANC Hole location and Z-axis Offset.	4-3 4-4 4-5 4-6
	$6060	* Get cannot be performed because there is a nozzle on the head. [Cause] * When trying to GET a nozzle, there is actually a nozzle on the head, or * There is no nozzle but the nozzle check sensor detects it incorrectly.	* Manually check whether the head has a nozzle or not. * If there is actually a nozzle, but the nozzle does not exist in the ANC of MMI, check 'No real motion (Manual)' and pick it. * If there is a problem with the nozzle check sensor, perform the $6010 [Measures]	1-12
	$6070	* There is no nozzle on the head. GET failed. mark to check if the position is correct. * After the nozzle GET operation, the center of the ANC pocket and the Z-axis height is set properly. * When the nozzle check sensor does not work properly.	* In MMI's ANC, 'Fiducial Mark Detail... After clicking ', move to the position of the fiducial [Cause] * Click 'Shutter On/Off' in ANC of MMI to check whether the shutter operates normally. * Check the operation of the nozzle check sensor in Diagnosis I/O of MMI. * If there is a problem with the nozzle check sensor, perform the $6010 [Measures].	1-12 4-4 4-4 4-5
	$6080	* The Z axis failed to move to the GET position. [cause] * An error occurred while the Z-axis was going down for nozzle GET operation.	* Check the corresponding ANC Hole location and Z-axis Offset.	4-3 4-4 4-5 4-6
	$6090	* Z axis failed to move to safe height after GET. [cause] * Z-axis error occurred during UP after nozzle GET operation.	* Check the corresponding ANC Hole location and Z-axis Offset.	4-3 4-4 4-5 4-6
	$60a0	* NOZZLE_EMPTY_ERROR. [Cause] * S/W error that the head cannot get the nozzle ID.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$60b0	* NOZZLE_EXIST_ERROR. [Cause] * S/W error in which the head gets the wrong nozzle ID.	* Please reboot by turning off/on the power of the device.	
	$60c0	* SET_NOZZLE_POINT_ERROR. [Cause] * S/W error in which TypeID and NozzleID of the system nozzle do not match.	* Please reboot by turning off/on the power of the device.	
	$6501	* Cannot open Mirror. [Cause] * This is the same error as $6001 that occurred during manual operation.	* Grab the entire Home of the equipment and run it again. · Check the mirror motor and sensor status. · Check if there is any interference in the mirror operation.	1-4 1-7
	$6502	* Unable to open ANC. [Cause] * Same error as $6002 occurred during manual operation.	* If there is mechanical interference, remove it. * In Diagnosis I/O of MMI, check whether ANC Shutter operates normally or is detected by sensor. * Check the position of the sensor	4-3 4-4 4-5 4-6
	$6503	* Cannot close ANC. [Cause] * Same error as $6003 occurred during manual operation.	* If there is mechanical interference, remove it. * In Diagnosis I/O of MMI, check whether ANC Shutter operates normally or is detected by sensor. * Check the location of the sensor.	4-3 4-4 4-5 4-6
	$6504	* Failed to move to nozzle PUT position. [Cause] * Same error as $6004 occurred during manual operation.	· Check the XY-Axis board. · Check the XY related wiring.	
	$6505	* Could not find Z-axis port. [Cause] * Same error as $6005 occurred during manual operation.	· Motor setting value in Config.DB file in mark3/system/ directory check it out · Check the motor setting value in Factory Setup. (Factory setting)	12-1
	$6506	* SET_AXIS_ADDON_ERROR. [Cause] * Same error as $6006 occurred during manual operation.	* Please reboot by turning off/on the power of the device.	
	$6507	· PUT nozzle data is wrong (S/W ERROR). [Cause] * Same error as $6007 occurred during manual operation.	* Please reboot by turning off/on the power of the device.	
	$6508	* Head and ANC have nozzles at the same time. [Cause] * Same error as $6008 occurred during manual operation.	* Remove any misplaced nozzles in the ANC	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$6509	The nozzle the head is trying to use is not in ANC. [Cause] * Same error as $6009 occurred during manual operation.	* If a nozzle exists but is not recognized in the database, the ANC of MMI registers the nozzle at that location. * If there is no nozzle in reality, put the nozzle in the corresponding position.	
	$650b	* Failed to move to nozzle PICK position. [Cause] * Same error as $600a occurred during manual operation.	. Check the XY-Axis board. . Check the XY related wiring.	
	$650c	There is no nozzle on the head. [Cause] * Same error as $60a0 occurred during manual operation.	* Please reboot by turning off/on the power of the device.	
	$650d	* There is a nozzle on the head. [Cause] * Same error as $60b0 occurred during manual operation.	* Please reboot by turning off/on the power of the device.	
	$6510	* The Z-axis failed to move to the position of the nozzle inspection sensor. [Cause] * Same error as $6010 occurred during manual operation.	* Please reboot by turning off/on the power of the device.	
	$6520	Cannot PUT because $H has no nozzles. [Cause] * This is the same error as $6020 that occurred during manual operation.	* Manually check whether the head has a nozzle or not. * If the actual nozzle does not exist, but the nozzle exists in ANC of MMI, check 'No real motion (Manual)' and PUT. * If the nozzle exists but the nozzle check sensor does not detect it, perform [Measures] of $6010	1-12
	$6530	* There is a nozzle on the head. Failed to PUT. [Cause] * Same error as $6030 occurred during manual operation.	Go to Location and verify that the location is correct. * In MMI's ANC, 'Hole Position Detail... After clicking ', check if the location of the pocket is correct and if the Z-axis height is set correctly. * Click 'Shutter On/Off' in ANC of MMI to check whether the shutter operates normally. * Check the operation of the nozzle check sensor in Diagnosis I/O of MMI. * If there is a problem with the nozzle check sensor, perform the $6010 [Measures].	
	$6540	* The Z-axis failed to move to the PUT position. [Cause] * The same error as $6040 occurred during manual operation.	* Check the corresponding ANC Hole location and Z-axis Offset.	4-3 4-4 4-5 4-6
	$6550	* Z axis failed to move to safe height after doing a PUT. [Cause] * Same error as $6050 occurred during manual operation.	* Check the corresponding ANC Hole location and Z-axis Offset.	4-3 4-4 4-5 4-6

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$6560	* GET cannot be performed because there is a nozzle in the head. [Cause] * Same error as $6060 occurred during manual operation.	* Manually check whether the head has a nozzle or not. * If there is actually a nozzle, but the nozzle does not exist in the ANC of MMI, check 'No real motion (Manual)' and pick it. * If there is a problem with the nozzle check sensor, perform the $6010 [Measures]	1-12
	$6570	* There is no nozzle on the head. GET failed. [Cause] * Same error as $6070 occurred during manual operation.	* In MMI's ANC, 'Fiducial Mark Detail... After clicking ', Move to the position of the fiducial mark to check if the position is correct. * In MMI's ANC, 'Hole Position Detail... After clicking ', check if the location of the pocket is correct and if the Z-axis height is set correctly. * Click 'Shutter On/Off' in ANC of MMI to check whether the shutter operates normally. * Check the operation of the nozzle check sensor in Diagnosis I/O of MMI. * If there is a problem with the nozzle check sensor, perform the $6010 [Measures].	
	$6580	* The Z axis failed to move to the GET position. [Cause] * Same error as $6080 occurred during manual operation.	* Check the corresponding ANC Hole location and Z-axis Offset.	4-4 4-5 4-6
	$6590	* Z axis failed to move to safe height after GET. [Cause] * Same error as $6090 occurred during manual operation.	* Check the corresponding ANC Hole location and Z-axis Offset.	4-4 4-5 4-6
	$7000	* You are trying to use an unsupported part alignment method. [Cause] * It is set as an undefined parts alignment method.	* Check if Align Type of '2.Library' in MMI's PCB Edit Part is set to Vision. * In MMI's PCB Edit Part, check if the part's 'Align Type' is set to None or Vision. Warning Adjusting the sensor or taking error measures while the equipment is ready may result in personal injury. Be sure to cancel Ready and perform sensor adjustment and error measures in the Stop state (Idle mode).	
	$a100	. An error occurred while processing Vision fiducial marks. [cause] . If vision fiducial mark recognition fails.	* On MMI's PCB Edit Board, 'Fiducial Mark... ' to check and modify the data related to the setting of the fiducial mark.	
	$a131	. Vision Failed to recognize the first PCB fiducial mark. [Cause] * Failed to recognize the first fiducial mark.	* On MMI's PCB Edit Board, 'Fiducial Mark... ' and check and modify the data related to the setting of the first fiducial mark.	
	$a132	. Vision Failed to recognize the second PCB fiducial mark. [Cause] * Failed to recognize the second fiducial mark.	* On MMI's PCB Edit Board, 'Fiducial Mark... ' and check and modify the setting related data of the second fiducial mark.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a133	. Vision Failed to recognize third PCB fiducial mark. [Cause] * Failed to recognize the third fiducial mark.	* On MMI's PCB Edit Board, 'Fiducial Mark... ' and check and modify the data related to the setting of the third fiducial mark.	
	$a134	. Vision Failed to recognize the 4th PCB fiducial mark. [Cause] * Failed to recognize the 4th fiducial mark.	* On MMI's PCB Edit Board, 'Fiducial Mark... ' and check and modify the data related to the setting of the fourth fiducial mark.	
	$a135	. Vision Failed to recognize the fiducial mark of the first part. [Cause] * Failed to recognize the first part's fiducial mark.	* In MMI's PCB Edit Step, 'Fiducial... ' and check and modify the data related to the setting of the first part fiducial mark.	
	$a136	. Vision Failed to recognize the second part fiducial mark. [Cause] * Failed to recognize the second component fiducial mark.	* In MMI's PCB Edit Step, 'Fiducial... ' and check and modify the data related to the setting of the second part fiducial mark.	
	$a201	* You are trying to use an unsupported camera. setting to check if the Camera written in the Step program is properly set. After resetting the camera to no	* 'Camera No.' of the part in PCB Edit Part of MMI [Cause] is set correctly. * An undefined camera is set. * MMI's Sys. Click the Option item in Setup Pref. and use the camera defined in System Upward * system use it.	
	$a210	* Recognition is not over in the flying camera. [cause] . If there is an error in recognizing parts in the flying camera due to H/W or S/W problems.	. Check the status of Flying Camera, Cble, and Vision Board. * Execute Camera Calibration. * Check if the part data is normal.	1-2 7-3
	$a211	* An error occurred when recognizing the flying camera. [cause] . If there is an error in recognizing parts in the flying camera due to H/W or S/W problems.	. Check the status of Flying Camera, Cble, and Vision Board. * Execute Camera Calibration. * Check if the part data is normal.	1-2 7-3
	$a212	* Flying camera recognition Time Out Error. [Cause] * When the time to recognize parts in the flying camera exceeds 24.000 Sec.	. Check the status of Flying Camera, Cble, and Vision Board. * Execute Camera Calibration. * Check if the part data is normal.	1-2 7-3
	$a213	* The flying camera recognition result is strange. [cause] . If there is an error in recognizing parts in the flying camera due to H/W or S/W problems.	. Check the status of Flying Camera, Cble, and Vision Board. * Execute Camera Calibration. * Check if the part data is normal.	1-2 7-3

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a220	. Recognition from Upward camera is not over. [cause] . If there is an error in recognizing parts in the flying camera due to H/W or S/W problems.	* Please reboot by turning off/on the power of the device.	
