Service
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Simplified

Service Manual

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all DELL Company Equipment. The service procedures recommended by DELL and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. DELL could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, DELL has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by DELL must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.
Hereafter throughout this manual, DELL Company will be referred to as DELL.

WARNING
Use of substitute replacement parts, which do not have the same, specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from DELL. DELL assumes no liability, express or implied, arising out of any unauthorized modification of design.

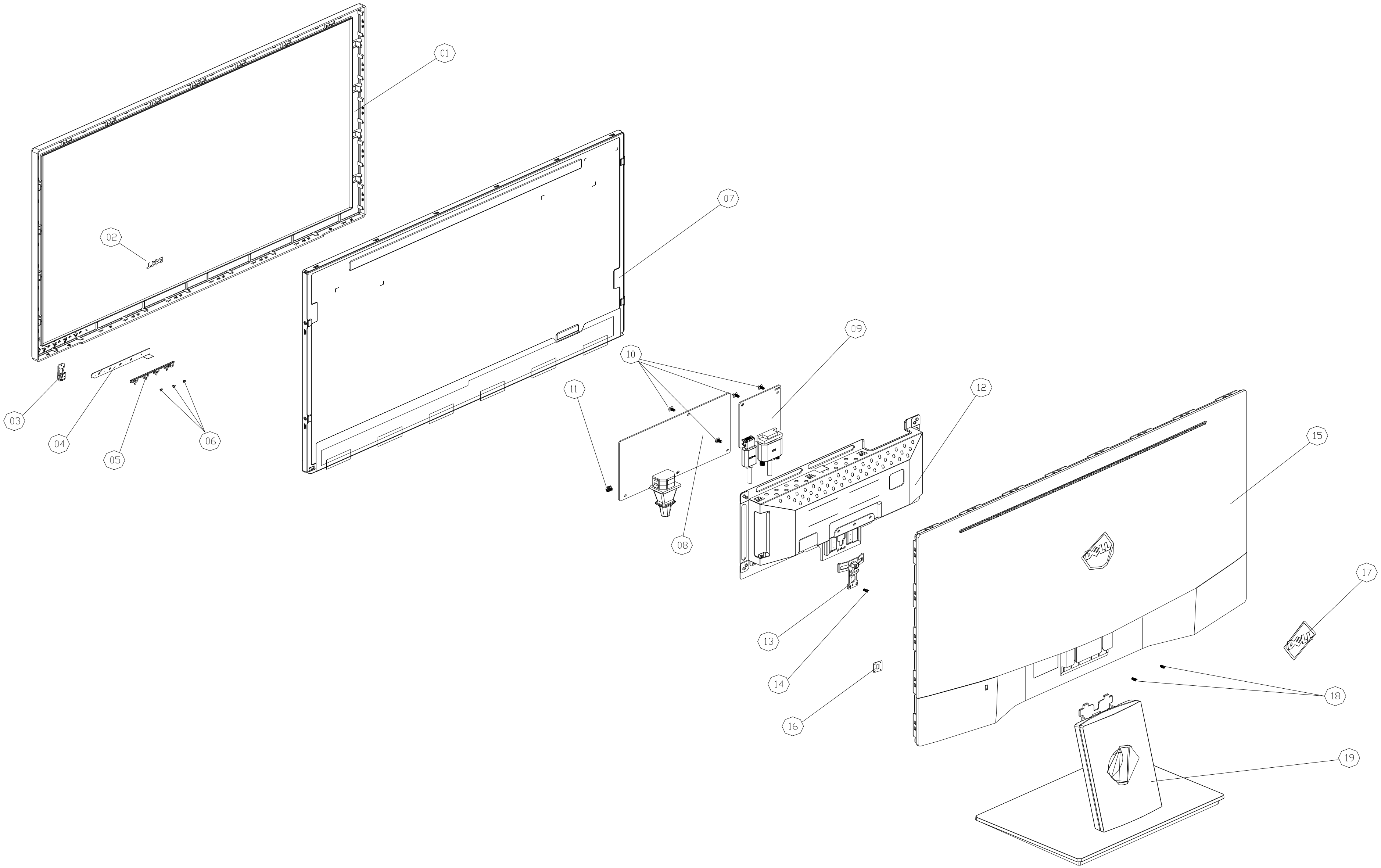
Servicer assumes all liability.

