

Lenovo ideapad 520 Hardware Maintenance Manual

Lenovo™

Notes:

- Before using this information and the product it supports, be sure to read the general information under “Notices” on page 77.
- This manual applies to the following models: Lenovo ideapad 520-15IKB/Lenovo ideapad 520H-15IKB/ Lenovo ideapad 520L-15IKB/Lenovo ideapad 520R-15IKB/ Lenovo ideapad 520E-15IKB.
The illustrations used in this manual are for Lenovo ideapad 520-15IKB unless otherwise stated.

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Contents

About this manual	iv
Safety information.....	1
General safety	2
Electrical safety	3
Safety inspection guide	5
Handling devices that are sensitive to electrostatic discharge.....	6
Grounding requirements.....	6
Safety notices: multilingual translations.....	7
Laser compliance statement.....	14
Important service information.....	16
Strategy for replacing FRUs	16
Strategy for replacing a hard disk drive	17
Important notice for replacing a system board	17
Important information about replacing RoHS compliant FRUs	18
General checkout	19
What to do first	20
Power system checkout.....	21
Checking the AC adapter	21
Checking operational charging	22
Checking the battery pack	22
Related service information	23
Restoring the factory contents by using recovery system	23
Restore of factory default	23
Passwords	24
Power-on password	24
Hard-disk password.....	24
Administrator password	24
Power management	25
Putting the computer to sleep or shutting it down	25
Putting your computer to sleep	25
Shutting down the computer	25
Lenovo ideapad 520	26
Specifications	26
Status indicators	28
Fn key combinations/Hotkeys.....	29
FRU replacement notices	30
Screw notices	30
Removing and replacing an FRU	31
1010 Optical drive.....	32
1020 Base cover.....	33
1030 Battery pack.....	35
1040 Hard disk drive.....	37
1050 DIMM	39
1060 PCI Express Mini Card for wireless LAN.....	40
1070 Fan and heat sink assembly	43
1080 ODD Board.....	46
1090 Speaker	47
1100 Upper case.....	48
1110 System board	50
1120 LCD unit.....	52
1130 LCD hinges	54
1140 EDP cable and integrated camera	56
Locations	58
Front and right-side view	58
Bottom and left-side view	59
Parts list.....	60
Overall	61
LCD FRUs	73
Miscellaneous parts	74
AC adapters	75
Screws	76
Notices.....	77
Trademarks	78

About this manual

This manual contains service and reference information for the following Lenovo product:

Lenovo ideapad 520-15IKB/Lenovo ideapad 520H-15IKB/

Lenovo ideapad 520L-15IKB/Lenovo ideapad 520R-15IKB/

Lenovo ideapad 520E-15IKB

Use this manual to troubleshoot problems.

The manual is divided into the following sections:

- The common sections provide general information, guidelines, and safety information required for servicing computers.
- The product-specific section includes service, reference, and product-specific parts information.

Important:

This manual is intended only for trained servicers who are familiar with Lenovo products. Use this manual to troubleshoot problems effectively.

Before servicing a Lenovo product, make sure to read all the information under “Safety information” on page 1 and “Important service information” on page 16.

Safety information

This chapter presents the following safety information that you need to get familiar with before you service a Lenovo ideapad 520-15IKB/
Lenovo ideapad 520H-15IKB/Lenovo ideapad 520L-15IKB/
Lenovo ideapad 520R-15IKB/Lenovo ideapad 520E-15IKB computer:

- “General safety” on page 2
- “Electrical safety” on page 3
- “Safety inspection guide” on page 5
- “Handling devices that are sensitive to electrostatic discharge” on page 6
- “Grounding requirements” on page 6
- “Safety notices: multilingual translations” on page 7
- “Laser compliance statement” on page 14

General safety

Follow these rules below to ensure general safety:

- Observe a good housekeeping in the area where the machines are put during and after the maintenance.
- When lifting any heavy object:
 1. Make sure that you can stand safely without slipping.
 2. Distribute the weight of the object equally between your feet.
 3. Use a slow lifting force. Never move suddenly or twist when you attempt to lift it.
 4. Lift it by standing or pushing up with your leg muscles; this action could avoid the strain from the muscles in your back. Do not attempt to lift any object that weighs more than 16 kg (35 lb) or that you think is too heavy for you.
- Do not perform any action that causes hazards to the customer, or that makes the machine unsafe.
- Before you start the machine, make sure that other service representatives and the customer are not in a hazardous position.
- Please remove covers and other parts in a safe place, away from all personnel, while you are servicing the machine.
- Keep your toolcase away from walk areas so that other people will not trip over it.
- Do not wear loose clothing that can be trapped in the moving parts of the machine. Make sure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.
- Insert the ends of your necktie or scarf inside clothing or fasten it with the nonconductive clip, about 8 centimeters (3 inches) from the end.
- Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for your clothing.

Attention: Metal objects are good electrical conductors.
- Wear safety glasses when you are hammering, drilling, soldering, cutting wire, attaching springs, using solvents, or working in any other conditions that may be hazardous to your eyes.
- After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.
- Reinstall all covers correctly before returning the machine to the customer.
- Fan louvers on the machine help to prevent the overheating of internal components. Do not obstruct fan louvers or cover them with labels or stickers.

Electrical safety

Observe the following rules when working on electrical equipments.

Important:

Use only approved tools and test equipments. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.

Many customers have rubber floor mats near their machines that contain small conductive fibers to decrease electrostatic discharges. Do not use such kind of mat to protect yourself from electrical shock.

- Find the room emergency power-off (EPO) switch, disconnecting switch or electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
- Do not work alone under hazardous conditions or near the equipment that has hazardous voltages.
- Disconnect all power before:
 - Performing a mechanical inspection
 - Working near power supplies
 - Removing or installing main units
- Before you start to work on the machine, unplug the power cord. If you cannot unplug it, ask the customer to power-off the wall box that supplies power to the machine, and to lock the wall box in the off position.
- If you need to work on a machine that has exposed electrical circuits, observe the following precautions:

- Ensure that another person, familiar with the power-off controls, is near you.

Attention: Another person must be there to switch off the power, if necessary.

- Use only one hand when working with powered-on electrical equipment; keep the other hand in your pocket or behind your back.

Attention: An electrical shock can occur only when there is a complete circuit. By observing the above rule, you may prevent a current from passing through your body.

- When using testers, set the controls correctly and use the approved probe leads and accessories for that tester.
 - Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames.

Observe the special safety precautions when you work with very high voltages; instructions for these precautions are in the safety sections of maintenance information. Be extremely careful when you measure the high voltages.

- Regularly inspect and maintain your electrical hand tools for safe operational condition.
- Do not use worn or broken tools and testers.
- Never assume that power has been disconnected from a circuit. First, check it to make sure that it has been powered off.

- Always look carefully for possible hazards in your work area. Examples of these hazards are moist floors, nongrounded power extension cables, power surges, and missing safety grounds.
- Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive; such touching can cause personal injury and machine damage.
- Do not service the following parts with the power on when they are removed from their normal operating places in a machine:
 - Power supply units
 - Pumps
 - Blowers and fans
 - Motor generatorsand similar units. (This practice ensures correct grounding of the units.)
- If an electrical accident occurs:
 - Caution: do not become a victim yourself.
 - Switch off the power.
 - Send the victim to get medical aid.

Safety inspection guide

The purpose of this inspection guide is to assist you in identifying potential unsafe conditions. As each machine was designed and built, required safety items were installed to protect users and service personnel from injury. This guide addresses only those items. You should use good judgment to identify potential safety hazards according to the attachment of non-Lenovo features or options not covered by this inspection guide.

If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem.

Consider these conditions and the safety hazards they present:

- Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock)
- Explosive hazards, such as a damaged CRT face or a bulging capacitor
- Mechanical hazards, such as loose or missing hardware

To determine whether there are any potential unsafe conditions, use the following checklist at the beginning of every service task. Begin the checks with the power off, and the power cord disconnected.

Checklist:

1. Check exterior covers for damage (loose, broken, or sharp edges).
2. Turn off the computer. Disconnect the power cord.
3. Check the power cord for:
 - a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and the frame ground.
 - b. The power cord should be the type specified in the parts list.
 - c. Insulation must not be frayed or worn.
4. Check for cracked or bulging batteries.
5. Remove the cover.
6. Check for any obvious non-Lenovo alterations. Use good judgment as to the safety of any non-Lenovo alterations.
7. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
8. Check for worn, frayed, or pinched cables.
9. Check that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

Handling devices that are sensitive to electrostatic discharge

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

Notes:

1. Use product-specific ESD procedures when they exceed the requirements noted here.
2. Make sure that the ESD protective devices you use have been certified (ISO 9000) as fully effective.

When handling ESD-sensitive parts:

- Keep the parts in protective packages until they are inserted into the product.
- Avoid contact with other people.
- Wear a grounded wrist strap against your skin to eliminate static on your body.
- Prevent the part from touching your clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.
- Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

Note:

The use of a grounding system to guard against ESD damage is desirable but not necessary.

- Attach the ESD ground clip to any frame ground, ground braid, or green-wire ground.
- When working on a double-insulated or battery-operated system, use an ESD common ground or reference point. You can use coax or connector-outside shells on these systems.
- Use the round ground prong of the ac plug on ac-operated computers.

Grounding requirements

Electrical grounding of the computer is required for operator safety and correct system function. Proper grounding of the electrical outlet can be verified by a certified electrician.

Safety notices: multilingual translations

The safety notices in this section are provided in English, French, German, Hebrew, Italian, Japanese, and Spanish.

Safety notice 1

Before the computer is powered on after FRU replacement, make sure all screws, springs, and other small parts are in place and are not left loose inside the computer. Verify this by shaking the computer and listening for rattling sounds. Metallic parts or metal flakes can cause electrical shorts.

Avant de remettre l'ordinateur sous tension après remplacement d'une unité en clientèle, vérifiez que tous les ressorts, vis et autres pièces sont bien en place et bien fixées. Pour ce faire, secouez l'unité et assurez-vous qu'aucun bruit suspect ne se produit. Des pièces métalliques ou des copeaux de métal pourraient causer un court-circuit.

Bevor nach einem FRU-Austausch der Computer wieder angeschlossen wird, muß sichergestellt werden, daß keine Schrauben, Federn oder andere Kleinteile fehlen oder im Gehäuse vergessen wurden. Der Computer muß geschüttelt und auf Klappergeräusche geprüft werden. Metallteile oder-splitter können Kurzschlüsse erzeugen.

לפני הפעלת המחשב לאחר החלפת FRU יש לוודא
שכל הברגים, הקפיצים, והלולס קיימים ואינם נמצאים
בפרקם ולא מושמעו בוון המחשב. יד לרווחא
ואת, ש, לא ליליל את מוחשב להתקשו לילוי קרות שיקוש.
חלי או שבוי מוחכת עלילום נלאה לקרים חמילים.

Prima di accendere l'elaboratore dopo che è stata effettuata la sostituzione di una FRU, accertarsi che tutte le viti, le molle e tutte le altre parti di piccole dimensioni siano nella corretta posizione e non siano sparse all'interno dell'elaboratore. Verificare ciò scuotendo l'elaboratore e prestando attenzione ad eventuali rumori; eventuali parti o pezzetti metallici possono provocare cortocircuiti pericolosi.

FRU の交換後、コンピュータの電源を入れる前に、ねじ、バネ、その他の小さな部品がすべて正しい位置にあり、またコンピュータの内部で緩んでいないことを確認してください。

これを確認するには、コンピュータを振って、カチャカチャと音がしないか確かめます。金属部品や金属破片はショートの原因になることがあります。

Antes de encender el sistema despues de sustituir una FRU, compruebe que todos los tornillos, muelles y demás piezas pequeñas se encuentran en su sitio y no se encuentran sueltas dentro del sistema. Compruébelo agitando el sistema y escuchando los posibles ruidos que provocarían. Las piezas metálicas pueden causar cortocircuitos eléctricos.

Safety notice 2

⚠ DANGER

Some standby batteries contain a small amount of nickel and cadmium. Do not disassemble a standby battery, recharge it, throw it into fire or water, or short-circuit it. Dispose of the battery as required by local ordinances or regulations. Use only the battery in the appropriate parts listing. Use of an incorrect battery can result in ignition or explosion of the battery.

Certaines batteries de secours contiennent du nickel et du cadmium. Ne les démontez pas, ne les rechargez pas, ne les exposez ni au feu ni à l'eau. Ne les mettez pas en court-circuit. Pour les mettre au rebut, conformez-vous à la réglementation en vigueur. Lorsque vous remplacez la pile de sauvegarde ou celle de l'horloge temps réel, veillez à n'utiliser que les modèles cités dans la liste de pièces détachées adéquate. Une batterie ou une pile inappropriée risque de prendre feu ou d'explorer.

Die Bereitschaftsbatterie, die sich unter dem Diskettenlaufwerk befindet, kann geringe Mengen Nickel und Cadmium enthalten. Sie darf nicht zerlegt, wiederaufgeladen, kurgeschlossen, oder Feuer oder Wasser ausgesetzt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzten der Bereitschafts-oder Systembatterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

טלולות המותג מסוימות מוכחות במקומות צבאיים
של גורם קדום או של גורם טריטוריאלי הרשות
לשונו או שמו, להשליך או תזקע או
לזרע או לזרע וחתה. יש לשלול את הסוללה
בדריש לעזיז התיקונת והוחזרה לממיינים. יש
לשימוש רק בסוללה מומומעה ברשותה החקלאית
המאנימה. ישמש סוללה אל מזמין עילו
ל祖母 להזיה או החופצות לש הסוללה.

Alcune batterie di riserva contengono una piccola quantità di nichel e cadmio. Non smontarle, ricaricarle, gettarle nel fuoco o nell'acqua né cortocircuitarle. Smaltirle secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). Quando si sostituisce la batteria dell'RTC (real time clock) o la batteria di supporto, utilizzare soltanto i tipi inseriti nell'appropriato Catalogo parti. L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

予備バッテリーの中には少量のニッケルとカドミウムが含まれているものがあります。したがって、予備バッテリーの分解、再充電、火または水の中への投棄、またはショートさせることは決して行わないでください。バッテリーを廃棄する場合は地方自治体の条例に従ってください。適切なバッテリー・リストにあるバッテリーだけを使用してください。誤ったバッテリーを使用すると、バッテリーが発火したり、爆発したりすることがあります。

Algunas baterías de reserva contienen una pequeña cantidad de níquel y cadmio. No las desmonte, ni recargue, ni las eche al fuego o al agua ni las cortocircuite. Deséchelas tal como dispone la normativa local. Utilice sólo baterías que se encuentren en la lista de piezas. La utilización de una batería no apropiada puede provocar la ignición o explosión de la misma.

Safety notice 3**⚠ DANGER**

The battery pack contains small amounts of nickel. Do not disassemble it, throw it into fire or water, or short-circuit it. Dispose of the battery pack as required by local ordinances or regulations. Use only the battery in the appropriate parts listing when replacing the battery pack. Use of an incorrect battery can result in ignition or explosion of the battery.

La batterie contient du nickel. Ne la démontez pas, ne l'exposez ni au feu ni à l'eau. Ne la mettez pas en court-circuit. Pour la mettre au rebut, conformez-vous à la réglementation en vigueur. Lorsque vous remplacez la batterie, veillez à n'utiliser que les modèles cités dans la liste de pièces détachées adéquate. En effet, une batterie inappropriée risque de prendre feu ou d'exploser.

Akkus enthalten geringe Mengen von Nickel. Sie dürfen nicht zerlegt, wiederaufgeladen, kurzgeschlossen, oder Feuer oder Wasser ausgesetzt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen der Batterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

מארז הסוללה מכיל כמות קטנה של ניקל
ומדיום. אין לפולק או פגוז סוללה. להשליך
אתו לאש או מים או לבלצ' אותו. ש. סלולר את
מארז הסוללה בדוחש על ידי החקנות
והוחיקות המקובלות. יש להעתמס מתקין הסוללה
הומוגני בנסיבות תחילה. יישלחו דגון הלהמת
תאזרחי סוללה. שטמש בטלול אל מזניאור עלייל
לגורום להנאה או החבצות של הסוללה.