	$a221	. An error occurred when recognizing it from the Upward camera. [cause] . If there is an error in recognizing parts in the flying camera due to H/W or S/W problems.	* Check if the part data is normal. * Make sure the lighting is adequate. * Check the LED status of the camera. * Check Camera Cable status.	
	$a300	* The previous Vision command was not terminated. [cause] . If the vision command is not terminated due to H/W or S/W error, other Attempting to carry out vision commands.	* Please reboot by turning off/on the power of the device.	
	$a401	* Incorrect camera ID. [cause] . Received wrong camera ID due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$a402	* An internal error occurred during vision processing. [cause] . In case an error occurs while performing the vision internal function due to H/W or S/W failure.	* Please reboot by turning off/on the power of the device.	
	$a403	* Failed to create fiducial data with an invalid fiducial type. [Cause] * An attempt was made to use an undefined fiducial type.	* On MMI's PCB Edit Board, 'Fiducial Mark... Click ', check the type of the fiducial mark and re-assign it.	
	$a404	* Fiducial is not registered. [cause] . Use in the state where the fiducial is not registered due to H/W or S/W error if you're trying to use it.	. Register Fiducial Data.	
	$a405	* The size of the fiducial is too large [Cause] * The size of the fiducial to be registered and used is larger than the maximum value that the vision can recognize.	* Register smaller marks on the board as fiducial marks	
	$a406	* The size of the fiducial is too small. [Cause] * When the size of the fiducial to be registered and used is smaller than the minimum value that the vision can recognize.	* Register larger marks on the board as fiducial marks.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a407	* There are too many fiducials to register. [Cause] * In case of registering more fiducial marks than the number of fiducials that can be registered in the device.	* Delete some fiducials as many as available. * If multiple identical fiducials are registered, they will be registered as one.	
	$a408	* Fiducial recognition could not be completed within the specified time. [cause] . If it takes more than the specified time for fiducial recognition due to H/W or S/W failure.	. Register Fiducial Data.	
	$a410	* The given part ID %d could not be found. [cause] . If you cannot find the part ID given by H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$a610	* The first (left) lead of the upper lead group could not be found. [Cause] * Failure to recognize the left lead of the upper lead group on the vision monitor when recognizing parts.	* Check and reset vision related data in PCB Edit Part of MMI. * Check and reset the lighting level in the PCB Edit Part of MMI.	
	$a611	* Cannot find the last (right) lead of the upper lead group. of the upper lead group on the vision monitor when recognizing parts	* Check and reset vision-related data in MMI's PCB Edit Part [Cause]. * Recognize the right lead * If it fails to check and reset the lighting level in the PCB Edit Part of MMI.	
	$a612	* The first (upper) lead of the left lead group could not be found. lead of the left lead group on the vision monitor when recognizing parts * Check and reset the lighting level in the PCB Edit Part of MMI. in case of failure.	* Check and reset vision-related data in MMI's PCB Edit Part [Cause]. * Recognition of the upper	
	$a613	* The last (bottom) lead of the left lead group could not be found. of the left lead group on the vision monitor when recognizing parts	* Check and reset vision-related data in MMI's PCB Edit Part [Cause]. * Recognize the lower lead * Check and reset the lighting level in the PCB Edit Part of MMI. if it fails.	
	$a614	* The first (left) lead of the lower lead group could not be found. the vision monitor recognizes the left lead of the lower lead group	* Check and reset vision-related data in MMI's PCB Edit Part [Cause]. * When recognizing parts, * Check and reset the lighting level in the PCB Edit Part of MMI. if it fails.	
	$a615	* Cannot find the last (right) lead of the lower lead group. check and reset the lighting level in the right lead of the lower lead group in the vision monitor * in the PCB Edit Part of the MMI. If the expression fails.	* Check and reset vision-related data in MMI's PCB Edit Part [Cause]. * When recognizing parts,	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a616	* The first (upper) lead of the right lead group could not be found. upper lead of the right lead group on the vision monitor when recognizing parts	* Check and reset vision-related data in MMI's PCB Edit Part [Cause]. * Recognize the * Check and reset the lighting level in the PCB Edit Part of MMI. if it fails.	
	$a617	* The last (bottom) lead of the right lead group could not be found. parts, check and reset the lighting level in the lower lead of the right lead group in the vision	* Check and reset vision-related data in MMI's PCB Edit Part [Cause]. * When recognizing monitor * MMI's PCB Edit Part. If the expression fails.	
	$a620	* The recognized pitch value (%d) of the lead group (%d) is greater than the registered value (%d). * Check if the lead of the component is bent. [cause] is bent. * Check and reset the light level in the PCB Edit Part of MMI. * In case the pitch value of the part is entered incorrectly.	* Check and reset pitch-related data in PCB Edit Part of MMI. * In case the lead of the part	
	$a621	* The recognized pitch value (%d) of the lead group (%d) is less than the registered value (%d). * Check if the lead of the component is bent. [cause] pitch value recognized by vision is smaller than the registered pitch. * If the lead of the component is bent, * In case the pitch value of the part is entered incorrectly. * Check and reset the light level in the PCB Edit Part of MMI. * In case the light level is not appropriate.	* Check and reset Pitch related data in PCB Edit Part of MMI * It is the case that the part
	$a631	* There is no bright (%d) pixel in the first (left) lead position of the upper lead group * Check if the part is actually adsorbed. all. attached, * If the setting of the light level is too dark, or * If the size of the part is entered incorrectly. * Check if the bright (%d) pixel is in the first (upper) lead position of the left lead	* Check and reset the component size in MMI's PCB Edit Part. [cause] * Is the lighting set too dark in MMI's PCB Edit Part? Check. * If the part is not actually group. * Check if the bright (%d) pixel is in the first (upper) lead position of the left lead
	$a632	recognizing the lead of the part. Check. * If the part is not actually attached, * If the setting of the light level is too dark, or * If the size of the part is entered incorrectly.	* Check and reset the component size in MMI's PCB Edit Part. [cause] * Is the lighting set too dark in MMI's PCB Edit Part? * If the lead is not recognized when	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a633	* There is no bright (%d) pixel in the first (left) lead position of the lower lead group. * Check if the part is actually adsorbed. is. recognizing the lead of the part. Check. * If the part is not actually attached, * If the setting of the light level is too dark, or * If the size of the part is entered incorrectly.	* Check and reset the component size in MMI's PCB Edit Part. [cause] * Is the lighting set too dark in MMI's PCB Edit Part? * If the lead is not recognized when	
	$a634	* There is no bright (%d) pixel in the first (upper) lead position of the right lead group. * Check if the part is actually adsorbed. is. recognizing the lead of the part. Check. * If the part is not actually attached, * If the setting of the light level is too dark, or * If the size of the part is entered incorrectly.	* Check and reset the component size in MMI's PCB Edit Part. [cause] * Is the lighting set too dark in MMI's PCB Edit Part? * If the lead is not recognized when	
	$a635	* There is no boundary (%d) at the first (left) lead position of the upper lead group. [Cause] * In case the lead is not recognized when the first lead of the part is recognized. * The part was not actually attached, * The setting of the light level was too dark or too bright, * The foreign object was mistakenly identified as a lead, or * The size of the part was entered incorrectly.	* Check that the parts are actually adsorbed. * Check and reset the component size in MMI's PCB Edit Part. * Check that the lighting is not set too dark or too bright in MMI's PCB Edit Part. * Remove any foreign substances between the nozzle and the mirror or lead.	
	$a636	* There is no boundary (%d) at the first (upper) lead position of the left lead group. [Cause] * In case the lead is not recognized when the first lead of the part is recognized. * The part was not actually attached, * The setting of the light level was too dark or too bright, * The foreign object was mistakenly identified as a lead, or * The size of the part was entered incorrectly.	* Check that the parts are actually adsorbed. * Check and reset the component size in MMI's PCB Edit Part. * Check that the lighting is not set too dark or too bright in MMI's PCB Edit Part. * Remove any foreign substances between the nozzle and the mirror or lead.	
	$a637	* There is no boundary (%d) at the first (left) lead position of the lower lead group. * Check that the parts are actually adsorbed. [cause] recognized when the first lead of the part is recognized. the part is not actually adsorbed. * If the setting of the light level is too dark or too bright * If there is any foreign object mistakenly recognized as a lead or * When the size of a part is entered incorrectly.	* Check and reset the component size in MMI's PCB Edit Part. * In case the lead is not * If the lighting is set too dark or too bright in MMI's PCB Edit Part, * Check whether or not	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a638	* There is no boundary (%d) at the first (upper) lead position of the right lead group. * Check that the parts are actually adsorbed. [cause] recognized when the first lead of the part is recognized. the part is not actually adsorbed. * The setting of the light level is too dark or too bright. * If there is a foreign object between the nozzle and the mirror or lead, remove it.	* Check and reset the component size in MMI's PCB Edit Part. * In case the lead is not * If the lighting is set too dark or too bright in MMI's PCB Edit Part, * Check whether or not	
	$a641	* There is a bright pixel outside the first (left) lead of the upper lead group. * Check the mirror for debris and clean it. [Cause] * Check if the nozzle has come off and clean it or replace it with another nozzle. * If the lead of the part is recognized, but another object is recognized outside the lead substances or the nozzle is peeled off. * The part data and lighting settings are not appropriate. [Cause] * There is a bright pixel outside the first (upper) lead of the left lead group * Check the mirror with another nozzle. * If the lead of the part is recognized, but another object is recognized outside the lead	* Check and reset component data in PCB Edit Part of MMI. right. * Check if lighting is properly set in MMI's PCB Edit Part. * The nozzle is stained with foreign	1-4 1-13
	$a642	stained with foreign substances. * The nozzle is stained with foreign substances or the nozzle is peeled off. * There is a bright pixel on the outside of the first (left) lead of the lower lead group. * Check the mirror for debris and clean it. [cause]	* Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI. * There is a bright pixel [cause] all. * Check if the nozzle has come off and clean it or replace it with another nozzle.	1-4 1-13
	$a643	recognized, but another object is recognized outside the lead off * There is a bright pixel outside the first (upper) lead of the right lead group * Check if there is foreign substance on the mirror * There is a foreign substance on the nozzle or the nozzle is peeled clean it or replace it with another nozzle. [cause]	* Check and reset component data in PCB Edit Part of MMI. * If the lead of the part is * Check if the lighting is properly set in the PCB Edit Part of MMI. * There is a foreign	1-4 1-13
	$a644	recognized, but another object is recognized outside the lead matter on the mirror, * In case there is foreign matter on the nozzle or the nozzle is peeled off, or the part is actually bad, or * In case a foreign substance is mistakenly recognized as a lead, or [Cause] * When the lead of the component is (left) lead position of the upper lead group * In case the part data and lighting settings are not appropriate.	* Check and reset component data in PCB Edit Part of MMI. * If the lead of the part is * Check if the lighting is properly set in the PCB Edit Part of MMI. all. * In case there is foreign	1-4 1-13
	$a645		* Actually verify that the component has a bad lead. * Check the mirror for debris and clean it. * Check the nozzle for foreign substances and clean it. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a646	* There are few boundary points in the first (upper) lead position of the left lead group. [Cause] * When the lead of the component is recognized as too short. * In case the lead of the part is actually bad, or * In case a foreign substance is mistakenly recognized as a lead, or * In case the part data and lighting settings are not appropriate.	* Actually verify that the component has a bad lead. * Check the mirror for debris and clean it. * Check the nozzle for foreign substances and clean it. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a647	* There are few boundary points at the first (left) lead position of the lower lead group. [Cause] * When the lead of the component is recognized as too short. * In case the lead of the part is actually bad, or * In case a foreign substance is mistakenly recognized as a lead, or * In case the part data and lighting settings are not appropriate.	* Actually verify that the component has a bad lead. * Check the mirror for debris and clean it. * Check the nozzle for foreign substances and clean it. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a648	* There are few boundary points in the first (upper) lead position of the right lead group. [Cause] * When the lead of the component is recognized as too short. * In case the lead of the part is actually bad, or * In case a foreign substance is mistakenly recognized as a lead, or * In case the part data and lighting settings are not appropriate.	* Actually verify that the component has a bad lead. * Check the mirror for debris and clean it. * Check the nozzle for foreign substances and clean it. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI	
	$a649	* The first (left) lead of the upper lead group is not straight. [Cause] * When it is recognized that the lead of the part is damaged a lot. * If the lead of the component is actually bad, or * If the lead of the component looks non-uniform.	* Actually verify that the component has a bad lead. * If the lead of a part looks uneven, the Fix camera recognizes it.	
