

1. Introduction

LGA1366 / LGA1356 is designed to receive the 1366 / 1356 position LGA package. Read this instructions thoroughly before installing the package onto the socket. This sheet covers the instruction from after SMT through package installation.

Tyco provides three components for LGA1366 / LGA1356 socket system, ILM cover assembly (Fig 2a), socket (Fig2b), and back plate (Fig2c).

These components shall be used correctly to secure electrical and mechanical quality.

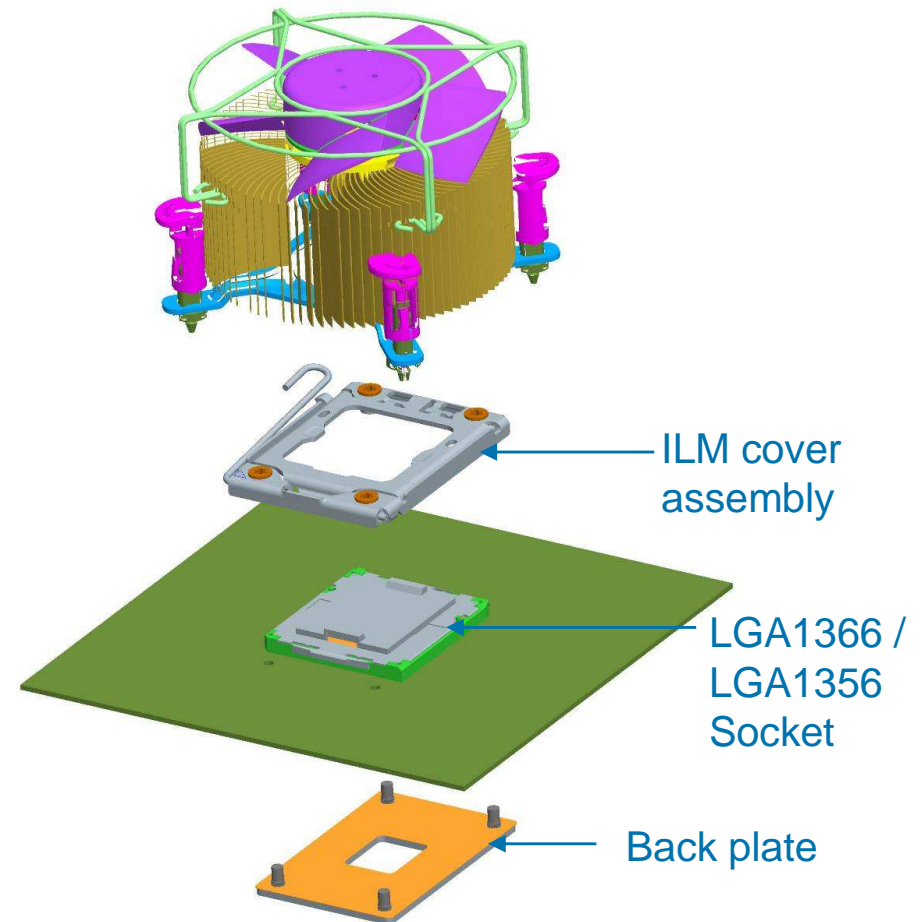


Fig.1 System of LGA1366 / LGA1356 socket

Lever Actuated Land Grid Array LGA1366 / LGA1356 Socket

2. Components

Components are changed by system design and combination of three components is required.

Description		Part Number
1) LGA1366 Socket		X-1981837-X (*1)
2) LGA1356 Socket		X-1554116-X (*1)
3) ILM cover assy		X-1939738-X (*1)
4) Back plate (*2)	Type (A) -Desk top back plate	X-1939739-X (*1)
	Type (B) -Server back plate	X-1981467-X (*1)

(*1) refer to customer drawing for detail

(*2) Type of back plate is selected by customer's board design
In this document, "Back plate" is used as standard name



Fig.2a LGA1366 / LGA1356 socket with PnP cap (on PCB)



Fig.2b ILM cover assembly



Fig.2c Back plate (A)

Fig.2d Back plate (B)

3. Description of each components

3.1 LGA1366 / LGA1356 socket

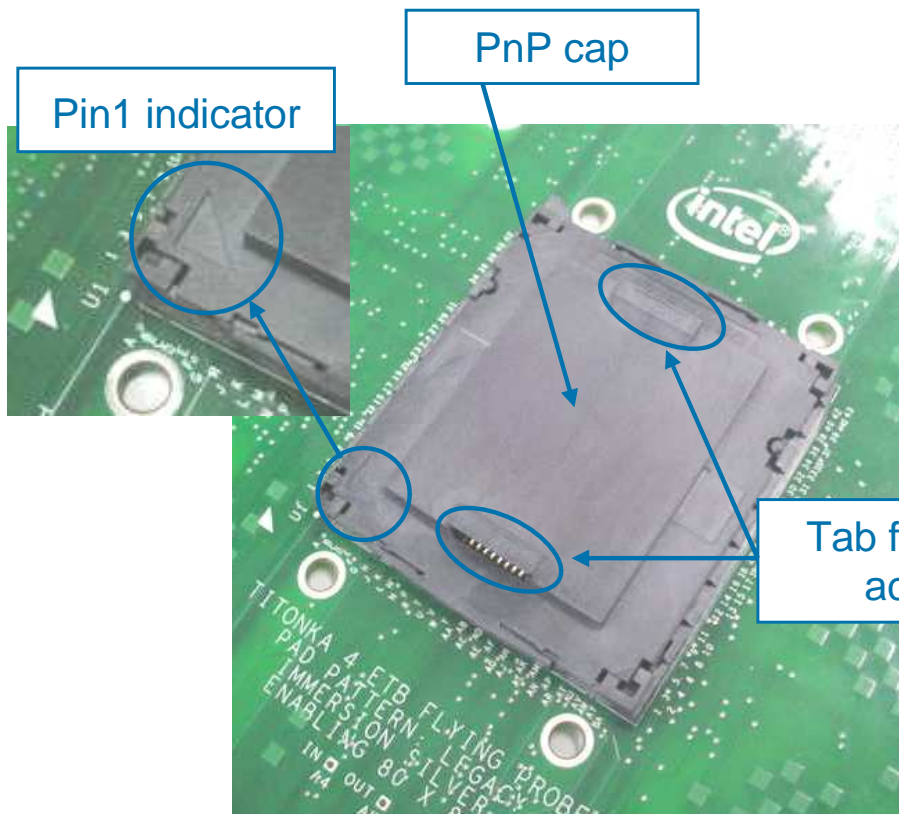


Fig.3 LGA1366 / LGA1356 socket with PnP cap on PCB

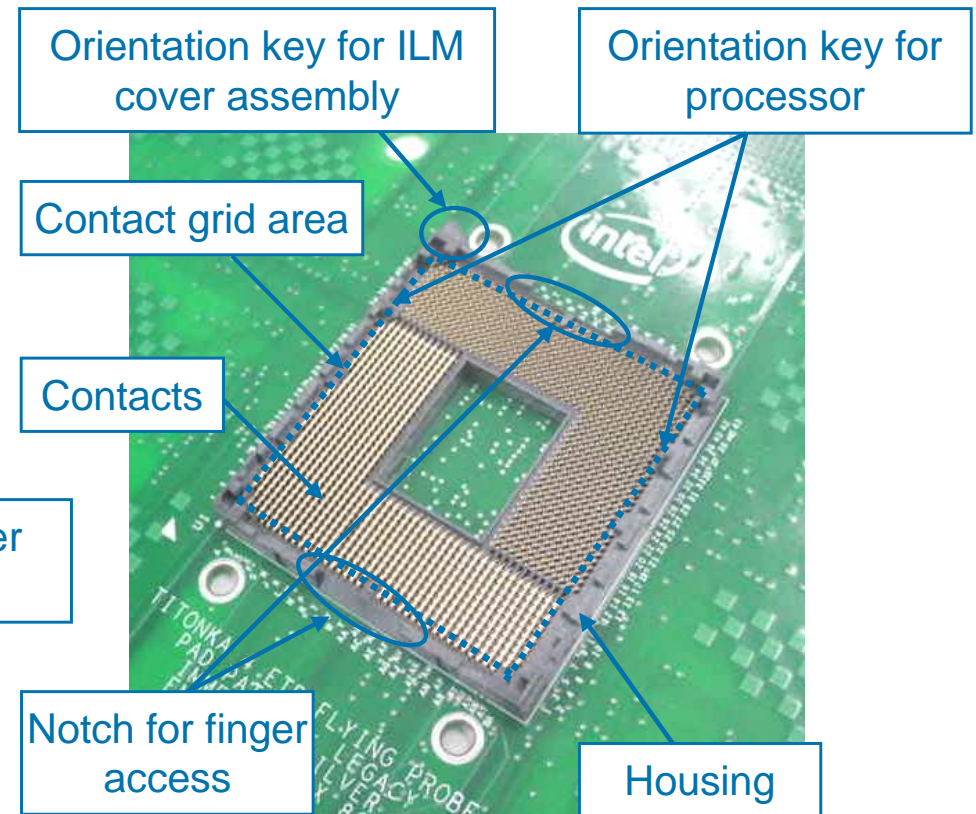


Fig.4 LGA1366 / LGA1356 socket without PnP cap

3. Description of each components

3.2 ILM cover assembly

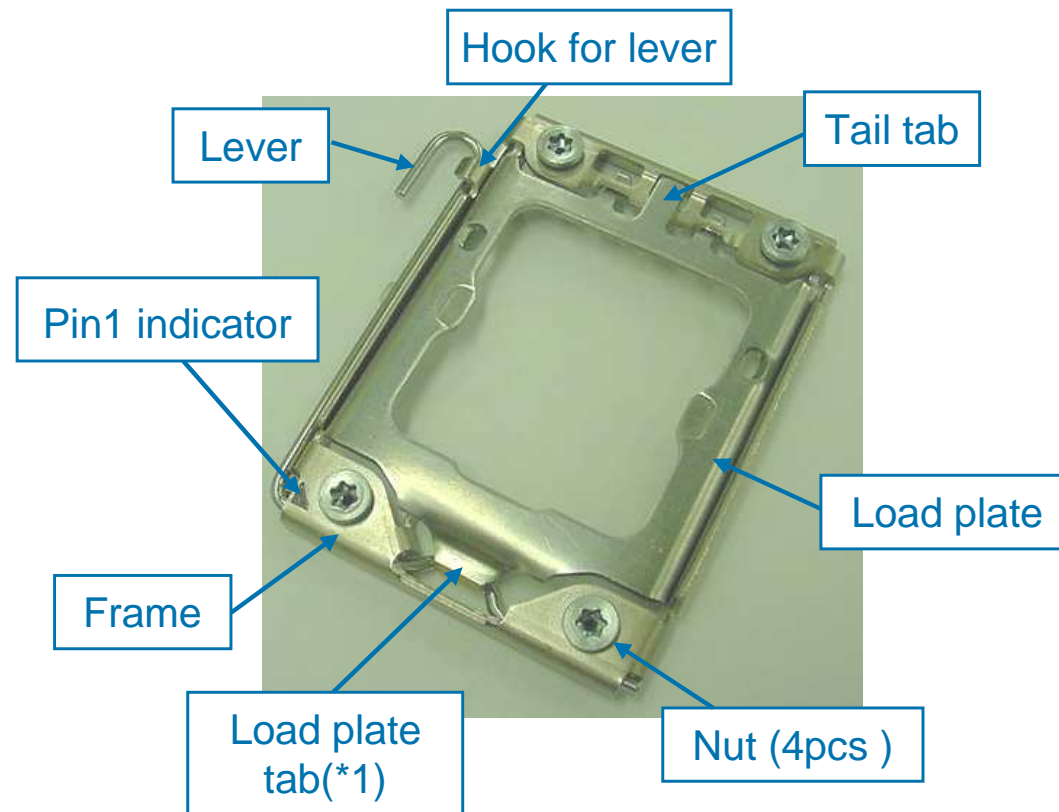


Fig.5 ILM cover assembly (case of U shape lever)