La batteria contiene piccole quantità di nichel. Non smontarla, gettarla nel fuoco o nell'acqua né cortocircuitarla. Smaltrala secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). Quando si sostituisce la batteria, utilizzare soltanto i tipi inseriti nell'appropriato Catalogo parti. L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

パッテリー・パックには少量のニッケルが含まれています。パッテリー・パックを分解したり、火または水の中に投げ込んだり、ショートさせないでください。パッテリー・パックの廃棄にあたっては、地方自治体の条例または規則に従ってください。パッテリー・パックを交換するときは、適切なパーツ。リストにあるパッテリーだけを使用してください。誤ったパッテリーを使用すると、パッテリーが発火したり、爆発したりすることがあります。

Las baterías contienen pequeñas cantidades de níquel. No las desmonte, ni recargue, ni las eche al fuego o al agua ni las cortocircuite. Deséchelas tal como dispone la normativa local. Utilice sólo baterías que se encuentren en la lista de piezas al sustituir la batería. La utilización de una batería no apropiada puede provocar la ignición o explosión de la misma.

Safety notice 4

⚠ DANGER

The lithium battery can cause a fire, an explosion, or a severe burn. Do not recharge it, remove its polarized connector, disassemble it, heat it above 100°C (212°F), incinerate it, or expose its cell contents to water. Dispose of the battery as required by local ordinances or regulations. Use only the battery in the appropriate parts listing. Use of an incorrect battery can result in ignition or explosion of the battery.

La pile de sauvegarde contient du lithium. Elle présente des risques d'incendie, d'explosion ou de brûlures graves. Ne la rechargez pas, ne retirez pas son connecteur polarisé et ne la démontez pas. Ne l'exposez pas à une température supérieure à 100°C, ne la faites pas brûler et n'en exposez pas le contenu à l'eau. Mettez la pile au rebut conformément à la réglementation en vigueur. Une pile inappropriée risque de prendre feu ou d'exploser.

Die Systembatterie ist eine Lithiumbatterie. Sie kann sich entzünden, explodieren oder schwere Verbrennungen hervorrufen. Batterien dieses Typs dürfen nicht aufgeladen, zerlegt, über 100 C erhitzt oder verbrannt werden. Auch darf ihr Inhalt nicht mit Wasser in Verbindung gebracht oder der zur richtigen Polung angebrachte Verbindungsstecker entfernt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen der Batterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

טלות לתיוֹם לילָה לדורַם שְׁרִירָה, להרמְצָצָת וְאֶל
לְמוּנוֹב קְשָׁתָה. אֵין לְשִׁין אוֹתָה חֲדַשָּׁה לְלַקְקָת תְּאַחֲרָה
הַמְּכוּבָּשׂ עַלָּה. פְּרֹךְ וּוֹהָה וְלִסְמָמָתָה לְלַמְּפָרוּוֹת
הַעֲלָה לְעַלְלָתָה לְלַיְוִוָּה. אֵין לְרוֹחָה תְּאַחֲרָה אֵין
לְשִׁוְרָה אֶת גּוֹן כְּתָן מְלָכָס. שׁ. שׁ לְלַקְקָת תְּאַחֲרָה
בְּתִמְנּוֹת וּבְהַקְּרָבָה תְּמָנוֹתָיִם. שׁ. שׁ לְשִׁמְשָׁה כַּר בְּדַולָּה
הַמְּוּמָה בְּשִׁמְשָׁה תְּחִילָה תְּמָנוֹתָיִם. שׁ. שׁ מְשֻׁשָׁה בְּסִולָּה
אַחֲרָה לְלַיְלָה לְגַוְתָּה לְכַבְּגָת שִׁירָה וְהַטְמָנוֹת.

La batteria di supporto e una batteria al litio e può incendiarsi, esplodere o procurare gravi ustioni. Evitare di ricaricarla, smontarne il connettore polarizzato, smontarla, riscalarla ad una temperatura superiore ai 100 gradi centigradi, incenderla o gettarla in acqua. Smaltirla secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

リチウム・バッテリーは、火災、爆発、または重症のやけどを引き起こすことがあります。バッカアップ・バッテリーの充電、その極性コネクターの取り外し、バッテリー本体の分解、
100 °C (212 °F) 以上への加熱、焼却、電池の中身を水に浸すことなどしないでください。
バッテリーを廃棄する場合は地方自治体の条例に従ってください。適切な
バッテリー・リストにあるバッテリーだけを使用してください。誤ったバッテリーを
使用すると、バッテリーが発火したり、爆発したりすることがあります。

La batería de repuesto es una batería de litio y puede provocar incendios, explosiones o quemaduras graves. No la recargue, ni quite el conector polarizado, ni la desmonte, ni caliente por encima de los 100°C (212°F), ni la incinere ni exponga el contenido de sus celdas al agua. Deséchela tal como dispone la normativa local.

Safety notice 5

If the LCD breaks and the fluid from inside the LCD gets into your eyes or on your hands, immediately wash the affected areas with water at least for 15 minutes. Seek medical care if any symptoms caused by the fluid are present after washing.

Si le panneau d'affichage à cristaux liquides se brise et que vous recevez dans les yeux ou sur les mains une partie du fluide, rincez-les abondamment pendant au moins quinze minutes. Consultez un médecin si des symptômes persistent après le lavage.

Die Leuchtstoffröhre im LCD-Bildschirm enthält Quecksilber. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Der LCD-Bildschirm besteht aus Glas und kann zerbrechen, wenn er unsachgemäß behandelt wird oder der Computer auf den Boden fällt. Wenn der Bildschirm beschädigt ist und die darin befindliche Flüssigkeit in Kontakt mit Haut und Augen gerät, sollten die betroffenen Stellen mindestens 15 Minuten mit Wasser abgespült und bei Beschwerden anschließend ein Arzt aufgesucht werden.

אם מסך הจอ נזק או נוזל מותך המסך באבגוי
עם ליטרים או ליטר, טפל תחאזרו נזקם מייד מים במשען
15 דקות לפחות. נס לבקש עזרה רפואי אם סימני הנזק
מהונע עם הנוזל. גמישים לאחר השינוי.

Nel caso che caso l'LCD si dovesse rompere ed il liquido in esso contenuto entrasse in contatto con gli occhi o le mani, lavare immediatamente le parti interessate con acqua corrente per almeno 15 minuti; poi consultare un medico se i sintomi dovessero permanere.

LCD が破損し、LCD の中の液体が目に入ったり、手に触れたりした場合は、液体が触れた部分を少なくとも 15 分間洗い流してください。洗い流した後に、液体によって何らかの症状が現れた場合は、医師の治療を受けてください。

Si la LCD se rompe y el fluido de su interior entra en contacto con sus ojos o sus manos, lave inmediatamente las áreas afectadas con agua durante 15 minutos como mínimo. Obtenga atención médica si se presenta algún síntoma del fluido después de lavarse.

Safety notice 6

⚠ DANGER

To avoid shock, do not remove the plastic cover that protects the lower part of the inverter card.

Afin d'éviter tout risque de choc électrique, ne retirez pas le cache en plastique protégeant la partie inférieure de la carte d'alimentation.

Aus Sicherheitsgründen die Kunststoffabdeckung, die den unteren Teil der Spannungswandlerplatine umgibt, nicht entfernen.

כדי למנוע חשמל מוגבר, אינן להסיר את מסכת הפלסטיק
המנגעל חלקו החתחתו של כבכיתיס ההפוך.

Per evitare scosse elettriche, non rimuovere la copertura in plastica che avvolge la parte inferiore della scheda invertitore.

感電を防ぐため、インバーター・カードの下部を保護しているプラスチック・カバーを外さないでください。

Para evitar descargas, no quite la cubierta de plástico que rodea la parte baja de la tarjeta invertida.

Safety notice 7

⚠ DANGER

Though the main batteries have low voltage, a shorted or grounded battery can produce enough current to burn personnel or combustible materials.

Bien que le voltage des batteries principales soit peu élevé, le court-circuit ou la mise à la masse d'une batterie peut produire suffisamment de courant pour brûler des matériaux combustibles ou causer des brûlures corporelles graves.

Obwohl Hauptbatterien eine niedrige Spannung haben, können sie doch bei Kurzschluß oder Erdung genug Strom abgeben, um brennbare Materialien zu entzünden oder Verletzungen bei Personen hervorzurufen.

אך שהסוללות הראשיות הן בעלות מתח נמוך, סוללה
זיהוב או מוגרת עליליה להיפוך ו/or מספק זורם גבוה
כיווית או להצתת חומרים דלקיים.

Sebbene le batterie di alimentazione siano a basso voltaggio, una batteria in corto circuito o a massa può fornire corrente sufficiente da bruciare materiali combustibili o provocare ustioni ai tecnici di manutenzione.

メイン・バッテリーの電圧は低くても、ショートしたり、接地したバッテリーが、作業者にやけどを負わせたり、可燃物を燃やすだけの電流を発生させる場合があります。

Aunque las baterías principales tienen un voltaje bajo, una batería cortocircuitada o con contacto a tierra puede producir la corriente suficiente como para quemar material combustible o provocar quemaduras en el personal.

Safety notice 8

⚠ DANGER

Before removing any FRU, turn off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any interconnecting cables.

Avant de retirer une unité remplaçable en clientèle, mettez le système hors tension, débranchez tous les cordons d'alimentation des socles de prise de courant, retirez la batterie et déconnectez tous les cordons d'interface.

Die Stromzufuhr muß abgeschaltet, alle Stromkabel aus der Steckdose gezogen, der Akku entfernt und alle Verbindungskabel abgenommen sein, bevor eine FRU entfernt wird.

לפני סילוק FRU כלשהו, יש לכבות את המחשב, לנתק את כל כבלי התחנה טעקי חיבור, להוציא את אמצעי תומילת, או לטע כליב ובודרו ארים אם יש כאלה.

Prima di rimuovere qualsiasi FRU, spegnere il sistema, scollegare dalle prese elettriche tutti i cavi di alimentazione, rimuovere la batteria e poi scollegare i cavi di interconnessione.

FRUを取り外す前に、ThinkPad の電源を切って、すべての電源コードをコンセントから外してください。次に、バッテリー・パックを外し、相互接続ケーブルを外してください。

Antes de quitar una FRU, apague el sistema, desenchufe todos los cables de las tomas de corriente eléctrica, quite la batería y, a continuación, desconecte cualquier cable de conexión entre dispositivos.

Laser compliance statement

Some models of Lenovo computer are equipped from the factory with an optical storage device such as a CD-ROM drive or a DVD-ROM drive. Such devices are also sold separately as options. If one of these drives is installed, it is certified in the U.S. to conform to the requirements of the Department of Health and Human Services 21 Code of Federal Regulations (DHHS 21 CFR) Subchapter J for Class 1 laser products. Elsewhere, the drive is certified to conform to the requirements of the International Electrotechnical Commission (IEC) 825 and CENELEC EN 60 825 for Class 1 laser products.

If a CD-ROM drive, a DVD-ROM drive, or another laser device is installed, note the following:

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.

O uso de controles, ajustes ou desempenho de procedimentos diferentes daqueles aqui especificados pode resultar em perigosa exposição à radiação.

凡未在这里指明的任何控制用法、调整、行为，
都会导致严重后果。

Pour éviter tout risque d'exposition au rayon laser, respectez les consignes de réglage et d'utilisation des commandes, ainsi que les procédures décrites.

Werden Steuer- und Einstellelemente anders als hier festgesetzt verwendet, kann gefährliche Laserstrahlung auftreten.

Az itt előírt eljárásoktól, beállításoktól és vezérlésekktől eltérni a lézersugárzás veszélye miatt kockázatos !

L'utilizzo di controlli, regolazioni o l'esecuzione di procedure diverse da quelle specificate possono provocare l'esposizione a.

Использование элементов настройки и выполнение процедур иных, чем указано здесь, может привести к опасному радиационному облучению.

Použíteľ konôr, úprav alebo iných vykonaní od iných výrobcov, aké je v tomto špecifikované, môžlo by mať za následok nebezpečenstvo vystavenia sa vyzárovaníu.

本書で指定された内容以外の、お客様による整備、調整、または手順を行つた場合、レーザー光の放射の危険があります。

El uso de controles o ajustes o la ejecución de procedimientos distintos de los aquí especificados puede provocar la exposición a radiaciones peligrosas.

Opening the CD-ROM drive, the DVD-ROM drive, or any other optical storage device could result in exposure to hazardous laser radiation. There are no serviceable parts inside those drives. **Do not open.**

A CD-ROM drive, a DVD-ROM drive, or any other storage device installed may contain an embedded Class 3A or Class 3B laser diode. Note the following:

DANGER

Emits visible and invisible laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.

Radiação por raio laser ao abrir. Não olhe fixo no feixe de luz, não olhe diretamente por meio de instrumentos ópticos e evite exposição direta com o feixe de luz.

**开启时会有激光发射时，请勿盯视激光光束，
视觉仪器，并且避免直接接触在激光光束之中。**

Rayonnement laser si carter ouvert. Évitez de fixer le faisceau, de le regarder directement avec des instruments optiques, ou de vous exposer au rayon.

Laserstrahlung bei geöffnetem Gerät. Nicht direkt oder über optische Instrumente in den Laserstrahl sehen und den Strahlungsbereich meiden.

Kinyitáskor lézersugár ! Ne nézzen bele se szabad szemmel, se optikai eszközökkel. Kerülje a sugárnyalábbal való érintkezést!

Aprendo l'unità vengono emesse radiazioni laser. Non fissare il fascio, non guardararlo direttamente con strumenti ottici e evitare l'esposizione diretta al fascio.

Открывая, берегитесь лазерного излучения.
Не смотрите на луч, не разглядывайте его
с помощью оптических инструментов, а также
избегайте прямого воздействия лазерного луча.

Ked je laserová jednotka otvorená. Vyhnite sa priamemu poľhadu a nehladte priamo s optickými nástrojmi do ľúča a vyhnite sa priamemu vystaveniu ľúčov.

開けるとレーザー光が放射されます。光線を見つめたり、光学機械を使って直接見たりしないでください。

Radiación láser al abrir. No mire fijamente ni examine con instrumental óptico el haz de luz. Evite la exposición directa al haz.

Important service information

This chapter presents the following important service information:

- “Strategy for replacing FRUs” on page 16
 - “Strategy for replacing a hard disk drive” on page 17
 - “Important notice for replacing a system board” on page 17
- “Important information about replacing RoHS compliant FRUs” on page 18

Important:

BIOS and device driver fixes are customer-installable. The BIOS and device drivers are posted on the customer support site:
<http://support.lenovo.com>.

Strategy for replacing FRUs

Before replacing parts:

Make sure that all software fixes, drivers, and BIOS downloads are installed before replacing any FRUs listed in this manual.

After a system board is replaced, ensure that the latest BIOS is loaded to the system board before completing the service action.

To download software fixes, drivers, and BIOS, follow the steps below:

1. Go to <http://support.lenovo.com>.
2. Enter the serial number or select a product or use Lenovo smart downloading.
3. Select the BIOS/Driver/Applications and download.
4. Follow the directions on the screen and install the necessary software.

Use the following strategy to prevent unnecessary expense for replacing and servicing FRUs:

- If you are instructed to replace an FRU, but the replacement does not solve the problem, reinstall the original FRU before you continue.
- Some computers have both a processor board and a system board. If you are instructed to replace either of them, and replacing one of them does not solve the problem, reinstall that board, and then replace the other one.
- If an adapter or a device consists of more than one FRU, any of the FRUs may be the cause of the error. Before replacing the adapter or device, remove the FRUs one by one to see if the symptoms change. Replace only the FRU that changed the symptoms.

Attention: The setup configuration on the computer you are servicing may have been customized. Running Automatic Configuration may alter the settings. Note the current configuration settings (using the View Configuration option); then, when service has been completed, verify that those settings remain in effect.

Strategy for replacing a hard disk drive

Always try to run a low-level format before replacing a hard disk drive. This will cause all customer data on the hard disk to be lost. Make sure that the customer has a current backup of the data before performing this action.

Attention: The drive startup sequence in the computer you are servicing may have been changed. Be extremely careful during write operations such as copying, saving, or formatting. If you select an incorrect drive, data or programs can be overwritten.

