S U M M A R Y

SUOS-070401 DATE:2007/04/05

CUSTOMER NAME	
CUSTOMER PART NO.	
DECK MECHANISM MODEL NO.	JPSL-33D-0408H

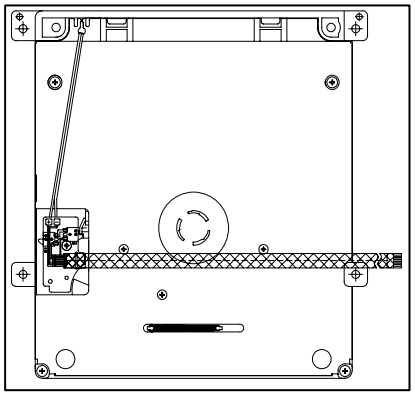
PART		MAKER	MODEL NO	Q'TY	REMARK
MOTOR	LOADING	JIA AI	JQ24-35H440	1PC	
		MORTECH	CCM03-059R1-16		
	SLED				
	SPINDLE				
PICK UP					
SERVO PCB					
SWITCH A		DAWNSEA	KFC-V-113A	1PC	
		ALPS	SPVG220300		
		MIK	MPU12271MLBO		
SWITCH B		DAWNSEA	KFC-V-113	1PC	
		ALPS	SPVG120302		
		MIK	MPU12272MLBO		
PHOTO SENSOR					

☆☆☆ MEMO ☆☆☆

附件:INSULATOR(L33-4002-06E) 4PCS

INSULATOR SCREW(L33-8003-00E) 4PCS

FRONT VIEW



☆ StreamUnlimited ☆

E G		
WRITTEN	CHECK	APPROVAL

CUSTOMER

WRITTEN	CHECKED	APPROVAL

CUSTOMER: **MODEL NO.: JPSL-33D-0408H**

Main Part " CAVITY NO. " List				
NO	PART NAME	VW PART NO.	CAVITY NO MARK	REMARK
1	CHASSIS	L33-3001-00BE	1 ～ 6	
2	MOTOR PULLEY	L33-3002-00E	1 ～ 24	
3	DRIVE GEAR E	L33-3008-00E	1 ～ 24	
4	DRIVE GEAR F	L33-3009-00E	1 ～ 24	
5	LOADING ROLLER ARM	L33-3010-00E	1 ～ 12	
6	DISC GUIDE LEVER L	L33-3011-00E	1 ～ 24	
7	DISC GUIDE LEVER R	L33-3012-00E	1 ～ 24	
8	CHUCKING CONTROL LEVER	L33-3014-02E	1 ～ 12	
9	CHUCKING LEVER	L33-3016-02E	1 ～ 24	
10	CHUCKING PULLEY	L33-3017-05E	1 ～ 12	
11	CONTROL LEVER C	L33-3018-01E	1 ～ 12	
12	SLIDE RACK	L33-3022-00E	1 ～ 12	
13	GUIDE LEVER BASE	L33-3023-04E	1 ～ 6	
14	8 CONTROL LEVER C	L33-3024-00E	1 ～ 12	

1. Scope of document

1-1. This document describes the general specification and performance of slot-in Loading Mechanism JPSL-33D for DVD system.

* Application DVD traverse KHM-310AAA / 313AAA (SONY) .

1-2. Some components may be changed in order to improve performance within the scope of these specifications.

1-3. Please be sure to operate under a given condition stated in the specification.

1-4. Please be sure not to conduct any alterations.

1-5. Every parts should be installed at its designated position.When in use, please tightly fix this mechanism on the frame, whose surface.Each part should have no scratches rust or stainsmak--ing some problems in function and appearance.(In case of any doubt a limited sample will be ready)

1-6. Please use specified cushions and screws when mounting DVD traverse unit into this Loading mechanism.

1-7. Please refer to the specified minor document for optical characteristics of the DVD traverse unit to be mounted into this Loading mechanism.

1-8. Both parties agree to put this document into practice after discussion when there is a need for modification or a doubt.