FOR PRODUCTS CONTAINING LASER:
DANGER-Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
CAUTION -The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

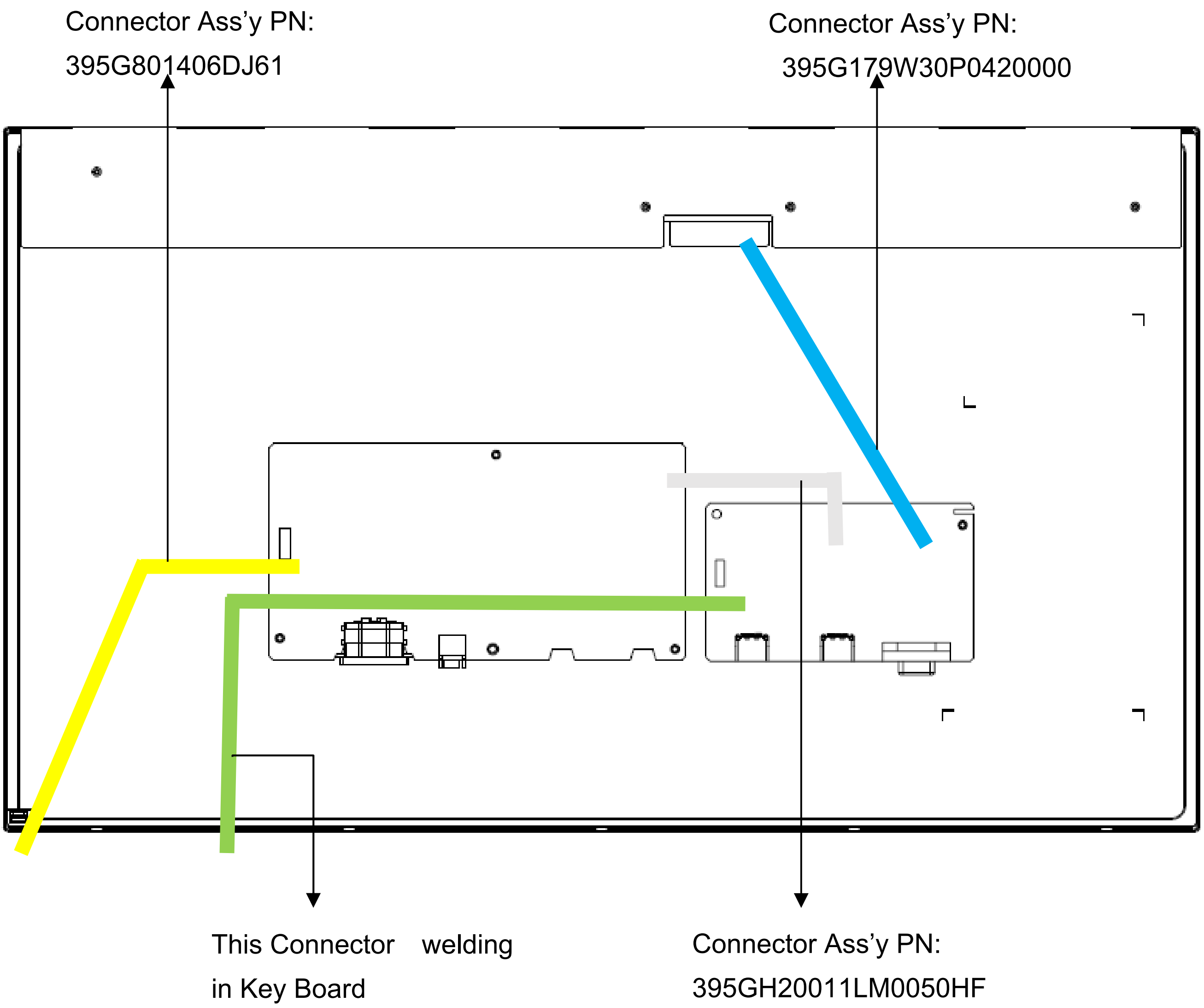
Take care during handling the LCD module with backlight unit
-Must mount the module using mounting holes arranged in four corners.
-Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
-Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
-Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
-Make certain that treatment person’s body is grounded through wristband.
-Do not leave the module in high temperature and in areas of high humidity for a long time.
-Avoid contact with water as it may a short circuit within the module.
-If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

1.Exploded view diagram with list of items



No.	Part No.	Description	Q'ty
1	Q34G82010VHA1L0201	BEZEL	1
2	Q23G315570000400CN	LOGO	1
3	Q33G0692ALN01L0100	KEY_POWER	1
4	KEPCGQZ3	KEY_BOARD	1
5	Q33G06930VH01L0100	KEY_FUNCTION	1
6	0Q1G6019 1	SCREW	3
7	750GBN236GEK52M0DL	Panel	1
8	PLPCJE291MQD1	ADAPTER BOARD	1
9	CBPRNC1DLQ1	MAIN BOARD	1
10	0D1G1030 6120	SCREW D3 6	4
11	0M1G1740 8120	SCREW M4 8	1
12	Q15G246550100000GH	MAINFRAME	1
13	Q33G0694AEF01L0100	KEY	1
14	0Q1G 130 6120	SCREW Q3 6	1
15	Q34G82020VH0DL0130	REAR_COVER	1
16	Q15G0233 2	MAINFRAME	1
17	Q23G315570000500CN	LOGO DELL 27	1
18	0M1G3030 4 47 CR3	SCREW P3 4	2
19	Q37G055501100000ML	stand-base ass'y	1

