Lenovo ideapad 130 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 69.
- This manual applies to the following models: Lenovo ideapad 130-14IKB/ideapad 130-15IKB/ ideapad 130-15AST.
  The illustrations used in this manual are for Lenovo ideapad 130-15AST unless otherwise stated.

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About this manual

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

Lenovo ideapad 130-14IKB/ideapad 130-15IKB/ideapad 130-15AST

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 130-14IKB/ ideapad 130-15IKB/ideapad 130-15AST 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 generators

  and 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, וחלקים קטנים אחרים נמצאים
במקומם ואינם חופשיים לזוז בתוך המחשב. כדי לוודא
זאת, יש לטלטל את המחשב ולהקשיב לגילוי קולות שקשוק.
חלקי או שבבי מתכת עלולים לגרום לקצרים חשמליים.

Prima di accendere l'elaboratore dopo che é stata effettuata la sostituzione di una FRU, accertarsi che tutte le viti, le molle e tutte le altri 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'exploser.

Die Bereitschaftsbatterie, die sich unter dem Diskettenlaufwerk befindet, kann geringe Mengen Nickel und Cadmium enthalten. Sie darf nicht zerlegt, wiederaufgeladen, kurzgeschlossen, oder Feuer oder Wasser ausgesetzt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen 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.

סוללות המתנה מסוימות מכילות כמות קטנה
של ניקל וקדמיום. אין לפרק סוללת המתנה,
לטעון אותה מחדש, להשליך אותה לאש או
למים או לקצר אותה. יש לסלק את הסוללה
כנדרש על ידי התקנות והחוקים המקומיים. יש
להשתמש רק בסוללה המופיעה ברשימת החלקים
המתאימה. שימוש בסוללה לא מתאימה עלול
לגרום להצתה או התפוצצות של 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。適切なパーツ・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.

מאריז הסוללה מכיל כמות קטנה של ניקל
וקדמיום. אין לפרק את מאריז הסוללה, להשליך
אותו לאש או למים או לקצר אותו. יש לסלק את
מאריז הסוללה הסוללה כנדרש על ידי התקנות
והחוקים המקומיים. יש להשתמש רק בסוללה
המופיעה ברשימת החלקים המתאימה בזמן החלפת
מאריז הסוללה. שימוש בסוללה לא מתאימה עלול
לגרום להצתה או התפוצצות של הסוללה.

La batteria contiene piccole quantità di nichel. Non smontarla, gettarla nel fuoco o nell'acqua né cortocircuitarla. Smaltirla 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.

バッテリー・パックには少量のニッケルが含まれています。バッテリー・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。バッテリー・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。バッテリー・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。

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 temperature 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.

סוללת הליתיום עלולה לגרום לשריפה, להתפוצצות או לכוויות קשות. אין לטעון אותה מחדש, לסלק את המחבר המקוטב שלה, לפרק אותה או לחמם אותה לטמפרטורה העולה על 100 מעלות צלזיוס. אין לשרוף את הסוללה ואין לחשוף את תוכן התא למים. יש לסלק את הסוללה כנדרש בתקנות ובחוקים המקומיים. יש להשתמש רק בסוללה המופיעה ברשימת החלקים המתאימים. שימוש בסוללה אחרת עלול לגרום לסכנת שריפה או התפוצצות.

La batteria di supporto e una batteria al litio e puo incendiarsi, esplodere o procurare gravi ustioni. Evitare di ricaricarla, smontarne il connettore polarizzato, smontarla, riscaldarla ad una temperatura superiore ai 100 gradi centigradi, incendiarla 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。バックアップ・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 ℃ (212 ˚F) 以上への加熱、焼却、電池の中身を水に浸すことはしないでください。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。適切なパーツ・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 הגביש הנוזלי (LCD) נשבר והנוזל מתוך המסך בא במגע
עם עיניכם או ידיכם, שטפו את האזורים הנגועים מיד במים במשך
15 דקות לפחות. פנו לקבלת עזרה רפואית אם תסמינים הנובעים
מהמגע עם הנוזל נמשכים לאחר השטיפה.

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 medica si se presenta algún síntoma del fluido despues 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 התחשמלות, אין להסיר את מכסה הפלסטיק
המגן על חלקו התחתון של הכרטיס 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.

אף שהסוללות הראשיות הן בעלות מתח נמוך, סוללה
מקוצרת או מוארקת עלולה להפיק זרם מספיק לגרימת
כוויות או להצתת חומרים דליקים.

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 החשמל משקעי החשמל, להוציא
את מארז הסוללה, ואז לנתק כבלי חיבור אחרים
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 vezérlésektől
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.

Použitie kontrôl, úprav alebo iných vykonaní od iných
výrobcov, ako je v tomto špecifikované, mohlo by mať
za následok nebezpečenstvo vystavenia sa vyžiarovaniu.

本書で指定された内容以外の、お客様による整備、調整、または手順を行った場合、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 óticos 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，请勿直接查看
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 guardarlo 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.

Keď je laserová jednotka otvorená. Vyhnite sa priamemu
pohľadu a nehľadte 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:

Pin	Voltage (V DC)
1	+20
2	

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 130” 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 130-14IKB/ideapad 130-15IKB/ideapad 130-15AST 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 130

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 55
- “Parts list” on page 57

Specifications

The following table lists the specifications of the
Lenovo ideapad 130-14IKB/ideapad 130-15IKB/ideapad 130-15AST:

Table 1. Specifications

Feature	Description
Processor	• View the system properties of your computer. You can do this as follows: Open the **Control Panel**, and then select **System and Security** → **System.**
Graphic memory chip	• Integrated graphics: Depends on CPU • Discreted graphics: NV LV1-N16V-GMR1(For i3, i5/i7) (Lenovo ideapad 130-14IKB/ Lenovo ideapad 130-15IKB) AMD LV2-R17M-M1-70 (Lenovo ideapad 130-15AST)
Display	• 14.0" 16:9, 1,366 X 768 pixels HD / 1,920 x 1,080 pixels FHD (Lenovo ideapad 130-14IKB) 15.6" 16:9, 1,366 X 768 pixels HD / 1,920 x 1,080 pixels FHD (Lenovo ideapad 130-15IKB/Lenovo ideapad 130-15AST)
Standard memory	• DDR4-2133 MHz, SODIMM × 1, on board × 1 (max 4 GB (on board) + 8 GB)(Lenovo ideapad 130-14IKB/ Lenovo ideapad 130-15IKB) DDR4-2133 MHz (Lenovo ideapad 130-15AST depending on configuration), SODIMM × 1 (max 8 GB) (Lenovo ideapad 130-15AST)
Storage devices	• HDD: 2.5-inch, 7.0 mm SATA II/SATA III • SSD: 128 GB / 256 GB, SATA III (Lenovo ideapad 130-14IKB/Lenovo ideapad 130-15IKB) 128 GB, SATA III (Lenovo ideapad 130-15AST)

Table 1. Specifications (continued)

Feature	Description
Optical drive	• 9.0 mm, Rambo
I/O port	• USB 3.0 × 2 • Combo audio jack × 1 • HDMI port × 1 • RJ-45 × 1 • Memory card slot (SD/SDHC/SDXC/MMC)
Audio	• 3.5 mm Combo audio jack • 1.5 W speaker × 2
Bluetooth wireless	• Combined in combo card
Keyboard	• 6 rows Lenovo Keyboard
Integrated camera	• HD
Battery	• Li-ion battery pack 2 cells, 30 Wh / 35 Wh (Lenovo ideapad 130-14IKB/ Lenovo ideapad 130-15IKB) 2 cells, 30 Wh (Lenovo ideapad 130-15AST)
AC adapter	• 20 V DC, UMA 45 W, DIS 65 W
Pre-installed operating system	• Win 10 64bits • Free-DOS

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, charging will continue until the battery is fully charged.
		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 is being charged. When battery charge reaches 20%, the blinking color changes to white.
		Blinking quickly (amber)	Discharging	The battery has between 1% and 5% charge.
		Off	Discharging	The computer is in sleep mode or turned off; the battery has more than 20% charge.

Fn key combinations/Hotkeys

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

Table 3. 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.