2. General Specifications

* Performance should comply with Quality Assurance Standard (with traverse) .

2-1. Mechanical Specifications

2-1-1. Applicable disc

- 8cm & 12cm Disc (must meet IEC specification)
- Disc thickness range : 1.1～1.5 mm

2-1-2. Method of disc loading

- Automatic loading by a motor driven roller after manual insertion from the front.

2-1-3. Insertion angle

- Insertion hole ± 7 ° with respect to the slot.

2-1-4. Method of disc ejection

- Automatic ejection by a motor driven roller.

2-1-5. Method of disc clamping

- Clamp by magnetic force to the turntable.

2-1-6. Action posture : horizontal

2-1-7. External dimension

- Refer to the Assembly Drawing attached.

2-1-8. Weight

- Approx 252 gr. (Without DISC and Traverse Mechanism)

2-2. Environment and Electrical Specifications

2-2-1. Usage of temperature range : 0℃ ～ + 50℃

2-2-2. Relative humidity : 40% ～ 80% RH (With no condensation)

2-2-3. Motor Voltage Range : 4.2V～4.8V

2-2-4. Rated operating voltage : 4.5V

2-3. Standard Performance

2-3-1. Disc insertion force : Less than 250 gf.

2-3-2. Disc loading force : Min 80 gf.

2-3-3. Disc eject force : Min 80 gf.

2-3-4. Current consumption : Less than 140 mA. (4.5V DC)

2-3-5. Disc Loading & Eject time

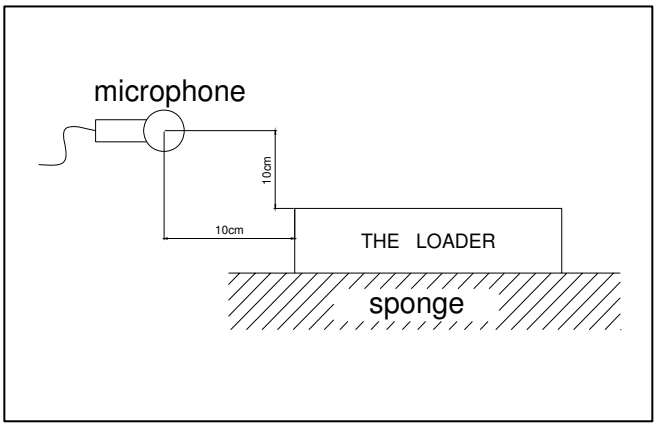
· 2.5～3.5 sec typical (4.5V DC) while a motor is active.

2-3-6. Clamping force without DISC

· Min 100 gf (It varies from Specification of DVD Traverse KHM-310AAA / 313AAA)

2-3-7. Operating noise : Max 85 dB with following condition (including clamping noise).

* Background noise : 30db max .
* Measured 10cm in front and 10cm above the loader .



2-4. Operation timing : Refer to the timing chart attached .

3. 5P Connector Cable circuit diagram

· Refer to attached paper.

* MOTOR CCW = Loading ; MOTOR CW = Eject

4. Quality & Reliability

4-1. Evaluation conditions

4-1-1. Evaluation environment

· Temperature : 20℃ ± 3℃
· Relative Humidity : 60% ± 5%
· Operating voltage : 4.5V DC

* Evaluate with following condition in case no doubt occur in a judgment.
  · Temperature : 15℃～35℃
  · Relative Humidity : 45%～85%
  · Operating voltage : 4.2V～4.8V DC
* However , there must be no dew condensation .

4-1-2. Evaluation disc

· 12 cm Standard disc : TCD-784 made by ABEX
· 8 cm Standard disc : CD-R common blank disc

4-1-3. Evaluation posture

· When a disc is staying flat, it is considered to be the system is in a normal posture.

・When a disc is standing up, it is considered to be a reference so there is no operational concern.