Important notice for replacing a system board

Some components mounted on a system board are very sensitive. Improper handling can cause damage to those components, and may cause a system malfunction.

Attention: When handling a system board:

- Do not drop the system board or apply any excessive force to it.
- Avoid rough handling of any kind.
- Avoid bending the system board and hard pushing to prevent cracking at each BGA (Ball Grid Array) chipset.

Important information about replacing RoHS compliant FRUs

RoHS, The Restriction of Hazardous Substances in Electrical and Electronic Equipment Directive (2002/95/EC) is a European Union legal requirement affecting the global electronics industry. RoHS requirements must be implemented on Lenovo products placed on the market after June 2006. Products on the market before June 2006 are not required to have RoHS compliant parts. If the original FRU parts are non-compliant, replacement parts can also be non-compliant. In all cases if the original FRU parts are RoHS compliant, the replacement part must also be RoHS compliant.

Note: RoHS and non-RoHS FRU part numbers with the same fit and function are identified with unique FRU part numbers.

Lenovo plans to transit to RoHS compliance well before the implementation date and expects its suppliers to be ready to support Lenovo's requirements and schedule in the EU. Products sold in 2005 and 2006 will contain some RoHS compliant FRUs. The following statement pertains to these products and any product Lenovo produces containing RoHS compliant FRUs.

RoHS compliant FRUs have unique FRU part numbers. Before or after the RoHS implementation date, failed RoHS compliant parts must always be replaced with RoHS compliant ones, so only the FRUs identified as compliant in the system HMM or direct substitutions for those FRUs may be used.

Products marketed before June 2006		Products marketed after June 2006	
Current or original part	Replacement FRU	Current or original part	Replacement FRU
Non-RoHS	Can be Non-RoHS	Must be RoHS	Must be RoHS
Non-RoHS	Can be RoHS		
Non-RoHS	Can sub to RoHS		
RoHS	Must be RoHS		

Note: A direct substitution is a part with a different FRU part number that is automatically shipped by the distribution center at the time of the order.

General checkout

This chapter presents the following information:

- “What to do first” on page 20
- “Power system checkout” on page 21

Before you go to the checkout, make sure to read the following important notes:

Important notes:

- Only certified trained personnel can service the computer.
- Before replacing any FRU, read the entire page on removing and replacing FRUs.
- Carefully remove screws for reuse when replacing FRUs.
- Be extremely careful during such write operations as copying, saving, or formatting. Drives in the computer that you are servicing sequence might have been altered. If you select an incorrect drive, data or programs might be overwritten.
- Replace an FRU only with another FRU of the correct model. When you replace an FRU, make sure that the machine model and the FRU part number are correct by referring to the FRU parts list.
- An FRU should not be replaced just because of a single, unreproducible failure. Single failures can occur for a variety of reasons that have nothing to do with a hardware defect, such as cosmic radiation, electrostatic discharge, or software errors. Consider replacing an FRU only when a problem recurs. If you suspect that an FRU is defective, clear the error logs and run the test again. If the error does not recur, do not replace the FRU.
- Be careful not to replace a nondefective FRU.

What to do first

When you do return an FRU, you must include the following information in the parts exchange form or parts return form that you attach to it:

1. Name and phone number of servicer
2. Date of service
3. Date on which the machine failed
4. Date of purchase
5. Procedure index and page number in which the failing FRU was detected
6. Failing FRU name and part number
7. Machine type, model number, and serial number
8. Customer's name and address

Note for warranty: During the warranty period, the customer may be responsible for repair costs if the computer damage was caused by misuse, accident, modification, unsuitable physical or operating environment, or improper maintenance by the customer.

The following is a list of some common items that are not covered under warranty and some symptoms that might indicate that the system was subjected to stress beyond normal use.

Before checking problems with the computer, determine whether the damage is covered under the warranty by referring to the following list:

The following are not covered under warranty:

- LCD panel cracked from the application of excessive force or from being dropped
- Scratched (cosmetic) parts
- Distortion, deformation, or discoloration of the cosmetic parts
- Plastic parts, latches, pins, or connectors that have been cracked or broken by excessive force
- Damage caused by liquid spilled into the system
- Damage caused by the improper insertion of a PC Card or the installation of an incompatible card
- Improper disk insertion or use of an optical drive
- Diskette drive damage caused by pressure on the diskette drive cover, foreign material in the drive, or the insertion of a diskette with multiple labels
- Damaged or bent diskette eject button
- Fuses blown by attachment of a nonsupported device
- Forgotten computer password (making the computer unusable)
- Sticky keys caused by spilling a liquid onto the keyboard
- Use of an incorrect AC adapter on laptop products

The following symptoms might indicate damage caused by nonwarranted activities:

- Missing parts might be a symptom of unauthorized service or modification.
- If the spindle of a hard disk drive becomes noisy, it may have been subjected to excessive force, or dropped.

Power system checkout

To verify a symptom, follow the steps below:

1. Turn off the computer.
2. Remove the battery pack.
3. Connect the AC adapter.
4. Make sure that power is supplied when you turn on the computer.
5. Turn off the computer.
6. Disconnect the AC adapter and install the charged battery pack.
7. Make sure that the battery pack supplies power when you turn on the computer.

If you suspect a power problem, see the appropriate one of the following power supply checkouts:

- “Checking the AC adapter” on page 21
- “Checking operational charging” on page 22
- “Checking the battery pack” on page 22

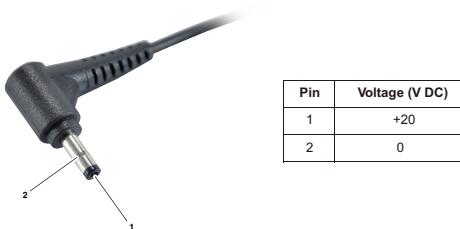
Checking the AC adapter

You are here because the computer fails only when the AC adapter is used.

- If the power-on indicator does not turn on, check the power cord of the AC adapter for correct continuity and installation.
- If the computer does not charge during operation, go to “Checking operational charging”.

To check the AC adapter, follow the steps below:

1. Unplug the AC adapter cable from the computer.
2. Measure the output voltage at the plug of the AC adapter cable. See the following figure:



Note: Output voltage for the AC adapter pin No. 2 may differ from the one you are servicing.

3. If the voltage is not correct, replace the AC adapter.
4. If the voltage is acceptable, do the following:

- Replace the system board.
- If the problem persists, go to “Lenovo ideapad 520” on page 26.

Note: Noise from the AC adapter does not always indicate a defect.

Checking operational charging

To check whether the battery charges properly during operation, use a discharged battery pack or a battery pack that has less than 50% of the total power remaining when installed in the computer.

Perform operational charging. If the battery status indicator or icon does not light on, remove the battery pack and let it return to room temperature. Reinstall the battery pack. If the charge indicator or icon is still off, replace the battery pack.

If the charge indicator still does not light on, replace the system board. Then reinstall the battery pack. If it is still not charged, go to the next section.

Checking the battery pack

Battery charging does not start until the Power Meter shows that less than 95% of the total power remains; under this condition the battery pack can charge to 100% of its capacity. This protects the battery pack from being overcharged or from having a shortened life.

To check your battery, move your cursor to the Power Meter icon in the icon tray of the Windows® taskbar and wait for a moment (but do not click it), and the percentage of battery power remaining is displayed. To get detailed information about the battery, double-click the Power Meter icon.

Note: If the battery pack becomes hot, it may not be able to be charged. Remove it from the computer and leave it at room temperature for a while. After it cools down, reinstall and recharge it.

Related service information

This chapter presents the following information:

- “Restoring the factory contents by using recovery system” on page 23
- “Passwords” on page 24
- “Power management” on page 25

Restoring the factory contents by using recovery system

Restore of factory default

The Lenovo ideapad 520-15IKB/Lenovo ideapad 520H-15IKB/
Lenovo ideapad 520L-15IKB/Lenovo ideapad 520R-15IKB/
Lenovo ideapad 520E-15IKB computers come with pre-installed recovery
system. In order to save application files and the initial backed up files of the
system, the hard disk in a Lenovo computer includes a hidden partition when
it is shipped. If you need to restore the system to the point of your first boot
up, just enter the recovery system. For details of the Recovery system, see
the User Guide for Recovery system.

Note: This will delete all the new data on the system partition (C drive), which
is not recoverable. Make sure to back up your critical data before you perform this
action.

Passwords

As many as three passwords may be needed for any Lenovo computer: the power-on password (POP), the hard disk password (HDP), and the administrator password.

If any of these passwords has been set, a prompt for it appears on the screen whenever the computer is turned on. The computer does not start until the password is entered.

Power-on password

A power-on password (POP) protects the system from being powered on by an unauthorized person. The password must be entered before an operating system can be booted.

Hard-disk password

There are two hard-disk passwords (HDPs):

- + User HDP - for the user
- + Master HDP - for the system administrator, who can use it to get access to the hard disk drive even if the user has changed the user HDP

Attention: If the user HDP has been forgotten, check whether a master HDP has been set. If it has, it can be used for access to the hard disk drive. If no master HDP is available, neither Lenovo nor Lenovo authorized service technicians provide any services to reset either the user or the master HDP, or to recover data from the hard disk drive. The hard disk drive can be replaced for a scheduled fee.

Administrator password

Administrator password controls the access of the whole setup utility. Only Administrator password was set then User password can be set. If Administrator password was cleared, the User password was cleared too.

Power management

Note: Power management modes are not supported for APM operating system.

Putting the computer to sleep or shutting it down

When you have finished working with your computer, you can put it to sleep or shut it down.

Putting your computer to sleep

If you will be away from your computer for only a short time, put the computer to sleep. When the computer is in sleep mode, you can quickly wake it to resume use, bypassing the startup process.

To put the computer to sleep, do one of the following:

- Close the display lid.
- Press the Power button.
- Open the start menu, and then select **Power**  → **Sleep**.

Attention: Wait until the power indicator light starts blinking (indicating that the computer is in sleep mode) before you move your computer. Moving your computer while the hard disk is spinning can damage the hard disk, causing loss of data.

To wake the computer, do one of the following:

- Press any key on the keyboard.
- Press the Power button.

Shutting down the computer

If you are not going to use your computer for a long time, shut it down.

To shut down the computer, do one of the following:

- Open the start menu, and then select **Power**  → **Shut down**.
- Right-click the **Start** button in the lower-left corner and select **Shut down or sign out** → **Shut down**.

Lenovo ideapad 520

This chapter presents the following product-specific service references and product-specific parts information:

- “Specifications” on page 26
- “Status indicators” on page 28
- “Fn key combinations/Hotkeys” on page 29
- “FRU replacement notices” on page 30
- “Removing and replacing an FRU” on page 31
- “Locations” on page 58
- “Parts list” on page 60

Specifications

The following table lists the specifications of the
Lenovo ideapad 520-15IKB/Lenovo ideapad 520H-15IKB/Lenovo ideapad
520L-15IKB/Lenovo ideapad 520R-15IKB/Lenovo ideapad 520E-15IKB:

Table 1. Specifications

Feature	Description
Processor	<ul style="list-style-type: none">• View the system properties of your computer. You can do this as follows: Open the Control Panel, and then select System and Security → System.
Bus architecture	
Graphic memory chip	<ul style="list-style-type: none">• Integrated graphics: Depends on CPU• Discreted graphics: NV Level 2:N16S-GTR
Display	<ul style="list-style-type: none">• 15.6" 16:9, 1,366 × 768 pixels HD / 1,920 × 1,080 pixels FHD
Standard memory	<ul style="list-style-type: none">• DDR4-2133 MHz,SODIMM × 1, On Borad × 1 (max 16 GB)
CMOS RAM	
Storage devices	<ul style="list-style-type: none">• HDD: 2.5-inch, 7.0 mm SATA II/SATA III• SSD: 2.5-inch / M.2 PCIE, SATA III/M.2
Optical drive	<ul style="list-style-type: none">• 9.0 mm, Read & Write
I/O port	<ul style="list-style-type: none">• USB 3.0 × 2• Combo audio jack × 1• HDMI port × 1• Type-C (USB 3.0) × 1• RJ-45 × 1• Memory card slot (SD/SDHC/SDXC/MMC)

Table 1. Specifications (continued)

Feature	Description
Audio	<ul style="list-style-type: none">• 3.5 mm Combo audio jack• 2 W speaker × 2
Bluetooth wireless	<ul style="list-style-type: none">• Combined in combo card
Keyboard	<ul style="list-style-type: none">• 6 rows Lenovo Keyboard
Integrated camera	<ul style="list-style-type: none">• HD
Battery	<ul style="list-style-type: none">• Polymer, 2 cells, 30 Wh / 35 Wh
AC adapter	<ul style="list-style-type: none">• 20 V DC, Integrated Graphics 45 W, Discrete Graphics 65 W
Pre-installed operating system	<ul style="list-style-type: none">• Win 10 64bits• Free-DOS• Singature OS

Status indicators

The system status indicators below show the computer status:



Table 2. Status indicators

Symbol	Indicator	Indicator status	Charge status	Meaning
1 🔌	Power	On (solid white)	---	The computer is powered on.
		Blinking	---	The computer is in sleep mode.
		Off	---	The computer is powered off.
2 ⚡	Battery	On (solid white)	Charging	The battery has more than 80% charge.
		On (solid amber)	Discharging	The battery has between 5% and 20% charge.
		Blinking slowly (white)	Charging	The battery has between 20% and 80% charge. When the battery reaches 80% charge, the light will stop blinking. However, charging will continue until the battery is fully charged.
		Blinking slowly (amber)	Charging	The battery has less than 20% charge. When the battery charge reaches 20%, the blinking color will change to white.
		Blinking quickly (amber)	Discharging	The battery has less than 5% charge.
		Off	Discharging	The battery has more than 20% charge.

Fn key combinations/Hotkeys

The following table shows the function of each combination of Fn with a function key.

Table 3. Fn key combinations

Fn + B:	Activates the break function.
Fn + P:	Activates the pause function.
Fn + C:	Enables/disables the scroll lock.
Fn + S:	Activates the system request.
Fn + ↑:	Activates the Pgup key function.
Fn + ↓:	Activates the Pgdn key function.
Fn + ←:	Activates the home key function.
Fn + →:	Activates the end key function.
Fn + Space (on select models):	Adjusts the keyboard backlight (off → dim → bright → off).

You can access certain system settings quickly by pressing the appropriate hotkeys.

Table 4. Hotkeys

 _{F1} :	Mutes/unmutes the sound.	 _{F7} :	Enables/disables Airplane mode.
 _{F2} :	Decreases the volume level.	 _{F8} :	Enables/disables the integrated camera.
 _{F3} :	Increases the volume level.	 _{F9} :	Locks the screen.
 _{F4} :	Enables/disables the microphone.	 _{F10} :	Toggles the display between the computer and an external device.
 _{F5} :	Refreshes the desktop or the currently active window.	 _{F11} :	Decreases the display brightness.
 _{F6} :	Enables/disables the touchpad.	 _{F12} :	Increases the display brightness.

Notes: You can use the Lenovo Setting to enable/disable the hotkey function.

FRU replacement notices

This section presents notices related to removing and replacing parts. Read this section carefully before replacing any FRU.

Screw notices

Loose screws can cause a reliability problem. In the Lenovo computer, this problem is addressed with special nylon-coated screws that have the following characteristics:

- They maintain tight connections.
- They do not easily come loose, even with shock or vibration.
- They are harder to tighten.

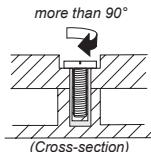
Do the following when you service this machine:

- Keep the screw kit in your tool bag.
- Carefully remove screws for reuse when replacing FRUs.
- Use a torque screwdriver if you have one.

Tighten screws as follows:

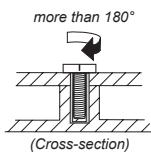
- **Plastic to plastic**

Turn an additional 90° after the screw head touches the surface of the plastic part:



- **Logic card to plastic**

Turn an additional 180° after the screw head touches the surface of the logic card:



- **Torque driver**

If you have a torque screwdriver , refer to the "Torque" column for each step.

