

OPEN CELL & LED BAR GUIDE

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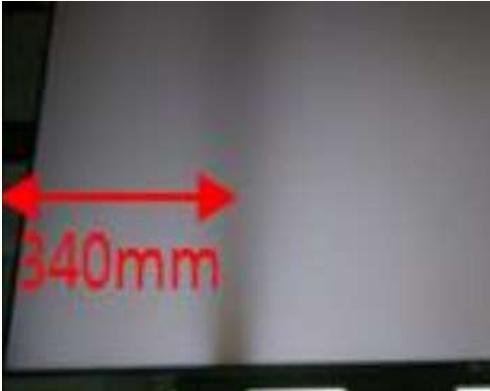
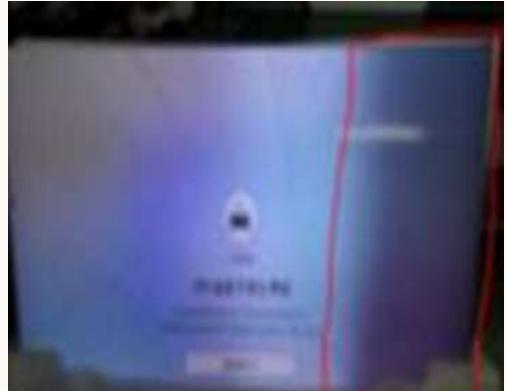
Open cell replacement

LED bar replacement

Set up (Factory mode)

Set up (After replacing main board)

COMPONENT REPAIR POSSIBLE SYMPTOM (LED BAR DEFECT)



(Edge LED type)
Black bar across the screen

(Direct LED type)
Horizontal black bar & Shadows on screen

HANDLING PRECAUTIONS

(DO list)

- Always use two hands when handling the panel at all times, holding both sides securely or diagonal corners of the panel metal frame.
- Leave protective sheet on front of panel at all times.
- Observe anti-static ESD precautions at all times.
- Remove rings (bracelet) and wear ESD gloves to protect panel from scratches.
- If the panel is placed faced down on ESD bench for any operation, assure that the bench is clean and rubber/protective mat is used.
- It is mandatory to use : ESD are, ESD clothing, shoes and gloves, Duster remover and cleaning roller.

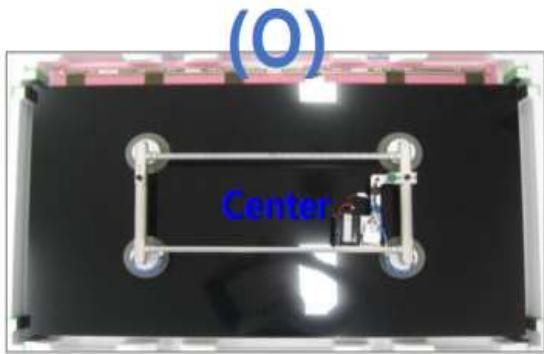
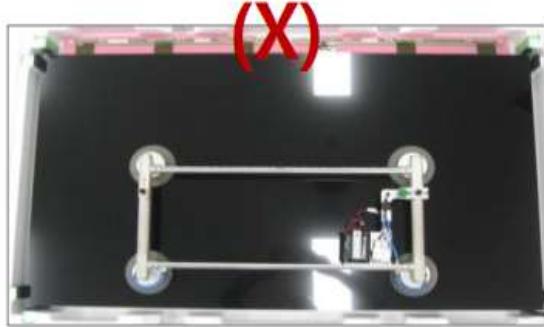
(DO NOT list)

- DO NOT Touch the lamp reflector.
- DO NOT Twist the panel in any way during handling or assembly.
- DO NOT Handle the panel using its connectors/cables.
- DO NOT Handle the panel while touching the PCB or flex circuits.
- DO NOT Move Open cell, Diffusor sheets, etc. with hands
- DO NOT Street the panel with any part projecting over the edge of the bench

(Beware of occurrence of stains and damage)

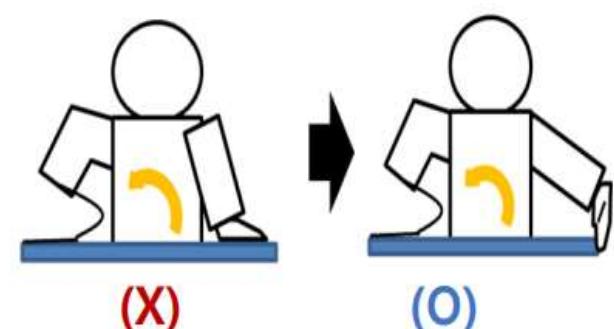
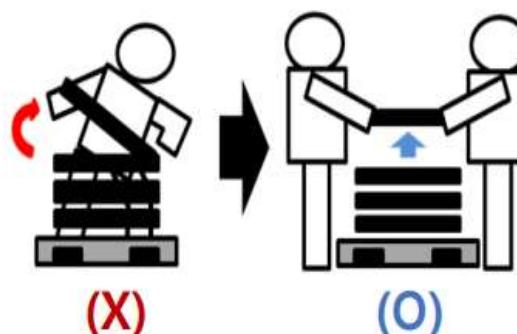
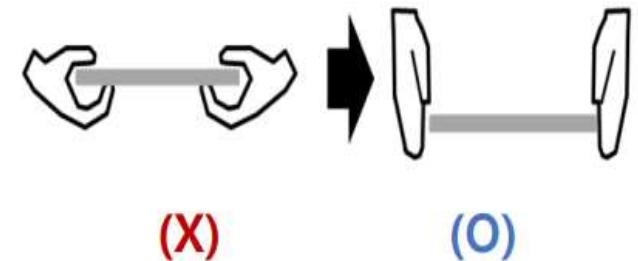
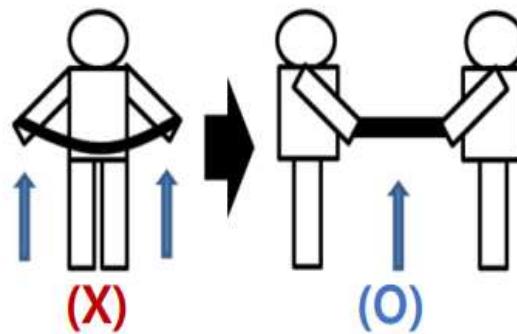
- Be careful of scratches, cracks, presses, S/C, stains (2 people required with 55" inches or higher)

[Open cell]



※ Use O/C Suction Jig when moving Cell
place it onto the center of the Cell

[LGP]



Minimum Personnel on service handling

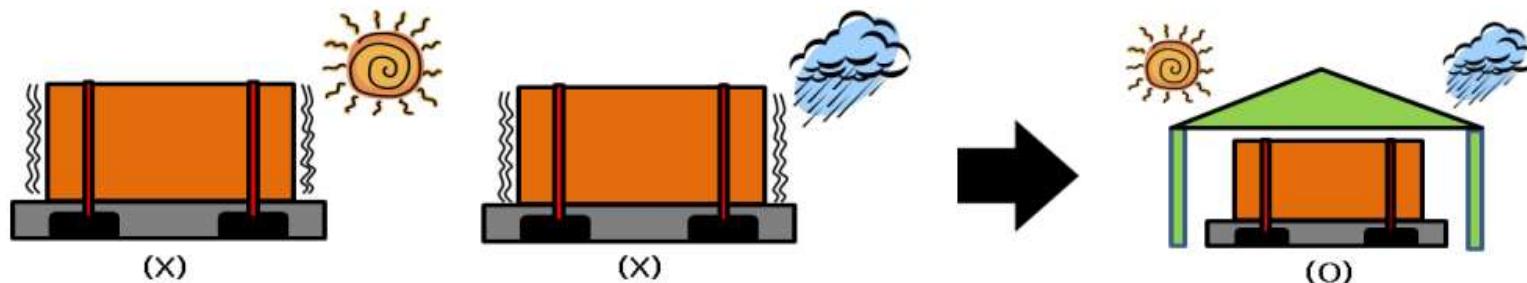
- To prevent accidents caused by carelessness while moving or handling the large product and during the dismantling/assembling activities, please notice to centers for minimum required personnel and precautions

	~54"	55"~75"	76"~85"	86"~	98" ↑
Minimum Personnel (* Including Assistants)	1 person	2	P₃O₄S₂T₄P₆N₆E₆D		
Precaution Reason	<ul style="list-style-type: none">- Prevent panel drop due to weight while moving- Care not to be damaged by hand-pressure when holding- Prevent collision damage at edges when laying down- Extra-large(98") panel needs central anti-bending support work				For 98" ↑ panel 6 personnel needed (2 persons for Central Support)