4-1-4. Test Equipment

4-2. Quality

4-2-1. Insert above three standard disc in turn. Besides being satisfied with specification , there should be no abnormal sound when operating in following order :
PLAY → STOP → EJECT

4-2-2. Specifications have to be satisfied when the system is placed vertically and operated in above condition.

4-2-3. Satisfy marking specifications.

4-2-4. Satisfy package specifications.

4-2-5. Both parties shall agree to discuss to solve the issues when the doubts such as external appearance, abnormal sound and performance have raised.

4-3. Initial performance specifications

・ Refer to 2-3. Standard Performance .

4-4. Reliability test

4-4-1. Action in high-temperature

・ After in 50℃ storage it in no action for about 3 hour.Check the action of it in its condition.

4-4-2. Action in low-temperature

・ After in -5℃ storage it in no action for about 3 hour.Check the action of it in its condition.

4-4-3. Action in high temperature / humidity

・ After in 40℃,90% humidity storage it in no action for about 3 hour. Check the action of it in its condition.

4-4-4. Durability action

・ Insert above 12 cm disc in turn. operating in following order ; 10,000 cycles at room temp--erature : LOADING → CHUCKING → EJECT

・ Scratch spec: The disc is read and played normally after 500 cycles.(Use a brand new disc)

・ DISC should change to new DISC per 500 cycles.

4-4-5. Storage in high-temperature

・ After storage 96 hour at 60℃, leave it 24 hour at room temperature（20℃）and humidity （60%） then check the action.

4-4-6. Storage in low-temperature

・ After storage 96 hour at -10℃, leave it 24 hour at room temperature（20℃）and humidity （60%） then check the action.

4-4-7. Heat cycle test

・ -5℃ (1Hr.) ～ +60℃ (1Hr.) × 5 cycles

* The environmental change from highest temperature to lowest temperature should spend about 20 minutes in the same room .(With no condensation)

* Mechanism should comply with the Special performance specification at normal temperature 24 hours after leaving.(With no condensation)

4-4-8. Storage in high temperature / humidity

・ After storage 96 hour at 40℃, 90% humidity, leave it 24 hour at room temperature （20℃）and humidity （60%） then check the action.

* In the above all test condition , there must be no dew condensation for mechanism .

* After the above test , it should satisfy the following (4-5) specification. (not acceptable for mixed test)

4-4-9. Vibration

・ After a continuous sweep of 1 min return, apply vibrations to 3 directions each for 30 min; total 90 min （mount in the exclusive jig）:

10Hz~15Hz total amplitude 2mm / P-P
16Hz~38Hz 9.8m/s （1.0Ｇ）

4-4-10. Drop Test

・ Max. 60G (action time : 11ms) ; 6 surfaces (with packing)

* After the above test , mechanism should comply with the Special performance specification.

4-5. Reliability specification

4-5-1. Disc loading force : Min 60 gf.
4-5-2. Disc eject force : Min 60 gf.
4-5-3. Current consumption (Motor Terminal voltage , With Dummy Traverse)

・ Max 200 mA (4.5V DC)

5. Others

5-1. Always use the mechanism within condition given in the specifications.
5-2. Please put mechanisms horizontally when keeping in custody and transporting.
5-3. Do not store or operate this motor in the atmosphere where erosive gases are Present, (e.g.H_2O,SO_2,NO_2,CL_2 etc) and also in the places where materials emit erosive gases. Please be sure not to store or operate mechanism in the atmosphere where erosive gases are present, (e.g.H_2O,SO_2,NO_2,CL_2 etc) and also in places where materials emit erosive gases.
5-4. If any disagreement should arise ,or additional items should be needed to mention in this specification , these two parties shall meet in good faith to resolve the problem.
5-5. The provisions of this document may be altered upon agreement between both parties.
5-6. Please assure the plane angle of support surface which the mechanism's mounting plane matches on customer's bottom case to be below 0.2mm .Otherwise,it can not be guaranted that disc operates smoothly during Loading and Eject .
5-7. Loading and Eject may not work when nonstandardized Disc and damaged Disc are used.
5-8. Mechanical operation can not be guaranted when such a Disc as fixed with Adaptor,Ring protector etc are used.
5-9. When inserting DISC after EJECT , please make sure to take out DISC once fully and insert DISC.
5-10. In case the disc was ate into the mechanism when your complete set has some unknowable problem happening and the state is power off at that time , please make the Loading Motor Pulley rotate clockwise with a screwdriver to eject the disc.
5-11.It is important that any parts designed by customer can not touch the lever cover and motiona parts on the mechanism, otherwise we can not guarantee it can work normally.
5-12.Pleases consults attached the Timing Chart to control the Loader.
5-13.Please set the Loading Motor operating voltage into 4.2V-4.8V which has been provided by way of"PWM".
5-14. Traverse specification :