- Make sure that you use the correct screws. If you have a torque screwdriver, tighten all screws firmly to the torque shown in the table. **Carefully remove screws for reuse when replacing FRUs. Make sure that all screws are tightened firmly.**
- Ensure torque screwdrivers are calibrated correctly following country specifications.

Removing and replacing an FRU

This section presents exploded figures with the instructions to indicate how to remove and replace the FRU. Make sure to observe the following general rules:

1. Do not attempt to service any computer unless you have been trained and certified. An untrained person runs the risk of damaging parts.
2. Before replacing any FRU, review "FRU replacement notices" on page 30.
3. Begin by removing any FRUs that have to be removed before the failing FRU. Any of such FRUs are listed at the top of the page. Remove them in the order in which they are listed.
4. Follow the correct sequence in the steps to remove the FRU, as given in the figures by the numbers in square callouts.
5. When turning a screw to replace an FRU, turn it in the direction as given by the arrow in the figure.
6. When removing the FRU, move it in the direction as given by the arrow in the figure.
7. To put the new FRU in place, reverse the removal procedures and follow any of the notes that pertain to replacement. For information about connecting and arranging internal cables, see "Locations" on page 58.
8. When replacing an FRU, use the correct screw as shown in the procedures.

DANGER

Before removing any FRU, turn off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any of the interconnecting cables.

Attention: After replacing an FRU, do not turn on the computer until you have made sure that all screws, springs, and other small parts are in place and none are loose inside the computer. Verify this by shaking the computer gently and listening for rattling sounds. Metallic parts or metal flakes can cause electrical short circuits.

Attention: The system board is sensitive to, and can be damaged by, electrostatic discharge. Before touching it, establish personal grounding by touching a ground point with one hand or using an electrostatic discharge (ESD) strap (P/N 6405959) to remove potential shock reasons.

Notes:

- This manual applies to the following models:
Lenovo ideapad 520-15IKB/Lenovo ideapad 520H-15IKB/Lenovo ideapad 520L-15IKB/Lenovo ideapad 520R-15IKB/Lenovo ideapad 520E-15IKB.
- The illustrations used in this manual are for Lenovo ideapad 520-15IKB unless otherwise stated.

1010 Optical drive

Figure 1. Removal steps of optical drive

Remove the screw **1**, then gently pull the optical drive out in the direction shown by arrow **2**.



Step	Screw (quantity)	Color	Torque
1	M2.5 × 7 mm, Phillips head, nylok-coated (1) D+C	Silver/ Black	3±0.3 kgf*cm

Remove the screw **3**, then carefully remove the optical drive bracket and bezel in the directions shown by arrows **4** and **5**.



Step	Screw (quantity)	Color	Torque
3	M2 × 3 mm, Phillips head, nylok-coated (1) BKT + ODD	Black	1.85±0.15 kgf*cm

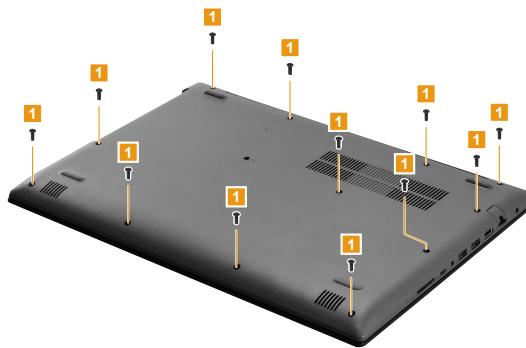
1020 Base cover

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32

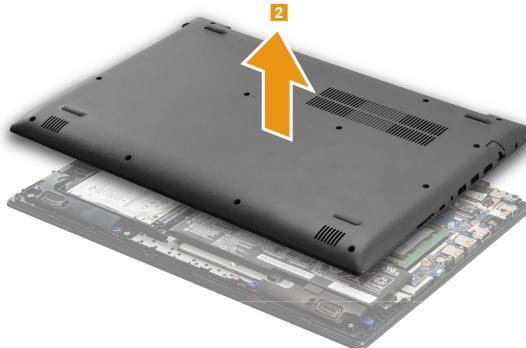
Figure 2. Removal steps of base cover

Remove the screws **1** from the bottom.



Step	Screw (quantity)	Color	Torque
1	M2.5 × 7 mm, Phillips head, nylok-coated (12) D+C	Silver/ Black	3±0.3 kgf*cm

Remove the base cover **2**.



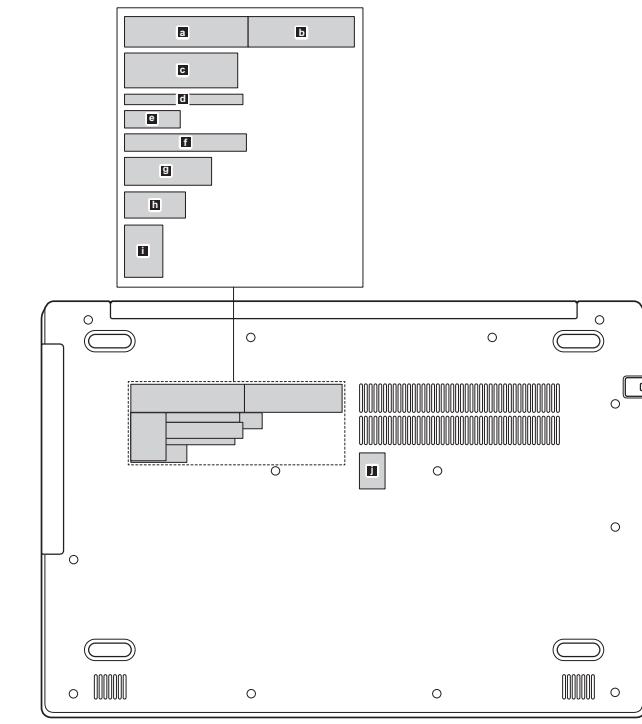
Note: Applying labels to the base cover

If you see any of the following labels on base cover, they need to be peeled off from the old base cover, and put on the new base cover.

- a** Rating label
- b** Print rating label
- c** Adapter label
- d** Argentina label
- e** Indonesia label
- f** TW label
- g** KCC label
- h** WL/BT label
- i** BIS label
- j** OS label

For some models, you also need to apply one or two FCC labels. Check the old base cover; if it has one or two FCC labels, find duplicates of them in the label kit and apply them to the new base cover.

For the location of each label, refer to the following figures:



1030 Battery pack

For access, remove this FRU:

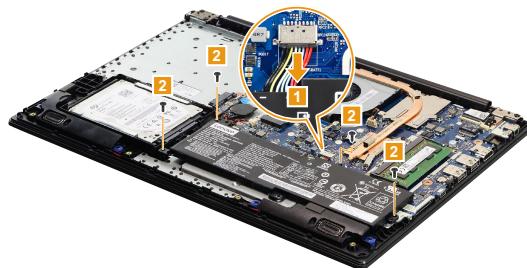
- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33

DANGER

Only use the battery specified in the parts list for your computer. Any other battery could ignite or explode.

Figure 3. Removal steps of battery pack

Unplug the battery pack connector in the direction shown by arrow **1**, then remove the screws **2**.

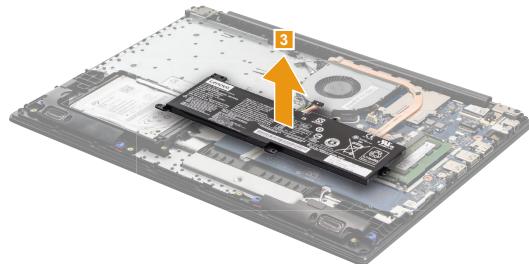


Step	Screw (quantity)	Color	Torque
2	M2 × 6 mm, Phillips head, nylok-coated (4) BATTERY+C	Black	1.85±0.15 kgf*cm

When installing: Make sure that the battery connector is attached firmly.

Figure 3. Removal steps of battery pack (continued)

Remove the battery pack in the direction shown by arrow **3**.



1040 Hard disk drive

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35

Attention:

- **Do not drop the hard disk drive or apply any physical shock to it.** The hard disk drive is sensitive to physical shock. Improper handling can cause damage and permanent loss of data.
- Before removing the drive, suggest the customer to backup all the information on it if possible.
- Never remove the drive while the system is operating or is in suspend mode.

Figure 4. Removal steps of hard disk drive

Push the hard disk drive in the direction shown by arrow **1**, at the same time insert a prying tool to pry it in the direction shown by arrow **2**.



Figure 4. Removal steps of hard disk drive (continued)

Remove the hard disk drive in the direction shown by arrow **3**.



When installing: Make sure that the connector is attached firmly.

Take out the HDD bracket in the direction shown by arrows **4**.



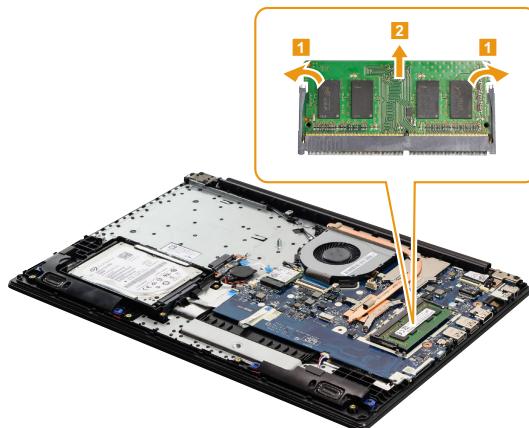
1050 DIMM

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35

Figure 5. Removal steps of DIMM

Release the two latches on both edges of the socket at the same time in the directions shown by arrows 1, and then unplug the DIMM in the direction shown by arrow 2.



When installing: Insert the notched end of the DIMM into the socket. Push the DIMM firmly, and pivot it until it snaps into place. Make sure that it is firmly fixed in the slot and is difficult to move.

Note: When replacing the memory is completed, you need to restart the computer after the first reboot.

1060 PCI Express Mini Card for wireless LAN

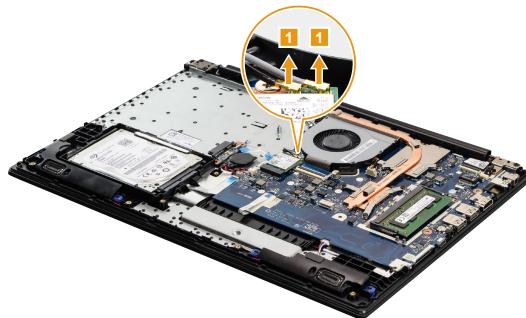
For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35

Important: The preinstalled WLAN module may only be replaced with a Lenovo approved module in order to comply with FCC and IC regulations. Refer to “Table 5. Parts list—Overall” on page 62 for Lenovo part numbers for the approved modules.

Figure 6. Removal steps of PCI Express Mini Card for wireless LAN

Disconnect the two wireless LAN cables (black, gray) 1.



In step 1, unplug the jacks by using the removal tool antenna RF connector (P/N: 08K7159), or pick up the connectors with your fingers and gently unplug them in the direction shown by the arrows.

Notes: The wireless LAN card has 2 cables in step 1.

The wireless LAN card in some models might have 3 cables in step 1.

Figure 6. Removal steps of PCI Express Mini Card for wireless LAN (continued)

Remove the screw **2**.



Step	Screw (quantity)	Color	Torque
3	M2 × 3 mm, Phillips head, nylok-coated (1) WLAN card +MB	Black	1.85±0.15 kgf*cm

Figure 6. Removal steps of PCI Express Mini Card for wireless LAN (continued)

Remove the card in the direction shown by arrow **3**.



When installing:

- In models with a wireless LAN card that has two antenna connectors, plug the black cable (1st) (MAIN) into the jack labeled **MAIN**, and the grey cable (2nd) (AUX) into the jack labeled **AUX** on the card.
- In models with a wireless LAN card that has three antenna connectors, plug the black cable (1st) (MAIN) into the jack labeled **1**, the grey cable (3rd) into the jack labeled **3**, and the white cable (2nd) (AUX) into the jack labeled **2** on the card.

1070 Fan and heat sink assembly

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35
- “1060 PCI Express Mini Card for wireless LAN” on page 40

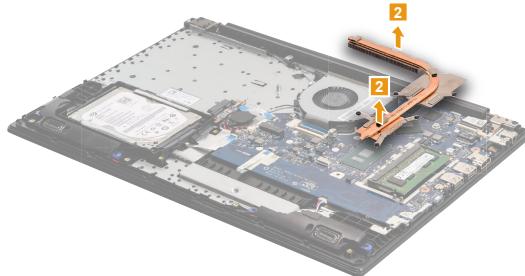
Figure 7. Removal steps of fan and heat sink assembly

Loosen the screws 1.

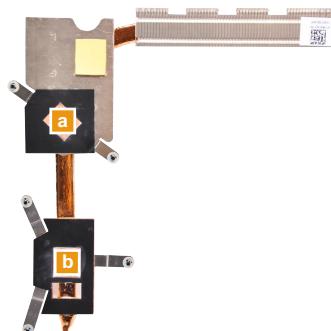


Figure 7. Removal steps of fan and heat sink assembly (continued)

Lift the heat sink in the direction shown by arrows **2**.



Attention: Do not handle the heat sink assembly roughly. Improper handling can cause distortion or deformation and imperfect contact with components.



When installing:

Before you attach the fan assembly to the computer, apply thermal grease, at an amount of 0.2 grams, to the **a** and **b** parts shown in the figure above. Either too much or too little grease application can cause a thermal problem due to imperfect contact with a component.

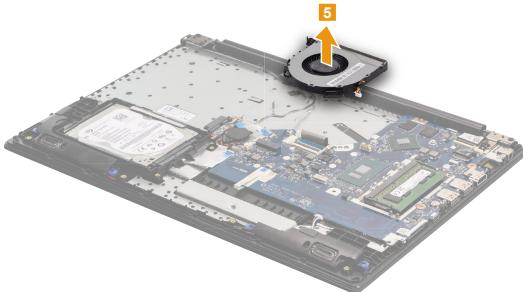
Figure 7. Removal steps of fan and heat sink assembly (continued)

Unplug the fan connector **3**. Remove the screw **4**. Release the cable from the cable guides.



Step	Screw (quantity)	Color	Torque
4	M2 × 6 mm, Phillips-head, nylok-coated (1) THERMAL+C	Black	1.85±0.15 kgf*cm

Lift the fan in the direction shown by arrow **5**.



When installing: Make sure that the connector is attached firmly.

1080 ODD Board

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35
- “1060 PCI Express Mini Card for wireless LAN” on page 40

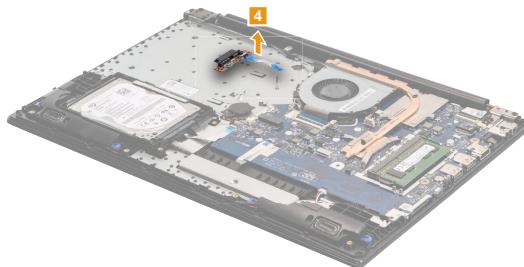
Figure 8. Removal steps of ODD board

Detach the ODD board connector in the directions shown by arrows **1** and **2**. Remove the screw **3**.



Step	Screw (quantity)	Color	Torque
3	M2 X 3 mm, Phillips head, nylok-coated (1) ODD BOARD+C	Silver	$1.85\pm0.15 \text{ kgf}\cdot\text{cm}$

Remove the ODD board **4**.



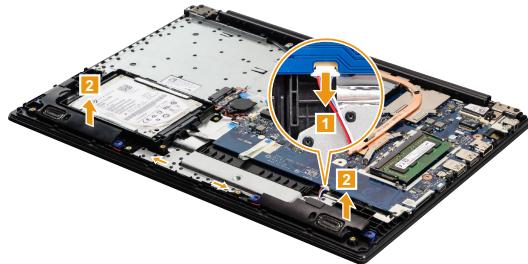
1090 Speaker

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35

Figure 9. Removal step of speaker

Unplug the speaker connector in the direction shown by arrow **1**. Release the speaker cable from the cable guides. Remove the two speakers **2**.



When installing: Make sure that the connector is attached firmly.

1100 Upper case

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35
- “1060 PCI Express Mini Card for wireless LAN” on page 40

Figure 10. Removal steps of upper case

Detach the two connectors in the directions shown by arrows 1, 2 and 3. Release the antenna from the cable guides.