	$a64a	* The first (upper) lead of the left lead group is not straight. [Cause] * When it is recognized that the lead of the part is damaged a lot. * If the lead of the component is actually bad, or * If the lead of the component looks non-uniform.	* Actually verify that the component has a bad lead. * If the lead of a part looks uneven, the Fix camera recognizes it.	
	$a64b	* The first (left) lead of the lower lead group is not straight. [Cause] * When it is recognized that the lead of the part is damaged a lot. * If the lead of the component is actually bad, or * If the lead of the component looks non-uniform.	* Actually verify that the component has a bad lead. * If the lead of a part looks uneven, the Fix camera recognizes it.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a64c	* The first (upper) lead of the right lead group is not straight. [Cause] * When it is recognized that the lead of the part is damaged a lot. * If the lead of the component is actually bad, or * If the lead of the component looks non-uniform.	* Actually verify that the component has a bad lead. * If the lead of a part looks uneven, the Fix camera recognizes it.	
	$a651	* There is no bright (%d) pixel at the position of the last (left) lead in the upper lead group * Check for debris and clean it. [Cause] * Check if the nozzle has come off and clean it or replace it with another nozzle. * If the position where the lead of the part should be is visible in black. * Check if the lighting is properly set in the PCB Edit Part of MMI. * The mirror is stained with foreign substances * The lighting setting is inappropriate * There is no bright (%d) pixel at the position of the last (upper) lead of the left lead group * Check whether the lead of the component is actually bad. * Check the mirror for debris and clean it. [Cause] * Check if the nozzle has come off and clean it or replace it with another nozzle. * If the position where the lead of the part should be is visible in black.	* Check if the component actually has a bad lead. all. * Check the mirror for debris and clean it. * If the position where the lead of the part should be is visible in black. * Check and reset component data in PCB Edit Part of MMI. * In fact, the lead of the component is bad. * Check if the lighting is properly set in the PCB Edit Part of MMI. * The mirror is stained with foreign substances * The lighting setting is inappropriate * There is no bright (%d) pixel at the position of the last (upper) lead of the left lead group * Check whether the lead of the component is actually bad. * Check the mirror for debris and clean it. [Cause] * Check if the nozzle has come off and clean it or replace it with another nozzle. * If the position where the lead of the part should be is visible in black.	
	$a652	* There is no bright (%d) pixel at the position of the last (left) lead in the lower lead group. is. * Check the mirror for debris and clean it. [Cause] * Check if the nozzle has come off and clean it or replace it with another nozzle. * If the position where the lead of the part should be is visible in black. * Check if the lighting is properly set in the PCB Edit Part of MMI. * The mirror is stained with foreign substances * The lighting setting is inappropriate * There is no bright (%d) pixel at the position of the last (left) lead in the lower lead group. is. * Check the mirror for debris and clean it. [Cause] * Check if the nozzle has come off and clean it or replace it with another nozzle. * If the position where the lead of the part should be is visible in black.	* Check and reset component data in PCB Edit Part of MMI. * In fact, the lead of the component is bad. * Check if the lighting is properly set in the PCB Edit Part of MMI. * The mirror is stained with foreign substances * The lighting setting is inappropriate * There is no bright (%d) pixel at the position of the last (left) lead in the lower lead group. is. * Check the mirror for debris and clean it. [Cause] * Check if the nozzle has come off and clean it or replace it with another nozzle. * If the position where the lead of the part should be is visible in black.	
	$a653	* Check if the lighting is properly set in the PCB Edit Part of MMI. * The mirror is stained with foreign substances * The lighting setting is inappropriate	* Check and reset component data in PCB Edit Part of MMI. * In fact, the lead of the component is bad. * Check if the lighting is properly set in the PCB Edit Part of MMI. * The mirror is stained with foreign substances * The lighting setting is inappropriate	
	$a654	* There is no bright (%d) pixel at the position of the last (upper) lead of the right lead group. is. * Check the mirror for debris and clean it. [Cause] * Check if the nozzle has come off and clean it or replace it with another nozzle. * If the position where the lead of the part should be is visible in black. * Check if the lighting is properly set in the PCB Edit Part of MMI. * The mirror is stained with foreign substances * The lighting setting is inappropriate	* Check and reset component data in PCB Edit Part of MMI. * In fact, the lead of the component is bad. * Check if the lighting is properly set in the PCB Edit Part of MMI. * The mirror is stained with foreign substances * The lighting setting is inappropriate	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a660	No leads were found while recognizing the %d direction lead group (%d). * Actually verify that the part is out of size. [cause] when there is no lead within the recognition area of the lead group. parts data and lighting settings are not appropriate.	* Check and reset component data in PCB Edit Part of MMI. * This is the case * Check if lighting is properly set in PCB Edit Part of MMI. * This is the case where	
	$a665	* The number of recognized leads (%d) of the %d direction lead group (%d) is different from the number of registered leads (%d). I want to registered and recognized leads of the part is different. all. * If the lead of the part is defective, data * Check and reset component data in PCB Edit Part of MMI. [cause] * Check if the lighting is properly set in PCB Edit Part of MMI. * If the number of leads in the part data is registered incorrectly, or * If		
	$a671	* I couldn't find the correct end pin of the upper lead group. [Cause] * Failed to recognize the lead detail of the part. * If the lead of the part is defective, or * If the number of leads in the part data is registered incorrectly, or * If the part data and lighting settings are not appropriate.	* Actually verify that the component has a bad lead. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a672	* I couldn't find the pin at the end of the lead group on the left. [Cause] * Failed to recognize the lead detail of the part. * If the lead of the part is defective, or * If the number of leads in the part data is registered incorrectly, or * If the part data and lighting settings are not appropriate.	* Actually verify that the component has a bad lead. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI	
	$a673	* The end pin of the lower lead group could not be found correctly. [Cause] * Failed to recognize the lead detail of the part. * If the lead of the part is defective, or * If the number of leads in the part data is registered incorrectly, or * If the part data and lighting settings are not appropriate.	* Actually verify that the component has a bad lead. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a674	* I couldn't find the correct end pin of the right lead group. [Cause] * Failed to recognize the lead detail of the part. * If the lead of the part is defective, or * If the number of leads in the part data is registered incorrectly, or * If the part data and lighting settings are not appropriate.	* Actually verify that the component has a bad lead. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI	
	$a712	* <WARNING>Could not find the first (upper) lead of the left lead group. * Please reboot by turning off/on the power of the device.		add
	$a723	* <WARNING> The first (left) lead of the lower lead group could not be found. * Please reboot by turning off/on the power of the device.		add

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a805	* Recognition was not executed when recognizing parts. [Cause] * System Setup is incorrect or . If part recognition is not executed due to H/W or S/W error.	* MMI's Sys. Select 'Option' in Setup Pref., and if the 'Clear Vis Param' button is activated, click to deactivate it.	
	$a810	* Calculation error when recognizing parts. [cause] . In case an error occurs when recognizing parts due to H/W or S/W failure.	* Please reboot by turning off/on the power of the device.	
	$a811	* Failed to calculate the angle of the part when recognizing the part. [Cause] * In case the shape of the part is circular, or if the angle of the part cannot be calculated beyond H/W or S/W. .	* If the shape of the part is circular, register the part as a Chip-Circle type.	
	$a812	* Failed to calculate intersection points when recognizing parts. [cause] . When H/W or S/W fails to calculate the intersection point when recognizing parts. * This is a part recognition related error. [cause]	* Please reboot by turning off/on the power of the device.	
	$a820	. In case an error related to part recognition occurs due to H/W or S/W failure.	* Check if the part data is normal.	
	$a821	* The area of the part does not match the registered value. [cause] . If an error occurs when calculating the area of a part due to H/W or S/W failure.	* Check if the part data is normal.	
	$a822	* The width (X value) of the part does not match the registered value. [Cause] * When there is a large difference between the recognized part width and the registered value. * If the part is defective or * If the part data and lighting settings are not appropriate.	* Actually check if the part is bad. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a823	* The height (Y value) of the part does not match the registered value. [Cause] * When there is a large difference between the recognized part height and the registered value. * If the part is defective or * If the part data and lighting settings are not appropriate.	* Actually check if the part is bad. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a824	* The center of the part is too far away from the center of the nozzle in the X direction. * Check the suction position of the part in the PCB Edit Feeder of MMI. [Cause] * Part recognized, but too biased. * When the adsorption position or adsorption condition of the part is not appropriate.		

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a825	* The center of the part is too far away from the center of the nozzle in the Y direction. * Check the suction position of the part in the PCB Edit Feeder of MMI. all. [Cause] * The part is recognized but it is too biased. * When the adsorption position or adsorption condition of the part is not appropriate. * The angle value of the part is too large. [Cause] * When the recognized part angle exceeds the registered range. * In case the part is rotated too much when adsorbing it, or * In case the Offset R value setting is wrong among part data.		