STORAGE CONDITION

✓ When storing the product, it is necessary to maintain a constant temperature/humidity

Requires loading in a space where sunlight, rain, and wind are blocked



✓ Temperature/Humidity Condition by parts

LED Bar and COF are managed in the same way as normal material conditions

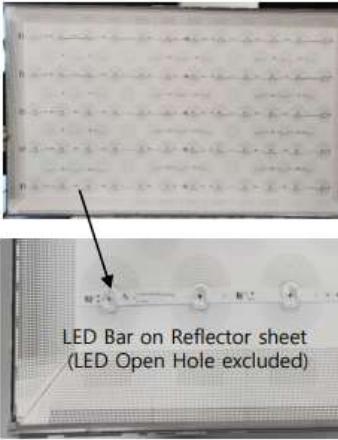
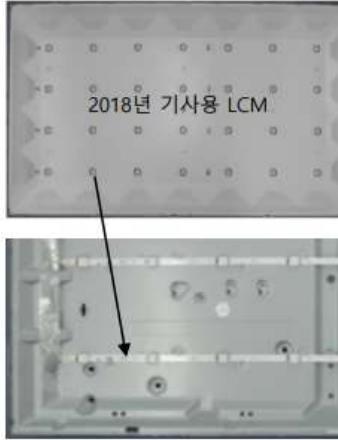
	Temperature	Humidity
O/Cell	5°C ~ 40°C	35% ~ 75%
LGP	25±5°C	50±15%

COMPONENT REPAIR POSSIBLE MODELS

Yr 2018				Yr 2019				Yr 2020						
Model	Panel Type	BLU Type	Repairability		Model	Panel Type	BLU Type	Repairability		Model	Panel Type	BLU Type	Repairability	
			O/Cell	LED Bar / LGP				O/Cell	LED Bar/ LGP				O/Cell	LED Bar/ LGP
N4/5	Normal	Direct (※ N55 Edge)	O	O	R4/5/6	Normal	Direct	O	O	T4/5/6	Normal	Direct	O	O
NU6/7	Normal	Edge	O	O	RU6/7	Normal	Edge (※ 70" Direct)	O	O	TU6/7	3 Bezelless	Direct	X	O
NU8	3 Bezelless	Edge	X	O	RU8/9	Normal	Edge	O	O	TU8	3 Bezelless	Direct (※ TU83/85 Edge)	X	O
Q6	3 Bezelless	Edge	X	O	Q5/6	Normal	Edge	O	O	Q6	3 Bezelless	Edge	X	O
Q7	4 Bezelless	Edge	X	X	Q7	3 Bezelless (49"/82"/85")	Direct	X	O	Q7T	3 Bezelless	Edge	X	O
Q8C	4 Bezelless	Edge	X	X		4 Bezelless (55"/65"/75")			X					
Q8D	4 Bezelless	LED Plate	X	X	Q8	3 Bezelless (82")	Direct	X	O	Q8T	3 Bezelless (49"/50")	Direct	X	O
Q8F	4 Bezelless	Edge (GQ/QE)	X	X		4 Bezelless (55"/65"/75")			X		4 Bezelless (55/65/75/85")			
Q9	4 Bezelless	LED Plate	X	X	Q9	3 Bezelless (82")	LED Plate	X	O	Q9T	4 Bezelless	LED Plate	X	X
						4 Bezelless (55"/65"/75")			X					

COMPONENT REPAIR POSSIBLE MODELS

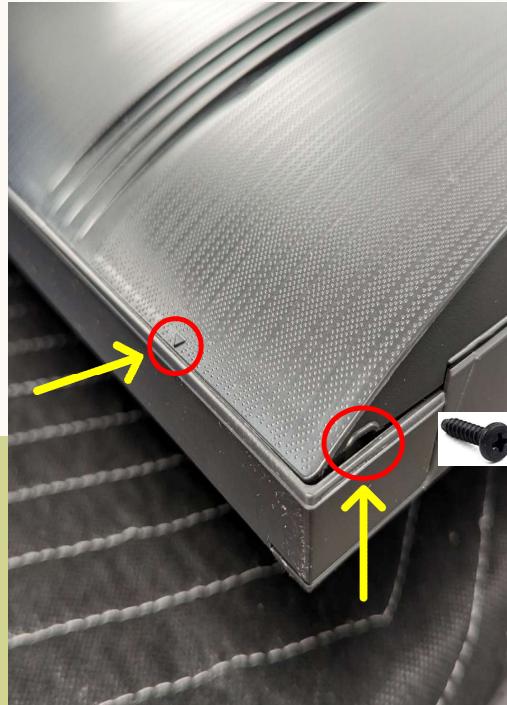
LED Bar

구분	LED Plate	Direct Type	New Edge Type	New Direct Type	Direct Type JEDI
Major applied model	'19yr: Q95T/Q90T '20yr: Q950TS~Q90T	'19yr Q70R '20yr Q80T	'19yr: Q60R '20yr: Q70/Q60T/TU8500	'20yr: TU8000/TU7000	'20yr: T5300/T4300
Picture	 <p>~65" : 8 LED Plates 75"~ 10 LED Plates</p>	 <p>LED Bar</p>	 <p>NEW Dual LED</p>	 <p>LED Bar on Reflector sheet (LED Open Hole excluded)</p>	 <p>2018년 기사용 LCM</p>
Component repair possibility	Not possible	Possible	Possible	Possible	Possible

DISASSEMBLY & REASSEMBLE



Use 2 Open Jig
(BN81-14946A)



Find the left or right side bottom whole and arrow sign on the side.

Depends on the models, there is SCREWS on the bottom. so before lift up the rear cover. make sure unscrew the bottom FIRST!



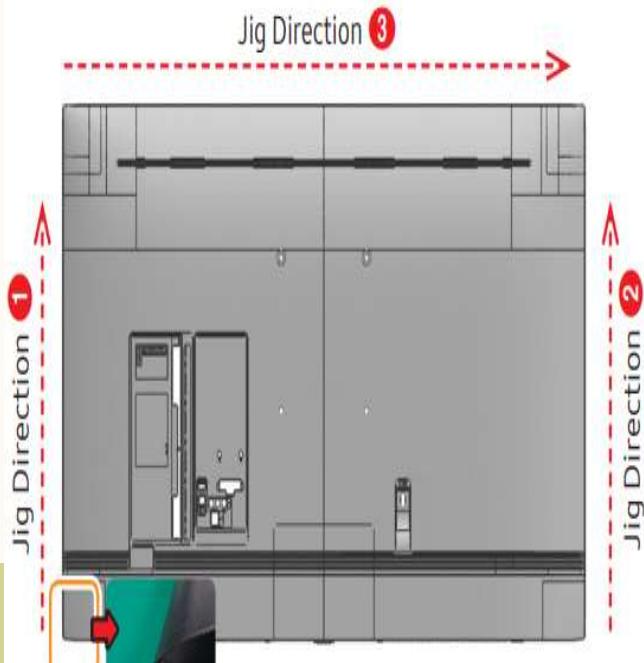
Push it in to arrow, whole



DO NOT PUSH TOO DEEP. IT MIGHT DAMAGE INSIDE PARTS OR BACK CASE WILL CRACK



Hold the bottom and slide out side bottom to top to push it out inside metal wire.

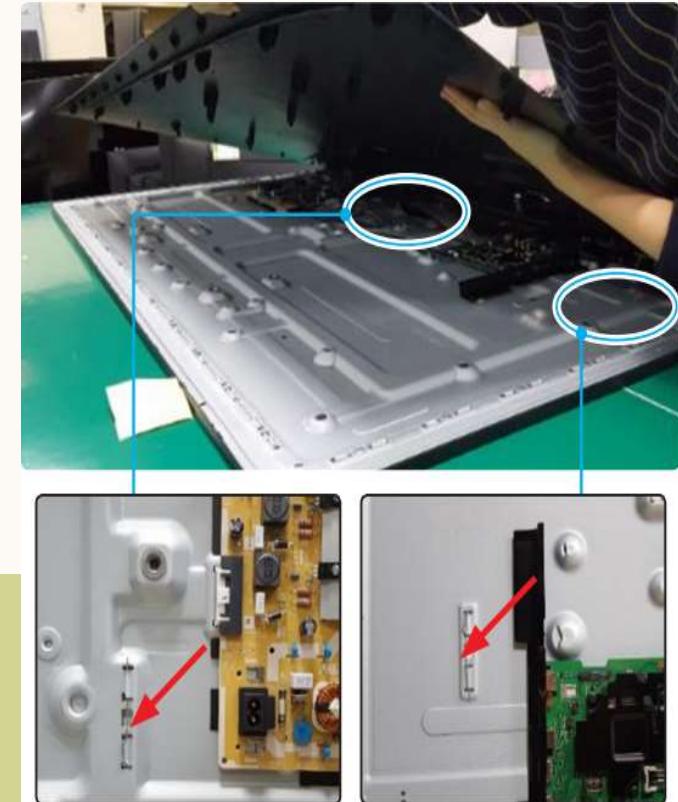


Insert the Open Jig completely into the tab of the rear cover's left side bottom corner and following directions.