*1) Load plate tab is on lever in shipping status for easier assembly

3. Description of each components

3.3 Back plate



Fig.6 Desktop back plate (A)

Stud bolt for ILM nut
(4pcs)

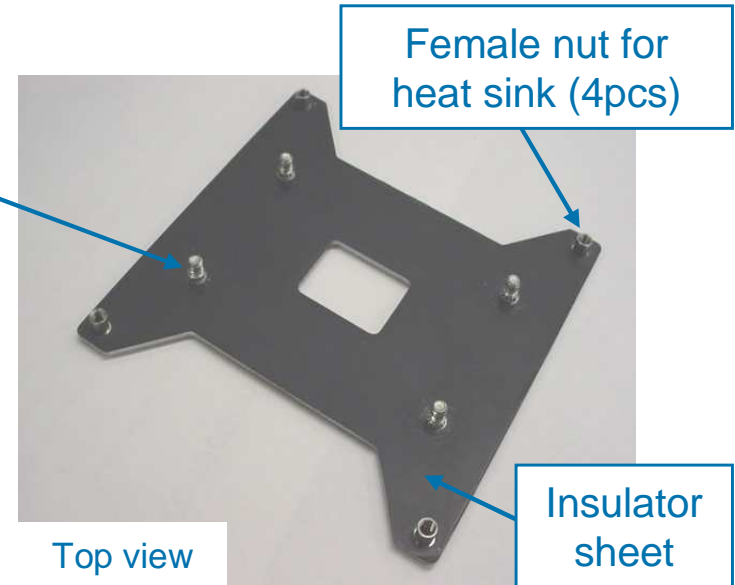


Fig.8 Server back plate (B)

4. ILM cover assembly and back plate assembly procedure

4.1 Prepare components

Three components shown below are used in this document.

For SMT'd socket, please refer 114-5432, application specification for SMT process onto PCB.



Fig.9 LGA1366 / LGA1356
socket on PCB



Fig.10 ILM cover assembly

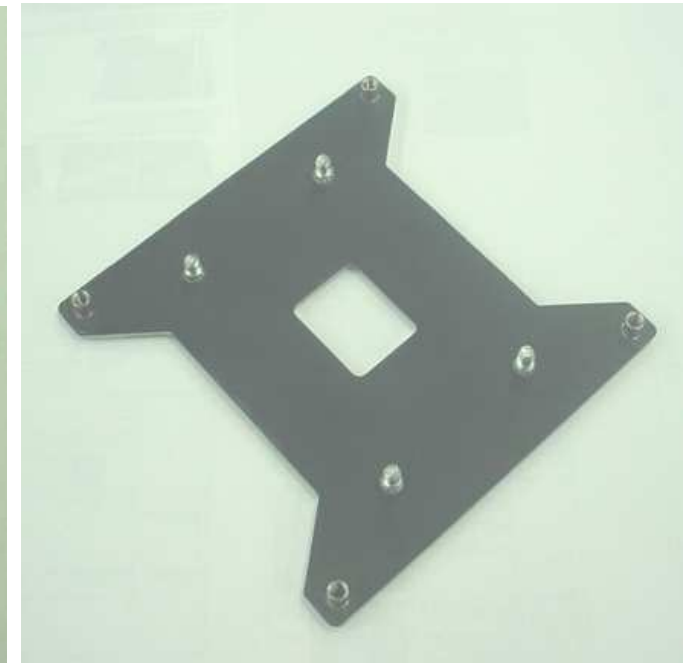


Fig.11 Server back plate

4. ILM cover assembly and back plate assembly procedure

4.2 Assemble back plate on PCB

Attach back plate to PCB from back side. 4 stud bolts go through applicable 4 holes of PCB. (Fig.12)

There should be no clearance between PCB and back plate (Fig.14)

Please confirm if there are any foreign object or irregular warpage of PCB

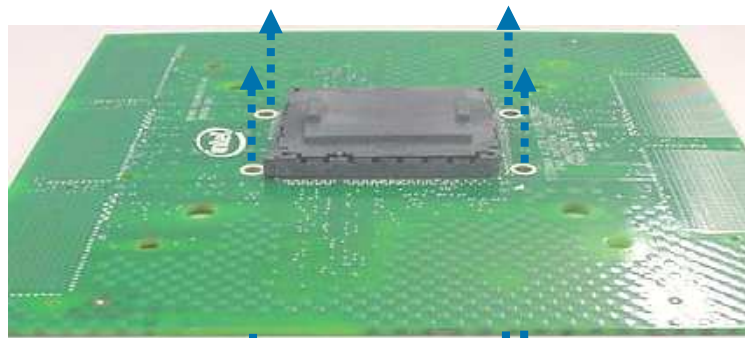


Fig.12



Fig.13

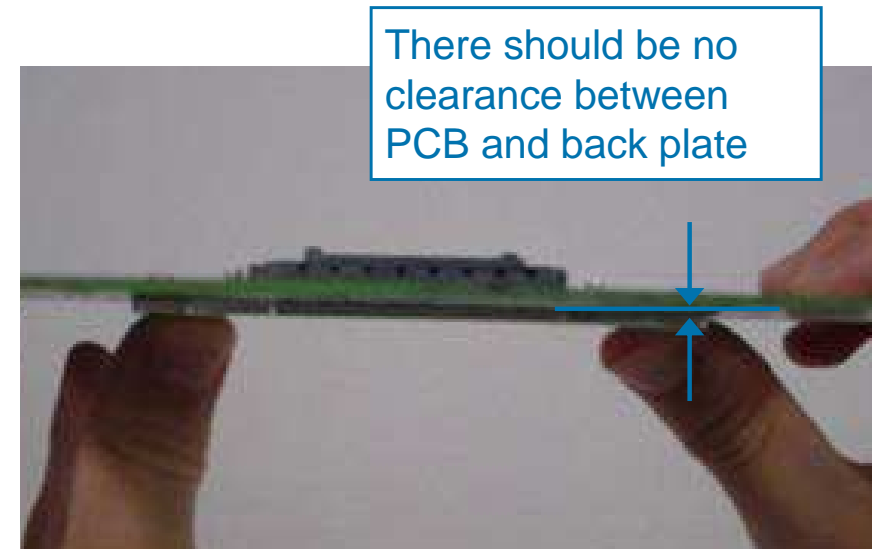


Fig.14

4. ILM cover assembly and back plate assembly procedure

4.3 Attach ILM cover assembly

Grasp the ILM cover assembly north side and south side as shown in Fig 15
Then put it onto PCB confirming the orientation by pin1 indicator.

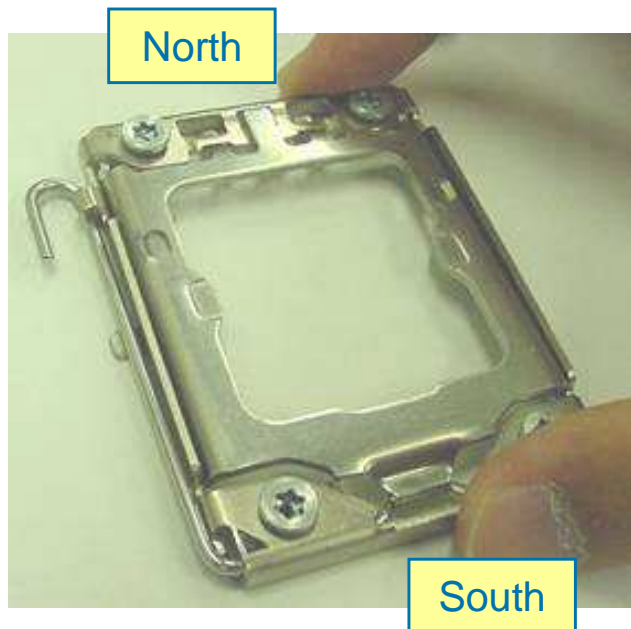


Fig.15

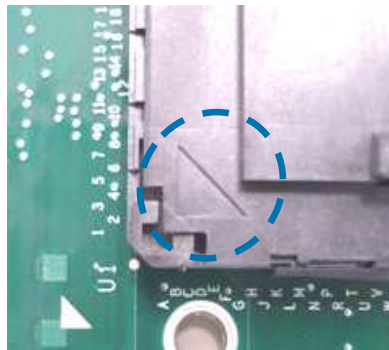


Fig.16

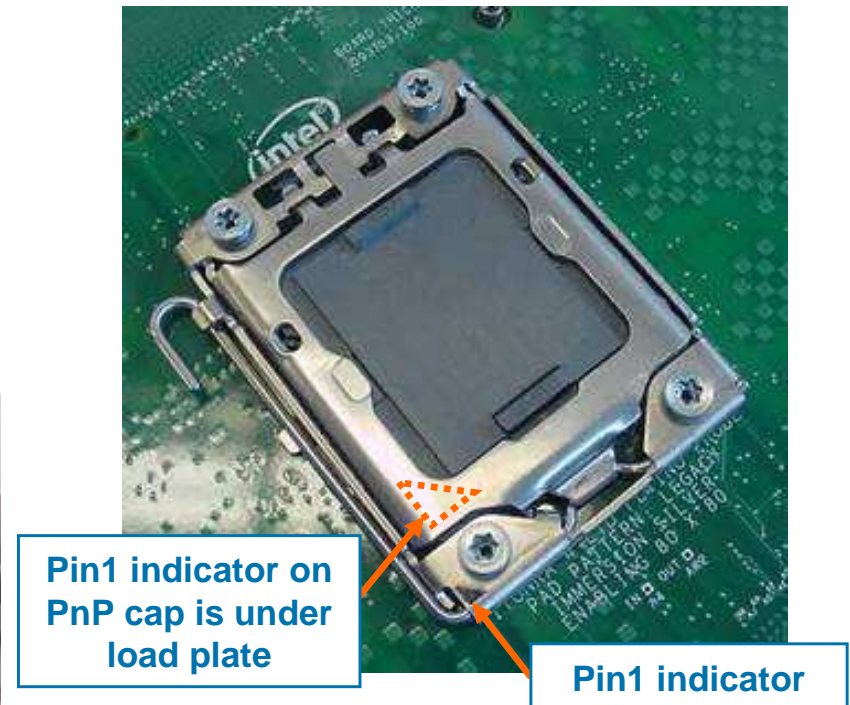


Fig.17

4. ILM cover assembly and back plate assembly procedure

4.3 Attach ILM cover assembly (Cont'd)

CAUTION

Please don't open load plate before assembly to PCB.