2.Wiring connectivity diagram



3. Mechanical Instruction

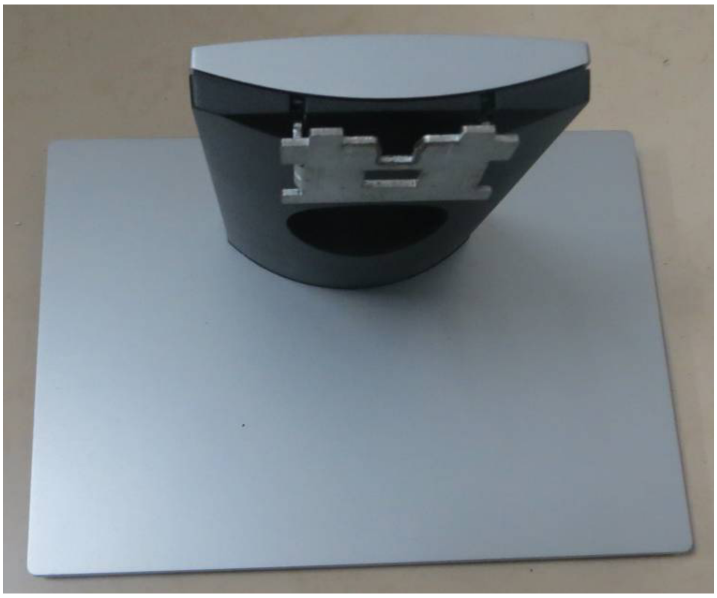
Tools Required

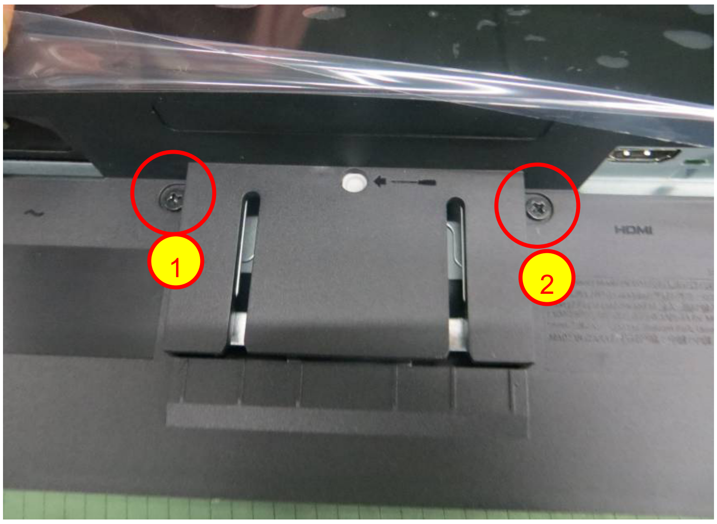
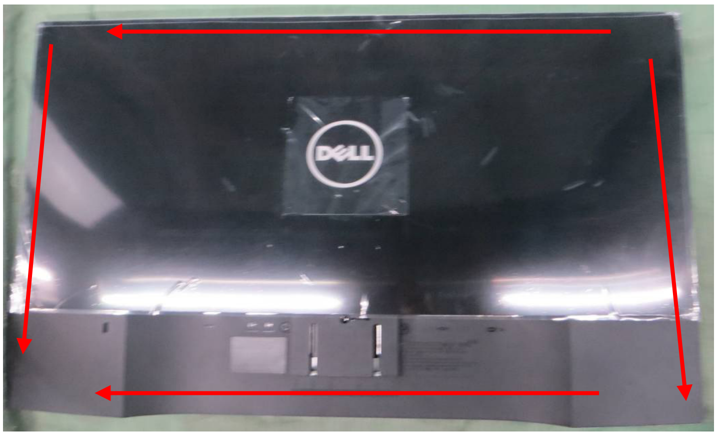
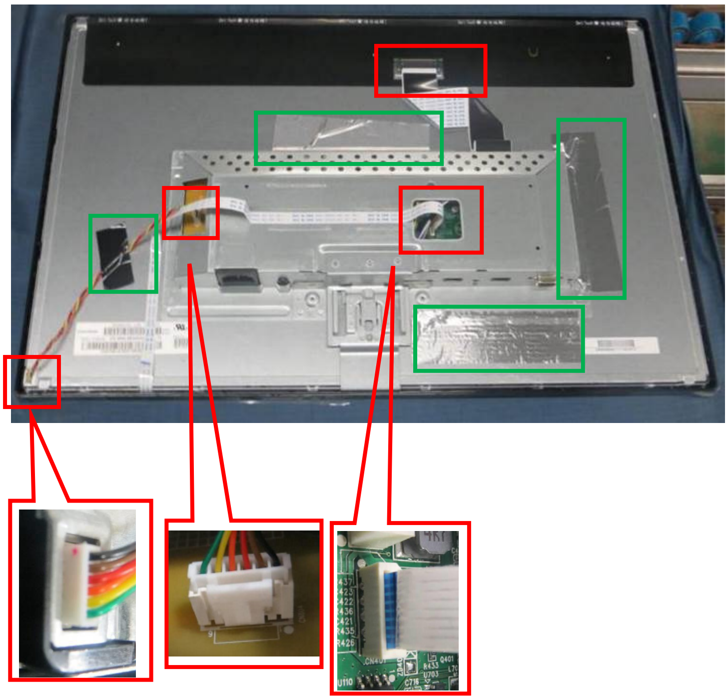
List the type and size of the tools that would typically can be used to disassemble the product to a point where components and materials requiring selective treatment can be removed.