Chassis plane angle tolerance: < 0.05mm.
Turn table surface wave plane tolerance: < 0.03mm.
Motor and turn table assembly height tolerance: ± 0. 1 mm

6. Attached Data

* Package Specification
* Timing Chart
* FFC Circuit Diagram
* Flow Chart
* Assembly Drawing

* Exploded View
* Part List
* Loading Motor Specification
* Push Switch Specification
* Main Parts List of UL Standard

Package Specifications

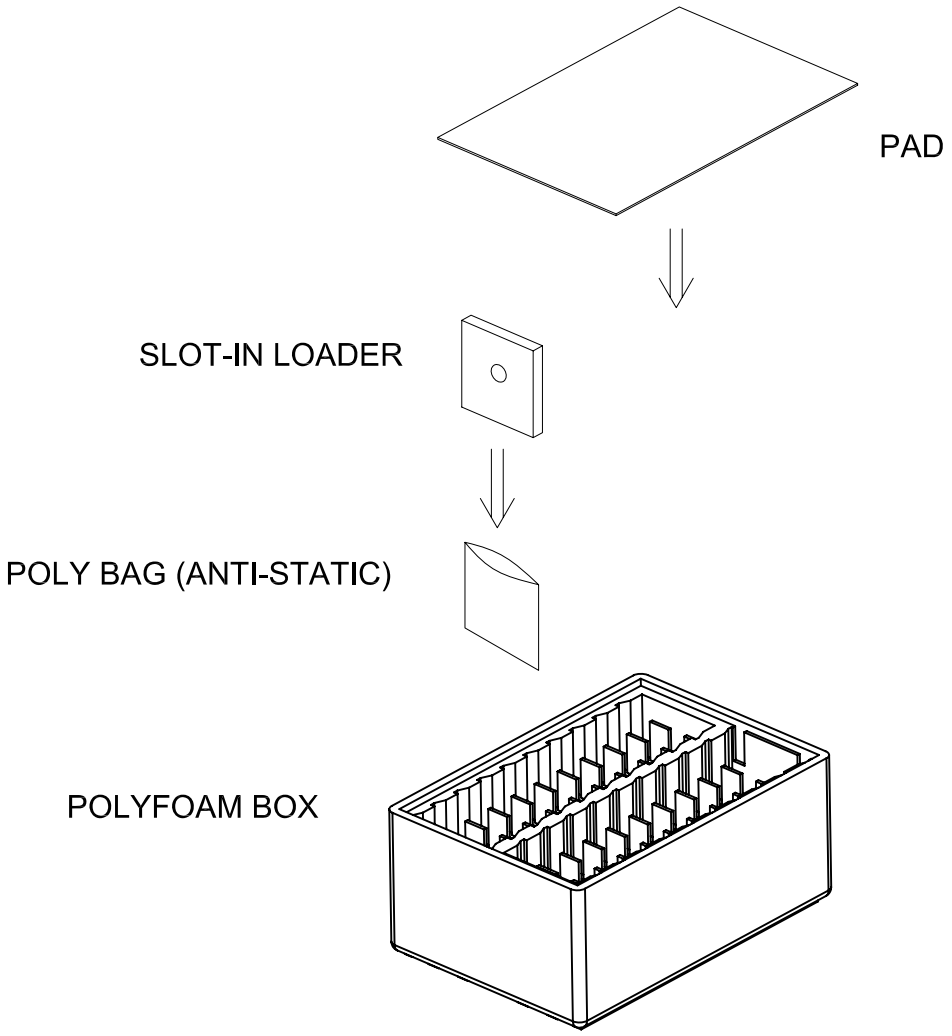
National transportation

1) Put the slot-in Loader into an anti-static bag.