	$a826		* Check the suction position of the parts in MMI's PCB Edit Feeder. * Check the Offset R value of component data in the PCB Edit Part of MMI	
	$a830	No objects are visible within the search area. [Cause] * The part is not actually adsorbed or * The lighting is too dark.	* Check that the parts are actually adsorbed. * Check the lighting settings in the PCB Edit Part of MMI.	
	$a831	* The background of the picture is too bright. [Cause] * The lighting setting is too bright or * A foreign substance other than the part is recognized by the vision.	* Check the lighting settings in the PCB Edit Part of MMI. * Check and remove foreign substances on the mirror and nozzle.	
	$a832	* Parts look too dark. [Cause] * When the lighting setting is too dark.	* Check the lighting settings in the PCB Edit Part of MMI.	
	$a833	* Could not find the border of the part. [Cause] * When the lighting setting is too dark or bright.	* Check the lighting settings in the PCB Edit Part of MMI.	
	$a840	* An error related to pin recognition has occurred. [cause] · In case an error occurs when recognizing a pin due to H/W or S/W error.	* Check whether the part data is normal.	
	$a841	* The length of the longest side is too short. [cause] · In case an error occurs when recognizing a pin due to H/W or S/W error. *	* Check whether the part data is normal.	
	$a842	Failed to search for the first pin among pins at both ends of the lead group. [Cause] * Failed to recognize detailed lead. * In case the lead of the part is bad or * In case the part data and lighting setting are not appropriate.	* Actually check if the part is bad. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a843	* Failed to search for the last pin among pins at both ends of the lead group. [Cause] * Failed to recognize detailed lead. * In case the lead of the part is bad or * In case the part data and lighting setting are not appropriate.	* Actually check if the part is bad. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a844	* The number of recognized pins in the lead group is too small (less than 4). [Cause] * The number of recognized pins is too small (less than 4) * The lead of the part is defective * Part data and lighting settings if this is not appropriate.	* Register parts with less than 4 leads as Tr. * Actually check if the part is bad. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a845	* There are no pins that should be within the lead group. [Cause] * The number of recognized leads and the number of registered leads are different. * In case the lead of the part is bad or * In case the part data and lighting setting are not appropriate.	* Register parts with less than 4 leads as Tr. * Actually check if the part is bad. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI.	
	$a846	* The pitch of the lead group is out of tolerance. [Cause] * In case the pitch value of the part recognized by vision is different from the registered pitch value. * In case the lead of the part is bent, or * In case the pitch value of the part is entered incorrectly, or * In case the lighting level is not properly set.	* Check if the lead of the component is bent. * Check and reset pitch-related data in MMI's PCB Edit Part. * Check and reset the lighting level in the PCB Edit Part of MMI.	
	$a847	* Couldn't find border line to find pins in lead group. [Cause] * When recognizing a lead, the lead was not recognized. * When the lighting setting is too dark or too bright * When a foreign substance other than the part is recognized by the vision.	* Check the lighting settings in the PCB Edit Part of MMI. * Check and remove foreign substances on the mirror and nozzle.	
	$a848	* Among the recognized lead parameters, *idth and foot are too large. [Cause] * Recognized lead width (*idth) and foot length are too large. * Parts data and lighting settings are not appropriate.	* Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI	
	$a850	* Crack-coding failed. [cause] . In case an error occurs due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$a851	* Too many objects filtered out. [Cause] * In case a lot of foreign substances other than parts are recognized. * In case the parts data and lighting settings are not appropriate.	* Check and remove foreign substances on the mirror and nozzle. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI	
	$a852	· Code length exceeded maximum. [Cause] * The shape of the part is too complicated. * The part data and lighting settings are not appropriate.	* If the shape of the part is complex, register it as a different type. * Check and reset component data in PCB Edit Part of MMI. * Check if the lighting is properly set in the PCB Edit Part of MMI	
	$a860	* An error occurred while performing the Min*idth algorithm. [cause] · In case an error occurs due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$a861	* Backlight with Min*idth algorithm is not supported. [Cause] * An attempt was made to use an unsupported function.	* Use front light lighting.	
	$aa00	* Wrong angle sent from VME. [cause] * When an incorrect angle is sent from VME.	· Check if the VME status is normal.	7-4
	$aa04	* Parts not found. [Cause] * The part was not actually adsorbed, or * The threshold value of the part was set too high.	* Check the suction position of the parts in MMI's PCB Edit Feeder and check if the feeder is properly installed. * In MMI's PCB Edit Part, set the Threshold value lower than that of the part.	
	$aa05	* Bad algorithm. [cause] * When an incorrect algorithm method is transmitted from VME.	* Please reboot by turning off/on the power of the device.	
	$aa06	* An error occurred while executing an internal function. [Cause] * An error occurred in an internal function during parts recognition.	* Please reboot by turning off/on the power of the device.	
	$aa07	* Part sizes were recognized differently. [Cause] * In case the part was not actually adsorbed, * In case the Body X of the part was entered incorrectly, * In case the Tolerance H, L of the part was set too small, or * In case the nozzle was stained with foreign substances.	* Check if the parts are adsorbed properly. * Check if the Body X of the part is properly entered in the PCB Edit Part of MMI. * In MMI's PCB Edit Part, enter 30% of Tolerance H, L of the component. * Remove any foreign matter from the nozzle.	1-13

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$aa08	* Part sizes were recognized differently. [Cause] * In case the part is not actually adsorbed, * In case the Body Y of the part is entered incorrectly, * In case the Tolerance H, L of the part is set too small, or * In case the nozzle is covered with foreign substances.	* Check if the parts are adsorbed properly. * Check if the Body Y of the part is properly entered in the PCB Edit Part of MMI. * In MMI's PCB Edit Part, enter 30% of Tolerance H, L of the component. * Remove any foreign matter from the nozzle	
	$aa09	* The part is off center too much.	* Check if the part picks up properly and if the part is too far off the center of the nozzle, readjust the part pick up position in MMI's PCB Edit Feeder. * If it continues to occur even when the parts are adsorbed properly, check that the camera is not shaken and check the MMI's Sys. Perform Calibration again in Setup Camera. * Check if the part picks up properly and if the part is too far off the center of the nozzle, readjust the part pick up position in MMI's PCB Edit Feeder. * If it continues to occur even when the parts are adsorbed properly, check	1-2
	$aa0a	* The part is off center too much. [Cause] * The part is too far from the center of the nozzle when adsorbing it, or * The fly camera shakes when it is mounted.	that the camera is not shaken and check the MMI's Sys. Perform Calibration again in Setup Camera.	1-2
	$aa0b	* The angle of the part is out of the standard angle. [Cause] * When the part is adsorbed, the angle of the part is rotated too much.	* Readjust the suction position of parts in MMI's PCB Edit Feeder or lower the Pick Up Speed of parts in Common Data.	
	$aa0c	Internal function Error (MelfFindOut). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$aa0d	Internal function Error (MelfAreaSort). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$aa0e	* Part size is too small. [Cause] * The part size is too small to be recognized by the camera.	* Check the minimum size of the part that can be recognized by the current camera and recognized by a camera with a lower FOV. (In case of 25FOV, to 15FOV)	
	$aa0f	* The height of component lead was recognized as small. [Cause] * In case the part is not actually adsorbed, * In case the Body Y of the part is entered incorrectly, * In case the Tolerance L of the part is set too small, or * In case the nozzle is covered with foreign substances.	* Check if the parts are adsorbed properly. * Check if the Body Y of the part is properly entered in the PCB Edit Part of MMI. * In the PCB Edit Part of MMI, enter the Tolerance L of the component as 30%. * Remove any foreign matter from the nozzle.	1-13

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$aa10	* The height of component leads has been greatly recognized. [Cause] * In case the part was not actually adsorbed, * In case the body Y of the part was entered incorrectly, * In case the Tolerance H of the part was set too small, or * In case the nozzle was stained with foreign substances.	* Check if the parts are adsorbed properly. * Check if the Body Y of the part is properly entered in the PCB Edit Part of MMI. * In the PCB Edit Part of MMI, enter the Tolerance H of the component as 30%. * Remove any foreign matter from the nozzle.	1-13
	$aa11	* The area of the part is too small. [Cause] * In case the lead information of the part is entered too small. * In case the Tolerance L of the part is set too small.	* Check if the lead information of the part is properly entered. * In the PCB Edit Part of MMI, enter the Tolerance L of the component as 30%. * Click 'Light Control' in MMI's PCB Edit Part and raise the lighting of the part by one level.	
	$aa12	* The area of the part is too large. [Cause] * The lead information of the part is input too large, or * The Tolerance H of the part is set too small.	* Check if the lead information of the part is properly entered. * In the PCB Edit Part of MMI, enter the Tolerance H of the component as 30%.	
	$aa14	* The part is off center too much. [Cause] * The part is too far from the center of the nozzle when adsorbing it, or * The fly camera shakes when it is mounted.	* Check if the part picks up properly and if the part is too far off the center of the nozzle, readjust the part pick up position in MMI's PCB Edit Feeder. * If it continues to occur even when the parts are adsorbed properly, check that the camera is not shaken and check the MMI's Sys. Perform Calibration again in Setup Camera.	1-2
	$aa15	* An error occurred while obtaining the edge. [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$aa16	* An error occurred while calculating the angle of the part. [Cause] * The nozzle is stained with foreign substances or * The outer surface of the part has many curves.	* Remove any foreign matter from the nozzle. * Even if there is no foreign substance in the nozzle, if it continuously occurs, it is recognized and registered as another part.	1-13
	$aa17	Internal function error (LineFitting). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$aa18	Internal function error (LineFitting). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$aa19	The length of the part was recognized as small. [Cause] * The Body X of the part is incorrectly entered, * The Tolerance L of the part is set too small, or * The nozzle is covered with foreign substances.	* Check if the Body X of the part is properly entered in the PCB Edit Part of MMI. * In the PCB Edit Part of MMI, enter the Tolerance L of the component as 30%. * Remove any foreign matter from the nozzle.	
	$aa1a	* The length of the part has been greatly recognized. [Cause] * Incorrect input of Body X of the part, * In case of setting Tolerance H of the part too small, or * In case the nozzle is covered with foreign substances. * The part is off center too much.	* Check if the Body X of the part is properly entered in the PCB Edit Part of MMI. * In the PCB Edit Part of MMI, enter the Tolerance H of the component as 30%. * Remove any foreign matter from the nozzle.	