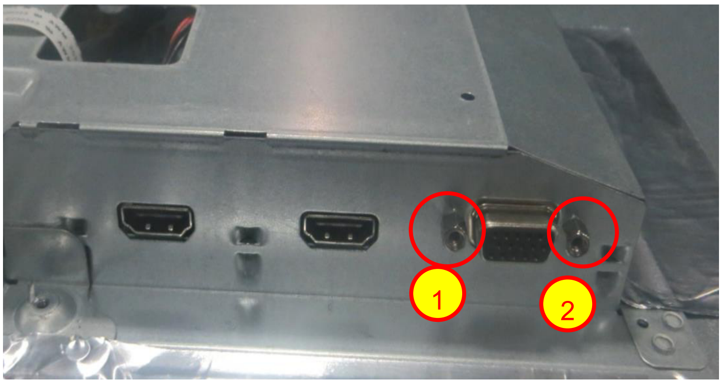
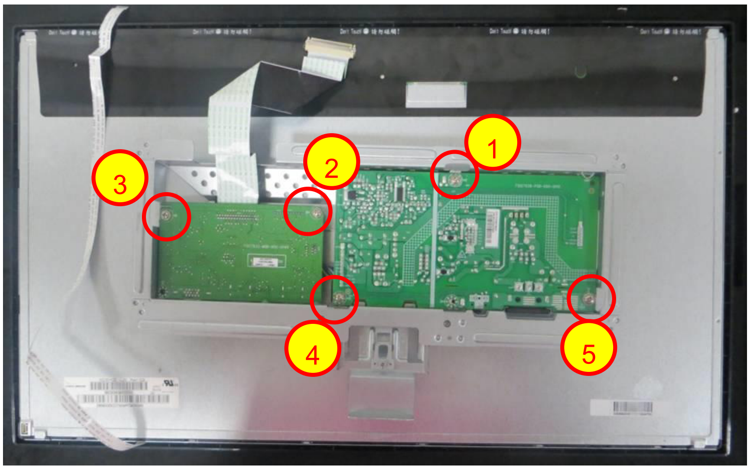
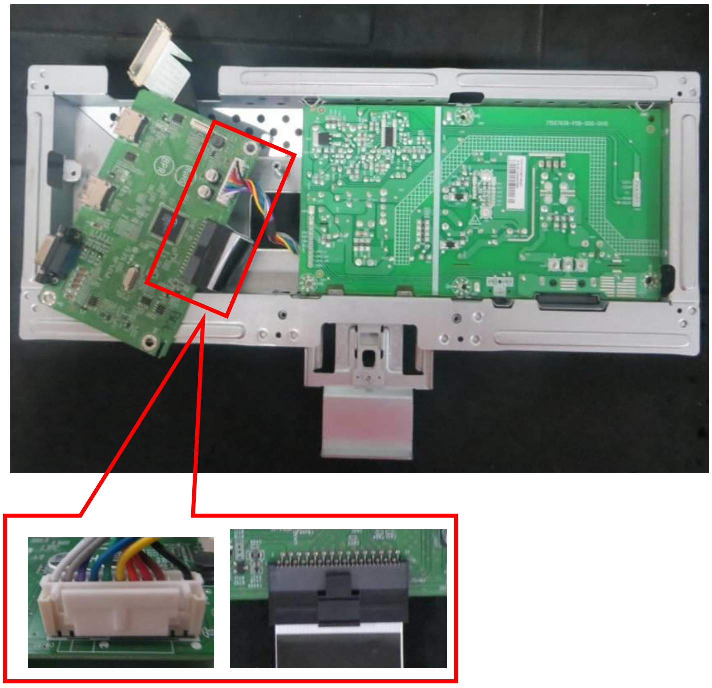
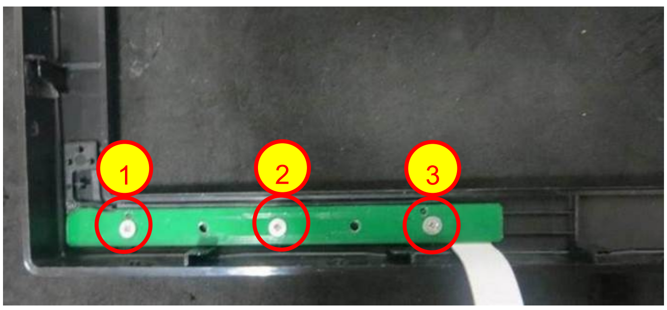
Tool Description:

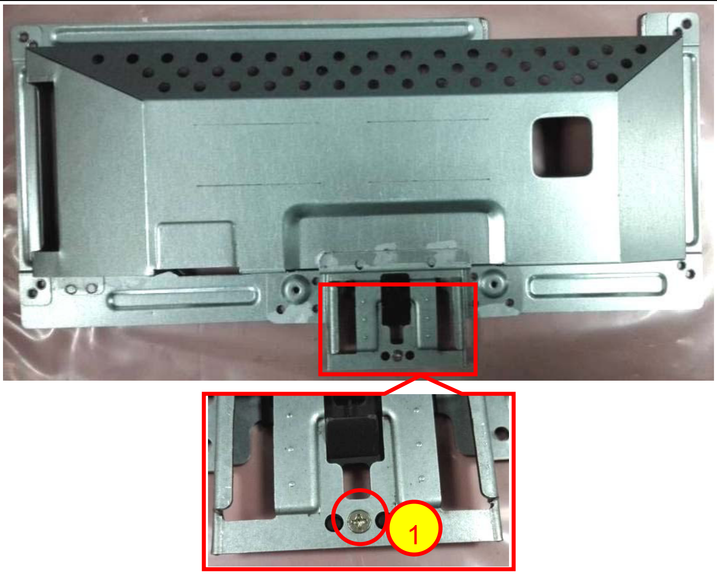
- Phillip-head Screwdriver
-Hexagonal head Screwdriver
- Penknife

3.1 Disassembly Procedures:

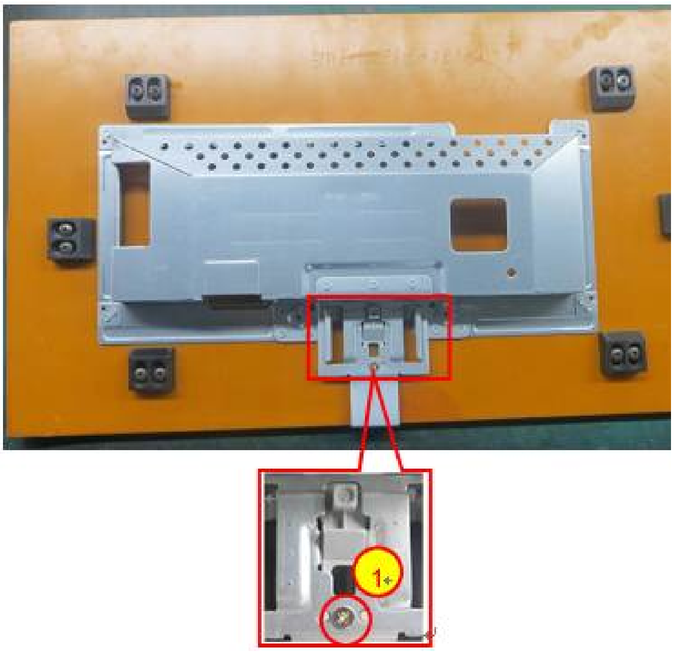
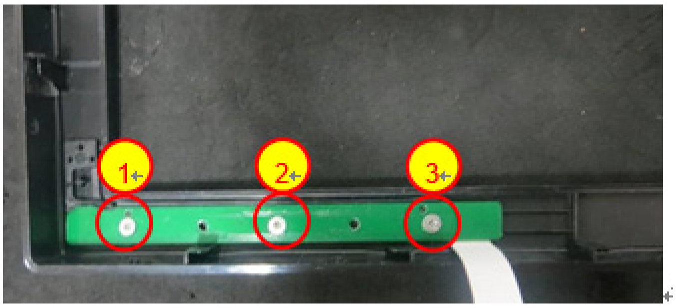
Step	Figure	Remark
S1. Before disassemble		Turn off power, Unplug external cables from product
S2.Remove the STAND-BASE ASS’Y	 	To remove the stand: 1. Wedge your fingers Press and hold the stand release button. 2. Lift the stand up and away from the monitor. Note: To prevent scratches on the LCD screen while removing the stand, ensure that the monitor is placed on a soft, clean surface.