Fig.18

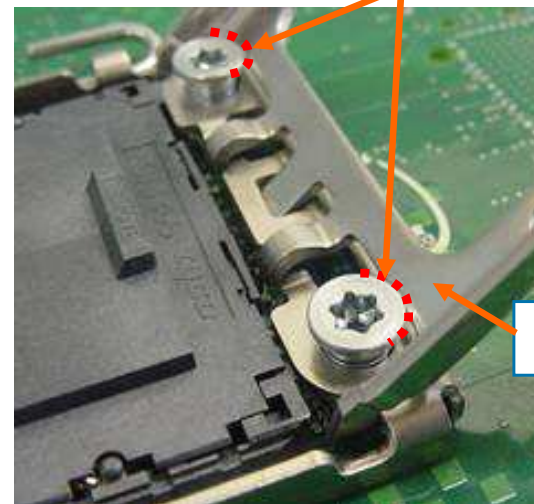


Fig.19

4. ILM cover assembly and back plate assembly procedure

4.3 Attach ILM cover assembly (Cont'd)

All of the nuts of ILM cover assembly are pushed up by the studs if placed in correct orientation. (Fig.20)

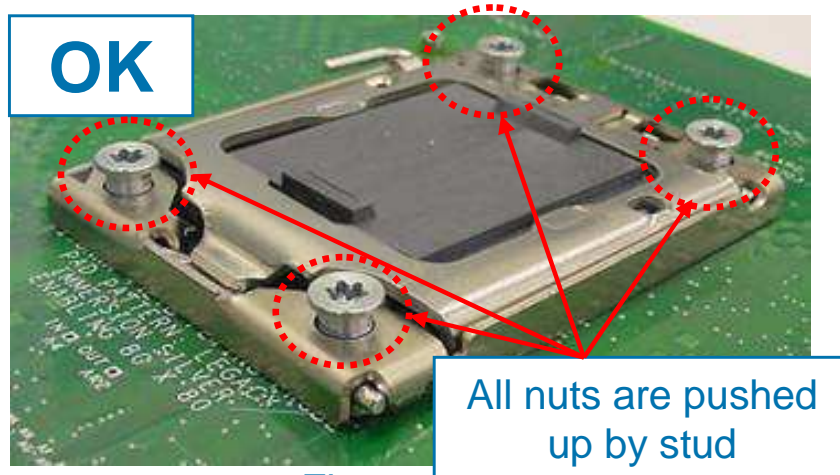
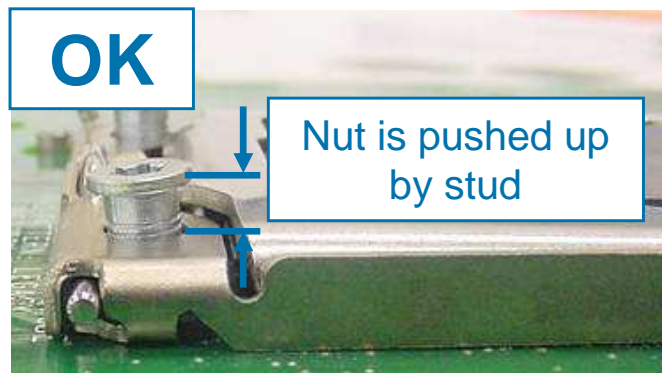


Fig.20

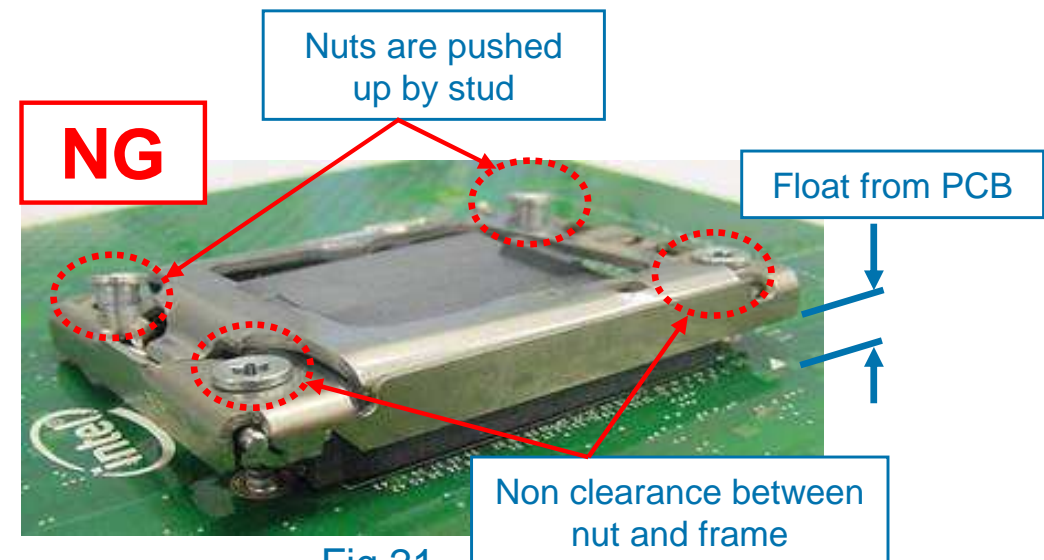
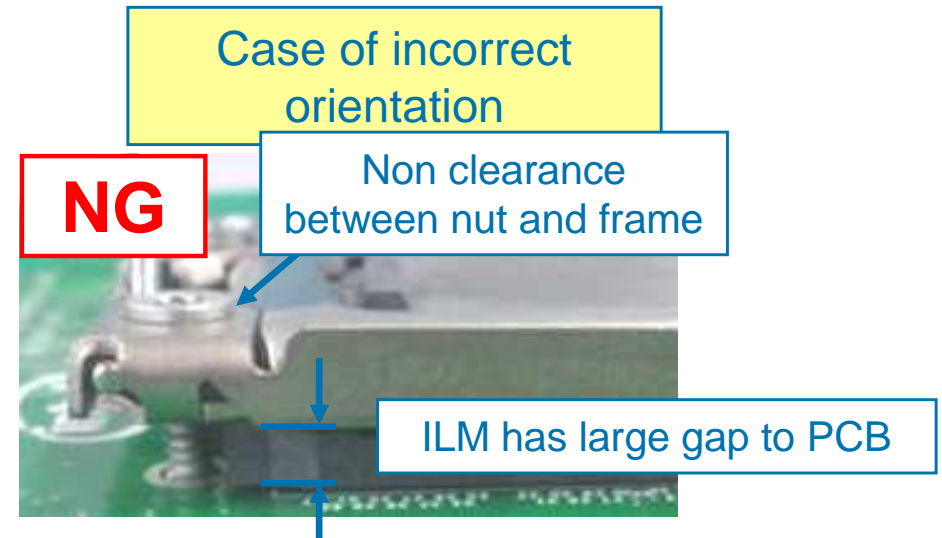


Fig.21

4. ILM cover assembly and back plate assembly procedure

4.4 Fastening ILM nuts

Fasten ILM nuts using TORX driver.

Fastening order is shown in Fig.22

- Driver size: T-20
- Torque: 8 to 10 in-lbf (0.9 to 1.1 Nm)

After fastening all of 4 nuts, confirm there is no clearance between collar and PCB (Fig.23)

And confirm the frame moves free in Z direction at lever open condition. (Fig.24)

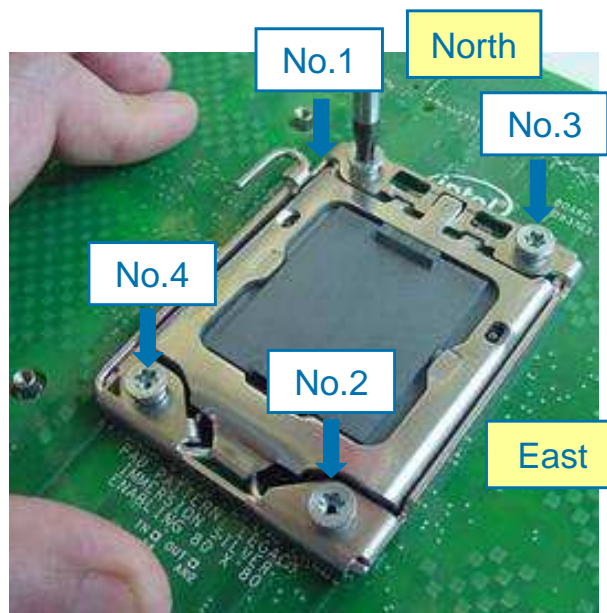


Fig.22

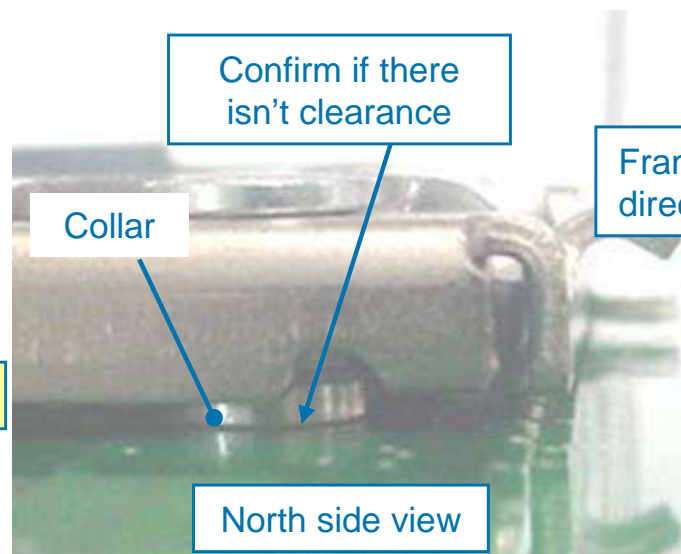


Fig.23

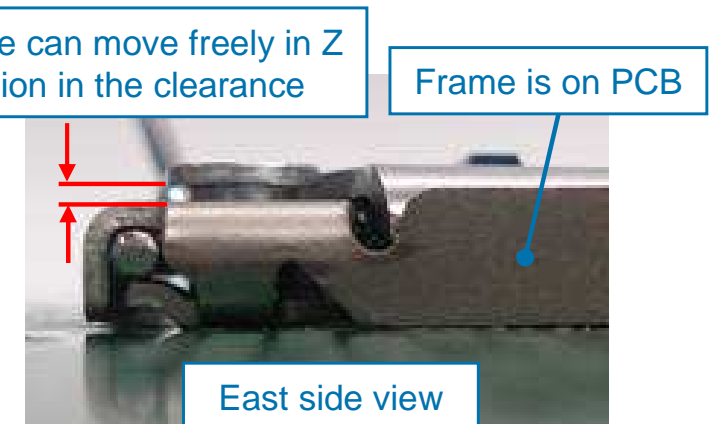


Fig.24

4. ILM cover assembly and back plate assembly procedure

4.5 Completion



Fig.25 Completion ILM cover
assembly and back plate
assembly

5. Package installation procedure

5.1 Open load plate

To open the load plate, push its tail then the tab side will be lifted up. (Fig.26, 27)
Remove the lever from hook then rotate it until it stops. (Fig.28, 29)