	$aa1b		* Check if the part picks up properly and if the part is too far off the center of the nozzle, readjust the part pick up position in MMI's PCB Edit Feeder. * If it continues to occur even when the parts are adsorbed properly, check that the camera is not shaken and check the MMI's Sys. Perform Calibration again in Setup Camera.	1-2
	$aa1c	* The part is off center too much. [Cause] * The part is too far from the center of the nozzle when adsorbing it, or * The fly camera shakes when it is mounted.	* Check if the part picks up properly and if the part is too far off the center of the nozzle, readjust the part pick up position in MMI's PCB Edit Feeder. * If it continues to occur even when the parts are adsorbed properly, check that the camera is not shaken and check the MMI's Sys. Perform Calibration again in Setup Camera.	1-2
	$aa1d	* The component's *idth is greater than the reference value. [Cause] * In case the part was not actually adsorbed, * In case the Body X of the part was entered incorrectly, * In case the Tolerance H of the part was set too small, or * In case the nozzle was stained with foreign substances.	* Check if the parts are adsorbed properly. * Check if the Body X of the part is properly entered in the PCB Edit Part of MMI. * In the PCB Edit Part of MMI, enter the Tolerance H of the component as 30%. * Remove any foreign matter from the nozzle.	1-13
	$aa1e	* The part's *idth is less than the reference value. [Cause] * In case the part was not actually adsorbed, * In case the Body X of the part was entered incorrectly, * In case the Tolerance L of the part was set too small, or * In case the nozzle was stained with foreign substances.	* Check if the parts are adsorbed properly. * Check if the Body X of the part is properly entered in the PCB Edit Part of MMI. * In the PCB Edit Part of MMI, enter the Tolerance L of the component as 30%. * Remove any foreign matter from the nozzle.	1-13
	$aa1f	* Parts could not be picked up. [Cause] * Failure to adsorb parts.	* Check if the feeder is out of parts and replenish it. * Readjust the adsorption position if there are parts in the feeder.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$aa20	* An error occurred while finding the edge. [Cause] * When an error occurred during part recognition.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$aa21	* There is a problem with Threshold. Manually set the value higher. [cause] * Threshold value is too low or * Nozzle is severely damaged.	* Increase the Threshold value or check the status of the nozzle in the PCB Edit Part of MMI.	
	$aa22	* There is a problem with Threshold. Manually set the value higher. [cause] * Threshold value is too low or * Nozzle is severely damaged.	* Increase the Threshold value or check the status of the nozzle in the PCB Edit Part of MMI.	
	$ab00	* Wrong angle sent from VME. [cause] * When an incorrect angle is sent from VME.	* Please reboot by turning off/on the power of the device.	
	$ab01	* Invalid algorithm number sent from VME. [cause] * When an incorrect algorithm method is transmitted from VME.	* Please reboot by turning off/on the power of the device.	
	$ab02	* When checking Heat, the number of lower leads must be 2 or more. [cause] * When checking Heat, the number of lower leads must be 2 or more, but if the lower lead is 1.	* If there is only one lower lead and if Heat is checked in the PCB Edit Part of MMI, uncheck it.	
	$ab09	* Lead size is too large. [Cause] * An attempt was made to recognize a lead larger than the lead size that can be recognized by the current camera.	* Recognize using a camera with a larger FOV than the current one.	8-1
	$ab0a	* The projection area is out of the inspection area. [Cause] * When an error occurred during part recognition.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ab0b	* Lead *idth is out of standard size. [Cause] *Lead *idth was entered incorrectly.	* Check the lead *idth of the part in MMI's PCB Edit Part and enter it correctly	
	$ab0c	* An error occurred during lead check. [Cause] * When an error occurred during part recognition.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab0d	* Incorrect lead count. [Cause] * When the wrong number of leads was entered.	* Check the Lead Num of the part in MMI's PCB Edit Part and enter the correct number of leads.	
	$ab0e	* Error finding lead for angle calculation. [Cause] * When an error occurred during part recognition.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab0f	* The angle calculated through the lead is incorrect. [Cause] * When an error occurred during part recognition.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab10	* The angle calculated through the lead is out of the reference angle. [Cause] * When an error occurred during part recognition.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab13	* The part height is out of standard size. [Cause] * Incorrect input of the height of the part.	* Accurately enter the height of the part in the PCB Edit Part of MMI.	
	$ab14	* Divided by zero when calculating the angle. [Cause] * When an error occurred during part recognition.	* Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab15	* The pitch of the upper lead is out of the standard value. [Cause] * When the pitch of the upper lead is different from the standard value.	* Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ab16	* The pitch of the lower lead is out of the standard value. [Cause] * When the pitch of the lower lead is different from the reference value.	* Accurately fill in the Lead Pitch of the part in the PCB Edit Part of MMI.	
	$ab17	* The distance between each upper lead is out of standard. [Cause] * When the upper lead is bent and out of the standard distance.	* Check if the lead of the component is bent.	
	$ab18	* The distance between each lead on the bottom is out of the standard value. [Cause] * When the lower lead is bent and out of the standard distance.	* Check if the lead of the component is bent.	
	$ab19	* The angle of the part is out of standard. [Cause] * When the part is adsorbed, the angle of the part is rotated too much.	* Readjust the suction position of parts in MMI's PCB Edit Feeder or lower the Pick Up Speed of parts in Common Data.	
	$ab1a	* The angle between the upper leads is out of standard. [Cause] * When the upper lead is bent and out of the standard distance.	* Check if the lead of the component is bent.	
	$ab1b	* The angle between each lead on the bottom is out of the standard value. [Cause] * When the lower lead is bent and out of the standard distance.	* Check if the lead of the component is bent.	
	$ab1d	* An invalid algorithm number was entered in an internal function. [cause] * If an incorrect result is received from VME.	* Please reboot by turning off/on the power of the device.	
	$ab1e	* An error occurred while executing an internal function. [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$ab1f	Internal function Error (TrCenterCorrection). [Cause] * When an error occurred during part recognition.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab20	Internal function Error (TrCenterCorrection). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ab21	* The total number of leads is less than 2. [Cause] * When the sum of the upper lead and the lower lead is less than 2. * If the sum of leads is less than 2, it cannot be recognized.	* In the PCB Edit Part of MMI, check if the Lead Num of the part is correctly entered.	
	$ab22	* Total number of leads is too high. [Cause] * When the sum of the upper lead and the lower lead is greater than 30. * If the sum of leads is greater than 30, it cannot be recognized.	* In the PCB Edit Part of MMI, check if the Lead Num of the part is correctly entered.	
	$ab23	* Lead count is negative. [cause] * In case an incorrect value is received from VME or * In case the number of leads is entered as a negative number..	* In the PCB Edit Part of MMI, check if the Lead Num of the part is correctly entered.	
	$ab24	* Undefined algorithm. [cause] * If an incorrect result is received from VME.	* Please reboot by turning off/on the power of the device.	
	$ab25	* Undefined angle. [cause] * If an incorrect result is received from VME.	* Please reboot by turning off/on the power of the device.	
	$ab26	* An error occurred during lead check. [Cause] * The part was not actually adsorbed, * The lead of the part was too bent, or * The lead information was entered incorrectly.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab27	An error occurred during lead check. [Cause] * The part was not actually adsorbed, * The lead of the part was too bent, or * The lead information was entered incorrectly.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is properly entered in the PCB Edit Part of MMI.	
	$ab28	* An error occurred during lead check. [Cause] * The part was not actually adsorbed, * The lead of the part was too bent, or * The lead information was entered incorrectly.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ab29	* An error occurred during lead check. [Cause] * The part was not actually adsorbed, * The lead of the part was too bent, or * The lead information was entered incorrectly.	* If the part is not adsorbed, re-specify the adsorption position of the part in MMI's PCB Edit Feeder. * Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab2a	* The angle calculated through the lead is incorrect. [Cause] * When an error occurred during part recognition.	* Check if the lead of the adsorbed part is bent. * Check if the lead information (Lead *idth, Lead Pitch) of the part is correctly entered in the PCB Edit Part of MMI.	
	$ab2b	* The angle of the part is out of standard. [Cause] * When the part is adsorbed, the angle of the part is rotated too much.	* Readjust the suction position of parts in MMI's PCB Edit Feeder or lower the Pick Up Speed of parts in Common Data. * Make sure the nozzle selection is correct.	
	$ac00	* Wrong angle sent from VME. [cause] * When an incorrect angle is received from VME.	* Please reboot by turning off/on the power of the device.	
	$ac02	* An invalid parameter was entered. [Cause] * Wrong value among part parameters was entered.	* Check the parameter value of the part in the PCB Edit Part of MMI.	
	$ac06	* An error occurred while executing an internal function. [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$ac07	* The part's *idth was recognized as different from the standard value. [Cause] * Incorrect input of Body X of the part, * In case of setting Tolerance H, L of the part too small, or * In case the nozzle is stained with foreign substances.	* Check if the Body X of the part is properly entered in the PCB Edit Part of MMI. * In MMI's PCB Edit Part, enter 25% of Tolerance H and L of the component. * Remove any foreign matter from the nozzle.	
	$ac08	* The height of the part was recognized differently from the standard value. [Cause] * Incorrect input of Body Y of the part, * In case of setting Tolerance H, L of the part too small, or * In case the nozzle is stained with foreign substances.	* Check if the Body Y of the part is properly entered in the PCB Edit Part of MMI. * In MMI's PCB Edit Part, enter 25% of Tolerance H and L of the component. * Remove any foreign matter from the nozzle.	
	$ac09	* Internal function error (CenterCorrection). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ac0a	* Undefined algorithm. [cause] * If an incorrect result is received from VME.	* Please reboot by turning off/on the power of the device.	
	$ac0b	* Internal function Error (LineFitting 1). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$ac0c	* Internal function Error (LineFitting 2). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$ac0d	* Internal function Error (LineFitting 3). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$ac0e	* Internal function Error (LineFitting 4). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$ac0f	* Internal function error (LineFitting 5). [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$ac10	* The length of the lead is too large to be recognized. [Cause] * When the sum of the lengths of the upper and lower leads is greater than the Body Y of the part.	* If the sum of the L values of the upper and lower leads is greater than the body Y of the part, enter less than Y.	
	$ac11	* The part is too small or the length of the lead is set too large. [Cause] * When the lead length L of the part is entered too large.	* Set the component's lead length L value to be less than the existing value.	
	$ac12	* The *idth of the part was recognized as smaller than the standard value. [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	
	$ac13	* The *idth of the part was recognized as greater than the reference value. [Cause] * When an error occurred during part recognition.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ac14	* The angle of the part is out of standard. [Cause] * When the part is adsorbed, the angle of the part is rotated too much.	* Readjust the suction position of parts in MMI's PCB Edit Feeder or lower the Pick Up Speed of parts in Common Data. * Make sure the nozzle selection is correct.	
	$ad01	. It is not an AutoTeachable part type. [cause] . If you tried a part that is not supported by AutoTeach function. * AutoTeach is available only for QFP, SOP, PLCC, and SOJ parts.	. Manually register parts that are not supported by Auto Teach.	
	$ad02	. In Auto Teach, Tangential Distance must be 0. [cause] . Parts whose Tangential Distance is not 0 do not support the Auto Teach function.	. The parts with tangential distance of 0 are registered manually.	