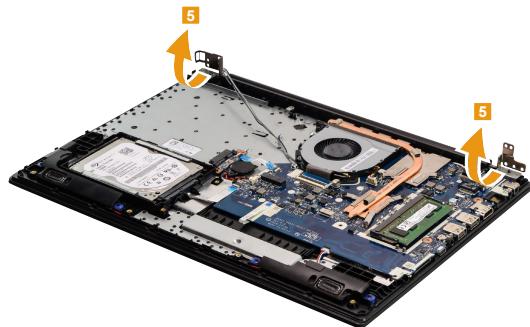
Remove the screws 4.



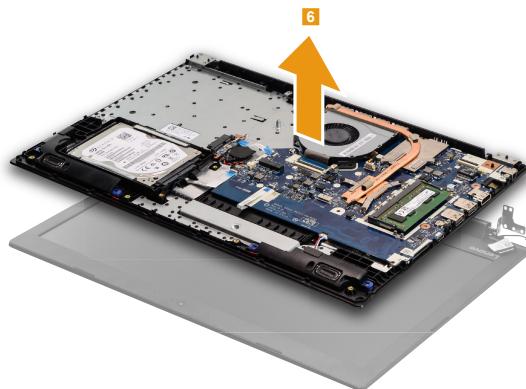
Step	Screw (quantity)	Color	Torque
4	M2.5 × 5 mm, Phillips head, nylok-coated (4) HINGE BASE+C	Black	3±0.3 kgf*cm

Figure 10. Removal steps of upper case (continued)

Open the hinge in the direction shown by arrows **5**.



Remove the upper case in the direction shown by arrow **6**.



1110 System board

Important notices for handling the system board:

When handling the system board, bear the following in mind.

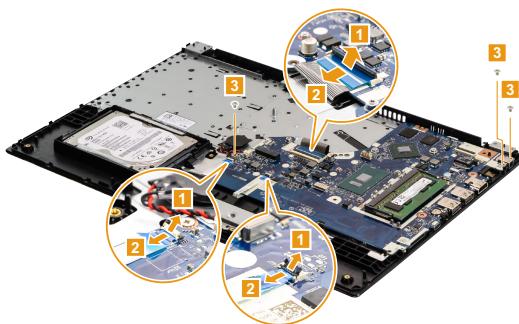
- Be careful not to drop the system board on a bench top that has a hard surface, such as metal, wood, or composite.
- Avoid rough handling of any kind.
- In the whole process, make sure not to drop or stack the system board.
- If you put a system board down, make sure to put it only on a padded surface such as an ESD mat or conductive corrugated material.

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35
- “1060 PCI Express Mini Card for wireless LAN” on page 40
- “1070 Fan and heat sink assembly” on page 43
- “1080 ODD Board” on page 46
- “1090 Speaker” on page 47
- “1100 Upper case” on page 48

Figure 11. Removal steps of system board

Detach the three connectors (touchpad connector, HDD connector, KB FPC connector) in the directions shown by arrows **1** and **2**. Remove the screws **3**.

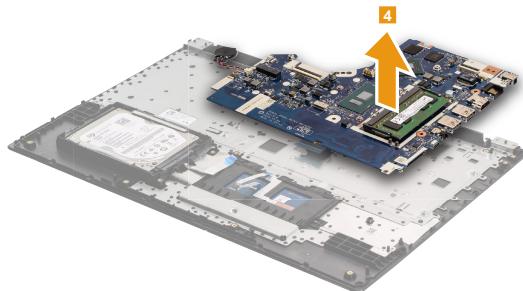


Step	Screw (quantity)	Color	Torque
3	M2 × 3 mm, Phillips head, nylok-coated (3) MB+C	Silver	1.85±0.15 kgf*cm

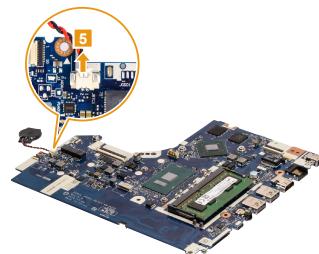
When installing: Make sure that the connectors are attached firmly.

Figure 11. Removal steps of system board (continued)

Remove the system board in the direction shown by arrow **4**.

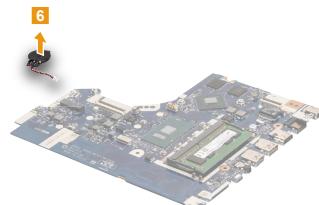


Unplug the RTC battery connector in the direction shown by arrow **5**.



When installing: Make sure that the connectors are attached firmly.

Remove the RTC battery in the direction shown by arrow **6**.



1120 LCD unit

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35
- “1040 Hard disk drive” on page 37
- “1060 PCI Express Mini Card for wireless LAN” on page 40
- “1070 Fan and heat sink assembly” on page 43
- “1080 ODD Board” on page 46
- “1090 Speaker” on page 47
- “1100 Upper case” on page 48

Figure 12. Removal steps of LCD unit

Pull the hinge cover in the direction shown by arrows 1.



Remove the hinge cover in the direction shown by arrows 2.

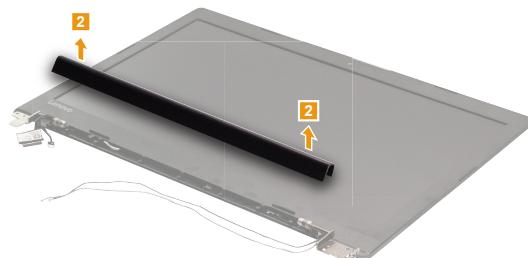
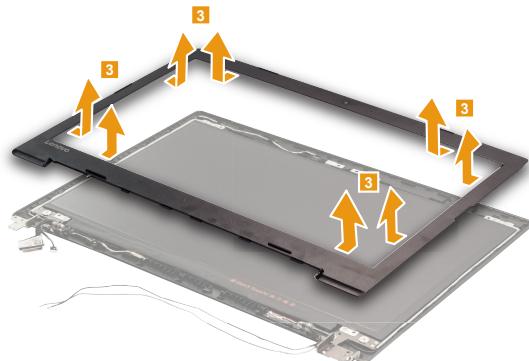


Figure 12. Removal steps of LCD unit (continued)

Remove the LCD front bezel in the direction shown by arrows **3**.



Remove the screws **4**. Lift the LCD panel slightly **5**. Unplug the connector in the direction shown by arrow **6**. Then remove the LCD panel.



Step	Screw (quantity)	Color	Torque
4	M2 x 3 mm, Phillips head, nylok-coated (4) PANEL+COVER	Silver	1.85±0.15 kgf*cm

When installing: Make sure that the metal connector is attached firmly.

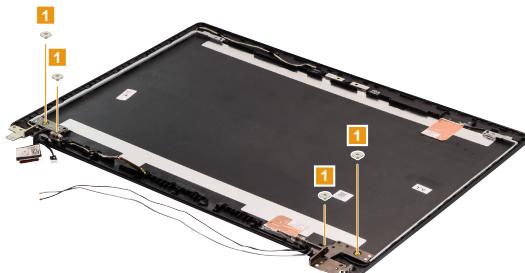
1130 LCD hinges

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35
- “1040 Hard disk drive” on page 37
- “1060 PCI Express Mini Card for wireless LAN” on page 40
- “1070 Fan and heat sink assembly” on page 43
- “1080 ODD Board” on page 46
- “1090 Speaker” on page 47
- “1100 Upper case” on page 48
- “1120 LCD unit” on page 52

Figure 13. Removal steps of LCD hinges

Remove the screws 1.



Step	Screw (quantity)	Color	Torque
1	M2.5 × 2.5 mm, Phillips head, nylok-coated (4) Hinge L & R + A Cover	Silver	3±0.3 kgf*cm

Figure 13. Removal steps of LCD hinges (continued)

Release the two hinges in the direction shown by arrows **2**.



1140 EDP cable and integrated camera

For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35
- “1040 Hard disk drive” on page 37
- “1060 PCI Express Mini Card for wireless LAN” on page 40
- “1070 Fan and heat sink assembly” on page 43
- “1080 ODD Board” on page 46
- “1090 Speaker” on page 47
- “1100 Upper case” on page 48
- “1120 LCD unit” on page 52
- “1130 LCD hinges” on page 54

Figure 14. Removal steps of EDP cable and integrated camera

Note: The integrated camera is stuck on the top center of the LCD cover.

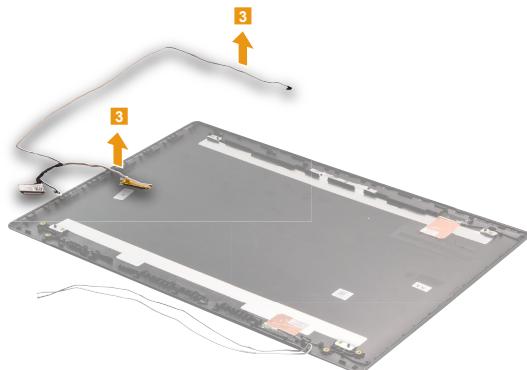
Detach the connector in the direction shown by arrow 1, then remove the camera board in the direction shown by arrow 2.



When installing: Stick the integrated camera to the top center of the LCD cover and adjust the placement of it to make sure the connector is attached firmly.

Figure 14. Removal steps of EDP cable and integrated camera (continued)

Remove the EDP cable in the direction shown by arrows 3.



Locations

Front and right-side view

- 1 Integrated camera
- 2 Built-in microphone
- 3 Computer display
- 4 Wireless LAN antennas
- 5 Ventilation slots
- 6 Power button
- 7 Kensington mini security slot
- 8 Optical drive
- 9 Touchpad



Bottom and left-side view

- 1** Speakers
- 2** Louvers
- 3** AC power adapter jack
- 4** Power status indicator

Note: For the description of each indicator, see “Status indicators” on page 28.

- 5** RJ-45 port
- 6** HDMI port
- 7** USB ports
- 8** Combo audio jack
- 9** Type-C port
- 10** Memory card slot
- 11** Novo button
- 12** Battery status indicator

Note: For the description of each indicator, see “Status indicators” on page 28.



Parts list

This section presents the following service parts:

- “Overall” on page 61
- “LCD FRUs” on page 73
- “Miscellaneous parts” on page 74
- “AC adapters” on page 75
- “Screws” on page 76

Note:

Each FRU is available for all types or models, unless specific types or models are specified.

Attention:

Do not attempt to replace an FRU on your own. If an FRU is damaged, contact a Lenovo authorized servicer or a marketing representative for replacement or repair. Only qualified technicians can inspect or repair this product.