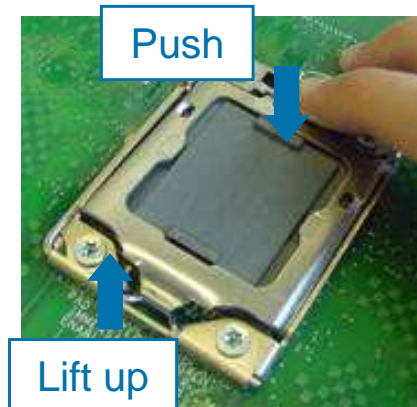


Fig.26

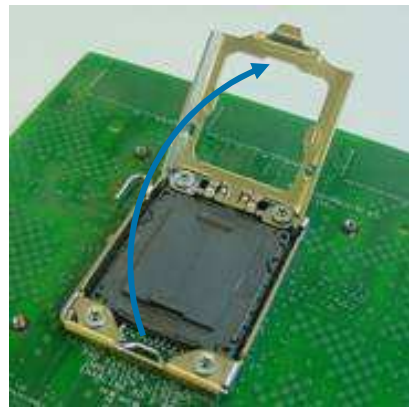


Fig.28



Fig.27

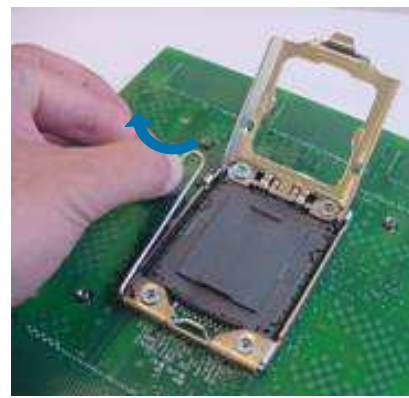


Fig.29

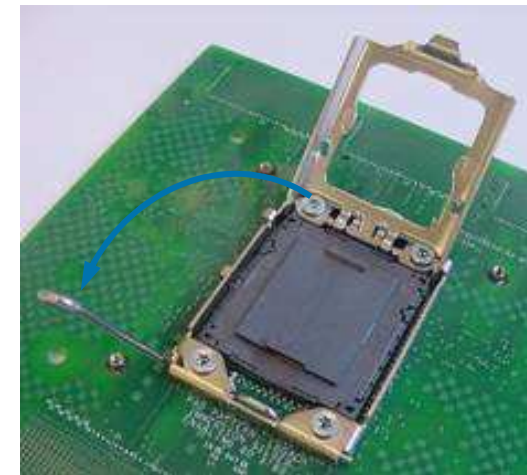


Fig.30 Load plate OPEN position

5. Package installation procedure

5.2 Remove PnP cap

The PnP cap has two tabs for removal. (Fig.31)

Remove PnP Cap by grasping the 2 tabs and pull it straight up. (Fig.32)

After the PnP cap is removed, contacts are exposed. (Fig.33)

CAUTION

DO NOT TOUCH THE CONTACT

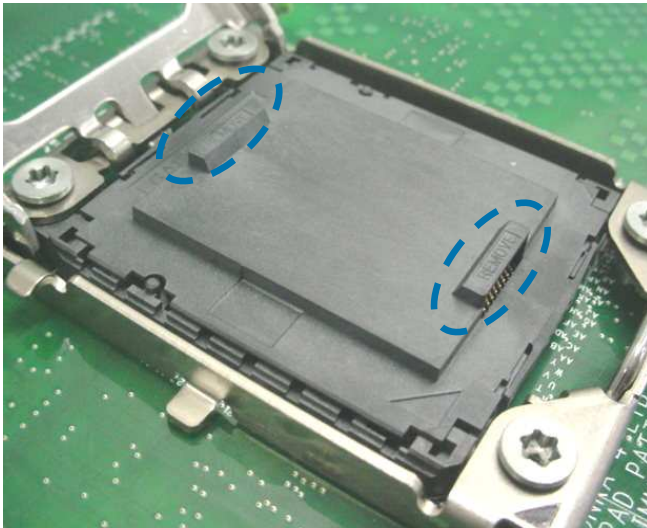


Fig.31 Tabs for removal

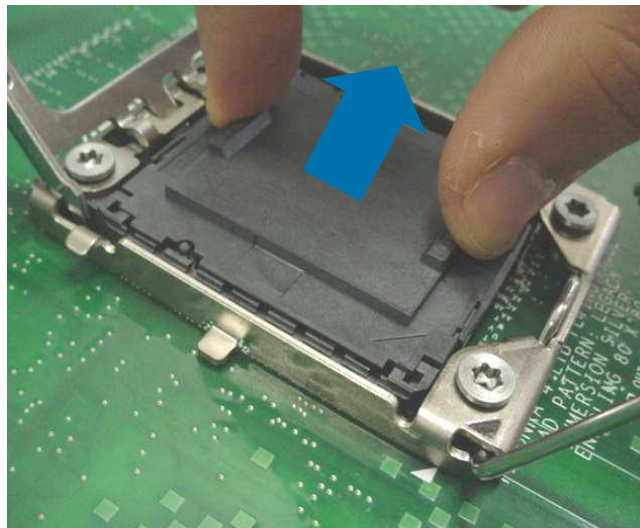


Fig.32 Grasp PnP cap and pull straight up



Fig.33 After PnP cap removal

5. Package installation procedure

5.2 Remove PnP cap (Cont'd)

CAUTION

Please do not open the cap using only 1 of the tabs. (Fig.34, 35)
It may break the cap, or the removed cap may fall in socket contact grid and damage the contacts.

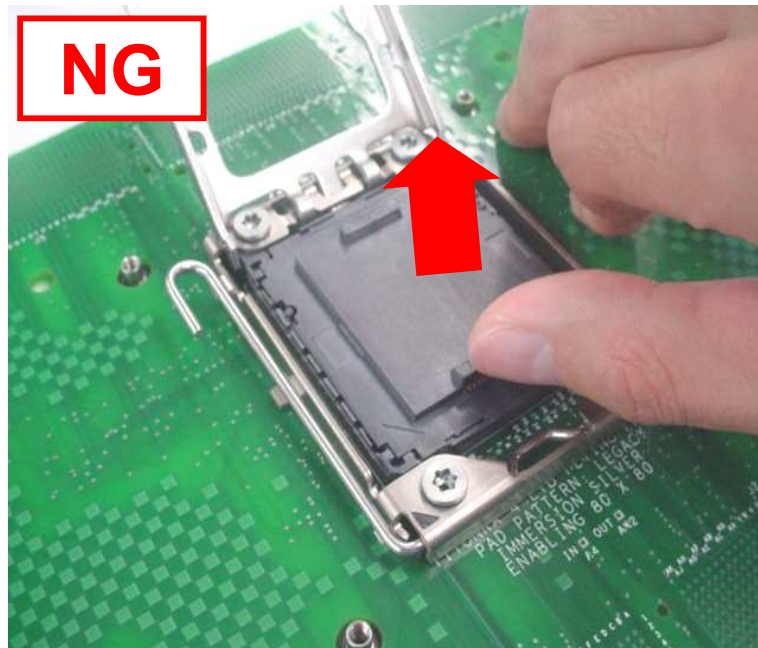


Fig.34

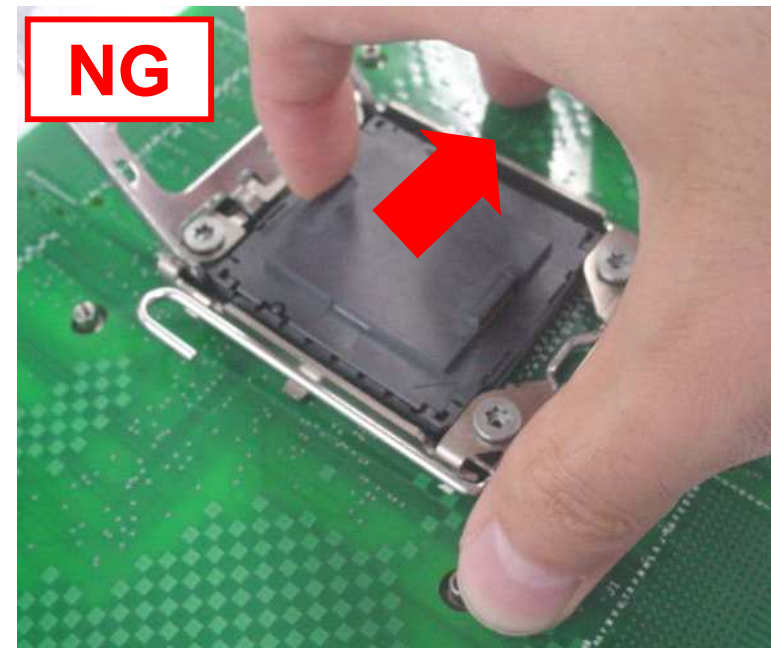


Fig.35

5. Package installation procedure

5.3 Package installation – Confirm orientation

Before installation of the package, please confirm the orientation using the Pin1 indicator. (Fig.36,37)



Fig.36 Pin1 indicator for package

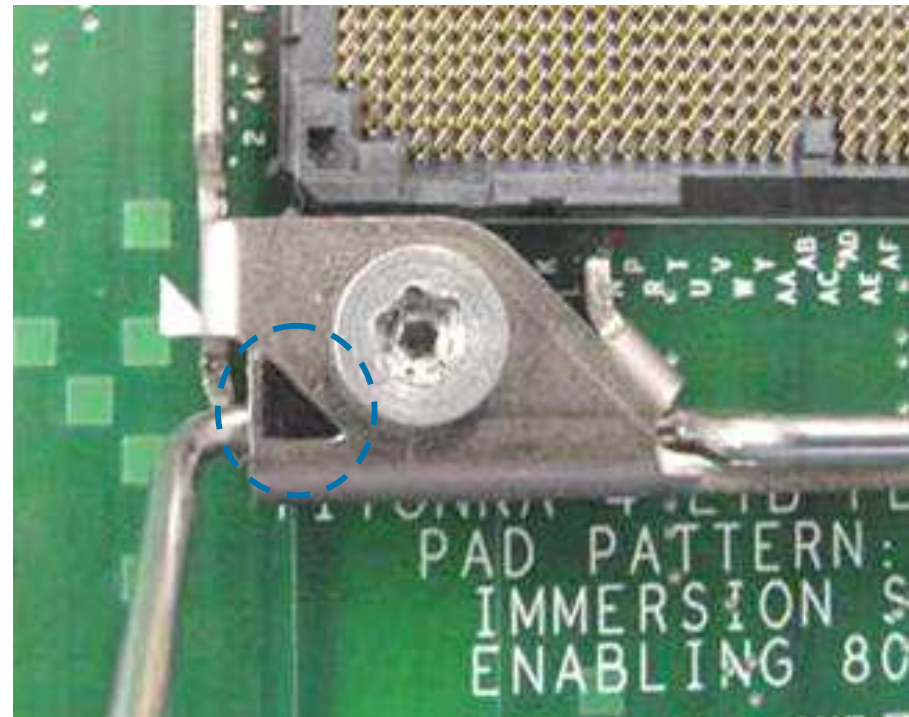


Fig.37 Pin1 indicator for ILM cover assembly

5. Package installation procedure

5.3 Package installation – How to hold the package

Grasp the package with your thumb and forefinger at median of its edges. (Fig.38)

Place the package onto the contact grid of socket horizontally. (Fig.39, 40)

Please ensure the package is not sitting on the housing of socket. Please see following slide for prohibitions.