Setting hotkey mode

By default, the hotkey functions are accessible by pressing the appropriate hotkey. However, you can disable the hotkey mode in the BIOS setup utility.
To disable the hotkey mode:
1. Shut down the computer.
2. Press the Novo button and then select **BIOS Setup**.
3. In the BIOS setup utility, open the **Configuration** menu, and change the setting of **HotKey Mode** from **Enabled** to **Disabled**.
4. Open the **Exit** menu, and select **Exit Saving Changes**.

Note: When hotkey mode is disabled, press the **Fn** key and the appropriate hotkey to access the corresponding 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.

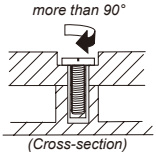
Do the following when you service this machine:

- 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:

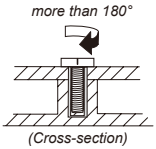
- **Plastic to plastic**

  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 55.
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.

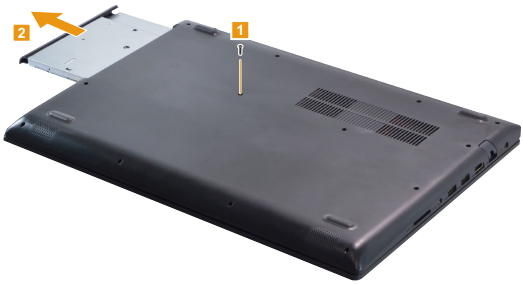
Notes:

- This manual applies to the following models:
  Lenovo ideapad 130-14IKB/ideapad 130-15IKB/ideapad 130-15AST.
- The illustrations used in this manual are for Lenovo ideapad 130-15AST unless otherwise stated.

1010 Optical drive

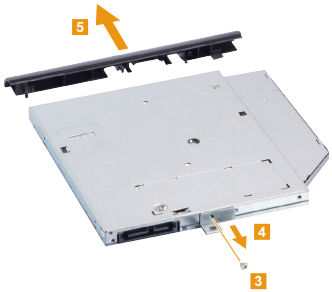
Figure 1. Removal steps of optical drive

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) LOW TO UPPER	Black	1.85±0.15 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 × 3.5 mm, Phillips head, nylok-coated (1) ODD BRK TO ODD	Silver	1.85±0.15 kgf*cm

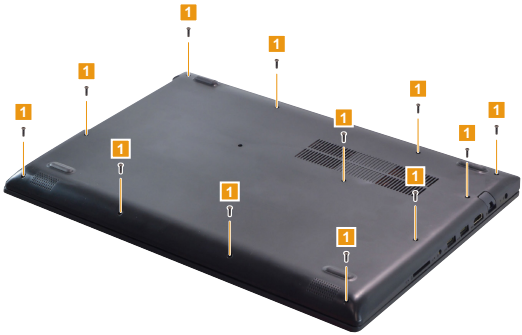
1020 Base cover

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) LOW TO UPPER	Black	1.85±0.15 kgf*cm

Remove the base cover 2.

Note: Applying labels to the base cover

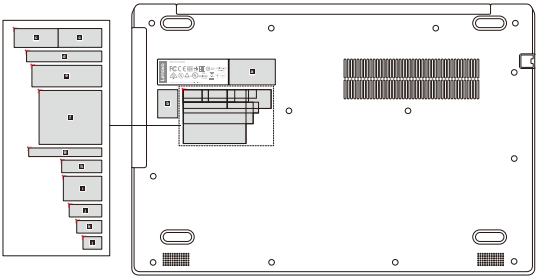
If you see the following labels on base cover, it needs to be peeled off from the old base cover, and put on the new base cover.

- a Rating label
- b GML label
- c Brazil label
- d TW vision warning label
- e Adapter label
- f KR KRR label
- g Argentina label
- h Israel/US/CA/TW label
- i India BIS label
- j Indonesia rating label
- k South Africa label
- l Malaysia/Indonesia label

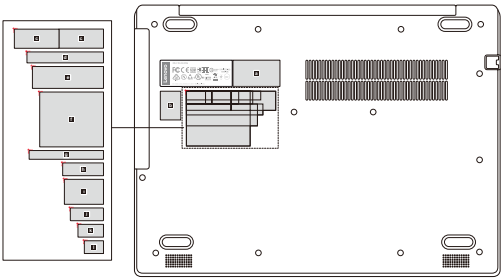
For some models, you also need to apply one or two FCC labels. Check the old base cover; if it has one or two FCC labels, find duplicates of them in the label kit and apply them to the new base cover.

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

Lenovo ideapad 130-15IKB/Lenovo ideapad 130-15AST



Lenovo ideapad 130-14IKB



1030 Battery pack

For access, remove this FRU:

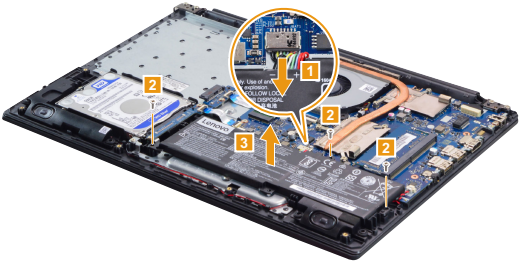
- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33

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

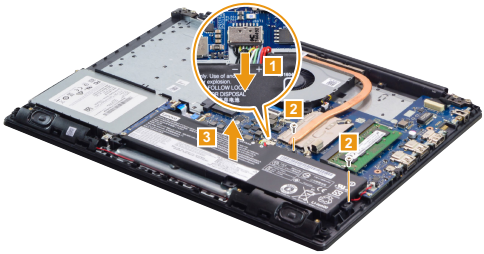
Figure 3. Removal steps of battery pack

Unplug the battery pack connector in the direction shown by arrow 1, then remove the screws 2. Remove the battery pack in the direction shown by arrow 3.

Lenovo ideapad 130-15IKB/Lenovo ideapad 130-15AST



Lenovo ideapad 130-14IKB



Step	Screw (quantity)	Color	Torque
2	M2 × 6 mm, Phillips head, nylok-coated (3) (Lenovo ideapad 130-15IKB/Lenovo ideapad 130-15AST) BATTERY MODULE TO UPPER	Silver	1.85±0.15 kgf*cm
2	M2 × 6 mm, Phillips head, nylok-coated (2) (Lenovo ideapad 130-14IKB) BATTERY MODULE TO UPPER	Silver	1.85±0.15 kgf*cm

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

1040 Hard disk drive

For access, remove these FRUs in order:

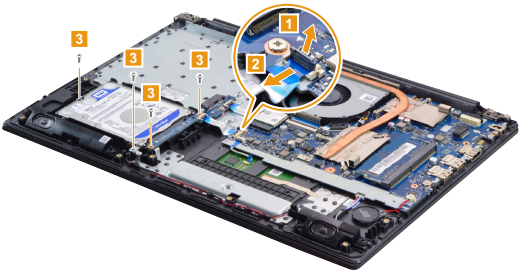
- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35

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

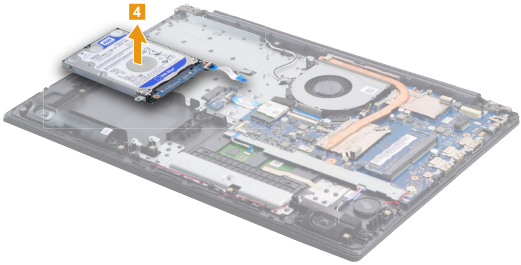
Detach the connector in the direction shown by arrows 1 and 2. Remove the screws 3.



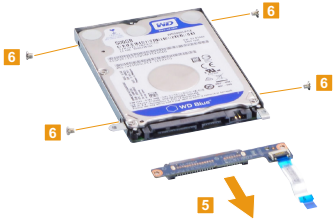
Step	Screw (quantity)	Color	Torque
3	M2 × 6 mm, Phillips head, nylok-coated (4) HDD BRK TO UPPER & HDD/B TO UPPER	Silver	1.85±0.15 kgf*cm

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

Remove the hard disk drive in the direction shown by arrow 4.



Remove the hard disk drive board in the direction shown by arrow 5. Remove the screws 6, and then take out the metal frame.