2) There are 20 pcs Loaders in every polyfoam box.

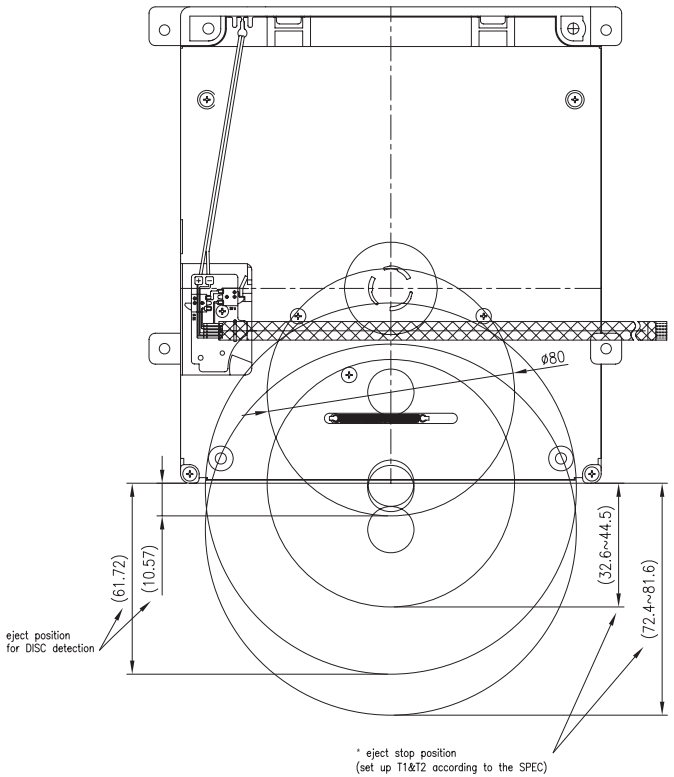
3) A pad must to be covered onto the polyfoam box and be pasted with adhesive tape.

4) The polyfoam box will be recycled.Make sure to avoid be strong impact during transport and load/unload.



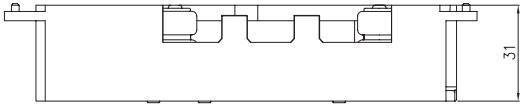
Size of polyfoam box : 625mm x 387mm x 250 mm (L x W x H)
Quantity : 20 pcs per box

EJECT STOP POSITION OF DISC



* The eject stop position based on the Timing Chart and measured under following conditions:

1) Motor Operating voltage : 4.2V~4.8V DC
2) Usage of temperature range : 0℃~+50℃