After installation, please confirm if the package is installed correctly. (Fig.41)

- Check 4 corners - the housing walls guide the package
- Check orientation keys are aligned with the package cut outs



Pin1 indicator

Fig.38 Grasp package

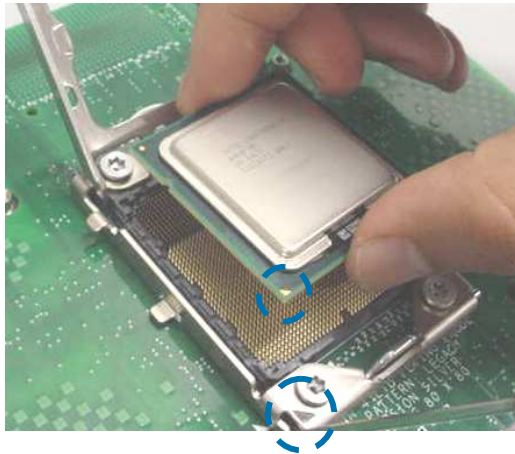


Fig.39 Verify orientation

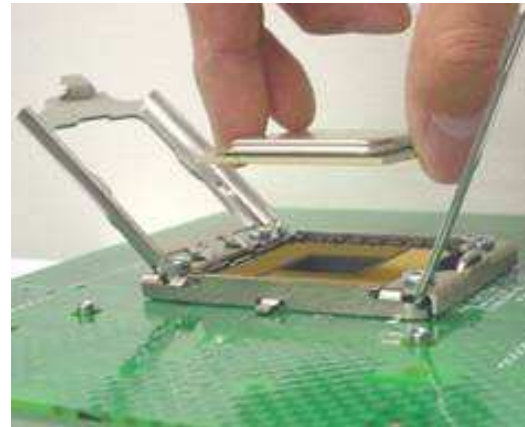


Fig.40 Horizontal installation

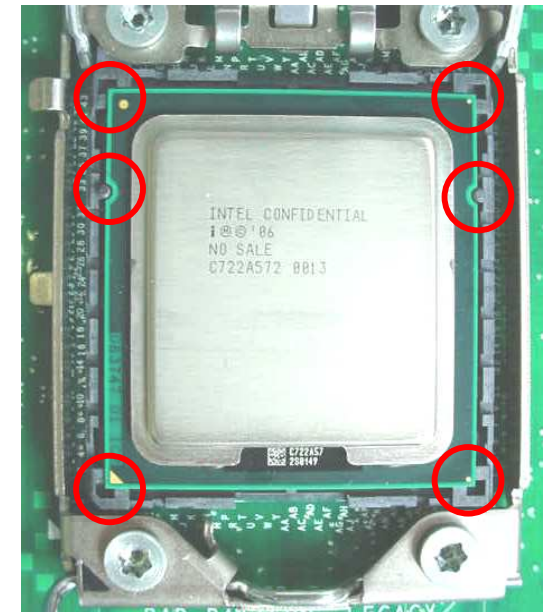


Fig.41 Confirm package installed correctly

5. Package installation procedure

5.3 Package installation – Cautions

CAUTION

Do not place the package in an offset position and do not slide the package on the contact grid (Fig.42), to prevent damaging contacts.

Do not begin lever actuation if the package is in an offset condition.(Fig.43)

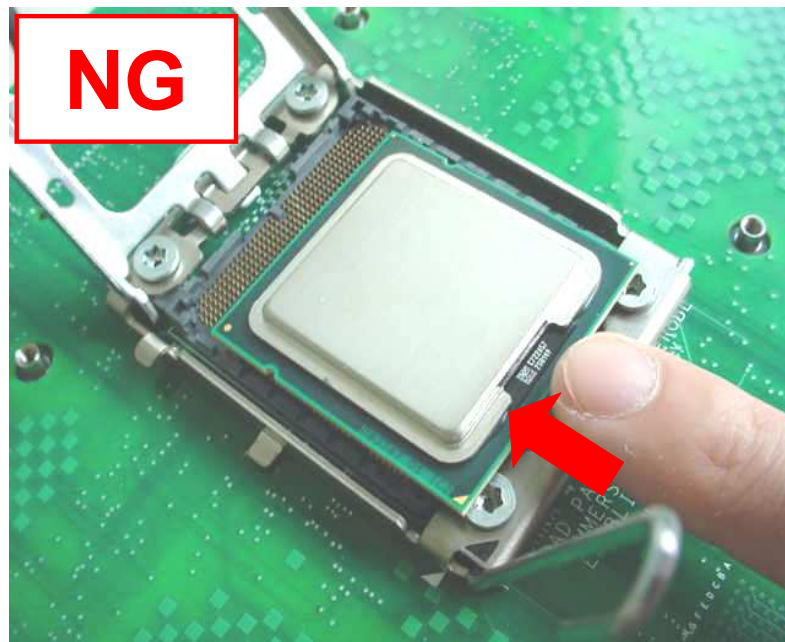


Fig.42

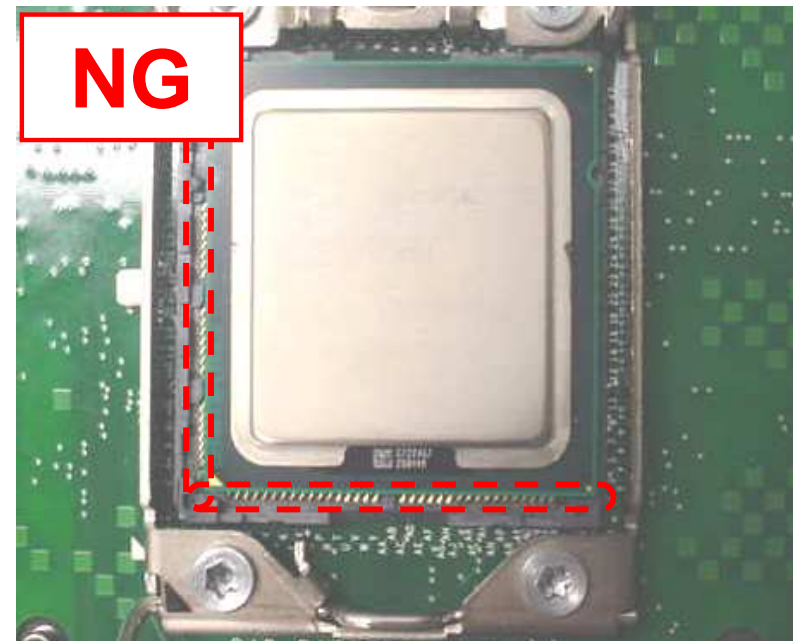


Fig.43

5. Package installation procedure

5.3 Package installation – If Package is placed incorrectly

If package is placed incorrectly, (Fig.45, 46), please remove it carefully to avoid damage to contacts.

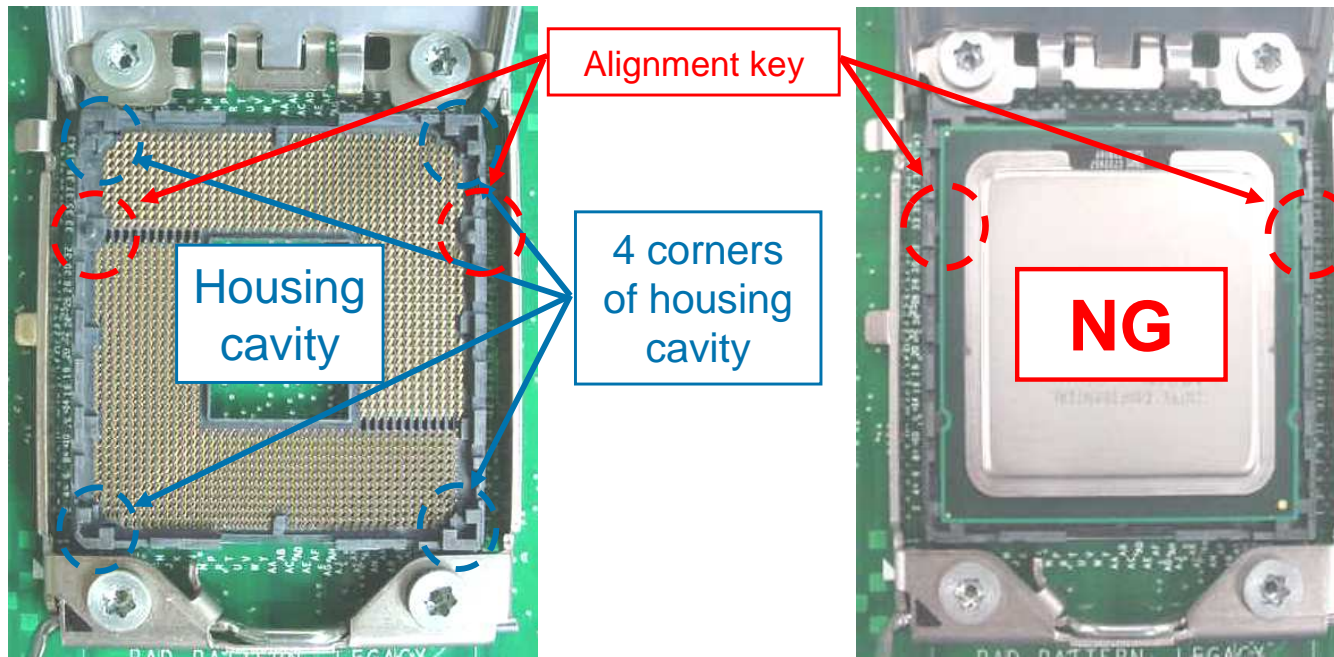


Fig.44



Fig.45

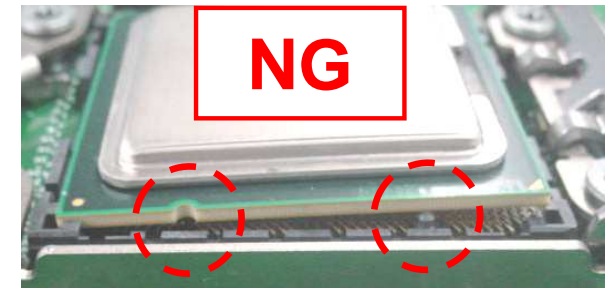


Fig.46

5. Package installation procedure

5.3 Package installation – Close load plate

Rotate the load plate slowly while grasping its tab. (Fig.47)

Gently push the load plate tab side and close the lever slowly. (Fig.48)

Please confirm if the lever has engaged the load plate tab. (Fig.49) If lever does not engage the tab, please confirm the CPU package is installed correctly. (Fig.41)