	$ad03	. At AutoTeach, there must be at least 4 leads per side. [Cause] * Parts with 4 or less leads on each side do not support the Auto Teach function.	* If the number of leads is 4 or less on each side, register them manually.	
	$name04	. There should be no gap in AutoTeach. [cause] . Parts with missing pins do not support Auto Teach function.	. Manually register parts with missing pins	
	$ad05	. In Auto Teach, there must be one lead group per side. [Cause] * Parts with two or more lead groups per side do not support the Auto Teach function.	* Manually register parts with two or more lead groups per side.	
	$ad06	. In AutoTeach, the number of lead parameters is different from the number of lead groups, not even 1. [cause] . In case an error occurs due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$ad07	. Auto Teach failed to find the end of the foot of the %d lead group. [Cause] * When the lighting setting is not appropriate.	* Check if the lighting is properly set in the PCB Edit Part of MMI. * Set the background other than parts to appear black and the leads and feet to appear bright.	
	$name08	. Auto Teach failed to find the beginning of the foot of the %d lead group. appropriate. * Set the background other than parts to appear black and the leads and feet to appear bright.	* Check if lighting is properly set in PCB Edit Part of MMI [Cause]. * When lighting settings are not	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ad09	. During Auto Teach, the boundary between the foot of the %d lead group and the lead could not be found. [cause] . When the boundary between lead and foot is not visible during Auto Teach. * When lighting settings are not appropriate.	* Check if the lighting is properly set in the PCB Edit Part of MMI. * Set the lighting so that the border between the lead and the foot is visible.	
	$ad10	. The beginning of the lead of the %d lead group was not found during Auto Teach. [Cause] * When the lighting setting is not appropriate.	* Check if the lighting is properly set in the PCB Edit Part of MMI. * Set the background other than parts to appear black and the leads and feet to appear bright. * Please reboot by turning off/on the power of the device.	
	$ad11	. During Auto Teach, an error occurred in which the number of rising edges (%d) and falling edges (%d) were different in lead group %d. [cause] . In case an error occurs due to H/W or S/W error.		
	$ad12	. An error occurred that the height (or length) of the part was 1 pixel during Auto Teach. * Turn off/on the power of the equipment to reboot. is. [cause] * If an error occurs over H/* or S/*.		
	$ad13	*Recognition failed because there is no bright pixel on the screen that exceeds the threshold (%d) during Auto Teach. [Cause] * When the lighting is set too dark.	* Set the lighting bright in the PCB Edit Part of MMI.	
	$ad14	. During AutoTeach, the part is out of the effective area. [Cause] * In case the part is too large to cover the outside of the screen, or * In case the part is biased and adsorbed to the end of the screen, or * In case a foreign substance other than the part is brightly visible.	* If the size of the part is too large, register it manually. * If parts are adsorbed due to bias, reset adsorption conditions in MMI's PCB Edit Feeder and try again. * If a foreign substance other than the part looks bright, remove the foreign substance	
	$ad15	. During AutoTeach, the number of recognized leads (%d) of the %d lead group is less than 4. * Manually register parts with 4 or less leads. Recognition failed. side do not support the AutoTeach function. * When lighting settings are not appropriate.	* Check if lighting is properly set in PCB Edit Part of MMI [Cause]. * Parts with less than 4 leads on each	
	$ad16	. Recognition failed because the angle (%d) of the part recognized during Auto Teach was over +-20. [cause] . During Auto Teach, the adsorption angle of parts must be within +-20 degrees.	* Check the adsorption conditions of the parts and try again by adsorbing close to 0 degrees.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ad17	. Recognized number of lead groups (%d, %d) facing each other during Auto Teach (%d, %d) is different, so recognition failed. [cause] * When the number of leads in the lead group that executed AutoTeach is different. * Auto Teach is available for QFP, SOP, PLCC, and SOJ parts only. . When parts are defective during Auto Teach. * When the lighting setting is not appropriate.	* Register asymmetrical parts manually. . Check if Auto Teach is possible. * Check if the part itself is defective. * Check if the lighting is properly set in the PCB Edit Part of MMI	
	$ad18	. During Auto Teach, the RADIAL DISTANCE (%d, * Manually register asymmetrical parts. %d) of the facing lead group (%d, %d) differs greatly. (Tolerance: %d) asymmetrical or * In case the lighting setting is not appropriate.	* Check if lighting is properly set in PCB Edit Part of MMI [Cause]. * In case the lead group of the part is	
	$ad19	. The value difference between lead parameters recognized during Auto Teach is large. [Cause] * When the lead parameter values of the recognized lead groups are different. * In case the lead group of the part is asymmetrical or * In case the lighting setting is not appropriate.	* Register asymmetrical parts manually. * In MMI's PCB Edit Part, set the lighting so that all lead groups look the same.	
	$ad20	. In Auto Teach, the recognized foot length (%d) of lead group %d is smaller than the lead length (%d). [cause] . In case an error occurs due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$ad21	. In Auto Teach, the recognized pitch (%d) of lead group %d is smaller than the lead width (%d). [cause] . In case an error occurs due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$ad22	. An error occurred in which the recognized part size (%d) is a negative number during Auto Teach. [cause] . In case an error occurs due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$ad30	. Recognized *idth value (%d, %d) difference of lead group (%d, %d) during Auto Teach * Register asymmetrical parts manually. The teeth are large. (tolerance %d) difference in the recognized lead width of the two lead groups is large. * In case the lead group of the part is asymmetrical or * In case the lighting setting is not appropriate.	* Set the lighting [Cause] so that all lead groups look the same in the PCB Edit Part of MMI. * When the	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$ad31	• Difference in value (%d, %d) of recognized length of lead group (%d, %d) during AutoTeach * Register %d) is a large difference in the recognized lead lengths of the two lead groups. * In case the lead group of the	asymmetrical parts manually. The teeth are large. (tolerance * Set the lighting [Cause] so that all lead groups look the same in the PCB Edit Part of MMI. * When there part is asymmetrical or * In case the lighting setting is not appropriate.	
	$ad32	• Difference in recognized pitch value (%d, %d) of lead group (%d, %d) during Auto Teach * Register as is a large difference in the recognized lead pitches of the two lead groups. * In case the lead group of the	ymmetrical parts manually. The teeth are large. (tolerance %d) * Set the lighting [Cause] so that all lead groups look the same in the PCB Edit Part of MMI. * When there part is asymmetrical or * In case the lighting setting is not appropriate.	
	$ad33	• Difference in recognized foot value (%d, %d) of lead group (%d, %d) during AutoTeach * Manually reg is a large difference in the recognized lead foot of the two lead groups. * In case the lead group of the part	ster asymmetrical parts. is large. (tolerance %d) * Set the lighting [Cause] so that all lead groups look the same in the PCB Edit Part of MMI. * When there is asymmetrical or * In case the lighting setting is not appropriate.	
	$ae03	* Failed to recognize the fiducial mark. [Cause] * When the fiducial mark is not recognized, * When the fiducial mark is not within the recognition area or is bad, or * When the fiducial data or lighting setting is not appropriate.	* Check and readjust fiducial data and lighting settings.	
	$b100	* An invalid argument exists in the manual command. [Cause] * When an error occurs due to H/W or S/W error while executing manual command.	* Please reboot by turning off/on the power of the device.	
	$b203	• Tray Feeder information could not be confirmed. [Cause] * Incorrect tray feeder information is imported.	* Please reboot by turning off/on the power of the device.	
	$b204	• Mount information could not be verified. [Cause] * Incorrect Mount information is imported.	* Please reboot by turning off/on the power of the device.	
	$b206	* Invalid R speed setting exists on component $P. [Cause] * When undefined speed data is set.	* Click the 'Common Data' of the part in the PCB Edit Part of MMI and check if the Speed R value has a value of 1-5.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$b207	. Unable to get Tray Feeder's ID. [Cause] * S/W error getting wrong tray feeder ID.	* MMI's Sys. In the Setup Tray, 'Type' and 'Channel', 'Comm. Check if 'ID' is properly set.	
	$b210	* Failed to calculate the mounting angle. [Cause] * S/W error occurred while calculating the mounting angle.	* Check the Offset R value in the PCB Edit Part of MMI. * Check the R value, which is the adsorption angle, and the PartR value, which is the part supply angle, in MMI's PCB Edit Feeder. * Check the R value, which is the mounting angle, in the PCB Edit Step of MMI.	
	$b600	* Incorrect PCB Data exists. [cause] * Incorrect PCB data exists during PCB file download.	* Review whether there are any errors in the created Step program.	
	$bbbb	. An assert fault has occurred. [cause] . In case Assert Fault error occurs due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$bbbc	* Recognition result and execution cycle do not match. [cause] . Vision recognition time is longer than H/W or SW, so vision results are received. Oh, if it happens because one cycle ends before processing.	* Please reboot by turning off/on the power of the device.	
	$bbbe	* Unable to create fiducial data. [Cause] * When the fiducial data cannot be created.	* Check if there is no error in Fiducial Mark related data on MMI's PCB Edit Board.	
	$bbbf	. Failed while clearing Fiducial Mark Data. [cause] . An error occurred while deleting Fiducial Mark Data.	* Check if there is no error in Fiducial Mark related data on MMI's PCB Edit Board.	
	$bc00	* The device is not in Ready state. * Press the Stop key on the front (to mute the buzzer). [Cause] * Press the Reset key on the front. * If the device is not in the READY state, when trying to execute a drive command. * Press the Ready key on the front.		
	$bc01	* PCB Dada is not downloaded. [cause] * This is the case when trying to work in Auto without downloading PCB Data.	* Download PCB Data by pressing the 'PCB D/L' button in Production of MMI. * When PCB Download is OK, press the 'Start' or 'Cont.' button. * When the equipment is in Pause state, press the 'Start' key on the front.	
	$bc02	* An error occurred while trying to clear the offset of the result of the part. * Please reboot by turning off/on the power of the device. [cause] * An error that occurred while clearing the offset value of a part due to a S/W error.		

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$bc03	* You are trying to use a vacuum sensor that is not supported. [Cause] * An error occurred while trying to use an unsupported vacuum port.	* Please reboot by turning off/on the power of the device.	
	$bc04	* An error occurred when measuring the vacuum level. [cause] * When vacuum level measurement fails due to H/* or S/* error.	* Please reboot by turning off/on the power of the device.	
	$bc05	* The nozzle is clogged. [Cause] * If the nozzle is actually clogged with foreign substances, or · The vacuum level is not properly detected due to a vacuum sensor error, or * nozzle data is incorrectly set.	* Clean the nozzle if there are foreign substances in the nozzle inlet. · Check the vacuum sensor and test it in Diagnosis of MMI. * MMI's Sys. Check the settings related to nozzle data in Setup Device.	1-13
	$bc06	* There is more Mounting Data than the maximum value. [Cause] * In case there is more than the maximum number of installations (6) within one cycle.	* Check the PCB Data, and if there is an error, reduce the number of installations.	