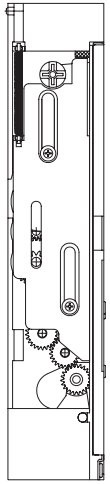


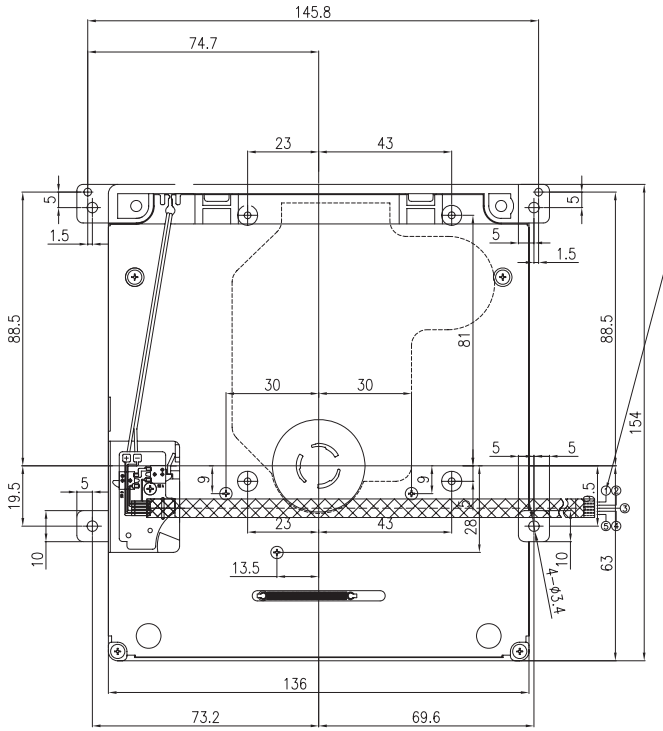
一般尺寸公差表

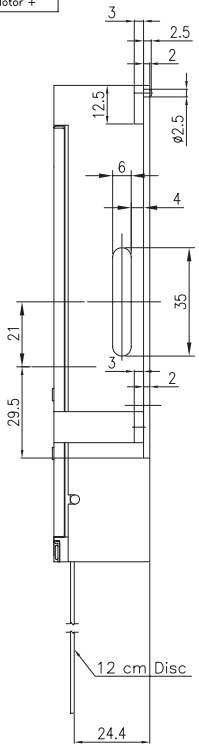
等級 / 尺度	A 級	B 級	C 級	D 級
0~4	±0.05	±0.10	±0.15	±0.20
4~16	±0.08	±0.15	±0.20	±0.30
16~64	±0.12	±0.20	±0.30	±0.40
64~250	±0.25	±0.30	±0.40	±0.60
250以上	±0.30	±0.50	±0.60	±1.00
ANGLE	± 20'	± 40'	± 60'	± 90'