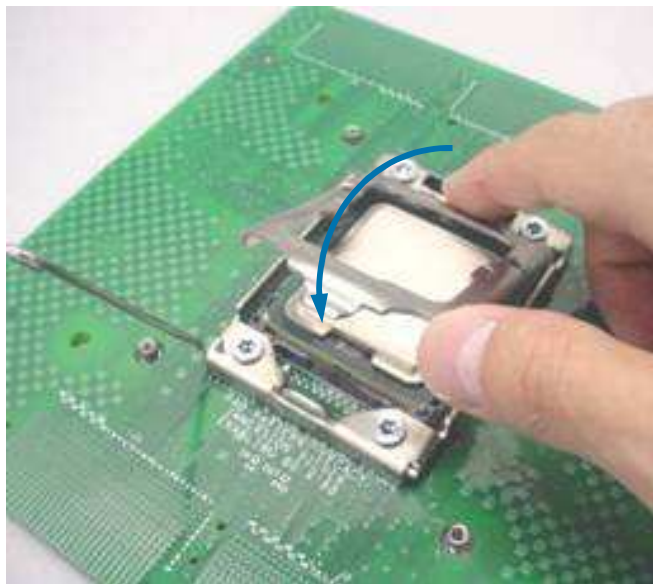


Fig.47 Rotate down
the load plate

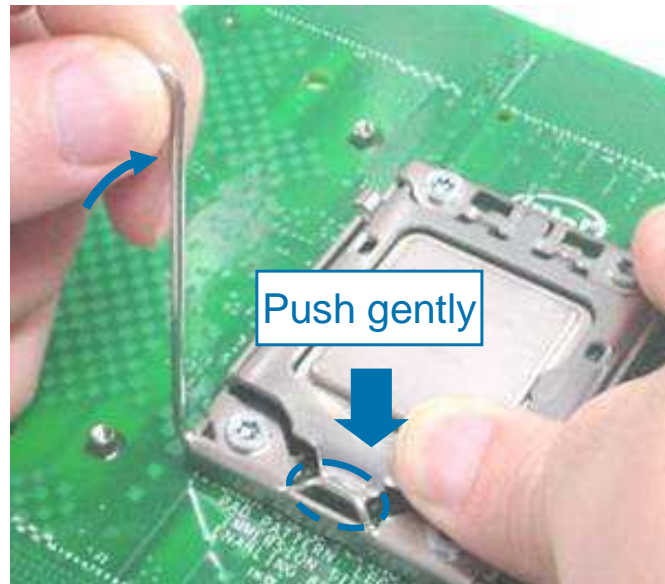


Fig.48 Operate lever to
hook



Fig.49 Confirm the lever has
engaged the load plate tab

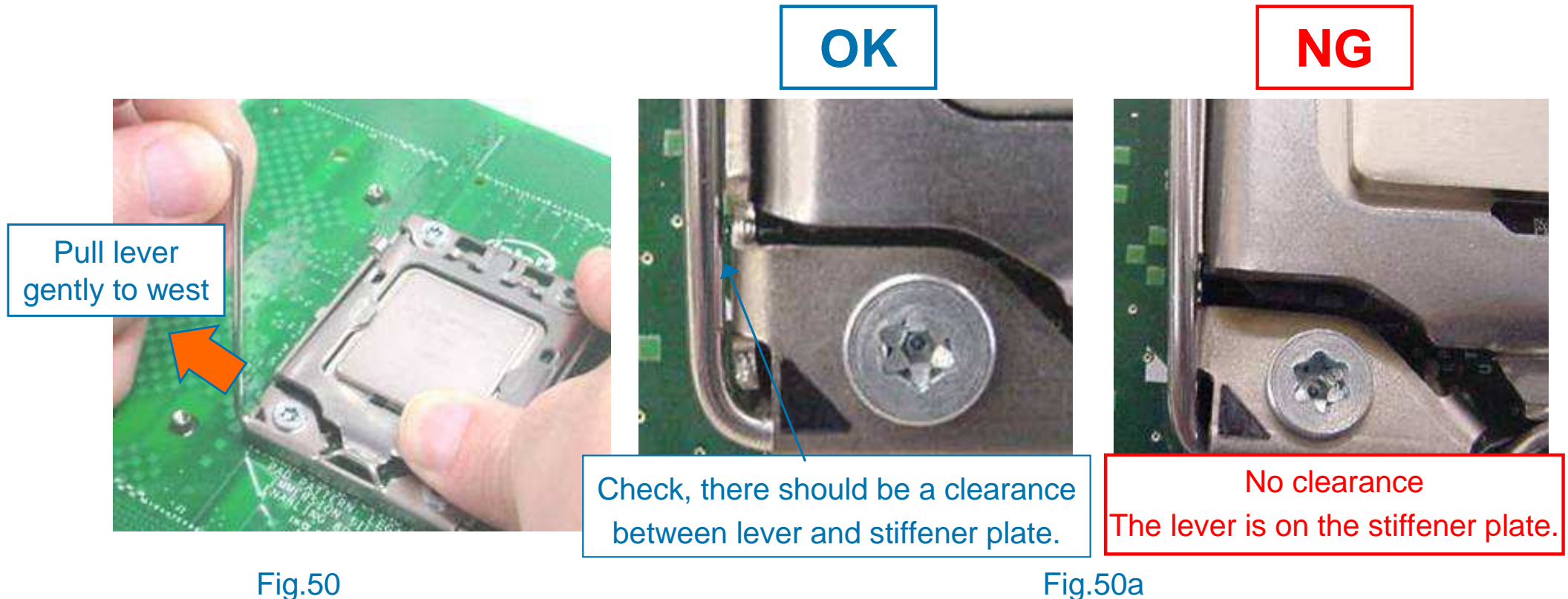
5. Package installation procedure

5.3 Package installation – Close lever

Rotate the lever until it engages to the hook. (Fig.50)

Before engaging lever, please confirm:

- Pull lever gently to west side to make clearance between lever and load plate (Fig.50)
- Confirm the clearance between lever and stiffener plate. (Fig.50a)



5. Package installation procedure

5.3 Package installation – Close lever

Please confirm if the lever is fastened by the hook. (Fig.51)

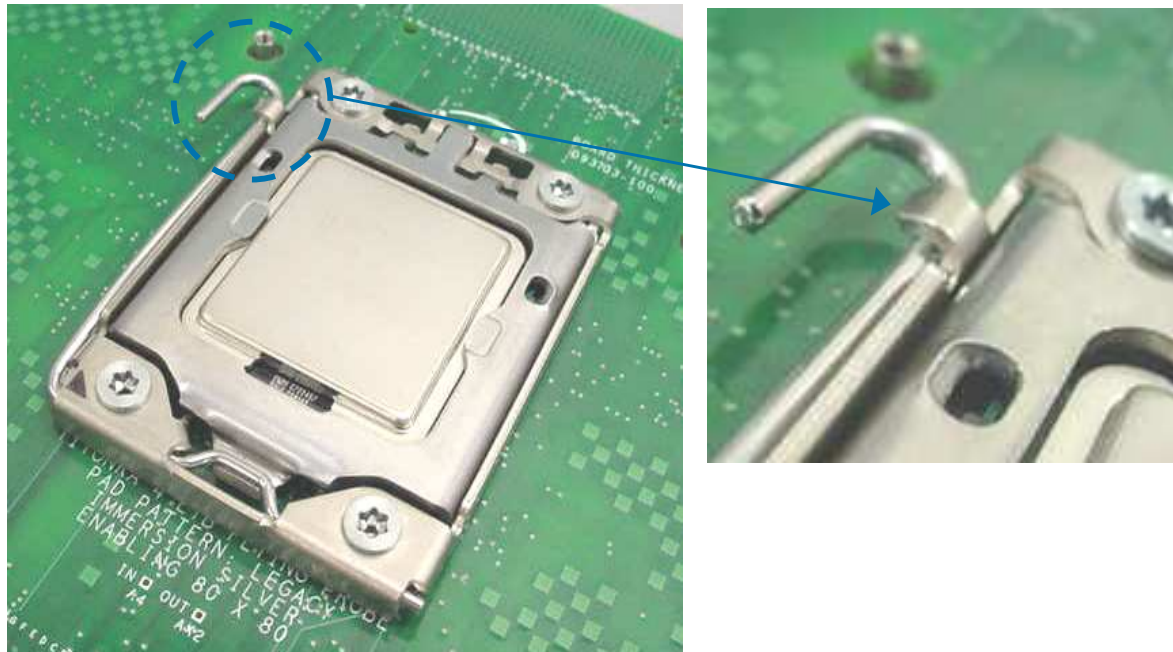


Fig.51 Completion

5. Package installation procedure

5.4 Package installation – How to open the load plate if it is closed accidentally

In order to open the load plate, push the load plate tail which will lift the load plate tab side. This will allow the load plate to open easily. (Fig.52) and reduce the risk of damaging the contacts.

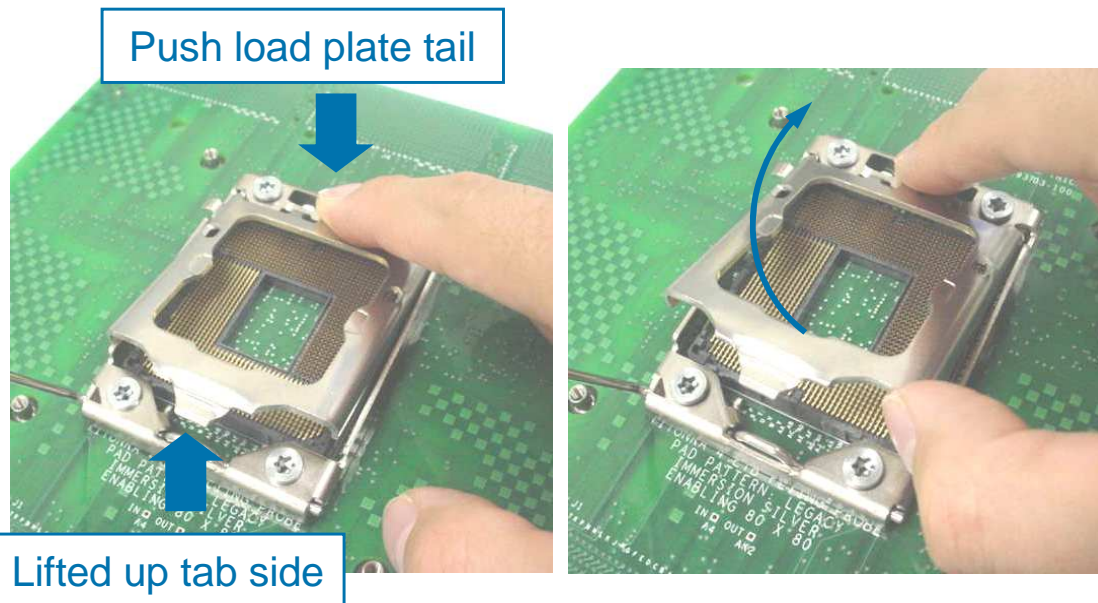


Fig.52 Open load plate

CAUTION

If you open the load plate by grasping the inner window of load plate, (Fig.53) contact damage may occur

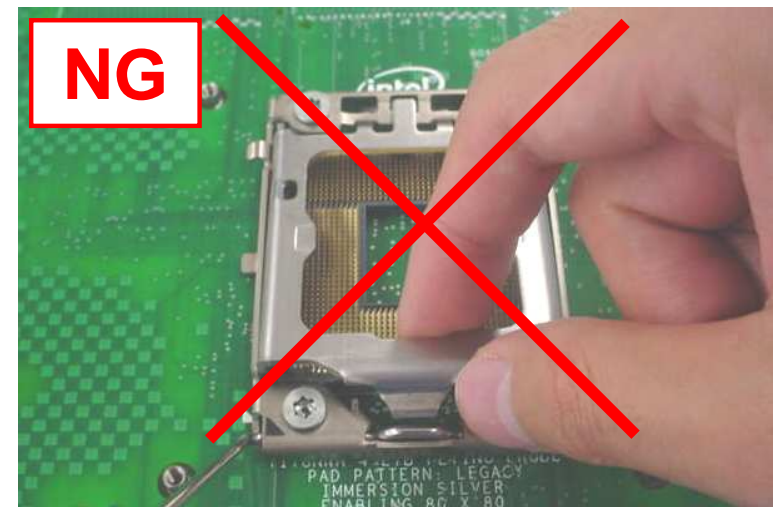


Fig.53

6. Disassembly procedure

6.1 Disengage lever and open load plate as below figure

CAUTION

Do not release the lever right after disengaging it from the hook. The lever is under load from load plate. If you release the lever right after it disengages from hook, the lever rotates rapidly and generated load will be released rapidly. This will make the package pop up from contact grid and cause damage to contacts. Therefore please rotate the lever with your finger till it stops.