Overall

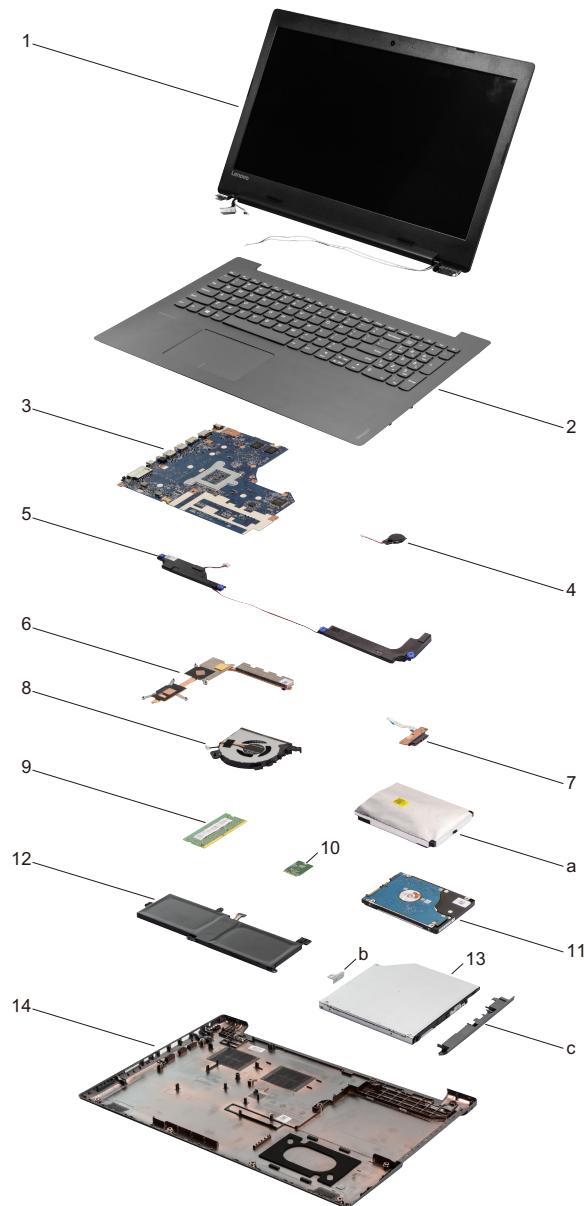


Table 5. Parts list—Overall

No.	FRU	FRU no.	CRU ID.
a-c	See "Miscellaneous parts" on page 74.		
1	LCD unit (see "LCD FRUs" on page 73.)		
2	UPPERCASEASML80YBLMGRENG	5CB0N98691	N
2	UPPERCASEASML80YBLMGRUSAENG	5CB0P15762	N
2	UPPERCASEASML80YBLMGRUKE	5CB0N98585	N
2	UPPERCASEASML80YBLMGRITA	5CB0N98798	N
2	UPPERCASEASML80YBLMGRSPA	5CB0N98641	N
2	UPPERCASEASML80YBLMGRTUR	5CB0N98694	N
2	UPPERCASEASML80YBLMGRTHAI	5CB0N98853	N
2	UPPERCASEASML80YBLMGRPOR	5CB0N98696	N
2	UPPERCASEASML80YBLMGRRLA SPA	5CB0N98759	N
2	UPPERCASEASML80YBLMGRFRA/ENG	5CB0N98708	N
2	UPPERCASEASML80YBLMGRKOR	5CB0N98562	N
2	UPPERCASEASML80YBLMGRTC	5CB0N98614	N
2	UPPERCASEASML80YBLMGRRUS	5CB0N98756	N
2	UPPERCASEASML80YBLMGRFRA	5CB0N98835	N
2	UPPERCASEASML80YBLMGRGER	5CB0N98734	N
2	UPPERCASEASML80YBLMGRARA	5CB0N98540	N
2	UPPERCASEASML80YBLMGRJPN	5CB0N98640	N
2	UPPERCASEASML80YBLMGRBRL	5CB0N98849	N
2	UPPERCASEASML80YBLMGRDUTCH	5CB0N98668	N
2	UPPERCASEASML80YBLMGRGRE	5CB0N98623	N
2	UPPERCASEASML80YBLMGRHBW	5CB0N98791	N
2	UPPERCASEASML80YBLMGRHUN	5CB0N98846	N
2	UPPERCASEASML80YBLMGRNORDIC	5CB0N98867	N
2	UPPERCASEASML80YBLMGRBEL	5CB0N98564	N
2	UPPERCASEASML80YBLMGRILD	5CB0N98898	N
2	UPPERCASEASML80YBLMGRSLV	5CB0N98552	N
2	UPPERCASEASML80YBLMGRSWS	5CB0N98673	N
2	UPPERCASEASML80YBLMGREURO ENG	5CB0N98675	N
2	UPPERCASEASML80YBLMGRCZE/SLK	5CB0N98687	N
2	UPPERCASEASML80YBLMGRBUL	5CB0N98551	N
2	UPPERCASEASML80YBLMGRHIN	5CB0N98576	N
2	UPPERCASEASML80YBLMGRFRA/ARA	5CB0N98597	N
2	UPPERCASEASML80YBLMGRUKR	5CB0N98812	N
2	UPPERCASEASML80YBLCHAMENG	5CB0N98854	N
2	UPPERCASEASML80YBLCHAMUSAENG	5CB0P15765	N
2	UPPERCASEASML80YBLCHAMUKE	5CB0N98720	N
2	UPPERCASEASML80YBLCHAMITA	5CB0N98698	N
2	UPPERCASEASML80YBLCHAMSPA	5CB0N98805	N
2	UPPERCASEASML80YBLCHAMTUR	5CB0N98803	N
2	UPPERCASEASML80YBLCHAMTHAI	5CB0N98844	N
2	UPPERCASEASML80YBLCHAMPOR	5CB0N98610	N
2	UPPERCASEASML80YBLCHAMLA SPA	5CB0N98609	N
2	UPPERCASEASML80YBLCHAMFRA/ENG	5CB0N98840	N
2	UPPERCASEASML80YBLCHAMKOR	5CB0N98680	N
2	UPPERCASEASML80YBLCHAMTC	5CB0N98878	N
2	UPPERCASEASML80YBLCHAMRUS	5CB0N98778	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UPPERCASEASML80YLBLCHAMFRA	5CB0N98858	N
2	UPPERCASEASML80YLBLCHAMGER	5CB0N98743	N
2	UPPERCASEASML80YLBLCHAMARA	5CB0N98870	N
2	UPPERCASEASML80YLBLCHAMJPN	5CB0N98794	N
2	UPPERCASEASML80YLBLCHAMBRL	5CB0N98799	N
2	UPPERCASEASML80YLBLCHAMDUTCH	5CB0N98754	N
2	UPPERCASEASML80YLBLCHAMGRE	5CB0N98711	N
2	UPPERCASEASML80YLBLCHAMHBW	5CB0N98731	N
2	UPPERCASEASML80YLBLCHAMHUN	5CB0N98861	N
2	UPPERCASEASML80YLBLCHAMNORDIC	5CB0N98845	N
2	UPPERCASEASML80YLBLCHAMBEL	5CB0N98725	N
2	UPPERCASEASML80YLBLCHAMILD	5CB0N98789	N
2	UPPERCASEASML80YLBLCHAMSLV	5CB0N98584	N
2	UPPERCASEASML80YLBLCHAMSWS	5CB0N98786	N
2	UPPERCASEASML80YLBLCHAMEURO ENG	5CB0N98797	N
2	UPPERCASEASML80YLBLCHAMCZE/SLK	5CB0N98690	N
2	UPPERCASEASML80YLBLCHAMBUL	5CB0N98738	N
2	UPPERCASEASML80YLBLCHAMHIN	5CB0N98554	N
2	UPPERCASEASML80YLBLCHAMFRA/ARA	5CB0N98852	N
2	UPPERCASEASML80YLBLCHAMUKR	5CB0N98565	N
2	UPPERCASEASML80YLBLLBENG	5CB0N98630	N
2	UPPERCASEASML80YLBLLBUSAENG	5CB0P15763	N
2	UPPERCASEASML80YLBLLBUKE	5CB0N98774	N
2	UPPERCASEASML80YLBLLBITA	5CB0N98659	N
2	UPPERCASEASML80YLBLLBSPA	5CB0N98592	N
2	UPPERCASEASML80YLBLLBTUR	5CB0N98561	N
2	UPPERCASEASML80YLBLLBTHAI	5CB0N98643	N
2	UPPERCASEASML80YLBLLBPOR	5CB0N98588	N
2	UPPERCASEASML80YLBLLBLA SPA	5CB0N98681	N
2	UPPERCASEASML80YLBLLBFRA/ENG	5CB0N98730	N
2	UPPERCASEASML80YLBLLBKOR	5CB0N98639	N
2	UPPERCASEASML80YLBLLBTC	5CB0N98893	N
2	UPPERCASEASML80YLBLLBRUS	5CB0N98742	N
2	UPPERCASEASML80YLBLLBFRA	5CB0N98735	N
2	UPPERCASEASML80YLBLLBGER	5CB0N98607	N
2	UPPERCASEASML80YLBLLBARA	5CB0N98830	N
2	UPPERCASEASML80YLBLLBJPN	5CB0N98838	N
2	UPPERCASEASML80YLBLLBBRL	5CB0N98703	N
2	UPPERCASEASML80YLBLLBDUTCH	5CB0N98635	N
2	UPPERCASEASML80YLBLLBGRE	5CB0N98560	N
2	UPPERCASEASML80YLBLLBHW	5CB0N98792	N
2	UPPERCASEASML80YLBLLBHUN	5CB0N98822	N
2	UPPERCASEASML80YLBLLBNORDIC	5CB0N98900	N
2	UPPERCASEASML80YLBLLBBEL	5CB0N98684	N
2	UPPERCASEASML80YLBLLBILD	5CB0N98598	N
2	UPPERCASEASML80YLBLLBSLV	5CB0N98713	N
2	UPPERCASEASML80YLBLLBSWS	5CB0N98534	N
2	UPPERCASEASML80YLBLLBEURO ENG	5CB0N98604	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UPPERCASEASML80YLBLLBCZE/SLK	5CB0N98748	N
2	UPPERCASEASML80YLBLLBUL	5CB0N98593	N
2	UPPERCASEASML80YLBLLBHIN	5CB0N98733	N
2	UPPERCASEASML80YLBLLBFRA/ARA	5CB0N98616	N
2	UPPERCASEASML80YLBLLBUKR	5CB0N98740	N
2	UPPERCASEASML80YBLMGRENGFPR	5CB0N98697	N
2	UPPERCASEASML80YBLMGRUSAENGFPR	5CB0P15761	N
2	UPPERCASEASML80YBLMGRUKEFPR	5CB0N98837	N
2	UPPERCASEASML80YBLMGRITAFFPR	5CB0N98802	N
2	UPPERCASEASML80YBLMGRSPAFFPR	5CB0N98701	N
2	UPPERCASEASML80YBLMGRTURFPR	5CB0N98787	N
2	UPPERCASEASML80YBLMGRTHAIFPR	5CB0N98669	N
2	UPPERCASEASML80YBLMGRPORKFPR	5CB0N98536	N
2	UPPERCASEASML80YBLMGRRLA SPAFPR	5CB0N98595	N
2	UPPERCASEASML80YBLMGRFRA/ENGFPR	5CB0N98777	N
2	UPPERCASEASML80YBLMGRKORFPR	5CB0N98619	N
2	UPPERCASEASML80YBLMGRTCFPR	5CB0N98590	N
2	UPPERCASEASML80YBLMGRRUSFPR	5CB0N98881	N
2	UPPERCASEASML80YBLMGRFRAFPR	5CB0N98699	N
2	UPPERCASEASML80YBLMGRGERFPR	5CB0N98666	N
2	UPPERCASEASML80YBLMGRARAFPR	5CB0N98841	N
2	UPPERCASEASML80YBLMGRBRLFPR	5CB0N98764	N
2	UPPERCASEASML80YBLMGRDUTCHFPR	5CB0N98567	N
2	UPPERCASEASML80YBLMGRGRFEPFR	5CB0N98538	N
2	UPPERCASEASML80YBLMGRHBWFPR	5CB0N98596	N
2	UPPERCASEASML80YBLMGRHUNFPR	5CB0N98823	N
2	UPPERCASEASML80YBLMGRNORDICFPR	5CB0N98663	N
2	UPPERCASEASML80YBLMGRBELFPR	5CB0N98819	N
2	UPPERCASEASML80YBLMGRILDFFPR	5CB0N98677	N
2	UPPERCASEASML80YBLMGRSLVFPFR	5CB0N98670	N
2	UPPERCASEASML80YBLMGRSWSFPR	5CB0N98904	N
2	UPPERCASEASML80YBLMGREURO ENGFPR	5CB0N98739	N
2	UPPERCASEASML80YBLMGRCZE/SLKFPR	5CB0N98667	N
2	UPPERCASEASML80YBLMGRBULFPR	5CB0N98826	N
2	UPPERCASEASML80YBLMGRHINFPR	5CB0N98594	N
2	UPPERCASEASML80YBLMGRFRA/ARAFPR	5CB0N98714	N
2	UPPERCASEASML80YBLMGRUKRFPR	5CB0N98868	N
2	UPPERCASEASML80YBLCHAMENGFPR	5CB0N98545	N
2	UPPERCASEASML80YBLCHAMUSAENGFPR	5CB0P15760	N
2	UPPERCASEASML80YBLCHAMUKEFPR	5CB0N98865	N
2	UPPERCASEASML80YBLCHAMITAFPR	5CB0N98818	N
2	UPPERCASEASML80YBLCHAMSPAFPR	5CB0N98775	N
2	UPPERCASEASML80YBLCHAMTURFPR	5CB0N98825	N
2	UPPERCASEASML80YBLCHAMTHAIFPR	5CB0N98578	N
2	UPPERCASEASML80YBLCHAMPORFPR	5CB0N98784	N
2	UPPERCASEASML80YBLCHAMLA SPAFPR	5CB0N98620	N
2	UPPERCASEASML80YBLCHAMFRA/ENGFPR	5CB0N98568	N
2	UPPERCASEASML80YBLCHAMKORFPR	5CB0N98637	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UPPERCASEASML80YLBLCHAMTCFPR	5CB0N98816	N
2	UPPERCASEASML80YLBLCHAMRUSFPR	5CB0N98664	N
2	UPPERCASEASML80YLBLCHAMFRAFPR	5CB0N98899	N
2	UPPERCASEASML80YLBLCHAMGERFPR	5CB0N98657	N
2	UPPERCASEASML80YLBLCHAMARAFPR	5CB0N98755	N
2	UPPERCASEASML80YLBLCHAMBRLFPR	5CB0N98895	N
2	UPPERCASEASML80YLBLCHAMDUTCHFPR	5CB0N98555	N
2	UPPERCASEASML80YLBLCHAMGREFPR	5CB0N98566	N
2	UPPERCASEASML80YLBLCHAMHBWFPR	5CB0N98600	N
2	UPPERCASEASML80YLBLCHAMHUNFPR	5CB0N98721	N
2	UPPERCASEASML80YLBLCHAMNORDICFPR	5CB0N98558	N
2	UPPERCASEASML80YLBLCHAMBELFPR	5CB0N98617	N
2	UPPERCASEASML80YLBLCHAMILDFPR	5CB0N98651	N
2	UPPERCASEASML80YLBLCHAMSLVFPR	5CB0N98628	N
2	UPPERCASEASML80YLBLCHAMSWSFPR	5CB0N98813	N
2	UPPERCASEASML80YLBLCHAMEURO ENGFPR	5CB0N98658	N
2	UPPERCASEASML80YLBLCHAMCZE/SLKFPR	5CB0N98834	N
2	UPPERCASEASML80YLBLCHAMBULFPR	5CB0N98654	N
2	UPPERCASEASML80YLBLCHAMHINFPR	5CB0N98872	N
2	UPPERCASEASML80YLBLCHAMFRA/ARAFPR	5CB0N98636	N
2	UPPERCASEASML80YLBLCHAMUKRFPR	5CB0N98832	N
2	UPPERCASEASML80YLBLLBENGFPR	5CB0N98546	N
2	UPPERCASEASML80YLBLLBUSAENGFPR	5CB0P15764	N
2	UPPERCASEASML80YLBLLBUKEFPR	5CB0N98901	N
2	UPPERCASEASML80YLBLLBITAFPR	5CB0N98611	N
2	UPPERCASEASML80YLBLLBSPAFFPR	5CB0N98529	N
2	UPPERCASEASML80YLBLLBTURFPR	5CB0N98887	N
2	UPPERCASEASML80YLBLLBTHAIFPR	5CB0N98806	N
2	UPPERCASEASML80YLBLLBPORFPR	5CB0N98589	N
2	UPPERCASEASML80YLBLLBLA SPAFPR	5CB0N98896	N
2	UPPERCASEASML80YLBLLBFRA/ENGFPR	5CB0N98897	N
2	UPPERCASEASML80YLBLLBKORFPR	5CB0N98571	N
2	UPPERCASEASML80YLBLLBTCFPR	5CB0N98826	N
2	UPPERCASEASML80YLBLLBRUSFPR	5CB0N98660	N
2	UPPERCASEASML80YLBLLBFRAFPR	5CB0N98570	N
2	UPPERCASEASML80YLBLLBGERFPR	5CB0N98533	N
2	UPPERCASEASML80YLBLLBARAFPR	5CB0N98646	N
2	UPPERCASEASML80YLBLLBBRLFPR	5CB0N98767	N
2	UPPERCASEASML80YLBLLBDUTCHFPR	5CB0N98530	N
2	UPPERCASEASML80YLBLLBGREFPR	5CB0N98662	N
2	UPPERCASEASML80YLBLLBHWFPR	5CB0N98793	N
2	UPPERCASEASML80YLBLLBHUNFPR	5CB0N98693	N
2	UPPERCASEASML80YLBLLBNORDICFPR	5CB0N98776	N
2	UPPERCASEASML80YLBLLBBELFPR	5CB0N98766	N
2	UPPERCASEASML80YLBLLBILDFPR	5CB0N98728	N
2	UPPERCASEASML80YLBLLBSLVFPR	5CB0N98732	N
2	UPPERCASEASML80YLBLLBSWSFPR	5CB0N98549	N
2	UPPERCASEASML80YLBLLBEURO ENGFPR	5CB0N98572	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UPPERCASEASML80YLBLLBCZE/SLKFPR	5CB0N98863	N
2	UPPERCASEASML80YLBLLBULFPR	5CB0N98573	N
2	UPPERCASEASML80YLBLLBHINFPR	5CB0N98645	N
2	UPPERCASEASML80YLBLLBFRA/ARAFPR	5CB0N98892	N
2	UPPERCASEASML80YLBLLBUKRFPR	5CB0N98647	N
2	UPPERCASEASML80YLMGRENG	5CB0N98894	N
2	UPPERCASEASML80YLMGRUKE	5CB0N98781	N
2	UPPERCASEASML80YLMGRITA	5CB0N98704	N
2	UPPERCASEASML80YLMGRSPA	5CB0N98716	N
2	UPPERCASEASML80YLMGRTUR	5CB0N98683	N
2	UPPERCASEASML80YLMGRTHAI	5CB0N98857	N
2	UPPERCASEASML80YLMGRPOR	5CB0N98634	N
2	UPPERCASEASML80YLMGRRLA SPA	5CB0N98765	N
2	UPPERCASEASML80YLMGRFRA/ENG	5CB0N98601	N
2	UPPERCASEASML80YLMGRKOR	5CB0N98750	N
2	UPPERCASEASML80YLMGRTC	5CB0N98591	N
2	UPPERCASEASML80YLMGRRUS	5CB0N98862	N
2	UPPERCASEASML80YLMGRFRA	5CB0N98541	N
2	UPPERCASEASML80YLMGRGER	5CB0N98631	N
2	UPPERCASEASML80YLMGRARA	5CB0N98575	N
2	UPPERCASEASML80YLMGRJPN	5CB0N98627	N
2	UPPERCASEASML80YLMGRBRL	5CB0N98706	N
2	UPPERCASEASML80YLMGRDUTCH	5CB0N98544	N
2	UPPERCASEASML80YLMGRGRE	5CB0N98642	N
2	UPPERCASEASML80YLMGRHBW	5CB0N98543	N
2	UPPERCASEASML80YLMGRHUN	5CB0N98762	N
2	UPPERCASEASML80YLMGRNORDIC	5CB0N98605	N
2	UPPERCASEASML80YLMGRBEL	5CB0N98847	N
2	UPPERCASEASML80YLMGRILD	5CB0N98682	N
2	UPPERCASEASML80YLMGRSLV	5CB0N98850	N
2	UPPERCASEASML80YLMGRSWS	5CB0N98559	N
2	UPPERCASEASML80YLMGREURO ENG	5CB0N98556	N
2	UPPERCASEASML80YLMGRCZE/SLK	5CB0N98796	N
2	UPPERCASEASML80YLMGRBUL	5CB0N98886	N
2	UPPERCASEASML80YLMGRHIN	5CB0N98827	N
2	UPPERCASEASML80YLMGRFRA/ARA	5CB0N98761	N
2	UPPERCASEASML80YLMGRUKR	5CB0N98665	N
2	UPPERCASEASML80YLCHAMENG	5CB0N98717	N
2	UPPERCASEASML80YLCHAMUKE	5CB0N98864	N
2	UPPERCASEASML80YLCHAMITA	5CB0N98672	N
2	UPPERCASEASML80YLCHAMSPA	5CB0N98903	N
2	UPPERCASEASML80YLCHAMTUR	5CB0N98557	N
2	UPPERCASEASML80YLCHAMTHAI	5CB0N98712	N
2	UPPERCASEASML80YLCCHAMPOR	5CB0N98702	N
2	UPPERCASEASML80YLCCHAMLA SPA	5CB0N98892	N