1 → 2 → 3



There are Locking Wires inside panel and clips on rear cover.

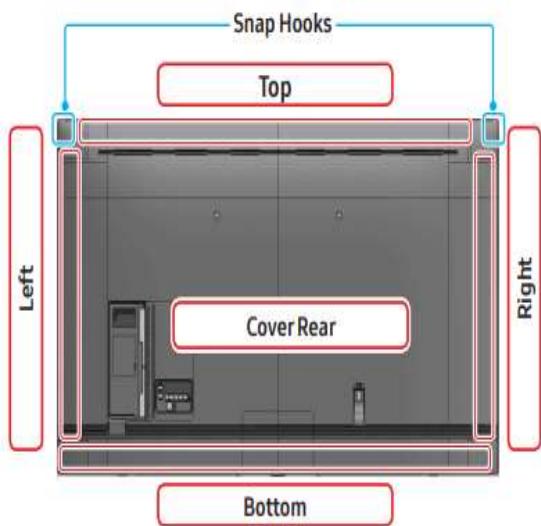


After open both side, Gently lift up the rear cover from the middle to prevent inside clips damaged.

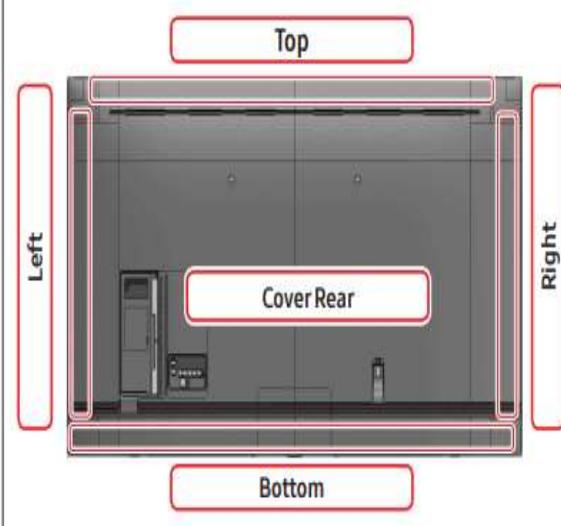
✓ Straighten ALL Locking Wires before reattaching cover.

Locking tabs locations

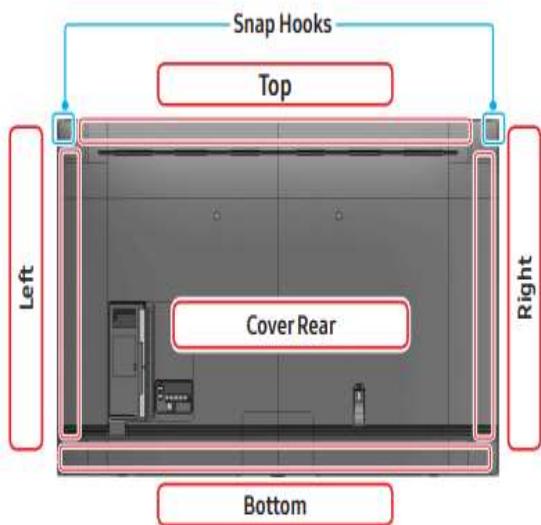
- 58 inches
 - **Snap Hooks : 2 point**
 - Top : 9 point
 - Left/Right : 5 point
 - Bottom : 9 point
 - Cover Raer : 5 point



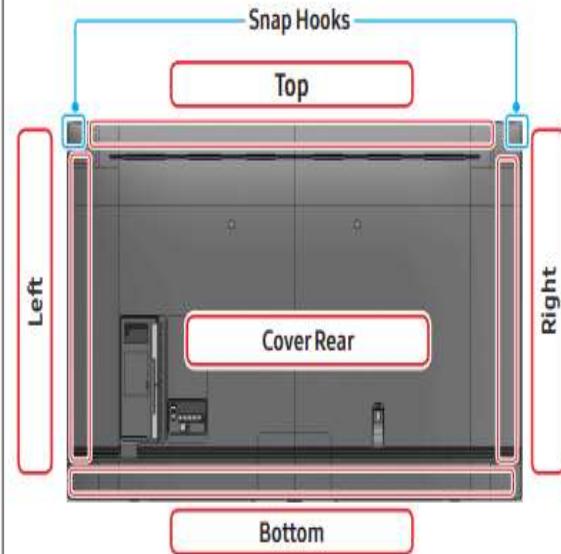
- 70 inches
 - Top : 12 point
 - Left/Right : 6 point
 - Bottom : 12 point
 - Cover Rear : 5 point



- 65 inches
 - **Snap Hooks : 2 point**
 - Top : 10 point
 - Left/Right : 6 point
 - Bottom : 12 point
 - Cover Raer : 5 point



- 75 inches
 - **Snap Hooks : 2 point**
 - Top : 12 point
 - Left/Right : 7 point
 - Bottom : 12 point
 - Cover Raer : 5 point

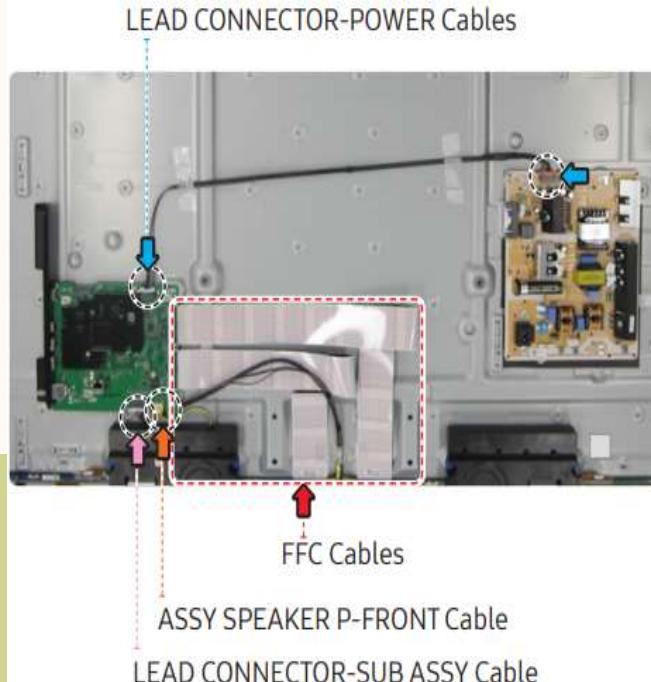


REPLACE MAIN



Remove the Electric tapes ↑

✓ **When assembling the TV, the electric tapes must be applied on the same locations. Please remember to take a pictures where the tapes were first applied.**



Remove the cables

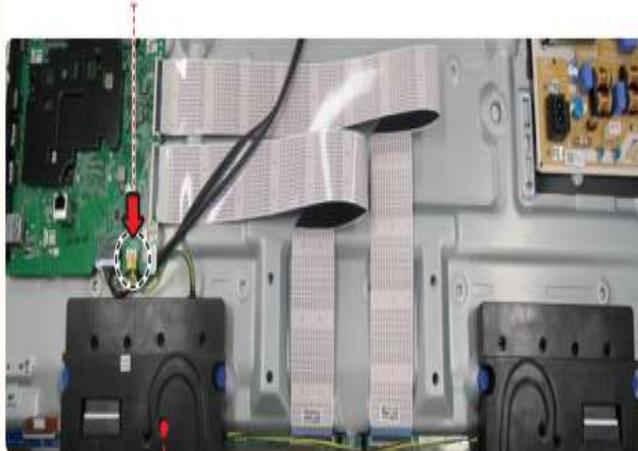
- ➡ LEAD CONNECTOR-POWER Cable (SMPS - MAIN)
- ➡ FFC Cables
- ➡ ASSY SPEAKER P-FRONT Cable
- ➡ LEAD CONNECTOR-SUB ASSY Cable



Remove the Integrated Module (BT/WIFI/IR/FUNCTION)