Step	Screw (quantity)	Color	Torque
6	M3 × 3 mm, Phillips head, nylok-coated (4) HDD BRK TO HDD	Silver	3±0.3 kgf*cm

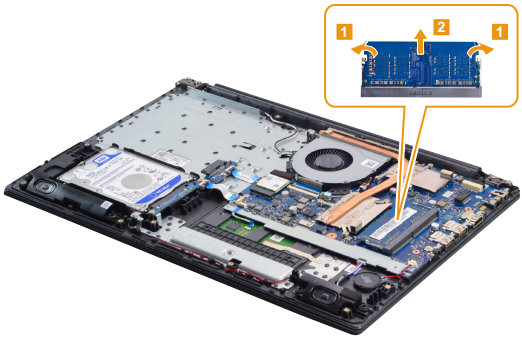
1050 DIMM

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:

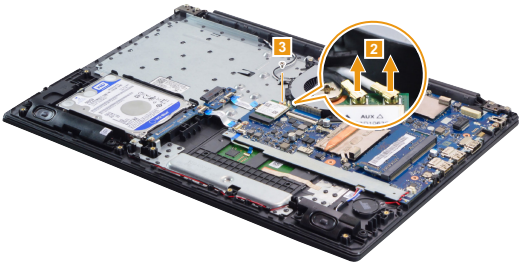
- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35

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 4. Parts list—Overall” on page 60 for Lenovo part numbers for the approved modules.

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

Peel off the tape 1

Disconnect the two wireless LAN cables (black, gray) 2. Remove the screw 3.



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 2.
The wireless LAN card in some models might have 3 cables in step 3.

Step	Screw (quantity)	Color	Torque
3	M2 × 3.5 mm, Phillips head, nylok-coated (1) WLAN CARD TO UPPER	Silver	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 4.

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.

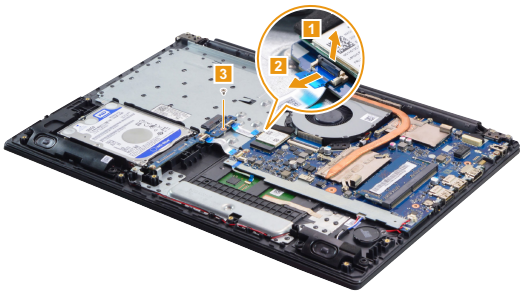
1070 ODD board

For access, remove these FRUs in order:

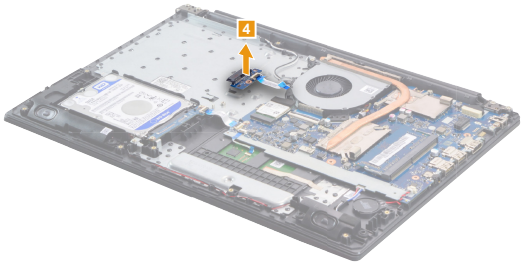
- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35

Figure 7. Removal steps of ODD board

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



Remove the ODD board 4.



Step	Screw (quantity)	Color	Torque
3	M2 X 3.5 mm, Phillips head, nylok-coated (1) ODD BOARD TO UPPER	Silver	1.85±0.15 kgf*cm

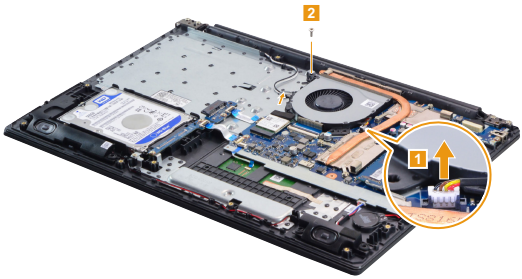
1080 Fan and heat sink assembly

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

Figure 8. Removal steps of fan and heat sink assembly

Unplug the fan connector in the direction shown by arrow 1. Remove the screw 2. Release the antenna from the cable guides.



Step	Screw (quantity)	Color	Torque
2	M2 × 6 mm, Phillips head, nylok-coated (1) FAN TO UPPER	Silver	1.85±0.15 kgf*cm

Lift the fan in the direction shown by arrow 3.

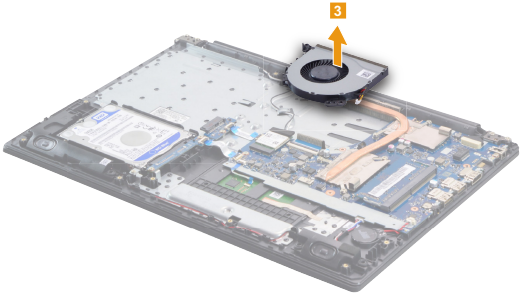
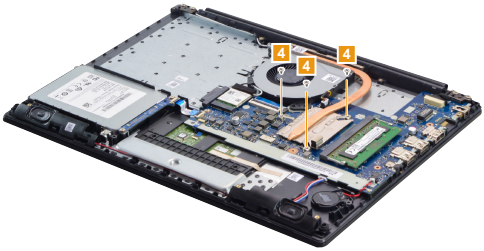


Figure 8. Removal steps of fan and heat sink assembly (continued)

Remove the screws 4.

Lenovo ideapad 130-15IKB/Lenovo ideapad 130-15AST

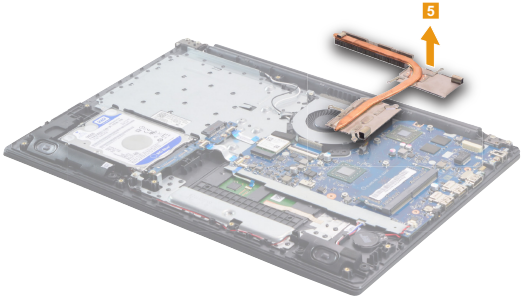
Lenovo ideapad 130-14IKB



Step	Screw (quantity)	Color	Torque
4	M2 × 3.5 mm, Phillips head, nylok-coated (5) (Lenovo ideapad 130-15IKB/Lenovo ideapad 130-15AST) THERMAL MODULE TO CPU & THERMAL MODULE TO GPU (DIS)	Silver	1.85±0.15 kgf*cm
4	M2 × 3.5 mm, Phillips head, nylok-coated (3) (Lenovo ideapad 130-14IKB) THERMAL TO M/B (CPU)	Silver	1.85±0.15 kgf*cm

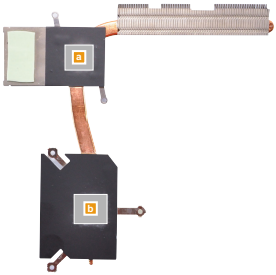
Figure 8. Removal steps of fan and heat sink assembly (continued)

Lift the fan in the direction shown by arrow 5.

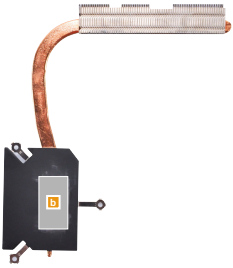


Attention: Do not handle the heat sink assembly roughly. Improper handling can cause distortion or deformation and imperfect contact with components.

Lenovo ideapad 130-15IKB/Lenovo ideapad 130-15AST



Lenovo ideapad 130-14IKB



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.

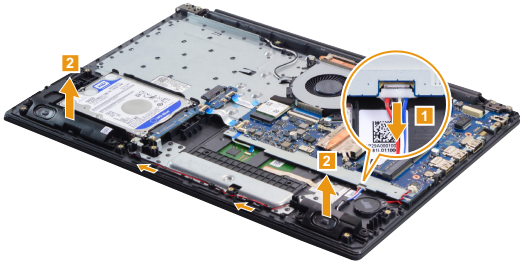
1090 Speaker

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. Remove the two speakers 2. Release the antenna from the cable guides.



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

1100 RTC battery

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 10. Removal steps of RTC battery

Unplug the RTC battery connector in the direction shown by arrow 1. Remove the RTC battery 2.