2	UPPERCASEASML80YLCCHAMFRA/ENG	5CB0N98582	N
2	UPPERCASEASML80YLCCHAMKOR	5CB0N98599	N
2	UPPERCASEASML80YLCCHAMTC	5CB0N98884	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UPPERCASEASML80YLCHAMRUS	5CB0N98606	N
2	UPPERCASEASML80YLCHAMFRA	5CB0N98650	N
2	UPPERCASEASML80YLCHAMGER	5CB0N98676	N
2	UPPERCASEASML80YLCHAMARA	5CB0N98563	N
2	UPPERCASEASML80YLCHAMJPN	5CB0N98689	N
2	UPPERCASEASML80YLCHAMBRL	5CB0N98843	N
2	UPPERCASEASML80YLCHAMDUTCH	5CB0N98809	N
2	UPPERCASEASML80YLCHAMGRE	5CB0N98795	N
2	UPPERCASEASML80YLCHAMHBW	5CB0N98671	N
2	UPPERCASEASML80YLCHAMHUN	5CB0N98745	N
2	UPPERCASEASML80YLCHAMNORDIC	5CB0N98710	N
2	UPPERCASEASML80YLCHAMBEL	5CB0N98736	N
2	UPPERCASEASML80YLCHAMILD	5CB0N98644	N
2	UPPERCASEASML80YLCHAMSLV	5CB0N98783	N
2	UPPERCASEASML80YLCHAMSWS	5CB0N98871	N
2	UPPERCASEASML80YLCHAMEURO ENG	5CB0N98888	N
2	UPPERCASEASML80YLCHAMCZE/SLK	5CB0N98709	N
2	UPPERCASEASML80YLCHAMBUL	5CB0N98839	N
2	UPPERCASEASML80YLCHAMHIN	5CB0N98727	N
2	UPPERCASEASML80YLCHAMFRA/ARA	5CB0N98860	N
2	UPPERCASEASML80YLCHAMUKR	5CB0N98815	N
2	UPPERCASEASML80YLLBENG	5CB0N98889	N
2	UPPERCASEASML80YLLBUKE	5CB0N98537	N
2	UPPERCASEASML80YLLBITA	5CB0N98873	N
2	UPPERCASEASML80YLLBSPA	5CB0N98624	N
2	UPPERCASEASML80YLLBTUR	5CB0N98724	N
2	UPPERCASEASML80YLLBTHAI	5CB0N98790	N
2	UPPERCASEASML80YLLBPOR	5CB0N98808	N
2	UPPERCASEASML80YLLBLA SPA	5CB0N98581	N
2	UPPERCASEASML80YLLBFRA/ENG	5CB0N98758	N
2	UPPERCASEASML80YLLBKOR	5CB0N98548	N
2	UPPERCASEASML80YLLBTC	5CB0N98679	N
2	UPPERCASEASML80YLLBRUS	5CB0N98829	N
2	UPPERCASEASML80YLLBFRA	5CB0N98851	N
2	UPPERCASEASML80YLLBGER	5CB0N98632	N
2	UPPERCASEASML80YLLBARA	5CB0N98785	N
2	UPPERCASEASML80YLLBJPN	5CB0N98686	N
2	UPPERCASEASML80YLLBBRL	5CB0N98532	N
2	UPPERCASEASML80YLLBDUTCH	5CB0N98763	N
2	UPPERCASEASML80YLLBGRE	5CB0N98726	N
2	UPPERCASEASML80YLLBBHW	5CB0N98633	N
2	UPPERCASEASML80YLLBHUN	5CB0N98707	N
2	UPPERCASEASML80YLLBNORDIC	5CB0N98828	N
2	UPPERCASEASML80YLLBBEL	5CB0N98579	N
2	UPPERCASEASML80YLLBILD	5CB0N98824	N
2	UPPERCASEASML80YLLBSLV	5CB0N98811	N
2	UPPERCASEASML80YLLBSWS	5CB0N98856	N
2	UPPERCASEASML80YLLBEURO ENG	5CB0N98723	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UPPERCASEASML80YLLBCZE/SLK	5CB0N98883	N
2	UPPERCASEASML80YLLBBUL	5CB0N98719	N
2	UPPERCASEASML80YLLBHIN	5CB0N98674	N
2	UPPERCASEASML80YLLBFRA/ARA	5CB0N98688	N
2	UPPERCASEASML80YLLBUKR	5CB0N98695	N
2	UPPERCASEASML80YLMGRENGFPR	5CB0N98821	N
2	UPPERCASEASML80YLMGRUKEFPR	5CB0N98685	N
2	UPPERCASEASML80YLMGRITAFPR	5CB0N98820	N
2	UPPERCASEASML80YLMGRSPAFPR	5CB0N98768	N
2	UPPERCASEASML80YLMGRTURFPR	5CB0N98737	N
2	UPPERCASEASML80YLMGRTHAIFPR	5CB0N98577	N
2	UPPERCASEASML80YLMGRPORFPR	5CB0N98622	N
2	UPPERCASEASML80YLMGRRLA SPAFPR	5CB0N98547	N
2	UPPERCASEASML80YLMGRFRA/ENGFPR	5CB0N98885	N
2	UPPERCASEASML80YLMGRKORFPR	5CB0N98652	N
2	UPPERCASEASML80YLMGRTCFPR	5CB0N98722	N
2	UPPERCASEASML80YLMGRRUSFPR	5CB0N98817	N
2	UPPERCASEASML80YLMGRFRAFPR	5CB0N98879	N
2	UPPERCASEASML80YLMGRGERFPR	5CB0N98625	N
2	UPPERCASEASML80YLMGRARAFPR	5CB0N98836	N
2	UPPERCASEASML80YLMGRBRLFPR	5CB0N98890	N
2	UPPERCASEASML80YLMGRDUTCHFPR	5CB0N98618	N
2	UPPERCASEASML80YLMGRGRGFPR	5CB0N98661	N
2	UPPERCASEASML80YLMGRHBWFPR	5CB0N98757	N
2	UPPERCASEASML80YLMGRHUNFPR	5CB0N98715	N
2	UPPERCASEASML80YLMGRNORDICFPR	5CB0N98613	N
2	UPPERCASEASML80YLMGRBELFPR	5CB0N98800	N
2	UPPERCASEASML80YLMGRILDFPR	5CB0N98802	N
2	UPPERCASEASML80YLMGRSLVFP	5CB0N98678	N
2	UPPERCASEASML80YLMGRSWSFPR	5CB0N98773	N
2	UPPERCASEASML80YLMGREURO ENGFPR	5CB0N98528	N
2	UPPERCASEASML80YLMGRCZE/SLKFPR	5CB0N98603	N
2	UPPERCASEASML80YLMGRBULFPR	5CB0N98746	N
2	UPPERCASEASML80YLMGRRHINFPR	5CB0N98810	N
2	UPPERCASEASML80YLMGRFRA/ARAFPR	5CB0N98718	N
2	UPPERCASEASML80YLMGRUKRFPR	5CB0N98882	N
2	UPPERCASEASML80YLCHAMENGFPR	5CB0N98866	N
2	UPPERCASEASML80YLCHAMUKEFPR	5CB0N98553	N
2	UPPERCASEASML80YLCHAMITAFPR	5CB0N98804	N
2	UPPERCASEASML80YLCHAMSPAFAFP	5CB0N98801	N
2	UPPERCASEASML80YLCHAMTURFPR	5CB0N98771	N
2	UPPERCASEASML80YLCHAMTHAIFPR	5CB0N98587	N
2	UPPERCASEASML80YLCHAMPORFPR	5CB0N98612	N
2	UPPERCASEASML80YLCHAMLA SPAFPR	5CB0N98855	N
2	UPPERCASEASML80YLCHAMFRA/ENGFPR	5CB0N98629	N
2	UPPERCASEASML80YLCHAMKORFPR	5CB0N98649	N
2	UPPERCASEASML80YLCHAMTCFPR	5CB0N98744	N
2	UPPERCASEASML80YLCHAMRUSFPR	5CB0N98815	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UPPERCASEASML80YLCHAMFRAFPR	5CB0N98788	N
2	UPPERCASEASML80YLCHAMGERFPR	5CB0N98586	N
2	UPPERCASEASML80YLCHAMARAFPR	5CB0N98869	N
2	UPPERCASEASML80YLCHAMBRLFPR	5CB0N98880	N
2	UPPERCASEASML80YLCHAMDUTCHFPR	5CB0N98749	N
2	UPPERCASEASML80YLCHAMGREFPR	5CB0N98848	N
2	UPPERCASEASML80YLCHAMHBWFPR	5CB0N98831	N
2	UPPERCASEASML80YLCHAMHUNFPR	5CB0N98753	N
2	UPPERCASEASML80YLCHAMNORDICFPR	5CB0N98608	N
2	UPPERCASEASML80YLCHAMBELFPR	5CB0N98877	N
2	UPPERCASEASML80YLCHAMILDFPR	5CB0N98705	N
2	UPPERCASEASML80YLCHAMSLVFPR	5CB0N98752	N
2	UPPERCASEASML80YLCHAMSWSFPR	5CB0N98807	N
2	UPPERCASEASML80YLCHAMEURO ENGFP	5CB0N98842	N
2	UPPERCASEASML80YLCHAMCZE/SLKFPR	5CB0N98535	N
2	UPPERCASEASML80YLCHAMBULFPR	5CB0N98782	N
2	UPPERCASEASML80YLCHAMHINFPR	5CB0N98574	N
2	UPPERCASEASML80YLCHAMFRA/ARAFPR	5CB0N98833	N
2	UPPERCASEASML80YLCHAMUKRFPR	5CB0N98700	N
2	UPPERCASEASML80YLLBENGFPR	5CB0N98580	N
2	UPPERCASEASML80YLLBUKEFPR	5CB0N98741	N
2	UPPERCASEASML80YLLBITAFPR	5CB0N98550	N
2	UPPERCASEASML80YLLBSPAFFPR	5CB0N98772	N
2	UPPERCASEASML80YLLBTURFPR	5CB0N98876	N
2	UPPERCASEASML80YLLBTHAIFPR	5CB0N98905	N
2	UPPERCASEASML80YLLBPORFPR	5CB0N98648	N
2	UPPERCASEASML80YLLBLA SPAFPR	5CB0N98531	N
2	UPPERCASEASML80YLLBFRA/ENGFPR	5CB0N98747	N
2	UPPERCASEASML80YLLBKORFPR	5CB0N98891	N
2	UPPERCASEASML80YLLBTFCFPR	5CB0N98621	N
2	UPPERCASEASML80YLLBRUSFPR	5CB0N98780	N
2	UPPERCASEASML80YLLBFRAFPR	5CB0N98729	N
2	UPPERCASEASML80YLLBGERFPR	5CB0N98653	N
2	UPPERCASEASML80YLLBARAFFPR	5CB0N98751	N
2	UPPERCASEASML80YLLBBRLFPR	5CB0N98855	N
2	UPPERCASEASML80YLLBDUTCHFPR	5CB0N98875	N
2	UPPERCASEASML80YLLBGREFPR	5CB0N98638	N
2	UPPERCASEASML80YLLBHWFPR	5CB0N98583	N
2	UPPERCASEASML80YLLBHUNFPR	5CB0N98814	N
2	UPPERCASEASML80YLLBNORDICFPR	5CB0N98770	N
2	UPPERCASEASML80YLLBBELFPR	5CB0N98569	N
2	UPPERCASEASML80YLLBILDFPR	5CB0N98602	N
2	UPPERCASEASML80YLLBSLVFPR	5CB0N98874	N
2	UPPERCASEASML80YLLBSWSFPR	5CB0N98539	N
2	UPPERCASEASML80YLLBEURO ENGFP	5CB0N98656	N
2	UPPERCASEASML80YLLBCZE/SLKFPR	5CB0N98542	N
2	UPPERCASEASML80YLLBBULFPR	5CB0N98769	N
2	UPPERCASEASML80YLLBHINFPR	5CB0N98779	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UPPERCASEASML80YLLBFRA/ARAFPR	5CB0N98760	N
2	UPPERCASEASML80YLLBUKRFPR	5CB0N98859	N
3	MBL80YLI37100UHUMA4GNFPWIN	5B20N98439	N
3	MBL80YLI37100UHUMA4GNFPNOK	5B20N98478	N
3	MBL80YLI57200UHUMA4GNFPWIN	5B20N98457	N
3	MBL80YLI57200UHUMA4GNFPNOK	5B20N98465	N
3	MBL80YLI57200UHUMANFPWIN	5B20N98496	N
3	MBL80YLI57200UHUMANFPNOK	5B20N98438	N
3	MBL80YLI77500UHUMA4GNFPWIN	5B20N98482	N
3	MBL80YLI77500UHUMA4GNFPNOK	5B20N98456	N
3	MBL80YLI77500UHUMANFPWIN	5B20N98472	N
3	MBL80YLI77500UHUMANFPNOK	5B20N98485	N
3	MBL80YLI37100UHUMA4GFPWIN	5B20N98447	N
3	MBL80YLI37100UHUMA4GFPNOK	5B20N98477	N
3	MBL80YLI57200UHUMA4GFPWIN	5B20N98473	N
3	MBL80YLI57200UHUMA4GFPNOK	5B20N98471	N
3	MBL80YLI57200UHUMAFPWIN	5B20N98463	N
3	MBL80YLI57200UHUMAFPNOK	5B20N98455	N
3	MBL80YLI77500UHUMA4GFPWIN	5B20N98481	N
3	MBL80YLI77500UHUMA4GFPNOK	5B20N98443	N
3	MBL80YLI77500UHUMAFPWIN	5B20N98437	N
3	MBL80YLI77500UHUMAFPNOK	5B20N98492	N
3	MBL80YLI37100UHGTR2G4GNFPWIN	5B20N98495	N
3	MBL80YLI37100UHGTR2G4GNFPNOK	5B20N98489	N
3	MBL80YLI37100UHGTR4G4GNFPWIN	5B20N98494	N
3	MBL80YLI37100UHGTR4G4GNFPNOK	5B20N98476	N
3	MBL80YLI57200UHGTR2G4GNFPWIN	5B20N98491	N
3	MBL80YLI57200UHGTR2G4GNFPNOK	5B20N98479	N
3	MBL80YLI57200UHGTR4G4GNFPWIN	5B20N98450	N
3	MBL80YLI57200UHGTR4G4GNFPNOK	5B20N98486	N
3	MBL80YLI57200UHGTR2GNFPWIN	5B20N98460	N
3	MBL80YLI57200UHGTR2GNFPNOK	5B20N98464	N
3	MBL80YLI57200UHGTR4GNFPWIN	5B20N98488	N
3	MBL80YLI57200UHGTR4GNFPNOK	5B20N98451	N
3	MBL80YLI77500UHGTR2G4GNFPWIN	5B20N98441	N
3	MBL80YLI77500UHGTR2G4GNFPNOK	5B20N98474	N
3	MBL80YLI77500UHGTR4G4GNFPWIN	5B20N98444	N
3	MBL80YLI77500UHGTR4G4GNFPNOK	5B20N98452	N
3	MBL80YLI77500UHGTR2GNFPWIN	5B20N98483	N
3	MBL80YLI77500UHGTR2GNFPNOK	5B20N98458	N
3	MBL80YLI77500UHGTR4GNFPWIN	5B20N98459	N
3	MBL80YLI77500UHGTR4GNFPNOK	5B20N98448	N
3	MBL80YLI37100UHGTR2G4GFPWIN	5B20N98462	N
3	MBL80YLI37100UHGTR2G4GFPNOK	5B20N98466	N
3	MBL80YLI37100UHGTR4G4GFPWIN	5B20N98454	N
3	MBL80YLI37100UHGTR4G4GFPNOK	5B20N98467	N
3	MBL80YLI57200UHGTR2G4GFPWIN	5B20N98493	N
3	MBL80YLI57200UHGTR2G4GFPNOK	5B20N98475	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
3	MLB80YLI57200UHGTR4G4GFPWIN	5B20N98484	N
3	MLB80YLI57200UHGTR4G4GFPNOK	5B20N98440	N
3	MLB80YLI57200UHGTR2GFPWIN	5B20N98453	N
3	MLB80YLI57200UHGTR2GFPNOK	5B20N98480	N
3	MLB80YLI57200UHGTR4GFPWIN	5B20N98442	N
3	MLB80YLI57200UHGTR4GFPNOK	5B20N98469	N
3	MLB80YLI77500UHGTR2G4GFPWIN	5B20N98468	N
3	MLB80YLI77500UHGTR2G4GFPNOK	5B20N98461	N
3	MLB80YLI77500UHGTR4G4GFPWIN	5B20N98449	N
3	MLB80YLI77500UHGTR4G4GFPNOK	5B20N98490	N
3	MLB80YLI77500UHGTR2GFPWIN	5B20N98446	N
3	MLB80YLI77500UHGTR2GFPNOK	5B20N98470	N
3	MLB80YLI77500UHGTR4GFPWIN	5B20N98445	N
3	MLB80YLI77500UHGTR4GFPNOK	5B20N98487	N
4	RTC BATTERY L80XK	5B10N82213	N
5	520-15 YG 1224 Speaker	5SB0M65361	N
5	520-15 Veco 1224 Speaker	5SB0M65360	N
6	THERMAL MODULE DIS L80XK	5H40N82364	N
6	THERMAL MODULE UMA L80XK	5H40N82349	N
7	ODD BOARD NSB241 L80XL	5C50N86565	N
8	FAN DC5V L80XK	5F10N82225	N
9	RAM, M471A5644EB0-CRC	SM30G16500	N
9	RAM, HMA425S6AFR6N-UH	SM30G16501	N
9	RAM, MTA4ATF25664HZ-2G3B1	SM30G16502	N
9	RAM, RMSA3270MB76H8F-2400	SM30G16503	N
9	RAM, M471A5244CB0-CRC	SM30M49902	N
9	RAM, HMA851S6AFR6N-UH	SM30G16505	N
9	RAM, MTA4ATF51264HZ-2G3B1	SM30G16506	N
9	RAM, RMSA3270MB86H9F-2400	SM30G16507	N
9	RAM, M471A1K43CB1-CRC	SM30M49901	N
9	RAM, HMA81GS6AFR8N-UH	SM30G16509	N
9	RAM, MTA8ATF1G64HZ-2G3B1	SM30G16510	N
9	RAM, RMSA3260MB78HAF-2400	SM30G16511	N
9	RAM, M471A2K43CB1-CRC	SM30M49903	N
9	RAM, HMA82GS6AFR8N-UH	SM30G16513	N
9	RAM, MTA16ATF2G64H-2G3B1	SM30G16514	N
10	WLAN, Intel 3165 1x1AC+BT PCIE M.2 WLAN	SW10H24486	N
10	WLAN, Cbt RTL8821AE 1x1AC+BT PCIE M.2 WLAN	SW10A11648	N
10	WLAN, Ltn NFA435A 1x1AC+BT PCIE M.2 WLAN	SW10K97461	N
10	WLAN, Intel 8265 2x2AC+BT PCIE M.2 WLAN NV	SW10K97453	N
10	WLAN, Liteon Ltn NFA344A 2x2AC+BT4.x PCIE M.2 WLAN	SW10K97465	N
11	HDD, ST500LT012 6G 7mm 5.4K 500G HDD	16200383	N
11	HDD, MQ01ABF050 6G 7mm 5.4K 500G HDD	5H20L34560	N
11	HDD, WD5000LPCX-24VHAT0 7mm 5400rpm 500G HDD	5H20J35762	N
11	HDD, Seagate ST1000LM035 1T 2.5" 7mm 5400rpm HDD	5H20L22184	N
11	HDD, WD10SPCX-24HWST1 6G 7mm 1T HDD	16200554	N