- ➡ LEAD CONNECTOR-SUB ASSY Cable

ASSY SPEAKER P-FRONT Cable



ASSY SPEAKER P-FRONT



<Hole 4 Points>

Remove the ASSY SPEAKER P-FRONT

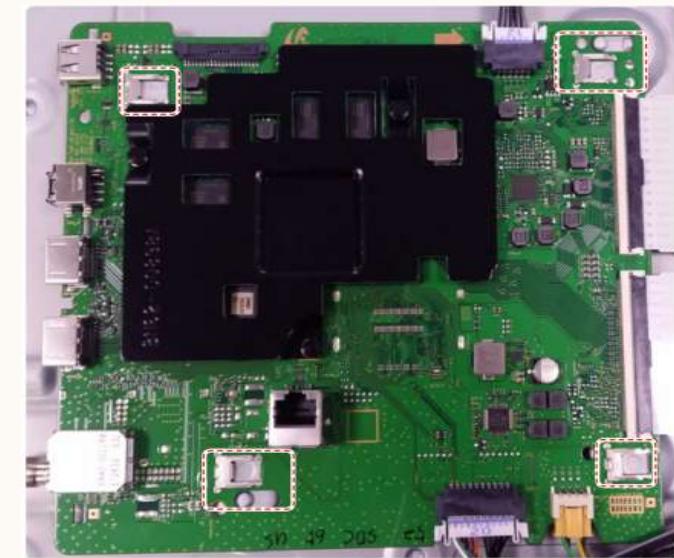
➡ ASSY SPEAKER P-FRONT Cable

● : Assy SPK to Panel Hole 4 Points

58" / 70"



65" / 75"



Slide to the left to release the board

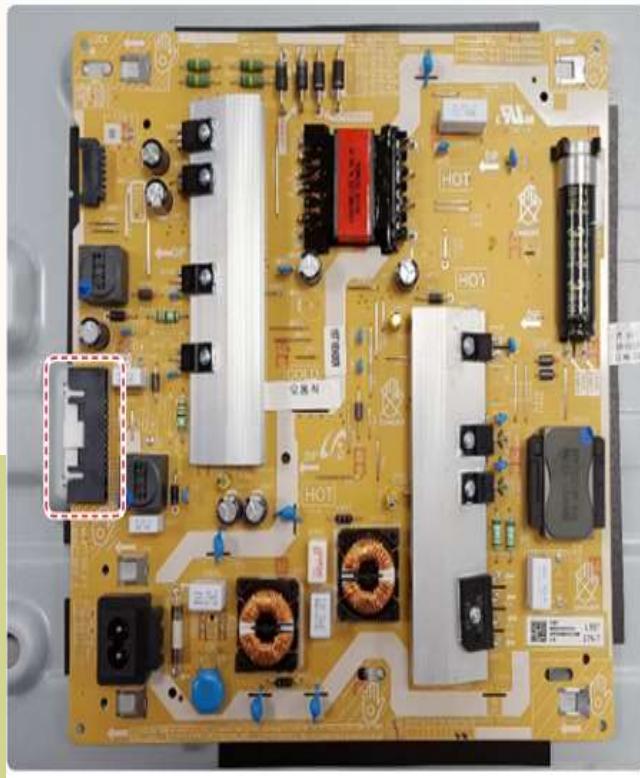
Lift Here to Release lock



Remove the cables from the Main Board

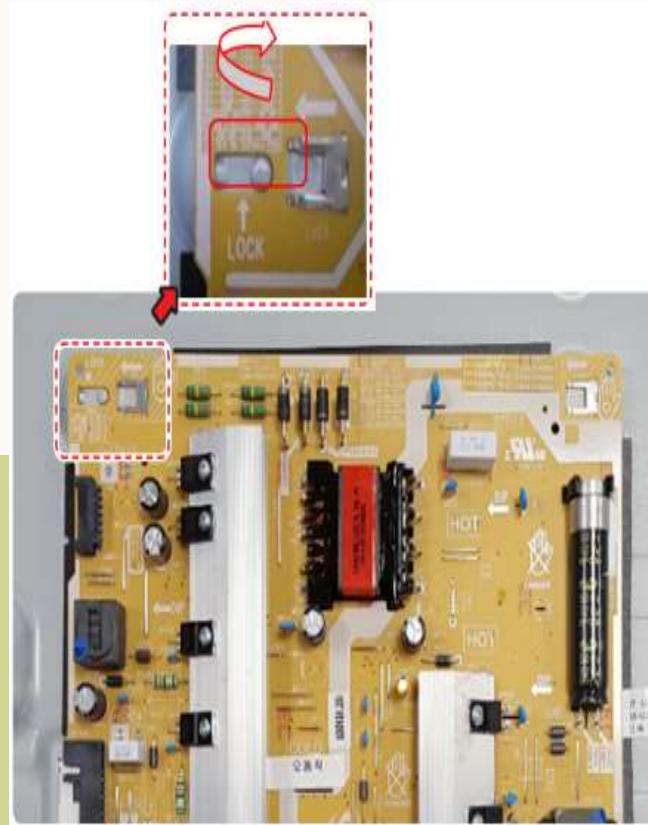
Gently lift up (Top right corner) to release the lock. Use both hands to hold the board and slide to the left to release the board.

REPLASE SMPS

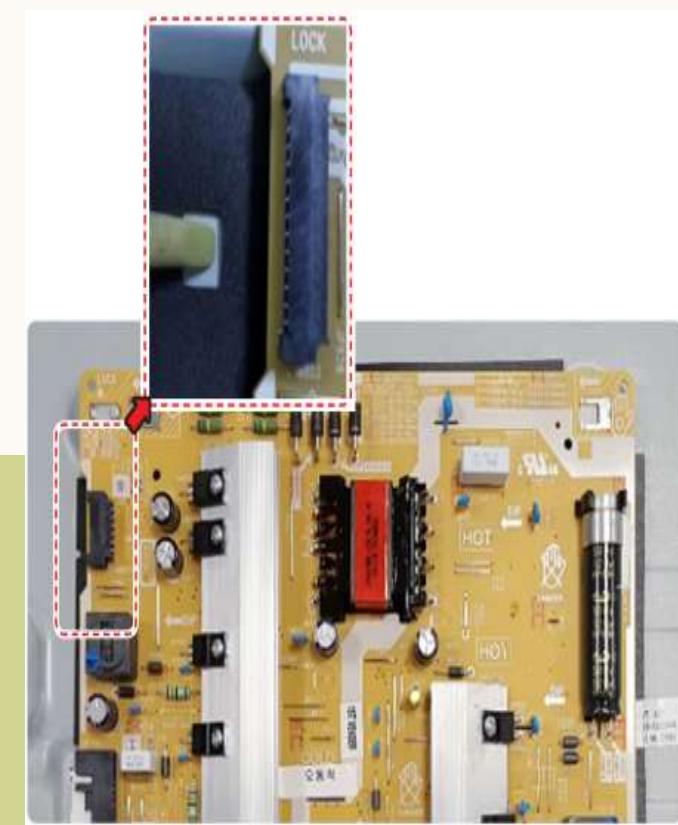


<LEAD CONNECTOR-BLU>

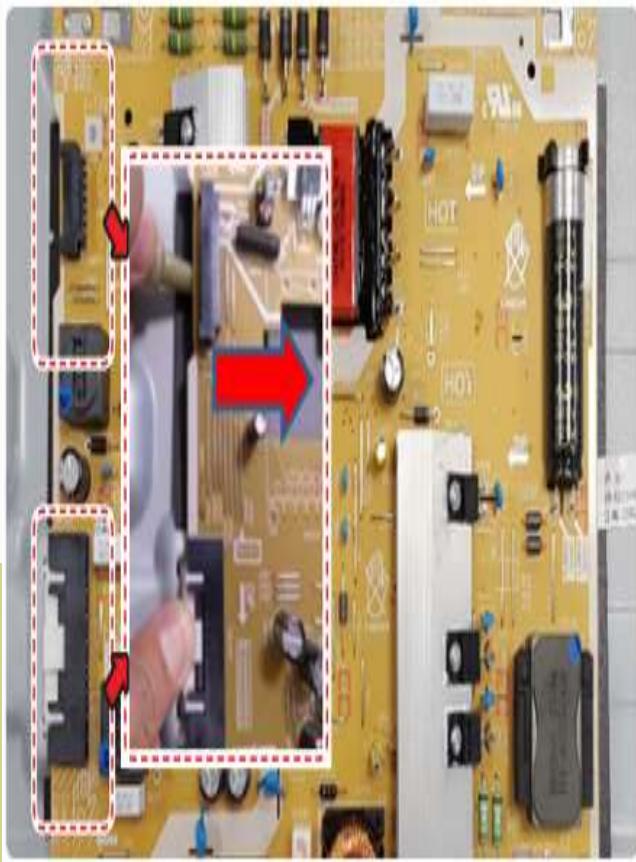
**Push and hold down BLU
connector tab to release it's
panel lock connection.
(NOT ALL MODELS)**