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

1110 System board

Important notices for handling the system board:

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

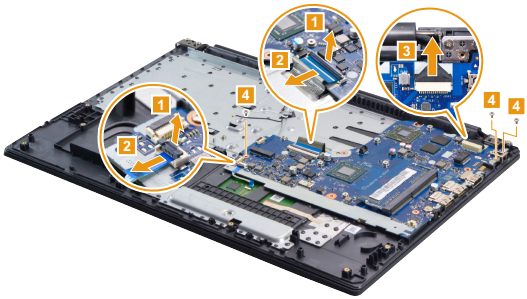
- Be careful not to drop the system board on a bench top that has a hard surface, such as metal, wood, or composite.
- Avoid rough handling of any kind.
- In the whole process, make sure not to drop or stack the system board.
- If you put a system board down, make sure to put it only on a padded surface 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
- “1040 Hard disk drive” on page 36
- “1070 ODD board” on page 41
- “1080 Fan and heat sink assembly” on page 42
- “1090 Speaker” on page 45
- “1100 RTC battery” on page 46

Figure 11. Removal steps of system board

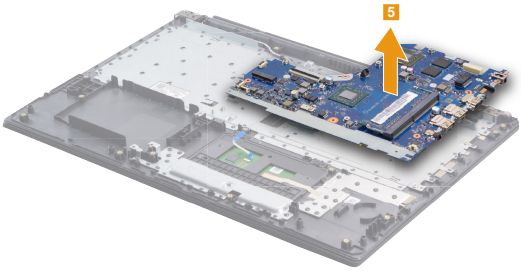
Detach the three connectors (EDP cable connector, KB FFC connector, touchpad connector) in the directions shown by arrows 1, 2 and 3. Remove the screws 4.



Step	Screw (quantity)	Color	Torque
4	M2 × 3.5 mm, Phillips head, nylok-coated (3) MB TO UPPER & DC-IN TO UPPER	Silver	1.85±0.15 kgf*cm

Figure 11. Removal steps of system board (continued)

Remove the system board in the direction shown by arrow 5.



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

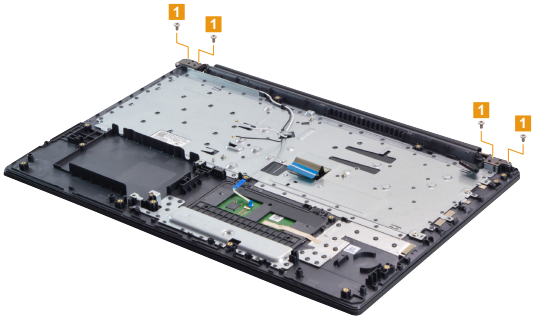
1120 Upper case

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
- “1040 Hard disk drive” on page 36
- “1070 ODD board” on page 41
- “1080 Fan and heat sink assembly” on page 42
- “1090 Speaker” on page 45
- “1100 RTC battery” on page 46
- “1110 System board” on page 47

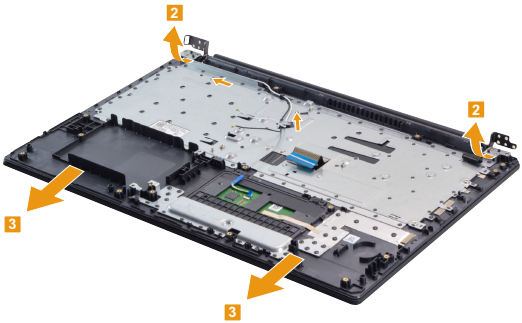
Figure 12. Removal steps of upper case

Remove the screws 1.



Step	Screw (quantity)	Color	Torque
1	M2.5 × 4.5 mm, Phillips head, nylok-coated (4) HINGE BRK TO UPPER	Silver	3±0.3 kgf*cm

Open the hinge in the direction shown by arrows 2. Release the antenna from the cable guides. Remove the upper case in the direction shown by arrow 3.



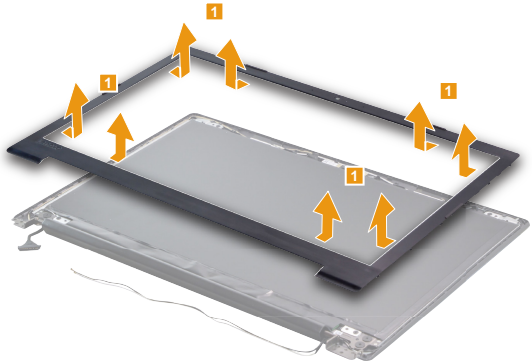
1130 LCD unit

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 36
- “1070 ODD board” on page 41
- “1080 Fan and heat sink assembly” on page 42
- “1090 Speaker” on page 45
- “1100 RTC battery” on page 46
- “1110 System board” on page 47
- “1120 Upper case” on page 49

Figure 13. Removal steps of LCD unit

Remove the LCD front bezel in the direction shown by arrows 1.



Pull the hinge cover in the direction shown by arrows 2. Remove the hinge cover in the direction shown by arrow 3.

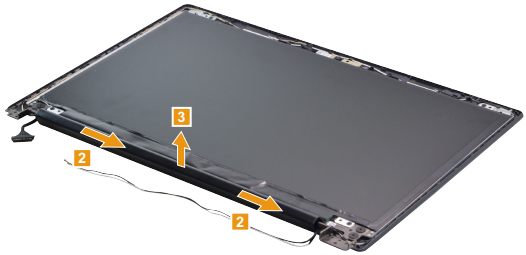
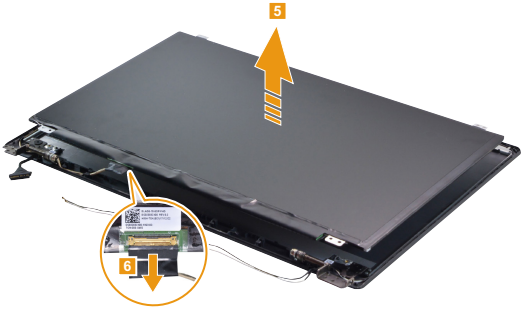


Figure 13. Removal steps of LCD unit (continued)

Remove the screws 4.

Step	Screw (quantity)	Color	Torque
4	M2 x 2.5 mm, Phillips head, nylok-coated (4) LCD PANEL TO LCD COVER	Black	1.85±0.15 kgf*cm

Lift the LCD panel slightly 5. Unplug the EDP connector 6. Then remove the LCD panel.



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

1140 EDP cable and integrated camera

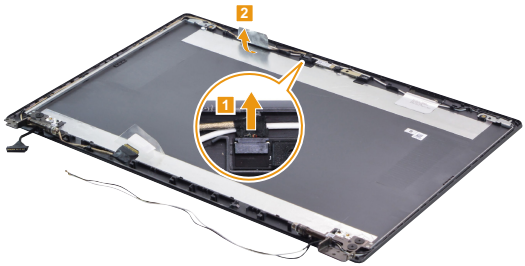
For access, remove these FRUs in order:

- “1010 Optical drive” on page 32
- “1020 Base cover” on page 33
- “1030 Battery pack” on page 35
- “1040 Hard disk drive” on page 36
- “1070 ODD board” on page 41
- “1080 Fan and heat sink assembly” on page 42
- “1090 Speaker” on page 45
- “1100 RTC battery” on page 46
- “1110 System board” on page 47
- “1120 Upper case” on page 49
- “1130 LCD unit” on page 50

Figure 14. Removal steps of EDP cable and integrated camera

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

Unplug the connector 1, peel of the tape 2.



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

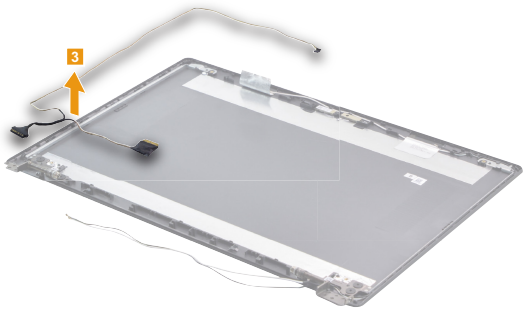


Figure 14. Removal steps of EDP cable and integrated camera (continued)

Remove the camera board in the direction shown by arrow 4.

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.