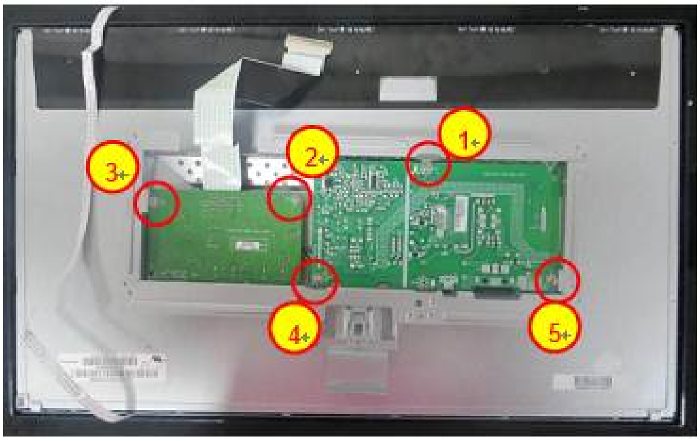
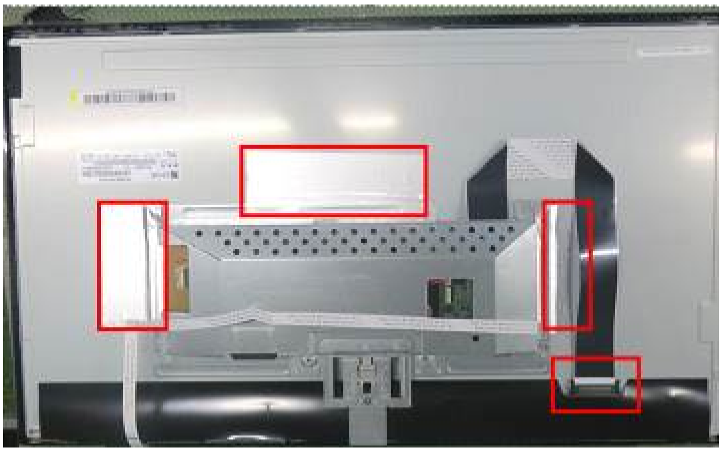
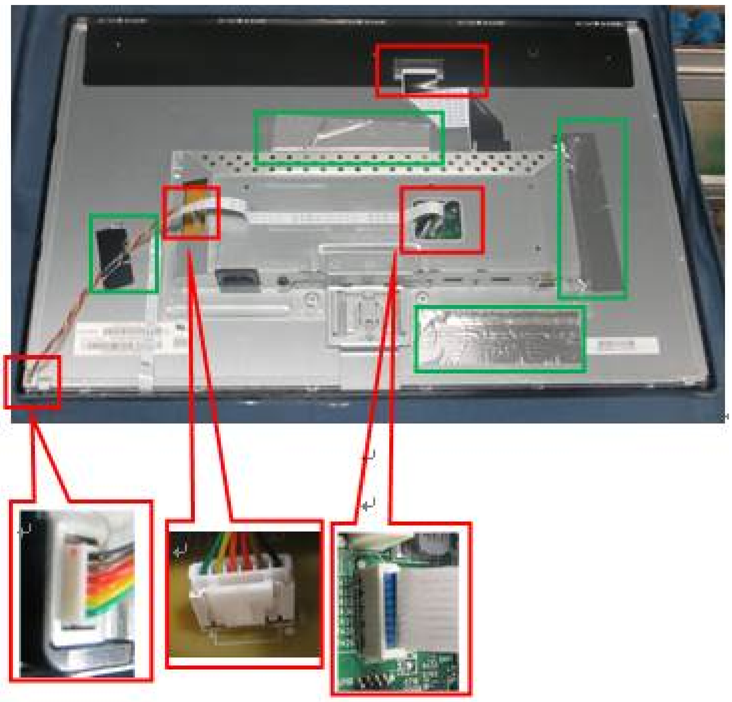
S3.Remove the REAR COVER	 	Use a Philips-head screwdriver to remove 2 screws for unlocking mechanisms. (No.1~2 screw size=M3x4; Torque=4±1kgf.cm) Use Penknife to <u>separate</u> the bezel and rear cove follow the arrows in sequence, then you can take out rear cover.
S4.Disconnect the connectors,and tear off the tapes		

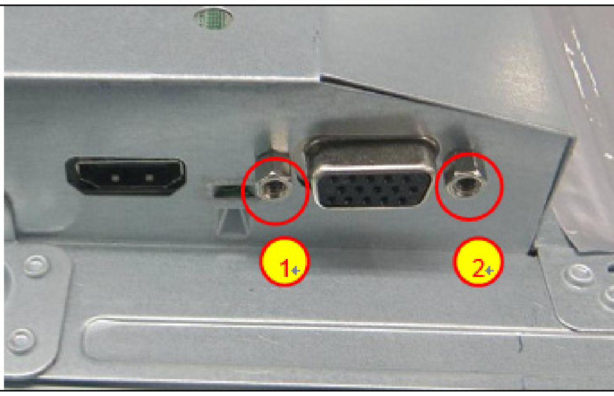
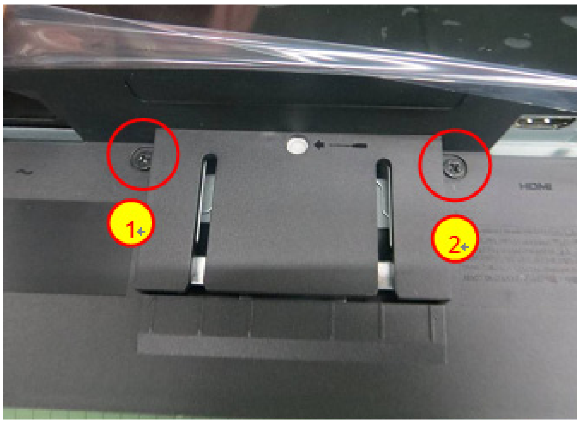
S5.Unscrew the hex screws		Use a hex screwdriver to remove 2 screws for unlocking mainboard. (No.1~2 is Hex-screw, Torque= 4.5±0.5kgf.cm)
S6.Unscrew the screws to remove the Main board and Power board		Use a Philips-head screwdriver to remove 5 screws for unlocking mainboard. (No.1~4 screw size=M4x8;Torque= 6±1kgf.cm; No.5 screw size=D3x6;Torque= 6±1kgf.cm)
S7. Disconnect the connectors		
S8.Remove the KEY BOARD		Use a Philips-head screwdriver to remove 3 screws for unlocking Key board. (No.1~3 screw size= M2x2.5 Torque=0.9±0.4kgf.cm)