**Lift to release the lock tab on
upper left side of Board.**



**Locate a notch in insulation sheet.
(NOT ALL MODELS)**

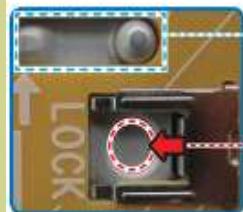


**Reassembly procedures are in
the REVERSE order of
disassembly procedures!**

**Use Open Jig in notch to help
release & smoothly slide SMPS
to the Right while pushing BLU
Tab & Releasing Lock Tab
(NOT ALL MODELS)**

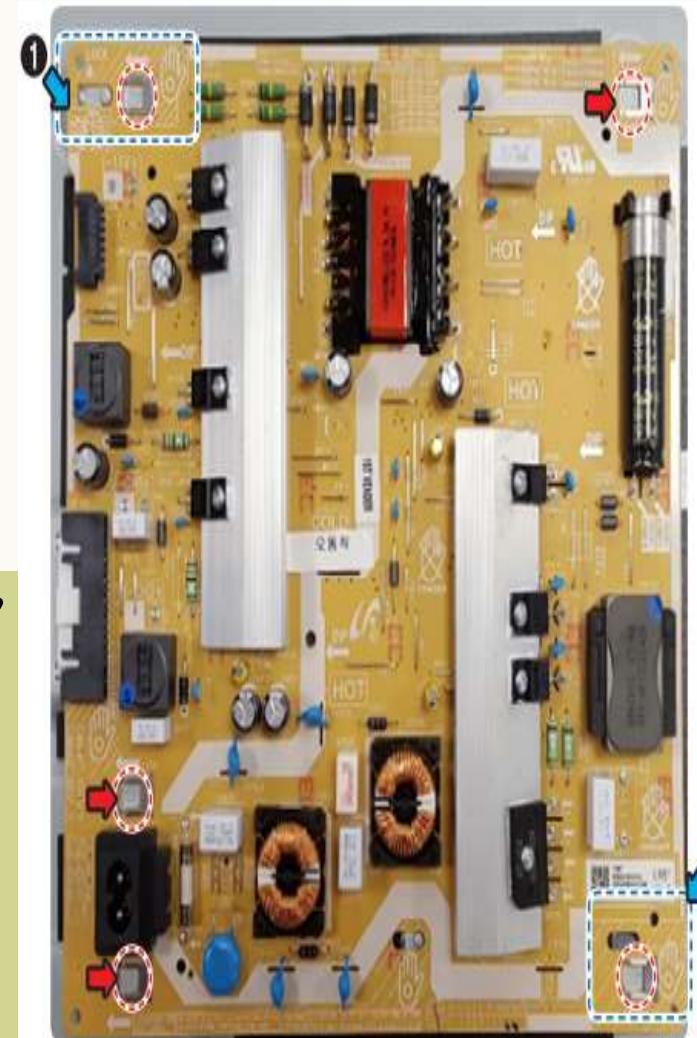


Gently lift the ① edge to unlock the SMPS board.



- ① Lift up (2EA)
- Locking ➡
- ② Mounting slots (5EA)
- Fixing Hole ➡

Remove the board by holding it with both hands and sliding it to the Right (② ➡).



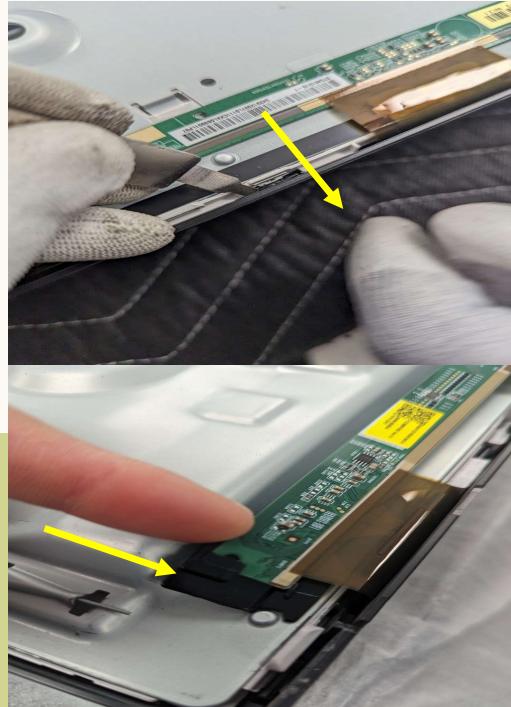
Slide to the right to release the board ➡



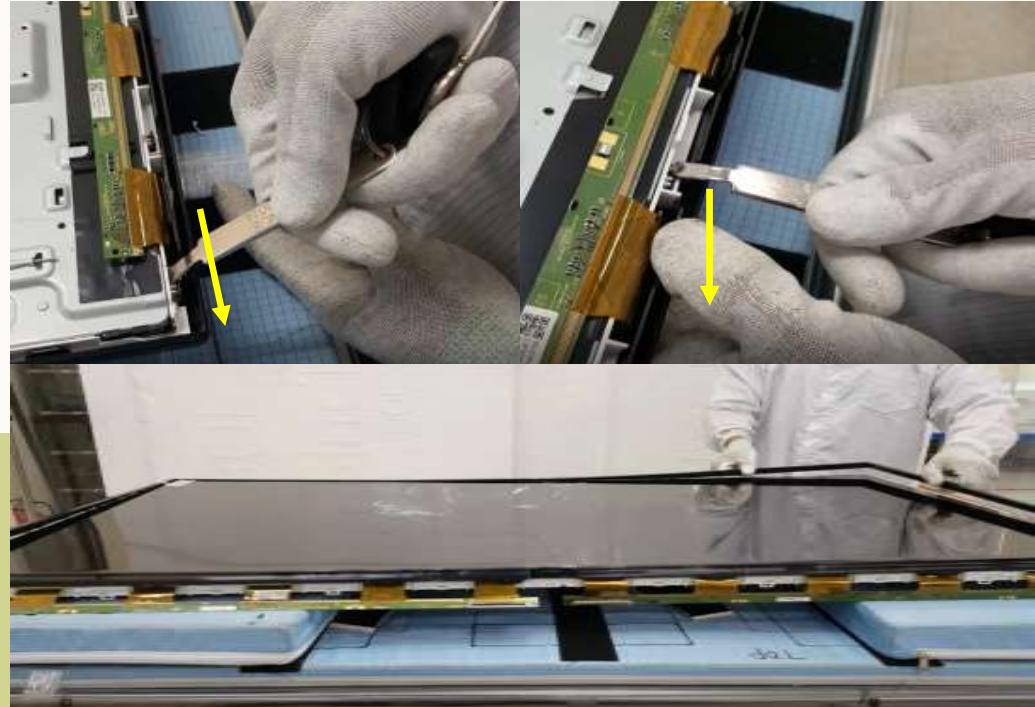
OPEN CELL REPLACEMENT



**Open Jig
(Delphinus BH81-
00001A)**



**Push out Source PCB
(Normal type)**



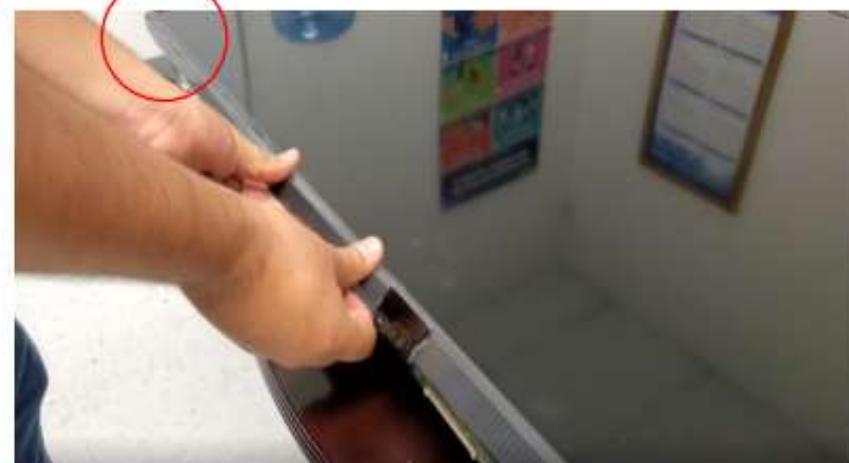
**Use Open Jig to separate the bezel from
PTC (Plastic Top Chassis) the chassis
(>>> Push aside hook)**

① After removing tapes and cables, TV face up.