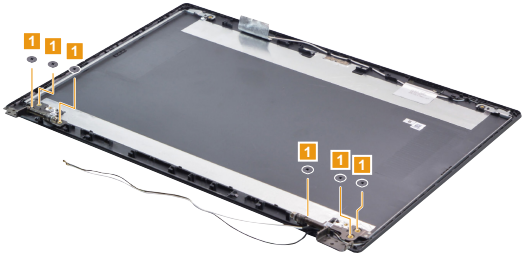
1150 LCD hinges

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 36
- “1070 ODD board” on page 41
- “1080 Fan and heat sink assembly” on page 42
- “1090 Speaker” on page 45
- “1100 RTC battery” on page 46
- “1110 System board” on page 47
- “1120 Upper case” on page 49
- “1130 LCD unit” on page 50
- “1140 EDP cable and integrated camera” on page 52

Figure 15. Removal steps of LCD hinges

Remove the screws 1.



Step	Screw (quantity)	Color	Torque
1	M2.5 × 2.5 mm, Phillips head, nylok-coated (6) HINGE BRK TO LCD COVER	Black	3±0.3 kgf*cm

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

Locations

Front and right-side view

1 Integrated camera

Note: The position of the camera indicator on select models may vary slightly. Please refer to the actual product.

2 Built-in microphone

3 Wireless LAN antennas

4 Computer display

5 Ventilation slots

6 Touchpad

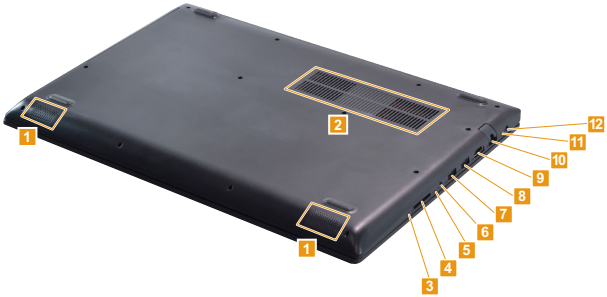
7 Optical drive (on select models)

8 Kensington mini security slot

9 Power button

Bottom and left-side view

1 Speakers
2 Louvers
3 Power status indicator
Note: For the description of each indicator, see “Status indicators” on page 28.
4 Memory card slot
5 Novo button
6 Combo audio jack
7 USB ports
8 HDMI port
9 RJ-45 port
10 Battery status indicator
Note: For the description of each indicator, see “Status indicators” on page 28.
11 AC power adapter jack



Parts list

This section presents the following service parts:

- “Overall” on page 58
- “LCD FRUs” on page 64
- “Miscellaneous parts” on page 66
- “AC adapters” on page 67
- “Screws” on page 68

Note:

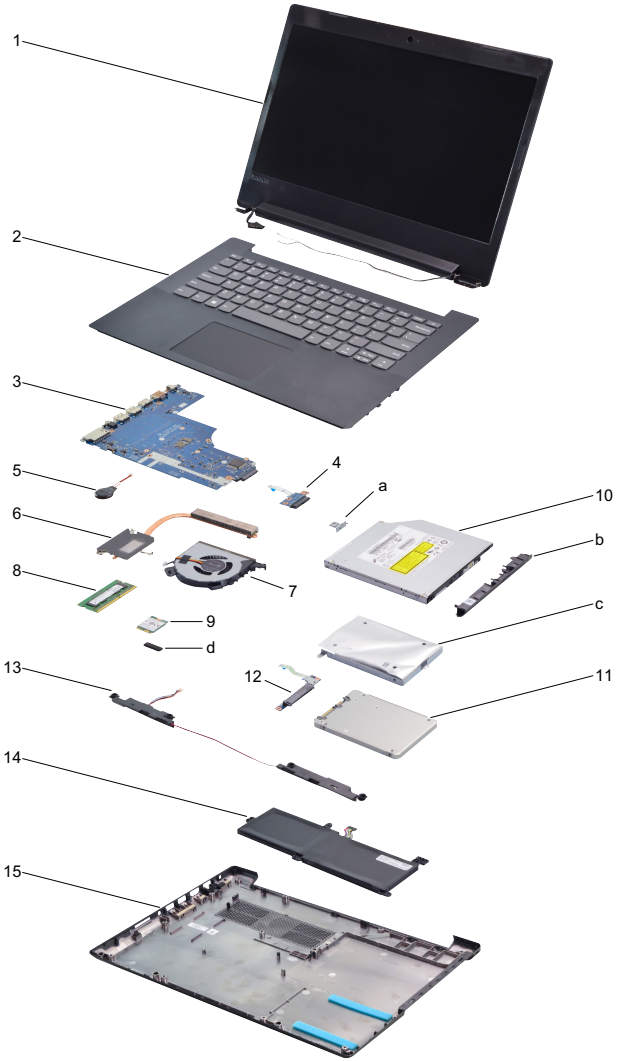
Each FRU is available for all types or models, unless specific types or models are specified.