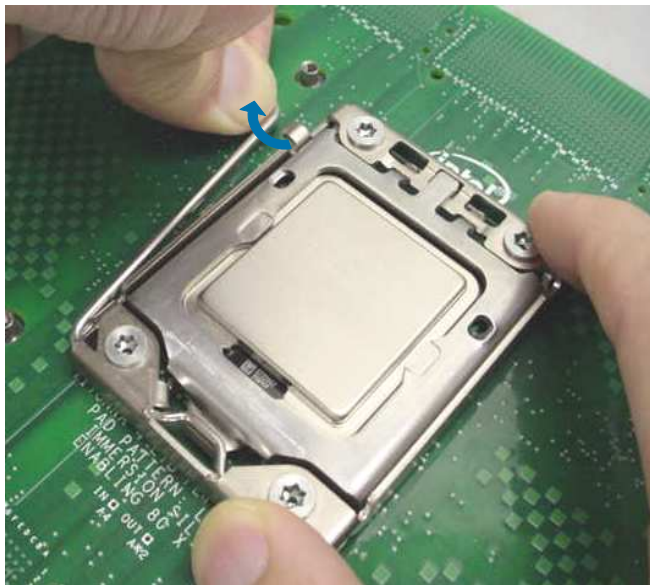


Fig.54 Disengaging lever
from hook

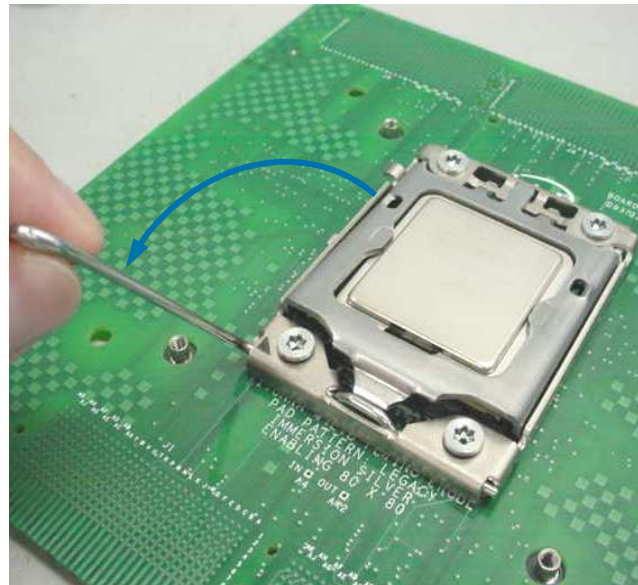


Fig.55 Lift up the lever



Fig.56

6. Disassembly procedure

6.2 Removing the package

Remove the package grasping it as shown below.

NOTE

Please be careful during this operation not to drop the package to prevent damage to the contacts.

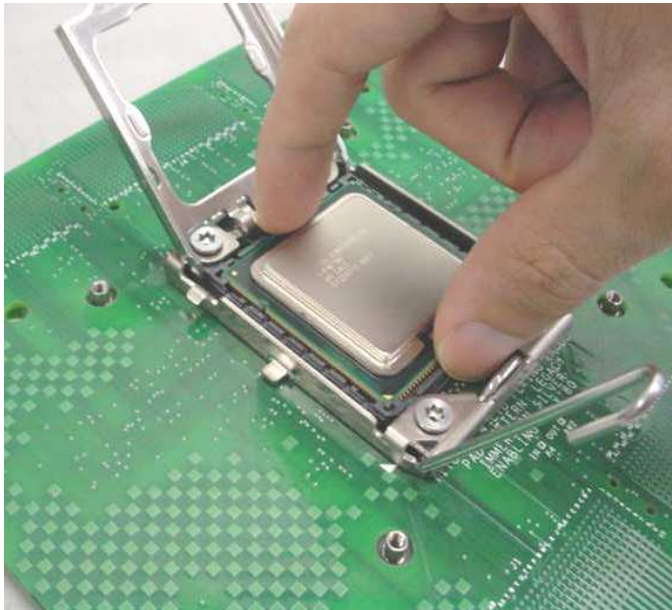


Fig.57 Grasp package

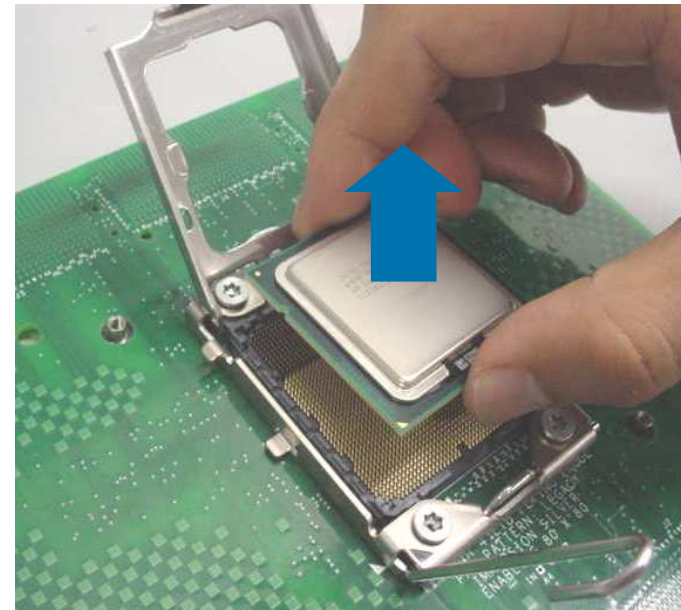


Fig.58 Lift up package
and remove

7. Attach PnP cap

7.1 Check the cap

PnP cap uses 4 latches to attach itself to the LGA1366 / LGA1356 socket housing. (Fig.60, 61)

Before attaching the cap, please check the latches are not damaged (Fig.61)



Fig.59 Top view

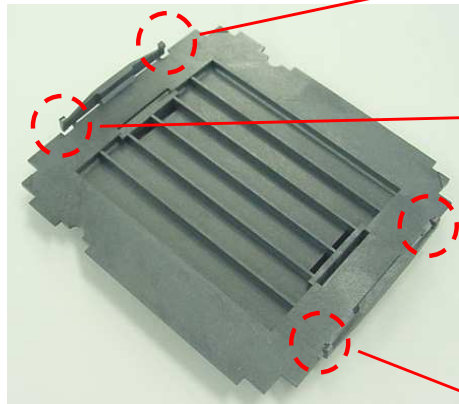


Fig.60 Bottom view

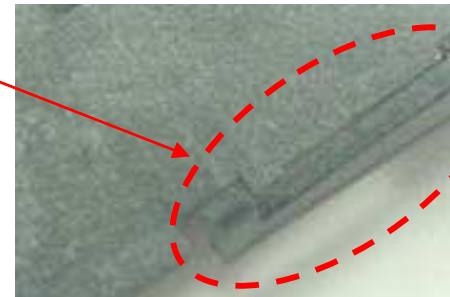
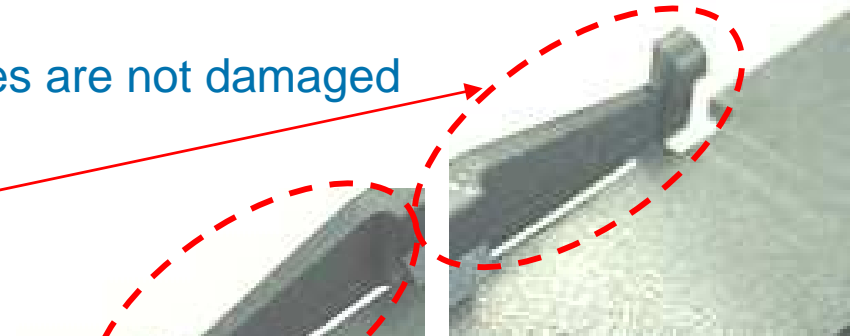


Fig.61 lock feature

7. Attach PnP cap

7.2 Attach PnP cap – Confirm orientation

Check the orientation with the pin1 indicator. (Fig.62)

You can see that the guide keys on socket housing and cut out feature on cap are adapted.

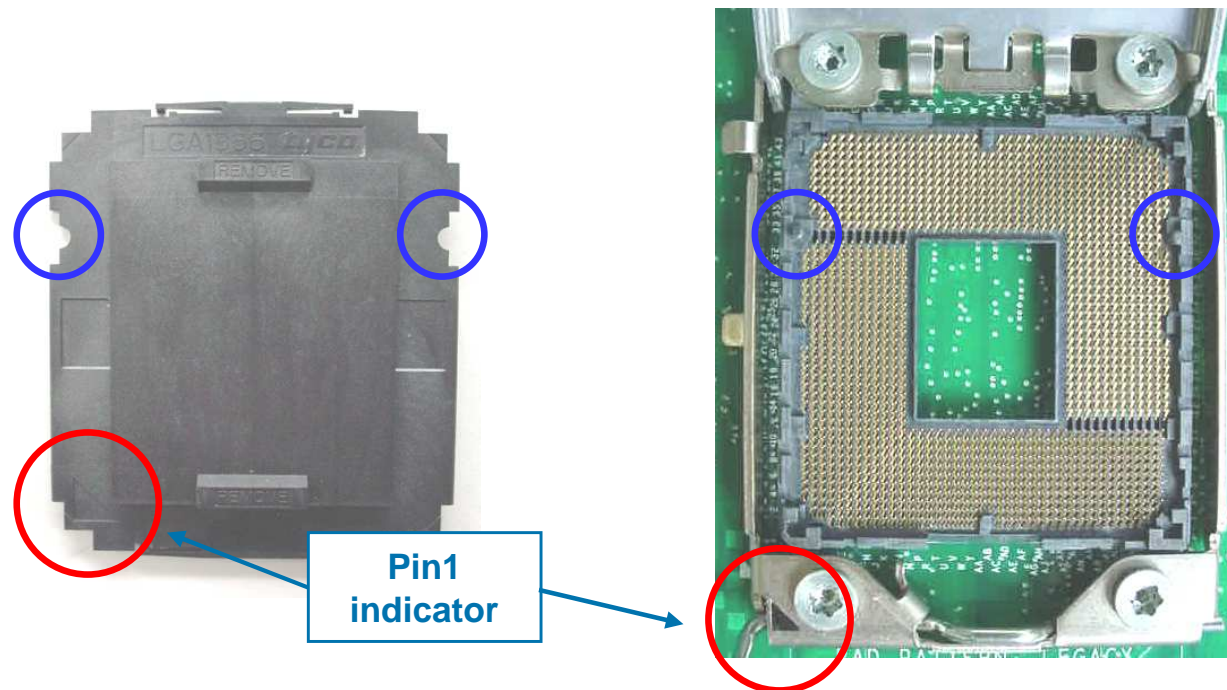


Fig.62 Confirm orientation

7. Attach PnP cap

7.3 Attach PnP cap

Grasp the tabs and put the cap on the socket horizontally. (Fig.63, 64, 65) At this time, please be careful with its position not to make the latches of cap give contact damage. After attach the cap, please confirm if the cap was attached correctly with checking 4 corners. (Fig.66)