※ Caution : There is a hook in both side according to models. You should check if there is a hook or not.

② Remove the decoration by pulling out the edge of the deco.





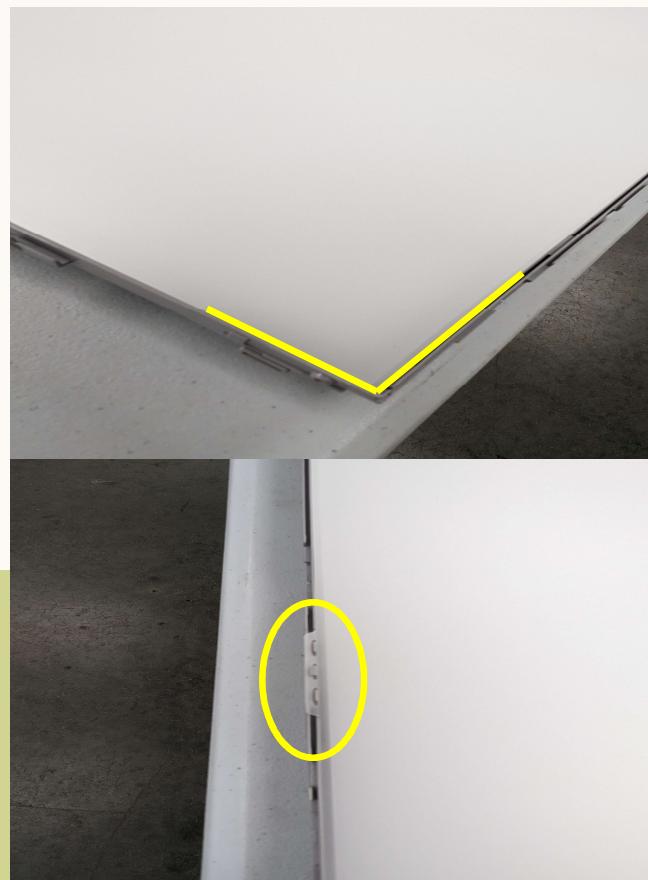
Use Suction Jig (BN81-15851A) to remove the Open Cell



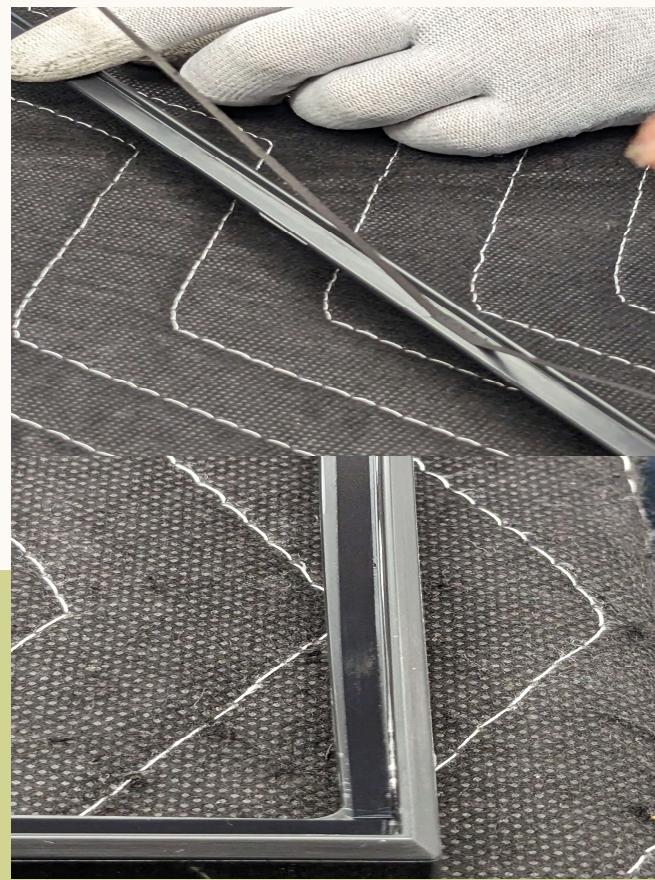
**Suction the BOTTOM of New cells
and flip over the TOP cell and
peel off top films.**
**During peel off films make sure to
DO NOT TOUCH the Open Cell**



**Before install new Open Cell using
Duster remover to remove dust
from prism / diffuser sheet.**
DO NOT USE HANDS!

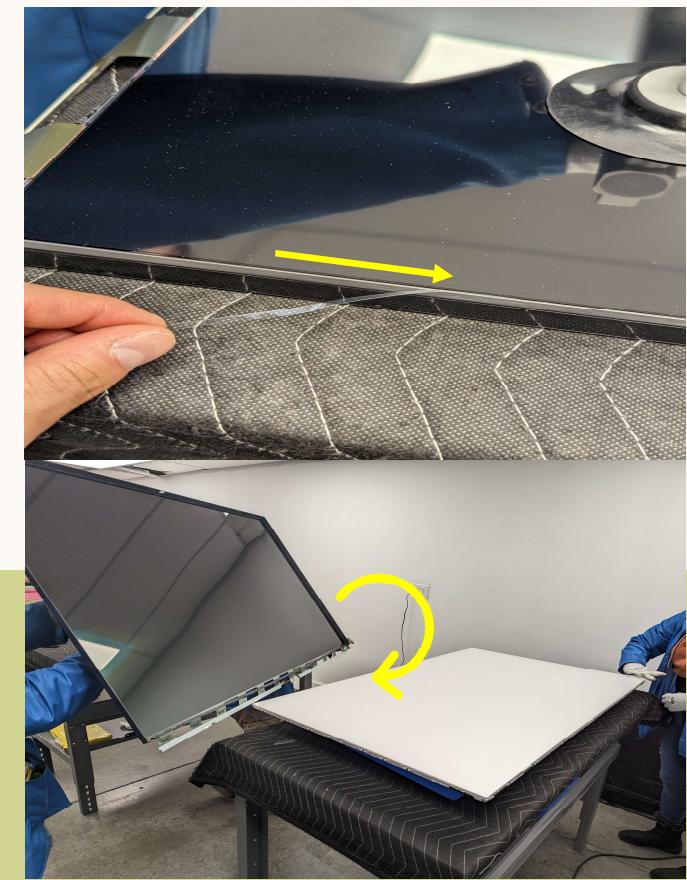


Before putting Open Cell to top of Diffuser Sheet. Make sure to sheet is on proper line up and hook on the bezel.



Remove old double tape and use alcohol pads to wipe out sticky from chassis and put new tape on.

Some models don't use double tape



Put Open Cell on chassis and peel off tape film and reassembly procedures are in the REVERSE order of disassembly procedures!