S9. Remove the screw		Use a Philips-head screwdriver to remove 5 screws for unlocking mainboard. (No.1 screw size=Q3x6; Torque=4±1kgf.cm)
The MAIN FRAME		
The PANEL		
The BEZEL		

3.2 Assembly Procedures:

Step	Figure	Remark
S1.Assembly the main fraim		Use a Philips-head screwdriver to tighten 1screws for locking main frame (No.1 screw size= Q3x6 Torque=4±1kgf.cm)
S2.Assembly the KEY BOARD		Use a Philips-head screwdriver to tighten 4 screws for locking Key board. (No.1~4 screw size= M2x2.5 Torque=0.9±0.4kgf.cm)
S3.Assembly the MAIN BOARD, POWER BOARD		Connect the cables

		Use a Philips-head screwdriver to tighten 5 screws for locking mainboard and power board (No.1~4 screw size=M4x8; Torque= 6±1kgf.cm; No.5 screw size=D3x6; Torque= 6±1kgf.cm)
S4. Assembly the MAIN FRAME and **Pasted the TAPEs and connect the panel FFC cable**		**Assembly the MAIN FRAME**
S5.Connect the cables		

S6.Tighten he VGA port		Use a hex screwdriver to tighten 2 screws for locking mainboard. (No.1~2 is Hex-screw, Torque= 4.5±0.5kgf.cm)
S7.Assembly the REAR COVER		Assembly the Rear cover. Use a Philips-head screwdriver to tighten 2 screws for locking mechanisms. (No.1~2 screw size=M3x4; Torque=4±1kgf.cm)
S8.Assembly the Stand		Insert the Stand

4. Trouble shooting instructions

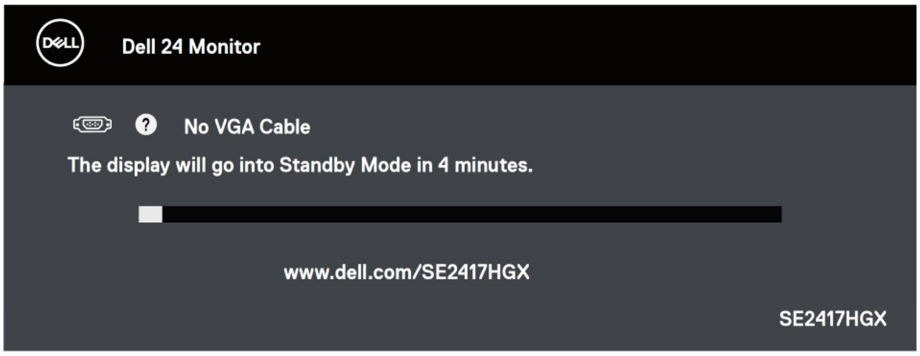
⚠ **WARNING:** Before you begin any of the procedures in this section, follow the Safety instructions.

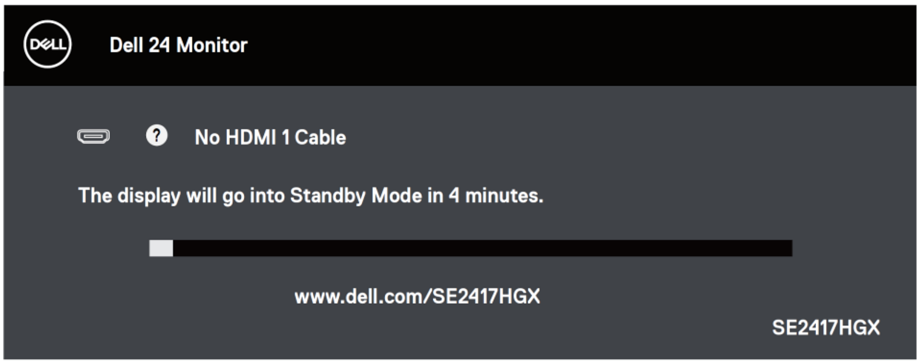
Self-test

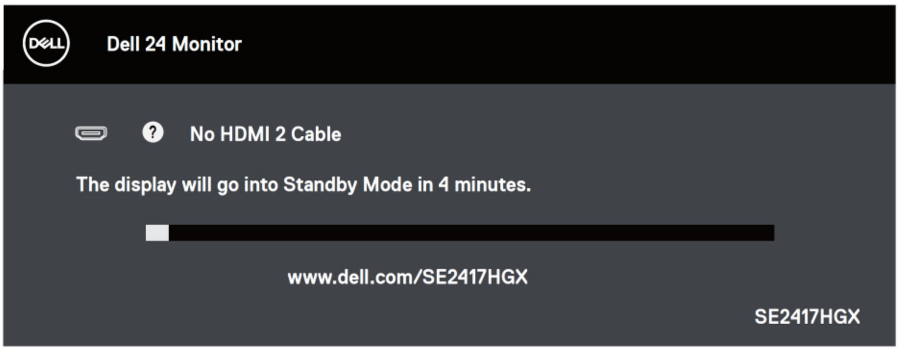
Your monitor provides a self-test feature that allows you to check if your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

1. Turn off both your computer and the monitor.
2. Disconnect all video cables from the monitor. This way, the computer doesn't have to be involved.
3. Turn on the monitor.