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

Lenovo ideapad130-14IKB



Lenovo ideapad 130-15IKB/Lenovo ideapad 130-15AST

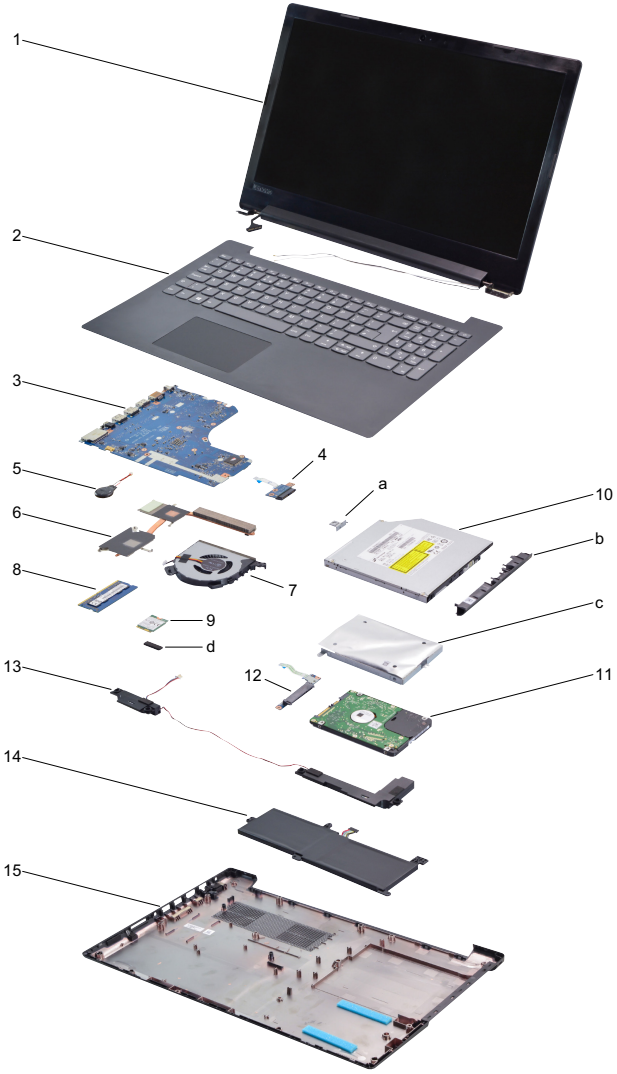


Table 4. Parts list—Overall

No.	FRU	FRU no.	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
a-d	See “Miscellaneous parts” on page 66.					
1	LCD unit (see “LCD FRUs” on page 64.)					
2	Upper Case ASM C 81H6 LA SPA	5CB0R34885	N	●		
2	Upper Case ASM C 81H6 TCH	5CB0R34887	N	●		
2	Upper Case ASM C 81H6 ITA	5CB0R34883	N	●		
2	Upper Case ASM C 81H6 BUL	5CB0R34886	N	●		
2	Upper Case ASM C 81H6 SW	5CB0R34865	N	●		
2	Upper Case ASM C 81H6 SPA	5CB0R34863	N	●		
2	Upper Case ASM C 81H6 SLVN	5CB0R34862	N	●		
2	Upper Case ASM C 81H6 ARA	5CB0R34847	N	●		
2	Upper Case ASM C 81H6 TUR	5CB0R34846	N	●		
2	Upper Case ASM C 81H6 INDIA	5CB0R34859	N	●		
2	Upper Case ASM C 81H6 US	5CB0R34880	N	●		
2	Upper Case ASM C 81H6 HUN	5CB0R34892	N	●		
2	Upper Case ASM C 81H6 ILD (ICE)	5CB0R34891	N	●		
2	Upper Case ASM C 81H6 KOR	5CB0R34872	N	●		
2	Upper Case ASM C 81H6 USI	5CB0R34871	N	●		
2	Upper Case ASM C 81H6 GRE	5CB0R34868	N	●		
2	Upper Case ASM C 81H6 ENG-FRA	5CB0R34867	N	●		
2	Upper Case ASM C 81H6 BEL	5CB0R34875	N	●		
2	Upper Case ASM C 81H6 PORT	5CB0R34873	N	●		
2	Upper Case ASM C 81H6 UK	5CB0R34850	N	●		
2	Upper Case ASM C 81H6 RUS	5CB0R34848	N	●		
2	Upper Case ASM C 81H6 CZ-SK	5CB0R34882	N	●		
2	Upper Case ASM C 81H6 THAI	5CB0R34890	N	●		
2	Upper Case ASM C 81H6 BRA	5CB0R34858	N	●		
2	Upper Case ASM C 81H6 FR-AR	5CB0R34889	N	●		
2	Upper Case ASM C 81H6 GER	5CB0R34888	N	●		
2	Upper Case ASM C 81H6 NORDIC	5CB0R34845	N	●		
2	Upper Case ASM C 81H6 FRA	5CB0R34855	N	●		
2	Upper Case ASM C 81H6 UKR	5CB0R34853	N	●		
2	Upper Case ASM C 81H6 HEB	5CB0R34851	N	●		
2	Upper Case ASM C 81H7 HUN	5CB0R34457	N		●	●
2	Upper Case ASM C 81H7 ITA	5CB0R34416	N		●	●
2	Upper Case ASM C 81H7 BRA	5CB0R34430	N		●	
2	Upper Case ASM C 81H7 ARA	5CB0R34428	N		●	●
2	Upper Case ASM C 81H7 BEL	5CB0R34427	N		●	●
2	Upper Case ASM C 81H7 HEB	5CB0R34424	N		●	●
2	Upper Case ASM C 81H7 TCH	5CB0R34390	N		●	●
2	Upper Case ASM C 81H7 USI	5CB0R34440	N		●	●
2	Upper Case ASM C 81H7 RUS	5CB0R34438	N		●	●
2	Upper Case ASM C 81H7 GRE	5CB0R34452	N		●	●
2	Upper Case ASM C 81H7 US	5CB0R34441	N		●	●
2	Upper Case ASM C 81H7 SPA	5CB0R34451	N		●	●
2	Upper Case ASM C 81H7 KOR	5CB0R34411	N		●	●
2	Upper Case ASM C 81H7 SLVN	5CB0R34409	N		●	●
2	Upper Case ASM C 81H7 THAI	5CB0R34449	N		●	●
2	Upper Case ASM C 81H7 SW	5CB0R34405	N		●	●
2	Upper Case ASM C 81H7 UKR	5CB0R34407	N		●	●

Table 4. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
2	Upper Case ASM C 81H7 ILD (ICE)	5CB0R34398	N		●	●
2	Upper Case ASM C 81H7 LA SPA	5CB0R34442	N		●	●
2	Upper Case ASM C 81H7 PORT	5CB0R34465	N		●	●
2	Upper Case ASM C 81H7 CZ-SK	5CB0R34462	N		●	●
2	Upper Case ASM C 81H7 FR-AR	5CB0R34415	N		●	●
2	Upper Case ASM C 81H7 TUR	5CB0R34413	N		●	●
2	Upper Case ASM C 81H7 NORDIC	5CB0R34455	N		●	●
2	Upper Case ASM C 81H7 ENG-FRA	5CB0R34454	N		●	●
2	Upper Case ASM C 81H7 UK	5CB0R34423	N		●	●
2	Upper Case ASM C 81H7 BUL	5CB0R34421	N		●	●
2	Upper Case ASM C 81H7 FRA	5CB0R34417	N		●	●
2	Upper Case ASM C 81H7 GER	5CB0R34419	N		●	●
2	Upper Case ASM C 81H7 INDIA	5CB0R34460	N		●	●
3	MB C 81H6 WIN I38130U DISV2G 4G	5B20R34849	N	●		
3	MB C 81H6 NOK I37020U UMA 4G	5B20R34843	N	●		
3	MB C 81H6 WIN I37020U DISV2G 4G	5B20R34842	N	●		
3	MB C 81H6 WIN I78550U DISV2G 4G	5B20R34857	N	●		
3	MB C 81H6 WIN I78550U UMA 4G	5B20R34854	N	●		
3	MB C 81H6 NOK I38130U DISV2G 4G	5B20R34884	N	●		
3	MB C 81H6 NOK I58250U UMA 4G	5B20R34879	N	●		
3	MB C 81H6 WIN I38130U UMA 4G	5B20R34878	N	●		
3	MB C 81H6 NOK I38130U UMA 4G	5B20R34869	N	●		
3	MB C 81H6 NOK I37020U DISV2G 4G	5B20R34866	N	●		
3	MB C 81H6 NOK I78550U UMA 4G	5B20R34860	N	●		
3	MB C 81H6 WIN I37020U UMA 4G	5B20R34838	N	●		
3	MB C 81H6 NOK I78550U DISV2G 4G	5B20R34893	N	●		
3	MB C 81H6 WIN I58250U DISV2G 4G	5B20R34841	N	●		
3	MB C 81H6 WIN I58250U UMA 4G	5B20R34840	N	●		
3	MB C 81H6 NOK I58250U DISV2G 4G	5B20R34839	N	●		
3	MB C 81H7 NOK I37020U UMA 4G	5B20R34422	N		●	
3	MB C 81H7 NOKI78550U DIS 4GNODD	5B20R57965	N		●	
3	MB C 81H7 WIN I78550U DISV2G 4G	5B20R34418	N		●	
3	MB C 81H7 WIN I38130U DISV2G 4G	5B20R34436	N		●	
3	MB C 81H7 NOKI38130U UMA 4GNODD	5B20R57966	N		●	
3	MB C 81H7 WINI78550U DIS 4GNODD	5B20R57977	N		●	
3	MB C 81H7 WINI58250U DIS 4GNODD	5B20R57978	N		●	
3	MB C 81H7 WINI38130U DIS 4GNODD	5B20R57979	N		●	
3	MB C 81H7 WINI37020U DIS 4GNODD	5B20R57974	N		●	
3	MB C 81H7 NOK I58250U UMA 4G	5B20R34397	N		●	
3	MB C 81H7 WINI78550U UMA 4GNODD	5B20R57972	N		●	
3	MB C 81H7 NOKI58250U UMA 4GNODD	5B20R57973	N		●	
3	MB C 81H7 WIN I78550U UMA 4G	5B20R34435	N		●	
3	MB C 81H7 NOKI78550U UMA 4GNODD	5B20R57967	N		●	
3	MB C 81H7 WIN I37020U DISV2G 4G	5B20R34400	N		●	
3	MB C 81H7 WINI38130U UMA 4GNODD	5B20R57968	N		●	
3	MB C 81H7 NOK I38130U DISV2G 4G	5B20R34406	N		●	
3	MB C 81H7 WIN I38130U UMA 4G	5B20R34443	N		●	
3	MB C 81H7 WIN I58250U DISV2G 4G	5B20R34393	N		●	
3	MB C 81H7 NOK I78550U DISV2G 4G	5B20R34401	N		●	