	$bc07	* Arrays greater than the maximum exist. [Cause] * Array PCBs exceeding the maximum value exist.	* On MMI's PCB Edit Board, 'Array... ' and check Array data related settings. · The maximum value of Array PCB is 200 EA. · MMI ver. 2.119 and VME ver. If it is 2.500 or higher, the maximum value of Array PCB is 400 EA. (Both versions must be higher than the above version)	
	$bc08	* Attempting to use more than the maximum number of axes. [cause] * In the case of S/W or more axes set to the maximum value.	* Please reboot by turning off/on the power of the device.	
	$bc09	* Attempting to use an undefined dump stop option. [cause] * If the wrong dump stop option is set over S/W.	* In MMI's Production, 'Option... ' and make sure the 'Stop before DUMP' option is set properly.	
	$bc0a	* Attempting to use an undefined pre-ANC option. [cause] * When an incorrect ANC option is set beyond S/W.	* In MMI's Production, 'Option... ' and make sure the 'ANC Before PCB load' option is set correctly.	
	$bc0b	* Undefined sequence of Auto Limit Search exists. [cause] * In the case of performing an Auto Limit Search sequence that is not defined as a S/W error.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$bc10	* Head is not in Home state. [cause] * When trying to move another axis using the jog box while the Head is not Home.	* Use the jog box to grab the Head or the entire Home of the equipment and move the desired axis.	
	$bc11	* Mir is not in Home state. * Use the jog box to grab Mir or the entire Home of the equipment and * If you try to move another axis by using the jog box while Mir is not Home.	move the [Cause] axis you want.	
	$bd00	* Could not find applicable part information. [cause] * If parts information could not be obtained from the sequence due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bd01	* Could not find common information for applicable parts. [cause] * If common information of parts is not found in the corresponding sequence due to S/W error	* Please reboot by turning off/on the power of the device.	
	$bd05	* Information about the package of parts cannot be found. [cause] * In the case of S/W failure to find information about the package of parts in the sequence.	* Please reboot by turning off/on the power of the device.	
	$bd20	* Information on the corresponding fiducial mark could not be found. [Cause] * Failed to obtain information on part fiducial marks in the cycle.	* In MMI's PCB Edit Step, 'Fiducial... ' and check whether the part's fiducial mark is registered. * If the problem persists, please contact our designated C/S company (STS).	
	$bd30	* Information on applicable nozzles could not be found. [Cause] * Failed to obtain information about nozzles in the cycle.	* In MMI's PCB Edit Step, check if the nozzle is properly registered in the corresponding step. * If the nozzle setting is set to Auto (A), click 'Common Data' in the PCB Edit Part of MMI and check if the nozzle is properly set and if the nozzle actually exists.	
	$be00	* This is an undefined Task ID. [cause] * In case of trying to get the ID of a task that is not defined beyond S/W.	* Please reboot by turning off/on the power of the device.	
	$be01	You are trying to perform an invalid sequence. [cause] * It is a case of trying to perform an incorrect sequence with S/W error.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$be20	. Mount information not found. [cause] * Failed to import Mount information due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$be30	* I am trying to mount it using a SKIP head. [cause] * In the case of trying to install using a skipped head with more than S/W.	* Use after canceling the Head Skip.	
	$be40	. An error occurred when calculating the bad mark position. [cause] . If an error occurs when calculating the location of the bad mark.	* 'Bad Mark...' on MMI's PCB Edit Board ' and check if the location teaching of the bad mark is done properly.	
	$be41	* An error occurred when calculating the location of the bad mark on the guide. [cause] . In case an error occurs when calculating the location of the bad mark.	* 'Bad Mark...' on MMI's PCB Edit Board ' and check if the location teaching of the bad mark is properly done.	
	$be42	. An error occurred while calculating the position of the Accept Mark. [cause] . In case an error occurs when calculating the location of the Accept Mark.	* 'Accept Mark…' on MMI's PCB Edit Board Click ' and check if the position teaching of the Accept Mark is properly performed.	
	$be50	* Attempting to use undefined bad mark location method. [Cause] * When trying to use an undefined bad mark Position Type.	* Press the Stop key on the front panel. (Mute the buzzer) * Click the Bad Mark item on the PCB Edit Board of MMI and try to set the Position Type again. * In the case of non-array PCB (1EA), the position type of the defined bad mark is one of allocating bad marks per PCB, and in the case of an array PCB, there are two types of bad mark allocation per PCB and guide line method. . * Press the Reset key on the front.	
	$be51	* Trying to measure Bad Mark with an undefined device. [Cause] * When trying to measure Bad Mark with an undefined device.	* 'Bad Mark...' on MMI's PCB Edit Board ' and click '5. Teach' and '8. Check if 'Move Cam' is selected in 'Camera No.'.	
	$be52	. Unable to determine the device that will recognize the Accept Mark. [Cause] * When trying to recognize Accept Mark with an undefined device.	* 'Accept Mark…' on MMI's PCB Edit Board ' and click '4. Teach' and '6. Check that 'Move Cam' is selected in 'Camera No.'.	
	$be60	* An error occurred while converting logical coordinates to Fiducial Camera positions. * Please reboot by turning off/on the power of the device. [cause] * If coordinate conversion fails due to S/W error.		
	$be61	* An error occurred while converting logical coordinates to Head position. [cause] * If coordinate conversion fails due to S/W error.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$be70	* An error occurred while calculating the location of the PCB Fiducial Mark. [cause] * If coordinate conversion fails due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$be71	* An error occurred while calculating the location of the part's Fiducial Mark. [cause] * If coordinate conversion fails due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$be72	* This is an undefined part Fiducial Mark Type. [Cause] * In case of using an undefined part fiducial mark.	* In MMI's PCB Edit Step, 'Fiducial... ' and check if the fiducial type is a defined type. * The defined fiducial types are Circle, Diamond, Rectangle, Rectangle2, Triangle, and Cross. * Depending on the version, Triangle2 and Shaft types may be supported.	
	$80	* Undefined PCB Fiducial Mark recognition method. [Cause] * In case of using an undefined PCB fiducial mark.	* On MMI's PCB Edit Board, 'Fiducial Mark... ' and check whether the fiducial type is a defined type. * The defined fiducial types are Circle, Diamond, Rectangle, Rectangle2, Triangle, and Cross. * Depending on the version, Triangle2 and Shaft types may be supported.	
	$be81	* Trying to recognize Fiducial Mark as an undefined device. [Cause] * When trying to recognize Fiducial Mark with an undefined device.	* On MMI's PCB Edit Board, 'Fiducial Mark... ' and click '3. Check that 'Vision' is selected in 'Inspection Device'.	
	$be90	* An error occurred while calculating the mounting location. [cause] * If coordinate conversion fails due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bea0	An error occurred while calculating the position of the upward camera. [cause] * If coordinate conversion fails due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bear1	* The actual camera to be used cannot be confirmed. [cause] * If you cannot check the actual camera to be used due to S/W failure.	* Please reboot by turning off/on the power of the device.	
	$baby0	* An error occurred while calculating the head to be used first in the linked head. * Turn off/on the power of the equipment and reboot. It is. [cause] * If coordinate conversion fails due to S/W error.		

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$bec0	* Vision is trying to recognize an angle that it cannot recognize. [cause] * Failed to calculate recognition angle due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bed0	* An error occurred while trying to set parts calibration information. [cause] * If parts correction information setting fails due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bee0	* The number of the camera to recognize the part could not be confirmed. [cause] * In case the number of the camera to recognize the part cannot be confirmed due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bef0	* Trying to use Upward Vision with a camera other than Upward Camera. [cause] * In case of camera information error due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bef1	* You are trying to use Flying Vision with a non-Flying Camera camera. [cause] * In case of camera information error due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf00	* An error was detected in the sequence table in TskSch. [cause] * In case an error occurs in the sequence table due to a S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf01	* TskSch detected an error in the scheduler table. [cause] * In case an error occurs in the scheduler table due to a S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf02	* An error was detected during sequence execution in TskSch. [cause] * In case an error occurs during sequence execution due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf03	* TimeOut occurred at sequence %d in TskSch. [cause] * In case TimeOut occurs during sequence execution due to S/W error. * When using tray feeder parts, if initialization is not done after registering parts.	* When using tray parts, check if there is any incorrect data in Production T/F Cnt of MMI when updating parts.	
	$bf10	* An error was detected in the sequence table in TskHead. [cause] * In case an error occurs in the sequence table due to a S/W error.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$bf11	* An error was detected in the scheduler table in TskHead. [cause] * In case an error occurs in the scheduler table due to a S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf12	* An error was detected during sequence execution in TskHead. [cause] * In case an error occurs during sequence execution due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf20	* TskMir detected an error in the sequence table. [cause] * In case an error occurs in the sequence table due to a S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf21	* An error was detected in the scheduler table in TskMir. [cause] * In case an error occurs in the scheduler table due to a S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf22	* An error was detected while performing a sequence in TskMir. [cause] * In case an error occurs during sequence execution due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf30	* TskGan detected an error in the sequence table. [cause] * In case an error occurs in the sequence table due to a S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf31	* TskGan detected an error in the scheduler table. [cause] * In case an error occurs in the scheduler table due to a S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf32	* An error was detected during sequence execution in TskGan. [cause] * In case an error occurs during sequence execution due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$bf80	* Unable to retrieve information from TskTray. [cause] * In case the tray information cannot be retrieved due to S/W failure.	* Please reboot by turning off/on the power of the device.	
	$bfff	* Undefined ERROR. [Cause] * When an error occurs without completing the manual operation being performed, or * When an undefined error occurs.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$c000	* An error occurred while setting the acceleration/deceleration speed profile in $A. [cause] . In case the data related to the speed profile of Factory Setup is incorrect or an error occurs due to * S/* error.	* Please reboot by turning off/on the power of the device.	
	$c001	* An error occurred while setting the constant velocity profile in $A. [cause] . In case the data related to the speed profile of Factory Setup is incorrect or an error occurs due to * S/* error.	. Check the speed-related setting data in Motor of Factory Setup. * Turn off/on the power of the equipment.	
	$c002	* An error occurred while $A was setting the Home operation command. [cause] . In case the data related to the speed profile of Factory Setup is incorrect or an error occurs due to * S/* error.	. Check the speed-related setting data in Motor of Factory Setup. * Turn off/on the power of the equipment.	
	$c003	* An error occurred in $A's Home operation. [cause] . In case an error occurs due to a sensor or other causes during Home operation.	* Please reboot by turning off/on the power of the device.	
	$c004	* An error occurred in $A's Home operation. [cause] . In case an error occurs due to a sensor or other causes during Home operation.	* Please reboot by turning off/on the power of the device.	
	$c005	* An error was detected while $A was waiting for Comp. [Cause] * When the designated axis does not pass through the designated position, * When Config DB or Factory DB setting data is incorrect, * When there is an error in Servo Pack setting (electronic gear ratio), or * When wiring related to the motor is defective.	* Check if there is no physical interference while the axis is moving. . Check the Config.DB file located in the Mark3/system directory. . Check if there is any abnormality in data setting in Factory Setup. * Check if there is anything wrong with Servo Pack settings. * Check if there is any abnormality in the wiring related to the motor.	