If the monitor is working correctly, it detects that there is no signal and one of the following message appears. While in self-test mode, the power LED remains white.







NOTE: This box also appears during normal system operation, if the video cable is disconnected or damaged.

4. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor remains dark after you reconnect the cables, check your video controller and computer.

Built-in diagnostics

Your monitor has a built-in diagnostic tool that helps you determine if any screen abnormality you experience is an inherent problem with your monitor, or with your computer and video card.

NOTE: You can run the built-in diagnostics only when the video cable is unplugged and the monitor is in *self-test mode*.

To run the built-in diagnostics:

1. Ensure that the screen is clean (no dust particles on the surface of the screen).
2. Unplug the video cable(s) from the back of the computer or monitor. The monitor then goes into the self-test mode.
3. Press and hold Button 1 for 5 seconds. A gray screen appears.
4. Carefully inspect the screen for abnormalities.
5. Press Button 1 on the bottom of the monitor again. The color of the screen changes to red.

6. Inspect the display for any abnormalities.
7. Repeat steps 5 and 6 to inspect the display in green, blue, black, white and text screens.

The test is complete when the text screen appears. To exit, press Button 1 again.

If you do not detect any screen abnormalities upon using the built-in diagnostic tool, the monitor is functioning properly. Check the video card and computer.

Common problems

The following table contains general information about common monitor problems you might encounter and the possible solutions:

Common Symptoms	Possible Solutions
No video/power LED off	• Ensure that the video cable connecting the monitor and the computer is properly connected and secure. • Verify that the power outlet is functioning properly using any other electrical equipment. • Ensure that the correct input source is selected via the Input source menu.
No video/power LED on	• Increase brightness and contrast controls using the OSD. • Perform monitor self-test feature check. • Check for bent or broken pins in the video cable connector. • Run the built-in diagnostics. • Ensure that the correct input source is selected via the Input source menu.
Poor focus	• Eliminate video extension cables. • Reset the monitor to Factory Settings (**Factory Reset**). • Change the video resolution to the correct aspect ratio.
Shaky/jittery video	• Reset the monitor to Factory Settings (**Factory Reset**). • Check environmental factors. • Relocate the monitor and test in another room.
Missing pixels	• Cycle power on-off. • Pixel that is permanently off is a natural defect that can occur in LCD technology. • For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at www.dell.com/support/monitors.
Stuck-on pixels	• Cycle power on-off. • Pixel that is permanently off is a natural defect that can occur in LCD technology. • For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at www.dell.com/support/monitors.
Brightness problems	• Reset the monitor to Factory Settings (**Factory Reset**). • Adjust brightness & contrast controls via OSD.
Geometric distortion	• Reset the monitor to Factory Settings (**Factory Reset**). • Adjust horizontal & vertical controls via OSD.
Horizontal/vertical lines	• Reset the monitor to Factory Settings (**Factory Reset**). • Perform monitor self-test feature check and determine if these lines are also in self-test mode. • Check for bent or broken pins in the video cable connector. • Run the built-in diagnostics.

Synchronization problems	• Reset the monitor to Factory Settings (**Factory Reset**). • Perform monitor self-test feature check to determine if the scrambled screen appears in self-test mode. • Check for bent or broken pins in the video cable connector. • Restart the computer in the *safe mode*.
Safety related issues	• Do not perform any troubleshooting steps. • Contact Dell immediately.
Intermittent problems	• Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Reset the monitor to Factory Settings (**Factory Reset**). • Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.
Missing color	• Perform monitor self-test feature check. • Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Check for bent or broken pins in the video cable connector.
Wrong color	• Change the **Color Setting Mode** in the **Color Settings** OSD to **Graphics** or **Video** depending on the application. • Try different **Preset Modes** in **Color** settings OSD. Adjust **R/G/B** value in **Custom Color** in **Color** settings OSD. • Change the **Input Color Format** to **RGB** or **YPbPr** in the **Color** settings OSD. • Run the built-in diagnostics.
Image retention from a static image left on the monitor for a long period of time	• Set the screen to turn off after a few minutes of screen idle time.These can be adjusted in Windows Power Options or Mac Energy Saver setting. • Alternatively, use a dynamically changing screensaver.
Video ghosting or overshooting	• Change the **Response Time** in the **Display** OSD to **Fast** or **Normal** depending on your application and usage.