LED BAR REPLACEMENT

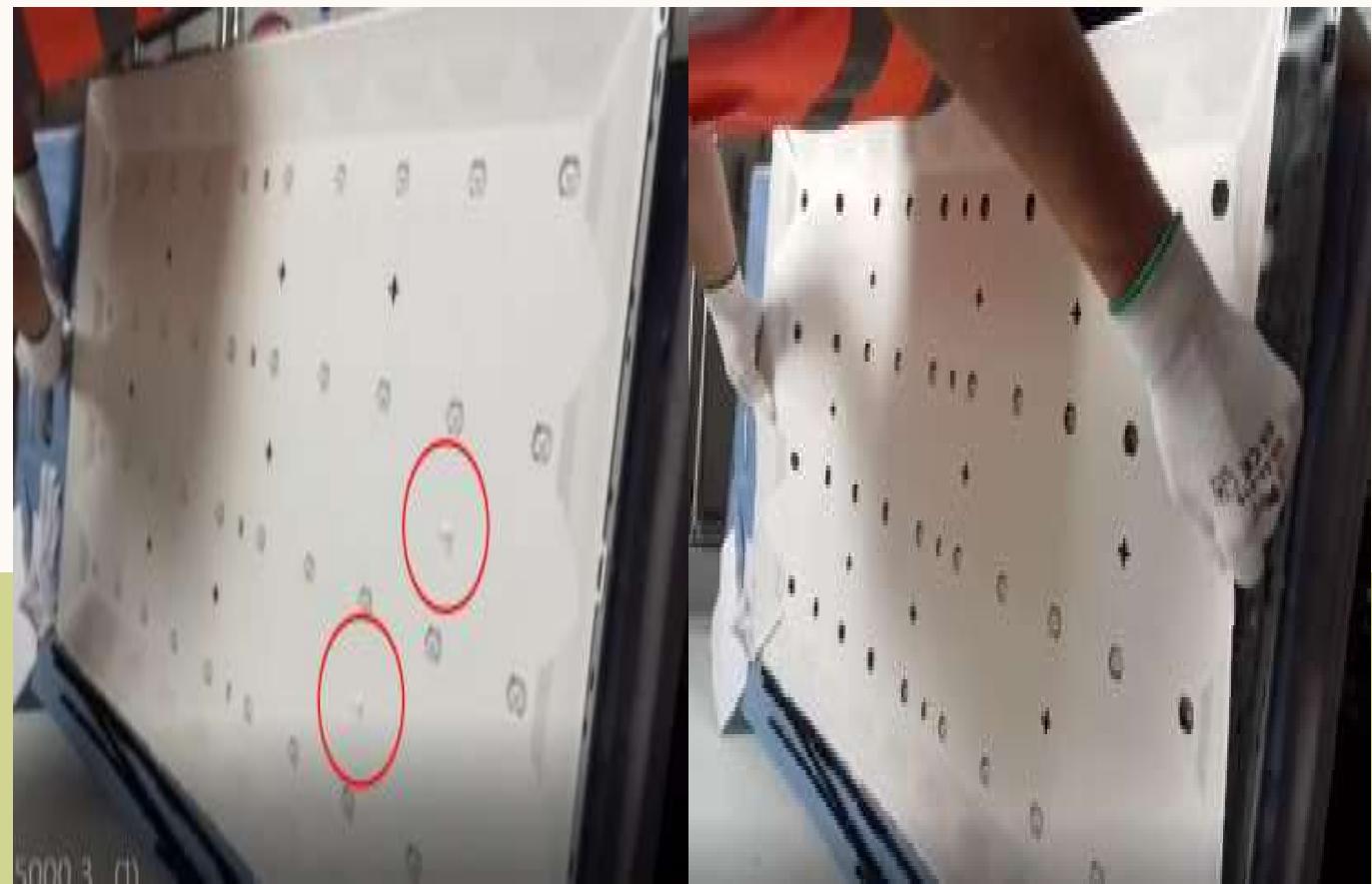


**Use Open Jig to separate the bezel from
PTC (Plastic Top Chassis) the chassis
(>>> Push aside hook)**

Remove the PTC starting from the bottom, continue with the sides and finishing with top.
(You can find hooking point.) and Open Cell with suction jig.

Remove the Prism / Diffuser Sheet and disassemble the frame-chassis rear all sides

Remove LGP



Edge LED type : Remove reflector sheet

Direct LED type : Remove support plate then remove reflector sheet

- Remove support plate and reflector sheet

(The shape of support plate is different by panels)

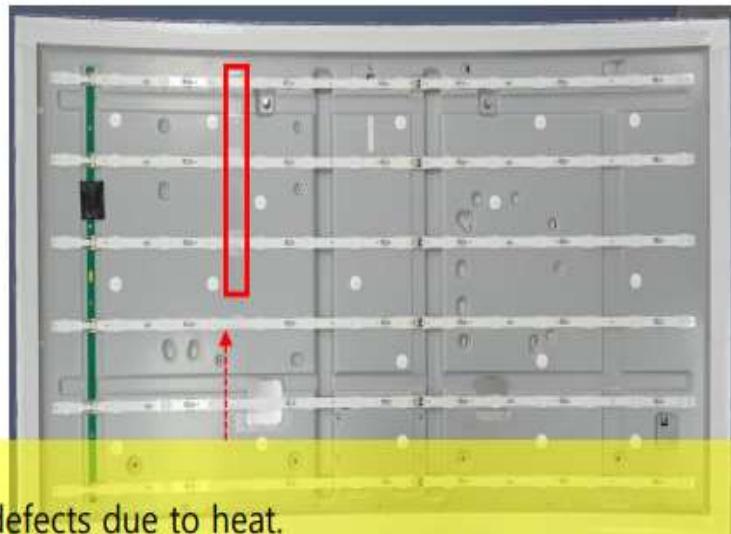


Disconnect the cable and remove Old LED BAR



**Remove double tape's residue and
after that attach double tape on
the LED Bar and stick LED Bar**

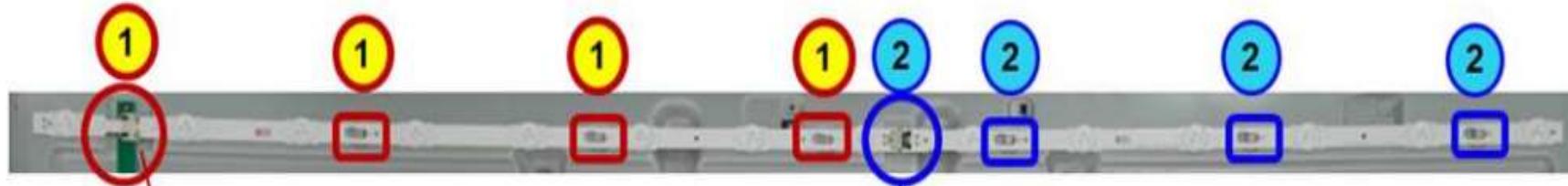
- Disconnect connector and replace LED BAR (only defected LED BAR)



※ Caution

- * LED have the most defects due to heat.
- When replacement, You must use a New Filament tape for protection against heat.
- If a gap occurs between the PCB and Bottom chassis, the Filament tape must be added

* In case of model using two LED BAR with sliding assembly, assemble LED BAR in order.



SET UP (FACTORY MODE)

■ Setting TV into Factory Mode



Factory Remote

1. Power TV ON.
2. Select TV Source.
3. **Info → Factory.**
4. Use **MENU** for return.

AA81-00243A
(Service Remotes)



Samsung IR Remote

1. TV Power Standby.
2. Press as follows.
 - Remote Button

AA81-00243B
(Recommended)

NTSC MUTE → 1 → 8 → 2 → POWER

PAL INFO → MENU → MUTE → POWER

■ Important Items

- **Option** (must set Option Bytes when replacing Main Board.)
- **Option → Factory Reset** (returns TV to out of box condition.)
 - Must perform when replacing Main Board or Full One Connect)
- SVC → Info → **ER Count** (Important to check for errors.)
 - Resets to 0 with Factory Reset.
 - ✓ Check before resetting TV
- SVC → **Test Patterns** (Use to check / troubleshoot) videos errors.
- Control → **EDID** (Use to Reset HDMI Operational Errors)

Performing Factory Reset

1. Enter **Factory Mode**.
2. Select **Option > Factory Reset**
3. TV will power off.
4. Perform **ALL TV Settings**. (New out of box condition)

SET UP (REPLACING MAIN BOARD)

When replacing Main Board, certain values needs to be manually input in Factory menu to complete the replacement.

■ Steps to Replace Main Board

1. Enter Factory Menu (Use Factory Remote only).
 - Power TV on : Select **TV Source > Info/Factory > Option**
2. Change Each value according to the TV Model.
 - **Type, Writing Type, Local Set, SW Model, Front Color, Model Code** must be set to correct value.

Setting Option Bytes

1. Enter Factory Mode with **Service Remote** (only).
2. Check Option Byte Table located on **GSPN** (Fast Track or Tips).
3. Select **Option**.
4. Select each item to change.
5. Can Use new **Writing Type** to enter model.
(if entered wrong it will not change.)
6. Soft power TV Off to load.

Factory Reset	
Type	65A6AUAGT
Writing Type	
Local Set	US
SW Model	UTU700D
Front Color	UTU7000K-U65TK1
Writing Front Color	
Model Code	UN65TU700DFXZA
TUNER	-
Ch Table	NONE

Check Panel label (located in the back chassis of panel) and choose same Type code from the list.



<Panel Label>

Home	Updates	Exit
Factory Reset		
Type	65A6AUAGT	
Writing Type		
Local Set	US	
SW Model	UTU700D	
Front Color	UTU7000K-U65TK1	
Writing Front Color		
Model Code	UN65TU700DFXZA	
TUNER		

55A1QU7QN	55L1QU7QN
75L1QU7QN	55A1QU8XN
55L1QU7QN	55A1QU7QN
65A1QU9TR	65L1QU7QN
65L1QU9TR	65L1QU8XN
65A1QU8XN	65L1QU8XN
55A6AUONNN	82A1QU9TR

<Type list in the Factory Menu>

Writing Type

- For Quick Entry of Type.
 1. Confirm **Type** from Option Byte Table for your TV.
 2. Select **Writing Type**.
 3. "Set Panel Type" appears.
 4. Enter exact Model Type using cursors.
 5. Select **OK**.
 6. **Writing Type Success** appears in the Option Table.
 - If the model Type you entered doesn't exist it will not load.
 - If you entered over 10 digits an Information screen box is full appears.
 7. Complete rest of Option Byte Table info.
 8. Press soft power off with remote to enter settings.