	$c006	* Minus S/W Limit detected in $A. [Cause] * In case the designated axis is detected at – S/W limit.	* Use the JogBox to grab the Home of the relevant axis and move it to the desired location again. * If the S/W limit value is incorrect, MMI's Sys. Change the Software Limit value of the axis in Setup Limit.	
	$c007	* Plus S/W Limit was detected in $A. [Cause] * When the designated axis is detected at + S/W limit.	* Use the JogBox to grab the Home of the relevant axis and move it to the desired location again. * If the S/W limit value is incorrect, MMI's Sys. Change the Software Limit value of the axis in Setup Limit.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$c008	* An incorrect scale value was found during coordinate calculation. [Cause] * The scale value of the designated axis is wrong or * Config DB or Factory DB setting data is wrong.	. Check the Config.DB file located in the Mark3/system directory. . Check if there is any abnormality in data setting in Factory Setup.	12-1
	$c009	* Error %d occurred while waiting for the flag (%x) indicating the end of motor operation [Cause] all. * If the Config DB or Factory DB setting data is incorrect, or * The axis cannot move due to physical interference or other causes.	. Check the Config.DB file located in the Mark3/system directory. . Check if there is any abnormality in data setting in Factory Setup. * Remove physical interference or other constraints, if any. * Check motor related wiring and Axis board.	12-1
	$c00a	* A %d error occurred when setting the flag (%x) indicating the end of motor operation. * Check whether there is interference in the Z-axis or the Z-axis offset. all. error occurred while accessing the axis board (X3203). [cause]	. Check whether the Nozzle Check Sensor is normal. [Cause] * An	1-12 1-18
	$c00b	. In case access to axis board fails due to H/W error.	* Check the Axis board related wiring and Axis board.	7-5
	$c00c	* During manual operation, all axes must be homed. [Cause] * Manual operation was attempted while all axes were not Home.	* Grasp the entire Home of the equipment using the JogBox. * Perform the desired manual operation.	
	$c00d	* An error occurred while automatically finding the axis limit. [cause] . In case an error occurs during Auto Limit Search.	* Check the operation status of the Limit sensor and Home sensor in Diagnosis I/O of MMI.	
	$c7ff	* An error occurred in motor drive during manual operation. [Cause] * In case the motor drive fails due to physical interference or an error occurs due to H/W abnormality. .	* Remove any physical interference.	
	$c801	* It is set as an undefined Wait Position Type. [Cause] * An attempt was made to use an undefined Wait Position Type.	* Check if 'Wait Type' is properly set on MMI's PCB Edit Board. * Turn off/on the power of the equipment.	
	$cfff	* An error was detected in coordinate calculation. [cause] * In case an error occurred during coordinate calculation due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$d110	* Received an undefined command from MMI. [cause] . When a manual command that is not defined in VME is executed in MMI because the versions of MMI and VME are not compatible.	. Check the version of MMI and VME and check if the desired function is executed in the corresponding version.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$d111	* An undefined communication command was received from MMI. [cause] . In case DPRAM board is defective or . communication error occurs during communication between MMI and VME.	* Replace DPRAM board or check related wiring.	
	$e000	* An access fault error occurred while trying to use address %x in PC = %x. * Turn off/on the power of the device and reboot. is. [cause] * In case of S/W error, Program Counter specific address is trying to access wrong address. . When trying to access the exact address of a specific program counter address due to H/W error, but failed.		
	$e001	* A division by zero error occurred in PC = %x Addr = %x. [cause] * Error occurred while trying to divide by 0 due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$e011	. An Access Fault has occurred on the Vision Board. [cause] . In case Access fails due to vision board failure or S/W failure.	* Please reboot by turning off/on the power of the device.	
	$e012	* An Access Fault occurred on the IO Board. [cause] * If access fails due to defective IO board or S/W error.	* Please reboot by turning off/on the power of the device.	
	$e013	. An Access Fault occurred on the DPRAM Board. [cause] . In case Access fails due to defective DPRAM board or S/W error.	* Please reboot by turning off/on the power of the device.	
	$e014	. Access Fault occurred on Axis1 Board. [cause] . Access fails due to defective Axis1 board or S/W error.	* Please reboot by turning off/on the power of the device.	
	$e015	. An Access Fault occurred on the Axis2 Board. [cause] . Access fails due to defective Axis2 board or S/W error.	* Please reboot by turning off/on the power of the device.	
	$e016	. An Access Fault has occurred on the Axis3 Board. [cause] . Access fails due to defective Axis3 board or S/W error.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$e017	. An Access Fault has occurred on the Axis4 Board. [cause] . Access fails due to defective Axis4 board or S/W error.	* Please reboot by turning off/on the power of the device.	
	$e100	* %x error occurred on IO Board %d. [cause] * In case an error occurs during communication in the I/OI/F board.	* Check the wiring part to see if the I/O board connection is disconnected.	7-2
	$e101	. Vision results are strange. [cause] . In case VME receives wrong vision result value due to H/W or S/W error	* Please reboot by turning off/on the power of the device.	
	$e200	* No air pressure is being supplied to the machine. [Cause] * When air pressure is not being supplied to the equipment. * When the sensor for checking air pressure is defective or the setting is wrong.	* If air pressure is not being supplied, supply air pressure. * Check the setting of the sensor for checking the air pressure supply and check if there is any abnormality.	11-1
	$e300	* An error occurred on axis $A. [cause] . In case an error occurs in the axis due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$e800	* The $A axis motor setting is abnormal. [cause] . In case an error occurs in the axis due to H/W or S/W error.	* Please reboot by turning off/on the power of the device.	
	$e801	* The velocity profile of the $A axis could not be determined. [cause] * In case of failure to create speed profile due to S/W error or incorrect setting.	* Please reboot by turning off/on the power of the device.	
	$e802	* The Home Escape range of the $A axis could not be determined. [cause] * In case the Home Escape range cannot be checked due to S/W failure or incorrect settings.	* Please reboot by turning off/on the power of the device.	
	$e803	* The electronic gear ratio of the $A axis is abnormal. [cause] * In case of an error in electronic gear ratio setting due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$e804	* The scale of the $A axis cannot be determined. [cause] * In case the axis scale cannot be checked through S/W error.	* MMI re-setup due to system file corruption.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$e805	* The safe position of axis $A could not be determined. [cause] * In case the safe position of the axis cannot be confirmed due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$e806	* You are trying to check an unregistered Feeder lift sensor. [cause] * In case of trying to use a feeder lift sensor that is not registered due to S/W error.	* Please reboot by turning off/on the power of the device.	
	$f800	* Error 12 occurred while trying to post 10 messages to QueueID 32. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f801	* Error %d occurred while trying to post message %d to QueueID %d. * Turn off/on the power of the device and reboot. all. [Cause] * Internal S/W defect.		
	$f802	* Error %d occurred while pend message on queueID %d. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f803	* Error %d occurred while trying to accept the message with QueueID %d. [Cause] * Internal S/W defect. * %d error occurred when creating system memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f900		* Please reboot by turning off/on the power of the device.	
	$f901	* %d error occurred when deleting system memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f902	* %d error occurred when creating PCB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f903	* %d error occurred when deleting PCB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$f910	* System memory is not created. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f911	* PCB memory is not created. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f912	* %d error occurred in PCB data structure. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f920	* %d error occurred when allocating Config DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f921	* %d error occurred when allocating Factory DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$f922	* %d error occurred when allocating System DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa00	* %d error occurred when allocating Bad DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa01	* %d error occurred when allocating Array DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa02	* %d error occurred when allocating PCB Header memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa03	* %d error occurred when allocating AncDef DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa04	* %d error occurred when allocating FidCon DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$fa05	* Error %d occurred when allocating Mount DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa06	* %d error occurred when allocating Fid Beam memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa07	* %d error occurred when allocating Fid Ssa Math memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa08	* %d error occurred when allocating Tape Feeder DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa09	* %d error occurred when allocating Stick Feeder DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa0a	* %d error occurred when allocating Tray Feeder DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa0b	* %d error occurred when allocating Part DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa0c	* %d error occurred when allocating PackCom DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa0d	* %d error occurred when allocating PackSsaLl DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa0e	* %d error occurred when allocating PackSsaBga DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa0f	* %d error occurred when allocating PackSsaChip DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$fa10	* %d error occurred when allocating PackChuck DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa11	* %d error occurred when allocating PackCa DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa12	* %d error occurred when allocating PackQa DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa80	* Error %d occurred when allocating Bad Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa81	* %d error occurred when allocating Array Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa82	* %d error occurred when allocating Pcb Header Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa83	* Error %d occurred when allocating Mount Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa84	* %d error occurred when allocating CycleEntryReal DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa85	* Error %d occurred when allocating Tape Feeder Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa86	* %d error occurred when allocating Stick Feeder Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa87	* %d error occurred when allocating Tray Feeder Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$fa88	Error %d occurred when allocating Pack Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa89	%d error occurred when allocating Head Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa8a	* %d error occurred when allocating AncDef Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fa8b	Error %d occurred when allocating Product Real DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb00	%d error occurred when releasing Bad DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb01	Error %d occurred when releasing Array DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb02	%d error occurred when freeing PcbHeader DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb03	* %d error occurred when releasing AncDef DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb04	* %d error occurred when releasing FidCon DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb05	%d error occurred when releasing the mount DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb06	Error %d occurred when releasing FidBeam DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$fb07	* %d error occurred when releasing FidSsaMath DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb08	Error %d occurred when freeing Tape Feeder DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb09	* %d error occurred when releasing Stick Feeder DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb0a	Error %d occurred when freeing Tray Feeder DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb0b	%d error occurred when releasing Part DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb0c	* %d error occurred when releasing PackCom DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb0d	* %d error occurred when releasing PackSsaLl DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb0e	* %d error occurred when releasing PackSsaBga DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb0f	* %d error occurred when releasing PackSsaChip DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb10	* %d error occurred when releasing PackChuck DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb11	* %d error occurred when releasing PackCa DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	

Machine Translated by Google

MODULE	MMI Error Code	Symptoms and Causes	Action method	service manual
	$fb12	* %d error occurred when releasing PackQa DB memory. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb13	* There are duplicate vision commands. [Cause] * Internal S/W defect.	* Please reboot by turning off/on the power of the device.	
	$fb14	* Vision side response time exceeded VME Time Out. [Cause] * In case the response from the Vision side regarding the command is delayed.	* Please rework after reloading the PCB Program. * If the same phenomenon occurs again, please reboot by turning off/on the power of the device.	
	$fb21	* The internal temperature of the equipment exceeded the standard value. (Over Heat sensor detection) [Cause] * If the internal temperature of the equipment rises above 35 degrees	* Check the fan operation status in Control Boxer. * Check if the temperature sensor is abnormal.	7-2