Table 4. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
3	MB C 81H7 WIN I37020U UMA 4G	5B20R34433	N		●	
3	MB C 81H7 NOK I38130U UMA 4G	5B20R34467	N		●	
3	MB C 81H7 WINI37020U UMA 4GNODD	5B20R57980	N		●	
3	MB C 81H7 NOK I37020U DISV2G 4G	5B20R34458	N		●	
3	MB C 81H7 NOKI37020U DIS 4GNODD	5B20R57976	N		●	
3	MB C 81H7 NOKI37020U UMA 4GNODD	5B20R57975	N		●	
3	MB C 81H7 NOK I58250U DISV2G 4G	5B20R34432	N		●	
3	MB C 81H7 WIN I58250U UMA 4G	5B20R34453	N		●	
3	MB C 81H7 NOKI58250U DIS 4GNODD	5B20R57970	N		●	
3	MB C 81H7 NOK I78550U UMA 4G	5B20R34437	N		●	
3	MB C 81H7 NOKI38130U DIS 4GNODD	5B20R57971	N		●	
3	MB C 81H7 WINI58250U UMA 4GNODD	5B20R57969	N		●	
3	MB C 81H5 WIN A9 UMA	5B20R34459	N			●
3	MB C 81H5 NOK A9 DIS NODD	5B20R57983	N			●
3	MB C 81H5 WIN E2 UMA NODD	5B20R57984	N			●
3	MB C 81H5 WIN A6 UMA	5B20R34439	N			●
3	MB C 81H5 NOK A9 DIS	5B20R34448	N			●
3	MB C 81H5 NOK A6 UMA	5B20R34429	N			●
3	MB C 81H5 NOK A4 UMA	5B20R34425	N			●
3	MB C 81H5 WIN A4 UMA	5B20R34426	N			●
3	MB C 81H5 NOK E2 UMA	5B20R34444	N			●
3	MB C 81H5 WIN A4 DIS NODD	5B20R57992	N			●
3	MB C 81H5 WIN E2 UMA	5B20R34472	N			●
3	MB C 81H5 WIN A6 UMA NODD	5B20R57991	N			●
3	MB C 81H5 NOK A9 UMA	5B20R34468	N			●
3	MB C 81H5 WIN A9 DIS	5B20R34431	N			●
3	MB C 81H5 NOK E2 UMA NODD	5B20R57990	N			●
3	MB C 81H5 WIN A6 DIS	5B20R34412	N			●
3	MB C 81H5 NOK A6 DIS	5B20R34469	N			●
3	MB C 81H5 WIN A6 DIS NODD	5B20R57986	N			●
3	MB C 81H5 NOK A6 UMA NODD	5B20R57987	N			●
3	MB C 81H5 WIN A9 UMA NODD	5B20R57985	N			●
3	MB C 81H5 NOK A4 DIS	5B20R34395	N			●
3	MB C 81H5 WIN A4 DIS	5B20R34408	N			●
3	MB C 81H5 WIN A9 DIS NODD	5B20R57981	N			●
3	MB C 81H5 NOK A4 DIS NODD	5B20R57982	N			●
3	MB C 81H5 NOK A4 UMA NODD	5B20R57993	N			●
3	MB C 81H5 WIN A4 UMA NODD	5B20R57994	N			●
3	MB C 81H5 NOK A6 DIS NODD	5B20R57988	N			●
3	MB C 81H5 NOK A9 UMA NODD	5B20R57989	N			●
4	ODD Switch Board C 81H7 W/FFC	5C50R34463	N		●	●
5	CMOS BATTERY C 81H7	5B10R34404	N	●	●	●
6	Heatsink C 81H7 UMA intel	5H40R34466	N	●	●	
6	Heatsink C 81H7 DIS intel	5H40R34461	N	●	●	
6	Heatsink C 81H5 DIS AMD	5H40R34399	N			●
6	Heatsink C 81H5 UMA AMD	5H40R34396	N			●
7	FAN C 81H7	5F10R34470	N	●	●	●
8	4GB DDR4 2666 SODIMM,Ramaxel	01AG829	N	●	●	●
8	8GB DDR4 2666 SoDIMM,Samsung	01AG837	N	●	●	●

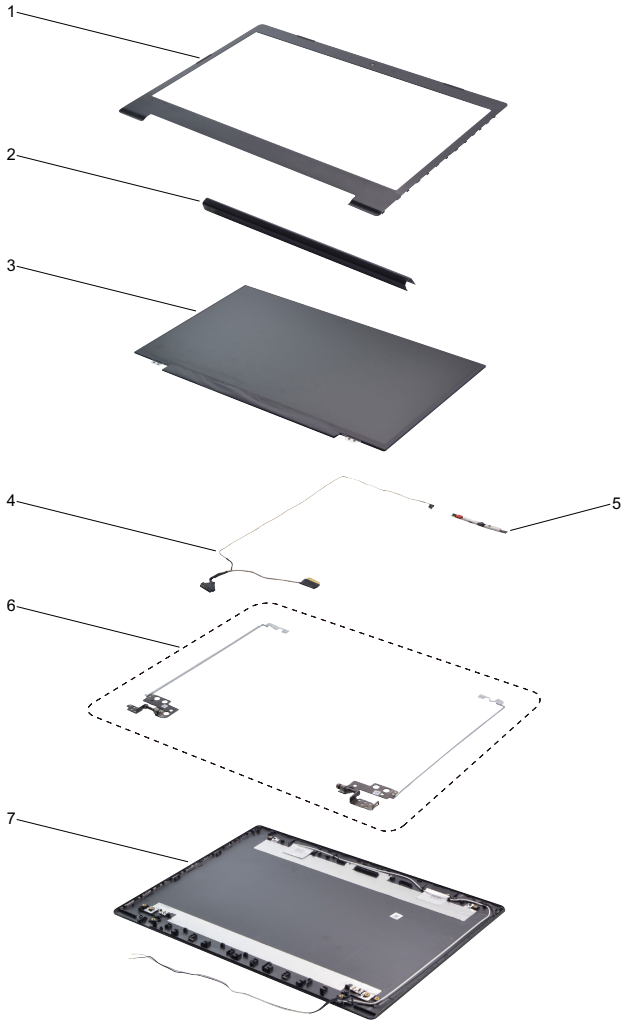
Table 4. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
8	2GB DDR4 2400 SoDIMM,Hynix	01FR309	N	●	●	
8	8GB DDR4 2666 SoDIMM,Ramaxel	01AG843	N	●	●	●
8	4GB DDR4 2666 SOIMM,Hynix	01AG823	N	●	●	●
8	4GB DDR4 2666 SoDIMM,Micron	01AG831	N	●	●	
8	8GB DDR4 2666 SoDIMM,Micron	01AG841	N	●	●	
8	8GB DDR4 2666 SOIMM,Hynix	01AG824	N	●	●	●
8	2GB DDR4 2400 SoDIMM	01AG700	N	●	●	
8	4GB DDR4 2666 SoDIMM,Samsung	01AG836	N	●	●	●
9	Wireless,CMB,LTN,NFA435A	01AX709	N	●	●	●
9	Wireless,CMB,CBT,8821CE	01AX710	N	●	●	●
9	Wireless,CMB,IN,3165 ac	00JT497	N	●	●	
10	HLDS GUE0N DVD RW	5DX0J46488	N	●	●	●
10	DA-8AESH	5DX0L08424	N	●	●	●
-	Dummy ODD C 81H7	5M20R34403	*	●	●	●
11	Storage,HDD,500G,5400,7mm,ST	01FR401	N	●	●	●
11	WD WD5000LPCX-24VHAT0	5H20J35762	N	●	●	●
11	Storage,HDD,1T,5400,7mm,SATA,WD	01FR402	N	●	●	●
11	RW1D ST1000LM035 1T HDD	5H20L22184	N	●	●	●
11	Toshiba MQ01ABF050 500G HDD	5H20L34560	N	●	●	
-	Storage SSD CV8 128G 2.5" Liteon	01FR549	N	●	●	
-	Storage SSD CV8 256G 2.5" Liteon	01FR550	N	●	●	
-	Storage SSD SC313 256G Hynix	01FR515	N	●	●	
-	Storage SSD 545s 256GB 2.5" Intel	01FR531	N	●	●	
-	Storage SSD SC313 128G Hynix	01FR514	N	●	●	●
-	Storage SSD PM871b 128G SAM	01FR502	N	●	●	●
-	2nd HDD BAY C 81H7	5M20R34414	N	●	●	●
12	HDD Board C 81H6 W/FFC	5C50R34852	N	●		
12	HDD Board C 81H7 W/FFC	5C50R34420	N		●	●
-	HDD board C 81H7 for 2nd HDD	5C50R34410	N	●	●	●
13	Speaker C 81H6 L+R	5SB0R34881	N	●		
13	Speaker C 81H7 L+R	5SB0R34474	N		●	●
14	SP/B L17M2PB7 7.56V30Wh2cell	5B10Q71253	N	●	●	●
14	SP/A L16M2PB1 7.5V30Wh2cell	5B10M86148	N	●	●	●
14	CP/C L16C2PB2 7.6V30Wh2cell	5B10M88058	N	●	●	●
14	SP/A L16M2PB2 7.5V35Wh2cell	5B10M86149	N	●	●	
14	LG L17L2PF1 7.56V30Wh2cell bty	5B10Q41213	N	●	●	●
14	CP/C L16C2PB1 7.6V35Wh2cell	5B10M88059	N	●	●	
15	Lower case C 81H6 W/O 2nd HDD	5CB0R34861	N	●		
15	Lower case C 81H6 W/2nd HDD	5CB0R34844	N	●		
15	Lower case C 81H7 W/O 2nd HDD	5CB0R34392	N		●	●
15	Lower case C 81H7 W/2nd HDD	5CB0R34456	N		●	●
—	AC adapter (see “AC adapters” on page 67).					