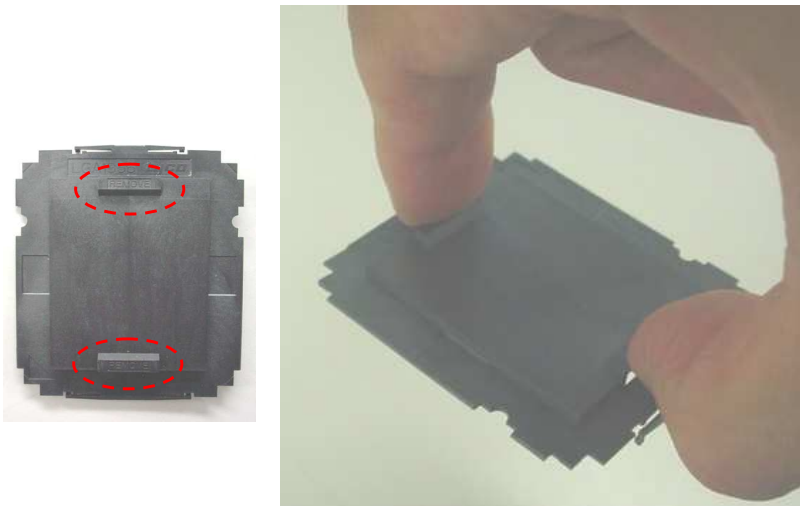


Fig.63 Grasp position the tab marked REMOVE of plastic cap

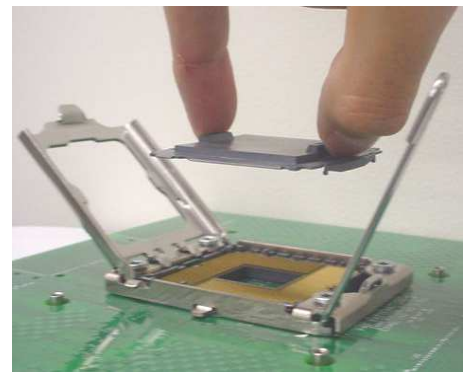


Fig.64

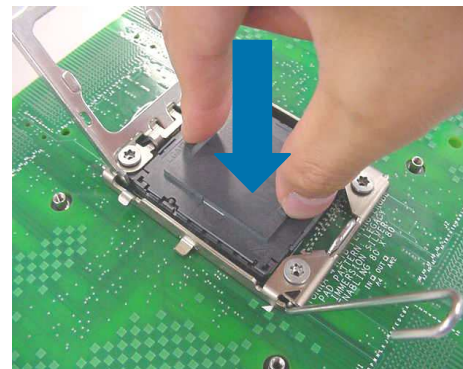


Fig.65

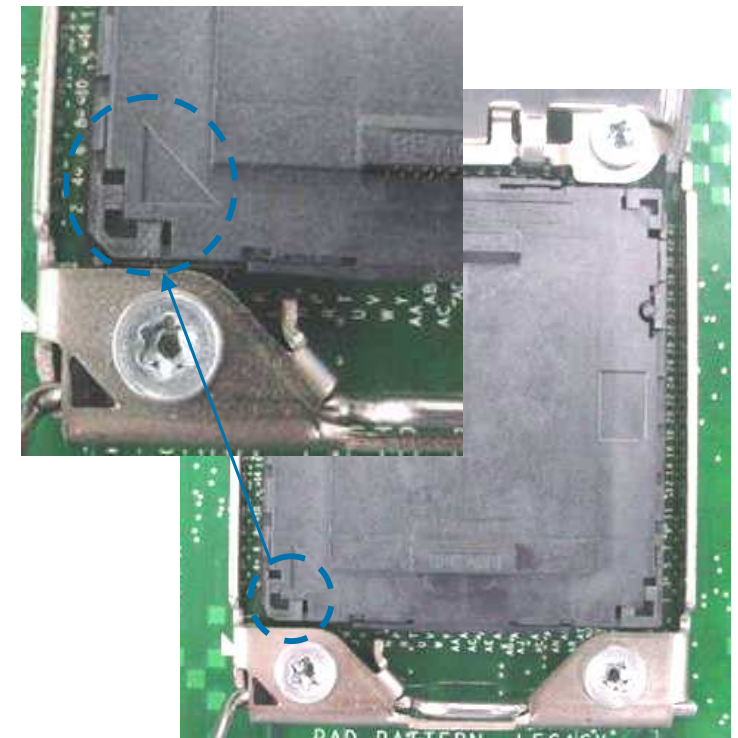


Fig.66

7. Attach PnP cap

7.4 Attach PnP cap - Prohibition

CAUTION

Contact can be bent easily by incorrect operation. DO NOT touch contact grid area (Fig.67)
DO NOT put the inclined PnP cap on the socket (Fig.69)

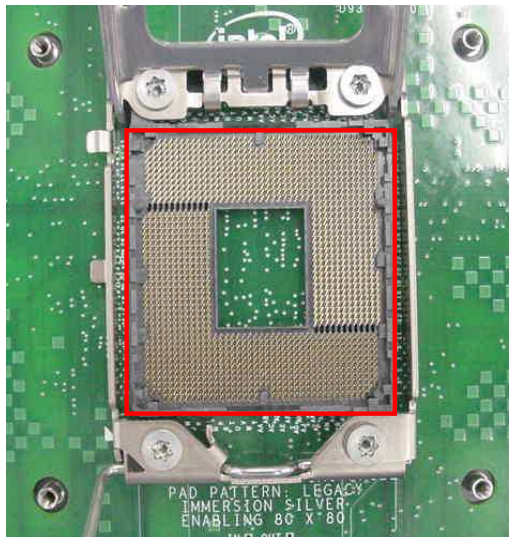


Fig.67

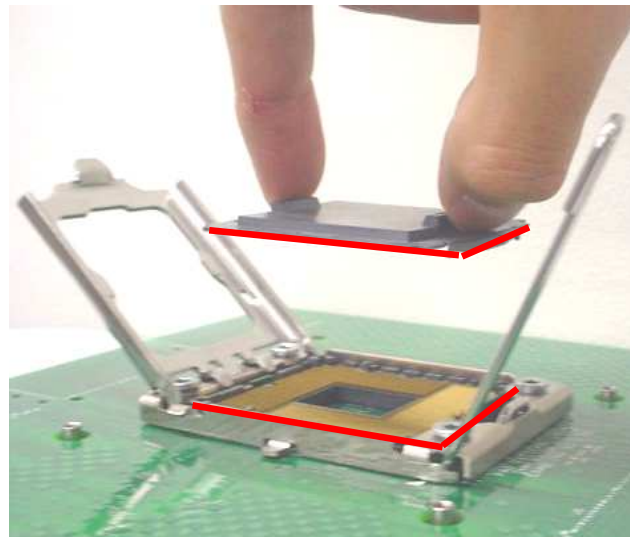


Fig.68

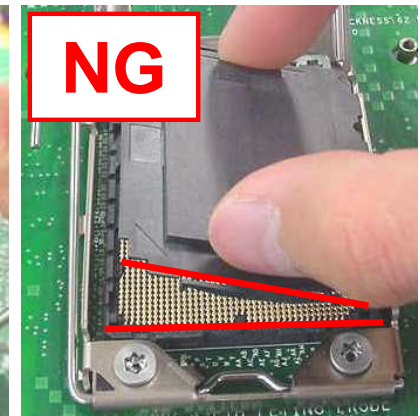


Fig.69

7. Attach PnP cap

7.5 Attach PnP cap – Close load plate and hook lever

Rotate the load plate down to “LOAD PLATE CLOSE” position as shown in Fig.70
Rotate the lever down to closed position until the lever engages the locking hook as shown Fig.72

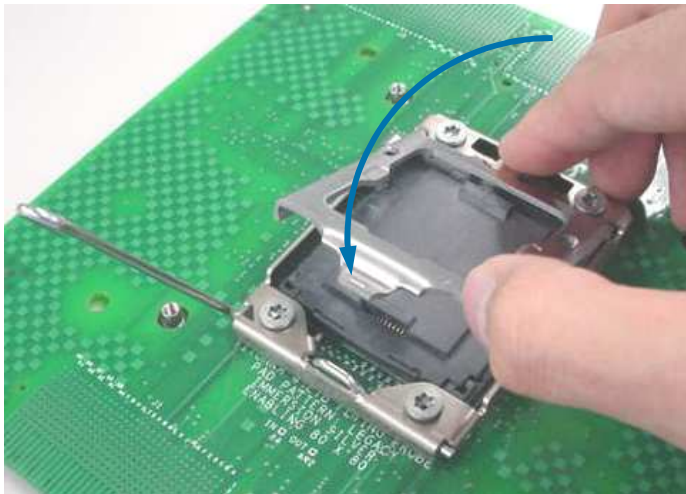


Fig.70 Close load plate

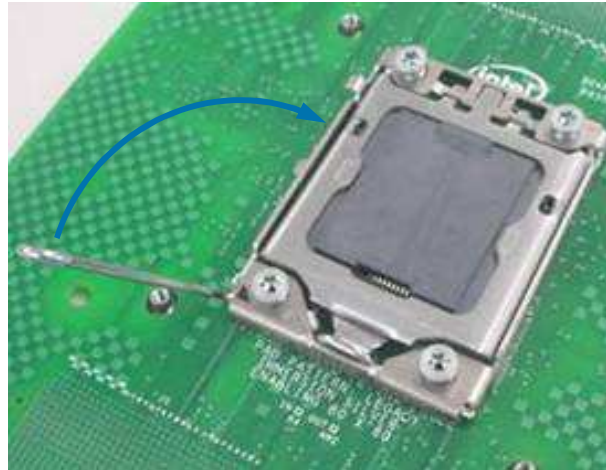


Fig.71 Rotate lever



Fig.72 Completion

Lever Actuated Land Grid Array LGA1366 / LGA1356 Socket

Instruction Sheet
411-78289
28 Apr '11 Rev.C

REV	REV. RECORD	PREPARED		CHECK		APPROVAL	
A	RELEASE	Y.SEKIBA	24 Sep '08	Y.SEKIBA	24 Sep '08	T.NAKASHIMA	24 Sep '08
B	REVISED	T.SENGOKU	25 May '09	Y.SEKIBA	25 May '09	T.NAKASHIMA	25 May '09
C	REVISED	Y.TAKAHASHI	26 Apr '11	Y.SEKIBA	26 Apr '11	T.NAKASHIMA	26 Apr '11