Table 5. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
11	HDD, TSB MQ02ABF100 6G 7mm 5.4k 1TB HDD	5H20G09709	N
11	HDD, HDD ASSY Parts build in ODD	SM20N19794	N
11	HDD, HDD ASSY Parts build in System	SM20N19795	N
11	HDD, ST Rosewood2D 7mm 2TB HDD	5H20M37521	N
11	SSD, CV3-DE128 2.5" 5mm 128G SSD	5SD0L02317	N
11	SSD, MZYTT128HDHP-000L2 2.5" 128G 5mm SSD	5SD0L14645	N
11	SSD, SC308-128 2.5" 5mm 128GB 6Gb/s SATA HFS128G3BTND-N210A SSD	5SD0M38535	N
11	SSD, 5mm 128GB 2.5" SATA 6Gb/s RTNRB128RFM2KWDL SSD	5SD0M61138	N
11	SSD, CV3-DE256 2.5" 5mm 256G SSD	5SD0L02316	N
11	SSD, samsung PM871a 256G 2.5" SSD	5SD0K93729	N
11	SSD, SC308-256 2.5" 5mm 256GB 6Gb/s SATA HFS256G3BTND-N210A SSD	5SD0M38533	N
11	SSD, 5mm 256GB 2.5" SATA 6Gb/s RTNRB128RFM2KWDL SSD	5SD0M61139	N
11	SSD, CV3-DE512 2.5" 5mm 512G SSD	5SD0L02321	N
11	SSD, MZYTNT512HDJH 2.5" 5mmT 512G SSD	5SD0L77695	N
11	SSD, SC308-512 2.5" 5mm 512GB 6Gb/s SATA HFS512G3BTND-N210A SSD	5SD0M38534	N
12	Battery, 320 SP/A L16M2PB1 7.5V30Wh2cell bty	5B10M86148	N
12	Battery, 320 CP/C L16C2PB2 7.6V30Wh2cell bty	5B10M88058	N
12	Battery, 320 LG L16L2PB2 7.4V30Wh2cell bty	5B10M91442	N
12	Battery, 320 SP/A L16M2PB2 7.5V35Wh2cell bty	5B10M86149	N
12	Battery, 320 CP/C L16C2PB1 7.6V35Wh2cell bty	5B10M88059	N
12	Battery, 320 SY L16S2PB1 7.6V35Wh2cell bty	5B10M90490	N
12	Battery, 320 LG L16L2PB3 7.6V35Wh2cell bty	5B10M91443	N
13	DUMMY ODD L80YL MGR PT	5M20N98509	N
13	DUMMY ODD L80YL CHAMPAGNE PT	5M20N98518	N
13	DUMMY ODD L80YL LIGHT BZ PT	5M20N98507	N
13	DUMMYODDFor2ndHDD L80YLMGR PT	5M20N98521	N
13	DUMMYODDFor2ndHDD L80YLCHAMPT	5M20N98520	N
13	DUMMYODDFor2ndHDD L80YLLBZPT	5M20N98526	N
13	ODD, HLDS GUE0N 9.0mm Slim Tray Rambo ODD	5DX0J46488	N
13	ODD, PLDS DA-8AESL 9.0 mm Slim Tray Rambo ODD	5DX0L08424	N
14	LOWER CASE L80YL MINERAL GREYPT	5CB0N98508	N
14	LOWER CASE L80YL CHAMPAGNEPT	5CB0N98505	N
14	LOWER CASE L80YL LIGHT BZPT	5CB0N98523	N

LCD FRUs

In *Lenovo ideapad 520-15IKB/Lenovo ideapad 520H-15IKB/Lenovo ideapad 520L-15IKB/Lenovo ideapad 520R-15IKB/Lenovo ideapad 520E-15IKB*, there are following types of LCDs.

- “15.6-in. HD/FHD LED”

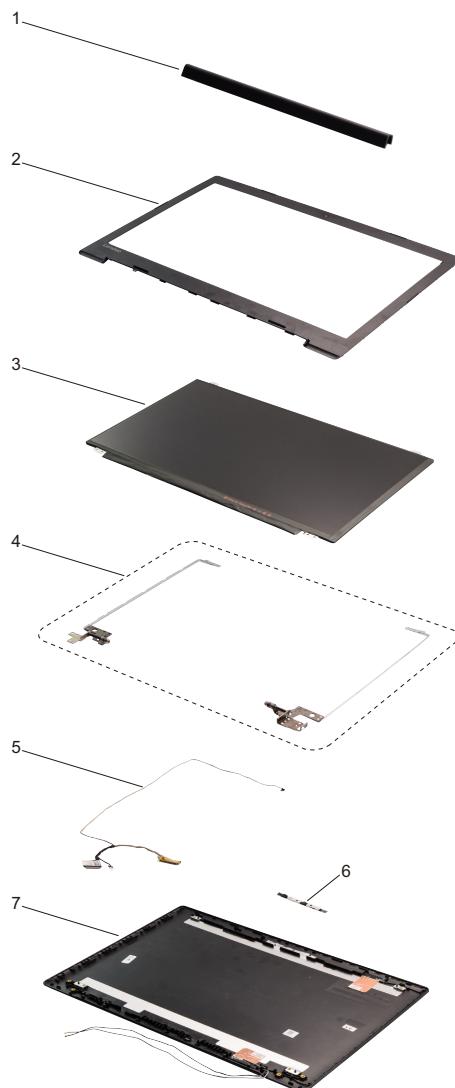


Table 6. Parts list—LCD FRUs

No.	FRU	FRU no.	CRU ID.
1	HINGE CAP 15T L80YL IG	5CB0N98506	N
1	HINGE CAP 15T L80YL GD	5CB0N98517	N
1	HINGE CAP 15T L80YL BZ	5CB0N98524	N
2	LCD BEZEL L80YL IG	5B30N98511	N
2	LCD BEZEL L80YL GD	5B30N98510	N
2	LCD BEZEL L80YL BZ	5B30N98516	N
3	Panel, LG LP156WF6-SPK3 FHD AG S NB	5D10L79763	N
3	Panel, BO NV156FHM-N42V8.1 FHD AG S NB	5D10N70511	N
3	Panel, BO NV156FHM-N42 V8 FHD AG S NB	5D10L65980	N
3	Panel, AU B156XTN07.1 3A HDT AG S NB	5D10H52713	N
3	Panel, INX N156BGA-EA2 HDT AG S NB	5D10K81086	N
3	Panel, BO NT156WHM-N42 V8 HDT AG S NB	5D10K81097	N
4	HINGE LR 15T L80XL	5H50N86361	N
5			
6	CAMERA L80YL 720P W/2MIC	5C20N98515	N
7	LCDCOVERASSY L80YL IG PTW/ANTE EDP	5CB0N98513	N
7	LCDCOVERASSY L80YL GD PTW/ANTE EDP	5CB0N98514	N
7	LCDCOVERASSY L80YL BZ PTW/ANTE EDP	5CB0N98519	N

Miscellaneous parts

Table 7. Parts list—Miscellaneous parts

FRU	P/N	CRU ID.
System miscellaneous parts:		
• (a) HDD BRACKET L80XK	5B40N82219	N
• (b) ODD BRACKET L80SL	5B40L35764	N
• (c) ODD BEZEL L80YL MINERAL GREY PT	5B30N98512	N
• (c) ODD BEZEL L80YL CHAMPAGNE PT	5B30N98525	N
• (c) ODD BEZEL L80YL LIGHT BRONZE PT	5B30N98527	N

Note: Italicized letters in parentheses are references to the exploded view in “Overall” on page 61.

AC adapters

Table 8. Parts list—AC adapters

FRU	P/N	CRU ID.
Delta ADP-45DW A 20V2.25A COO	SA10M42800	*
Delta ADP-45DW J 20V2.25A COO	SA10M42721	*
Delta ADP-45DW B 20V2.25A COO	SA10M42785	*
Delta ADP-45DW D 20V2.25A COO	SA10M42696	*
Delta ADP-45DW H 20V2.25A COO	SA10M42699	*
Delta ADP-45DW G 20V2.25A COO	SA10M42774	*
Delta ADP-45DW E 20V2.25A COO	SA10M42748	*
Delta ADP-45DW C 20V2.25A COO	SA10M42700	*
Delta ADP-45DW K 20V2.25A COO	SA10M42804	*
Liteon PA-1450-55LN 20V2.25A COO	SA10M42711	*
Liteon PA-1450-55LG 20V2.25A COO	SA10M42709	*
Liteon PA-1450-55LL 20V2.25A COO	SA10M42742	*
Liteon PA-1450-55LK 20V2.25A COO	SA10M42530	*
Liteon PA-1450-55LI 20V2.25A COO	SA10M42734	*
Liteon PA-1450-55LR 20V2.25A COO	SA10M42701	*
Liteon PA-1450-55LS 20V2.25A COO	SA10M42736	*
Liteon PA-1450-55LU 20V2.25A COO	SA10M42743	*
Liteon PA-1450-55LZ 20V2.25A COO	SA10M42752	*
Chicony ADL45WCA 20V2.25A COO	SA10M42726	*
Chicony ADL45WCB 20V2.25A COO	SA10M42737	*
Chicony ADL45WCC 20V2.25A COO	SA10M42697	*
Chicony ADL45WCĐ 20V2.25A COO	SA10M42790	*
Chicony ADL45WCK 20V2.25A COO	SA10M42768	*
Chicony ADL45WCE 20V2.25A COO	SA10M42706	*
Chicony ADL45WCF 20V2.25A COO	SA10M42746	*
Chicony ADL45WCG 20V2.25A COO	SA10M42792	*
Chicony ADL45WCH 20V2.25A COO	SA10M42786	*
Delta ADLX65CDGC2A 20V3.25A COO	SA10M42764	*
Delta ADLX65CDGG2A 20V3.25A COO	SA10M42758	*
Delta ADLX65CDGU2A 20V3.25A COO	SA10M42765	*
Delta ADLX65CDGK2A 20V3.25A COO	SA10M42745	*
Delta ADLX65CDGI2A 20V3.25A COO	SA10M42796	*
Delta ADLX65CDGR2A 20V3.25A COO	SA10M42775	*
Delta ADLX65CDGA2A 20V3.25A COO	SA10M42718	*
Delta ADLX65CDGE2A 20V3.25A COO	SA10M42794	*
Delta ADLX65CDGB2A 20V3.25A COO	SA10M42769	*
Liteon ADLX65CLGC2A 20V3.25A COO	SA10M42791	*
Liteon ADLX65CLGG2A 20V3.25A COO	SA10M42714	*
Liteon ADLX65CLGU2A 20V3.25A COO	SA10M42725	*
Liteon ADLX65CLGK2A 20V3.25A COO	SA10M42531	*
Liteon ADLX65CLGI2A 20V3.25A COO	SA10M42753	*
Liteon ADLX65CLGR2A 20V3.25A COO	SA10M42738	*
Liteon ADLX65CLGA2A 20V3.25A COO	SA10M42793	*
Liteon ADLX65CLGE2A 20V3.25A COO	SA10M42740	*
Liteon ADLX65CLGB2A 20V3.25A COO	SA10M42817	*
Chicony ADLX65CCGC2A 20V3.25A COO	SA10M42805	*
Chicony ADLX65CCGG2A 20V3.25A COO	SA10M42815	*

Table 8. Parts list—AC adapters (continued)

FRU	P/N	CRU ID.
Chicony ADLX65CCGU2A 20V3.25A COO	SA10M42762	*
Chicony ADLX65CCGK2A 20V3.25A COO	SA10M42735	*
Chicony ADLX65CCGI2A 20V3.25A COO	SA10M42751	*
Chicony ADLX65CCGR2A 20V3.25A COO	SA10M42704	*
Chicony ADLX65CCGA2A 20V3.25A COO	SA10M42766	*
Chicony ADLX65CCGE2A 20V3.25A COO	SA10M42760	*
Chicony ADLX65CCGB2A 20V3.25A COO	SA10M42707	*

Screws

Table 9. Parts list—Screws

FRU	P/N	CRU ID.
SCREWL80XKMM2.5D7.0LK4.5D0.8T ZKNL	5S10N82242	N
SCREW L MM1.98D3LK4.5DNINL0.4T	5S10K25435	N
AILZA Screw M 2 2.0D 2L K 7D	90203987	N
SCREW L80T6 MM 2.5D 2.5LK 8.0D NI	5S10L45749	N
Screw L Y700-15ACZ Hinge base	5S10K26861	N
ACLU1ScrewD-C/D-KB/ODD-D-MB-KB/FAN	90205118	N

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