NOTE

If you made a mistake you can unplug the TV to prevent info from changing options.

Home Updates Exit

Factory Reset

Type 65A6AUAGT

Writing Type

Local Set US

SW Model UTU700D

<Select Writing Type>

Factory Reset
Type ASSA6AUAGT
Writing Type
Local Set US
Set Panel Type:
65A6AUAGT
1 2 3 4 5
Q W E R T
A S D F G
ENG

<Set Writing Type>

Home Updates Exit

Factory Reset

Type 65A6AUAGT

Writing Type Success

Local Set US

SW Model UTU700D

<Writing Type Success>

Type 65A6AUAGT
Writing Type
Local Set US
Information
The box is full. You can't enter any more text.
OK
1 2 3 4 5
Q W E R T
A S D F G
ENG

<Writing Type digits exceeded>

Local Set

- Set according to Local region(country).

SW Model

- Check Label Rating of the TV (located on the **Rear Cover**).
 - SW Model is digits **after "/" in Version No.**
 - Choose same SW Model code from the list.



<"SW Model" in Label Rating>

Home	Updates	Exit
Factory Reset		
Type	65A6AUAGT	
Writing Type		
Local Set	US	
SW Model	UTU700D	
Front Color	UTU7000K-U65TK1	
Writing Front Color		
Model Code	UN65TU700DFXZA	
TUNER		
URU7300R	QNZ6F	
QRQ60T	QNZ75C	
URU8000F	QRQ80C	
QRQ70D		
QNZ8FB	UTU700D	
URU7000JJ	QNZ7F	
URU7100H	QRQ900Z	
	QNZ90B	

<SW Model list in the Factory Menu>

Front Color

- Check Label Rating of the TV (located on the **Rear Cover**).



<"Front Color" in Label Rating>

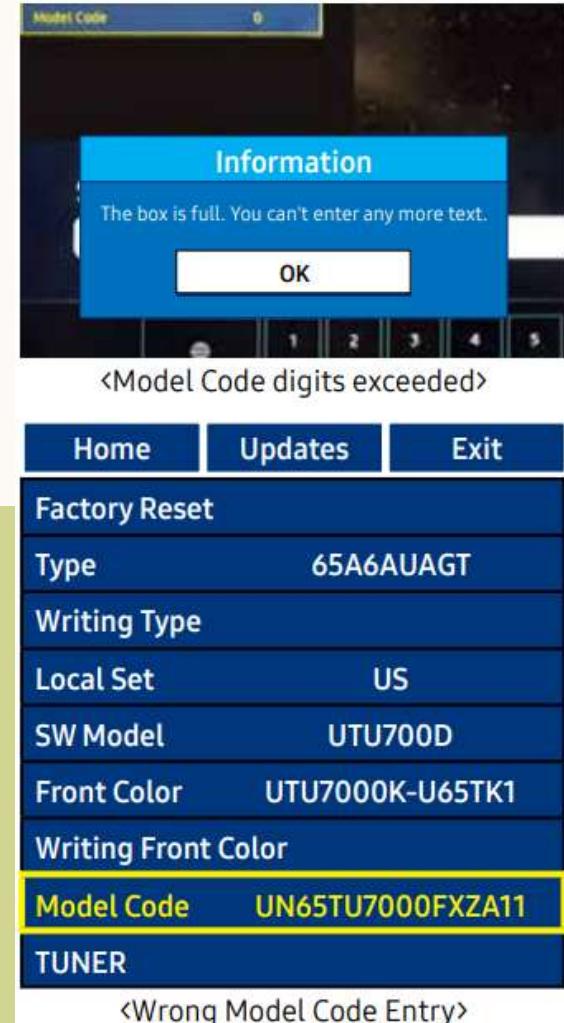
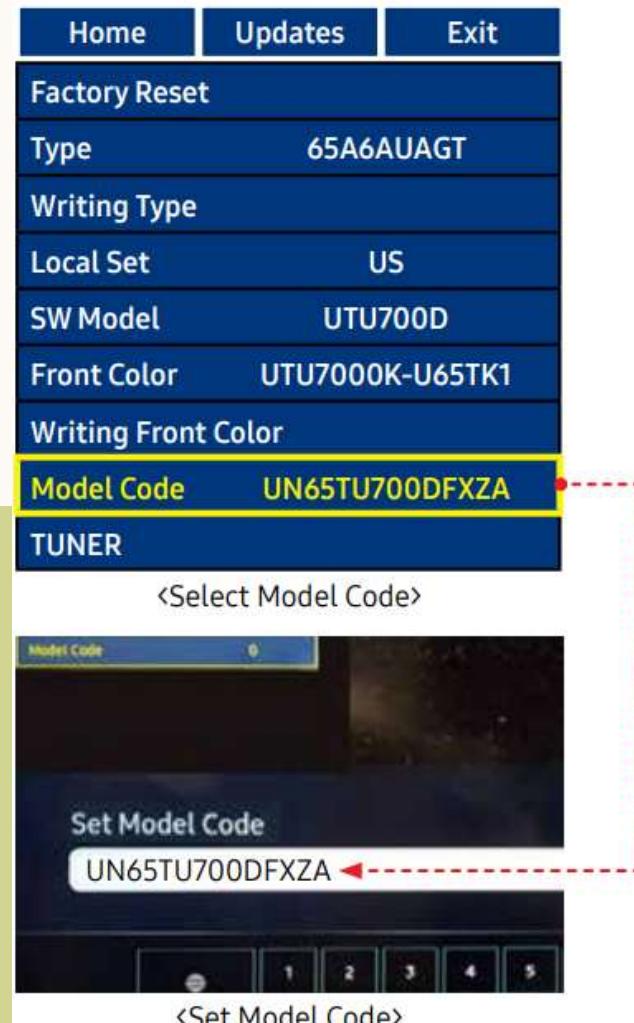
Home	Updates	Exit
Factory Reset		
Type	65A6AUAGT	
Writing Type		
Local Set	US	
SW Model	UTU700D	
Front Color	UTU7000K-U65TK1	
Writing Front Color		
Model Code	UN65TU700DFXZA	
TUNER		
QTQ80D-Q49TD1	QTQ950SA-Q85TA1	
QTQ80D-Q55TD1	QTQ800B-Q65TB1	
QTQ80D-Q65TD1	QTQ800B-Q75TB2	
QTQ80D-Q75TD1	UTU7000K-U65TK1	
QTQ80D-Q85TD1	QTQ60F-Q43TF1	
QTQ90C-Q55TC1	QTQ60F-Q50TF1	
QTQ90C-Q65TC1	QTQ60F-Q55TF1	

<Front Color list in the Factory Menu>

Model Code

- For Quick Entry of Model Code.

1. Confirm **Model Code** from Option Byte Table for your TV.
2. Select **Model Code**.
3. "Set Model Code" appears.
4. Enter exact Model Code using cursors.
5. If you entered over 19 digits an **Information** screen **box is full** appears.
 - **IMPORTANT:** It will accept wrong model code, be sure to enter correct code
6. Complete rest of Option Byte Table info.
7. Press soft power off with remote to enter settings.



■ SVC > Info > ER Count

Check each item listed.

WD Count	0	FRC3D Emergency Reboot On/Off	0	7915 DETACHMENT COUNT	0
AR Count	0	FRC3D ER Count	0		
RS Count	0	TCON PMIC Fault Count	0		
RS-FG Count	0	Fan Error Count	0		
RS-Launch Count	0	TV2OC Serdes Reset Count	0		
RS-BG Count	0	OC2TV Serdes Reset Count	0		
WIFI NO DETECTION COUNT	0	AOC Diagnosis			
WIFI DETACHMENT COUNT	0	Serdes History			
BT NO DETECTION COUNT	0	Serdes History Reset			
BT DETACHMENT COUNT	0	Serdes WatchDog On/Off	OFF		
BT MGT OPEN FAIL COUNT	0	Vcc Fall Count	0		
BT MGT DISCONNECT COUNT	0	HDMI No Signal			
BT TV AUDIO DROP	0	HDMI Blinking			
BT AUDIO TIMER EXP	0	HDMI Color Space			
Camera ER Count	0	7915 NO DETECTION COUNT	0		

■ Important Items

- ✓ WD Count: Watch Dog
 - Hardware related issue.
- ✓ AR Count: Auto Reset
 - Software (i.e. Apps) related.
- ✓ WiFi Count: Check all listed items
- ✓ BT Count: Check all listed items
- ✓ VCC Fail Count
 - Check all listed items.