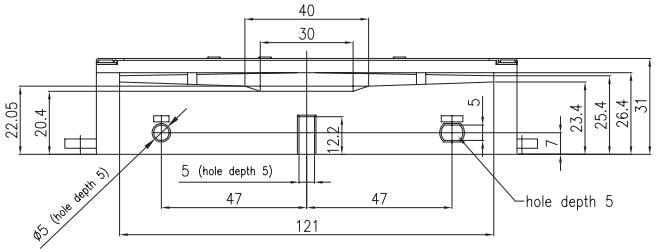
5P FFC

PIN NO	PIN NAME
1	Switch A
2	Switch B
3	GND
4	Motor −
5	Motor +









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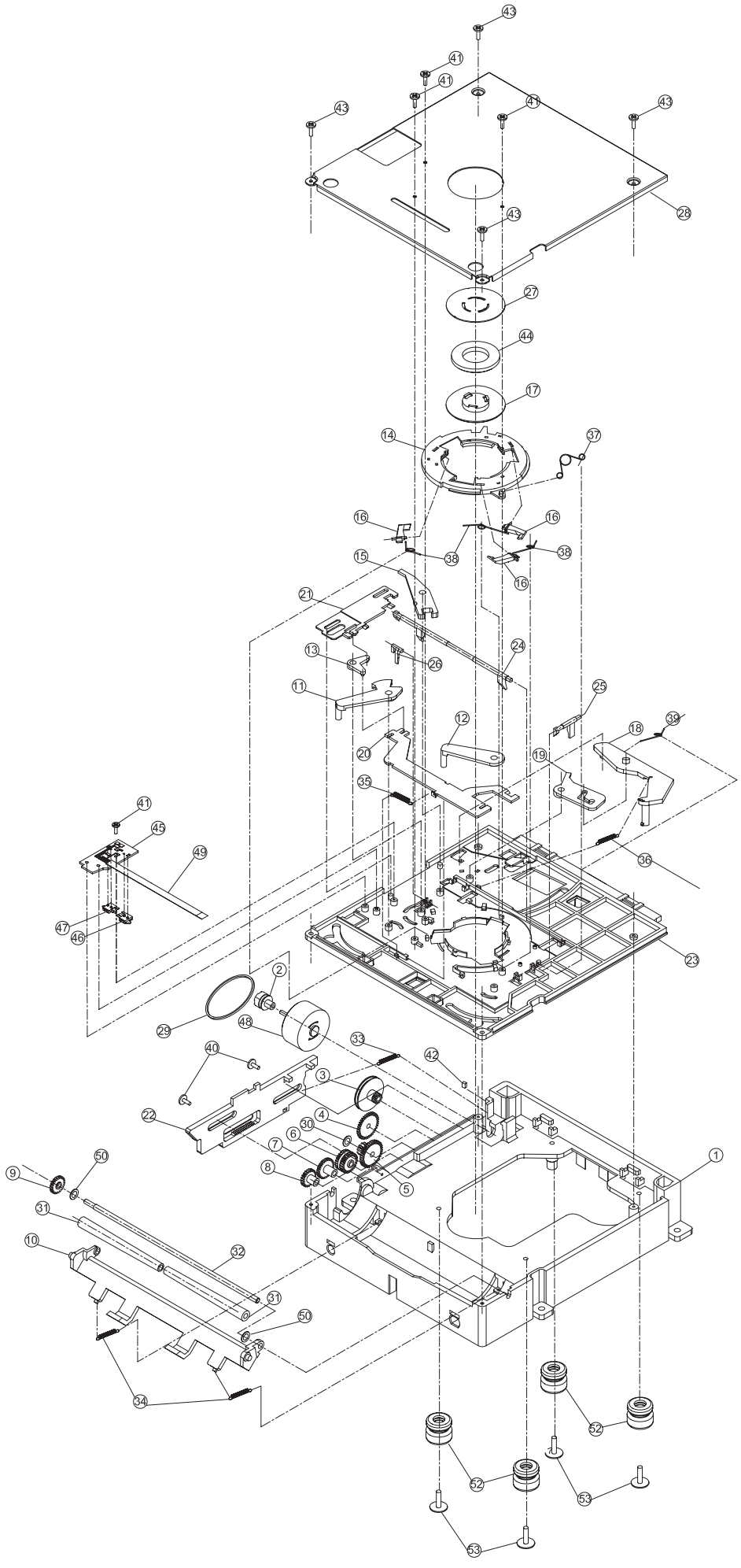
JPSL-33D-0408H
(FOR KHM-310AAA / 313AAA)

JPSL-33D-408 EXPLODED VIEW



MAIN PART LIST OF UL STANDARD

NO	PART NAME	PART NO.	MATERIAL MANUFACTURER	GENERIC NAME	TYPE	FRAME CLASS	UL FILE NO
1	CHASSIS	L33-3001-00BE	CHU MEI CORPORATION	ABS	PA-757	HB	E56070
2	DISC GUIDE LEVER L	L33-3011-00E	POLYPLASTICS CO. LTD	POM	M90-44	HB	E45034
3	DISC GUIDE LEVER R	L33-3012-00E	POLYPLASTICS CO. LTD	POM	M90-44	HB	E45034
4	SWITCH PCB	L33-8201-00E	SUN TAT INDUSTRIAL LTD	XPC	ST02A	94HB	E101438
5	CHUCKING LEVER	L33-3016-02E	CHANG CHUN PLASTICS	PBT	PBT3015	94V0	E59481（S）
6	CHUCKING PULLEY	L33-3017-05E	POLYPLASTICS CO. LTD	POM	M90-44	HB	E45034
7	CONTROL LEVER D	L33-3019-00E	POLYPLASTICS CO. LTD	POM	M90-44	HB	E45034
8	SLIDE RACK	L33-3022-00E	POLYPLASTICS CO. LTD	POM	M90-44	HB	E45034
9	GUIDE LEVER BASE	L33-3023-04E	CHEIL INDUSTRIES INCCHEMICALS DIV&GE.LTD	PC+ABS	HP1001/C1200HF	HB	E115797/E161759