LCD FRUs

In Lenovo ideapad 130-14IKB/Lenovo ideapad 130-15IKB/
Lenovo ideapad 130-15AST, there are following types of LCDs.

- “14.0-in. HD/FHD LED”



- “15.6-in. HD/FHD LED”

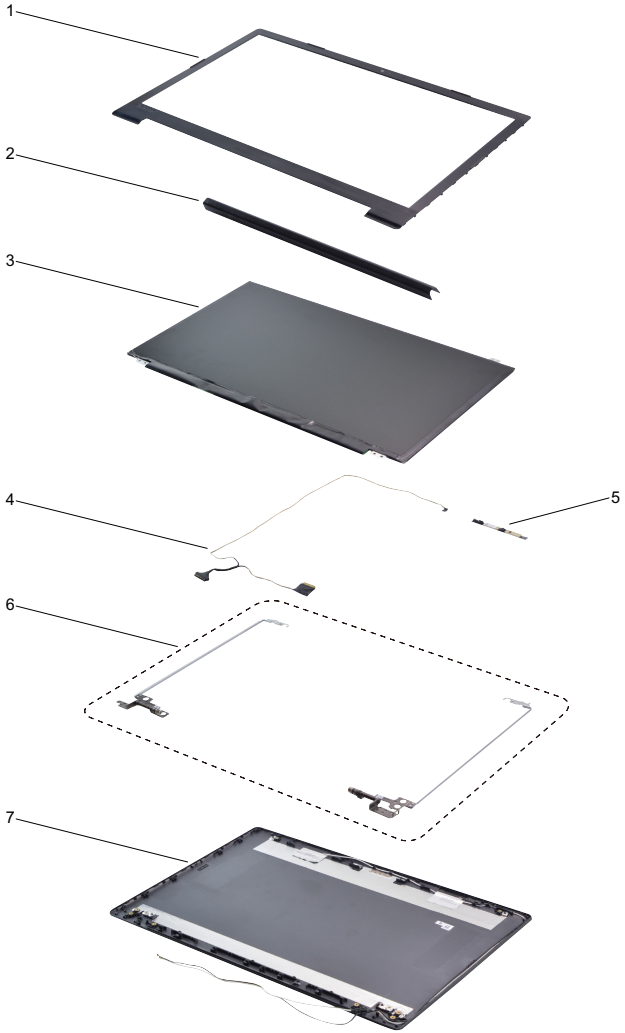


Table 5. Parts list—LCD FRUs

No.	FRU	FRU no.	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
1	LCD Bezel C 81H6	5B30R34874	N	●		
1	LCD Bezel C 81H7	5B30R34450	N		●	●
2	Hinge Cover C 81H6	5CB0R34856	N	●		
2	Hinge Cover C 81H7	5CB0R34446	N		●	●
3	BO NT140FHM-N41V8.0 FHDT AG S NB	5D10L01874	N	●		
3	IN N140BGA-EA3 HDT AG S NB	5D10K85755	N	●		
3	AU B140XTN02.E HWCA HDT AG S NB	5D10P54235	N	●		
3	IV M140NWR6 R1 HW1.2 HDT AG S NB	5D10Q95195	N	●		
3	AU B140HTN01.E 2A FHDT AG S NB	5D10L08701	N	●		
3	IN N140HGE-EAA C4 FHDT AG S NB	5D10K93439	N	●		
3	AU B156HTN03.8 0C FHDT AG S NB	5D10L08702	N		●	●
3	AU B156XTN07.1 3A HDT AG S NB	5D10H52713	N		●	●
3	IN N156BGA-EA2 HDT AG S NB	5D10K81086	N		●	●
3	IN N156HGA-EAB FHDT AG S NB	5D10K93435	N		●	●
3	BO NT156FHM-N41 FHDT AG S NB	5D10K93434	N		●	●
3	BO NT156WHM-N42 V8 HDT AG S NB	5D10K81097	N		●	●
4	EDP cable C 81H6	5C10R34877	N	●		
4	EDP cable C 81H7	5C10R34473	N		●	●
5	Camera C 81H7 0.3M	5C20R34402	N	●	●	●
5	Camera C 81H7 1M	5C20R34394	N	●	●	●
6	Hinge C 81H6 L+R	5H50R34870	N	●		
6	Hinge C 81H7 L+R	5H50R34445	N		●	●
7	LCD Cover C 81H6 W/Antenna	5CB0R34876	N	●		
7	LCD Cover C 81H7 W/Antenna	5CB0R34391	N		●	●

Miscellaneous parts

Table 6. Parts list—Miscellaneous parts

FRU	P/N	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
System miscellaneous parts:					
• (*a*) ODD BRACKET C 81H7	5B40R34389	*	●	●	●
• (*b*) ODD BEZEL C 81H7	5B30R34471	*	●	●	●
• (*c*) HDD Bracket C 81H7	5B40R34447	N	●	●	●
• (*d*) Wlan Sponge C 81H7	5T10R34434	N	●	●	●
Note: Italicized letters in parentheses are references to the exploded view in “Overall” on page 58.					

AC adapters

Table 7. Parts list—AC adapters

FRU	P/N	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
PA-1450-55LR 20V2.25A COO	01FR122	*	●	●	●
ADL45WCK 20V2.25A COO	01FR130	*	●	●	●
ADLX65CCGU2A 20V3.25A COO	01FR154	*	●	●	●
PA-1450-55LS 20V2.25A COO	01FR123	*	●	●	●
ADP-45DW J 20V2.25A COO	01FR110	*	●	●	●
PA-1450-55LK 20V2.25A COO	01FR036	*	●	●	●
ADL45WCE 20V2.25A COO	01FR131	*	●	●	●
ADLX65CDGU2A 20V3.25A COO	01FR137	*	●	●	●
ADLX65CCGC2A 20V3.25A COO	01FR152	*	●	●	●
PA-1450-55LI 20V2.25A COO	01FR121	*	●	●	●
ADLX65CLGU2A 20V3.25A COO	01FR146	*	●	●	●
ADLX65CLGR2A 20V3.25A COO	01FR148	*	●	●	●
ADP-45DW E 20V2.25A COO	01FR115	*	●	●	●
ADP-45DW G 20V2.25A COO	01FR114	*	●	●	●
ADL45WCC 20V2.25A COO	01FR128	*	●	●	●
ADLX65CCGR2A 20V3.25A COO	01FR157	*	●	●	●
ADLX65CCGK2A 20V3.25A COO	01FR155	*	●	●	●
ADLX65CDGR2A 20V3.25A COO	01FR140	*	●	●	●
ADP-45DW B 20V2.25A COO	01FR111	*	●	●	●
PA-1450-55LL 20V2.25A COO	01FR120	*	●	●	●
ADLX65CDGK2A 20V3.25A COO	01FR138	*	●	●	●
ADP-45DW H 20V2.25A COO	01FR113	*	●	●	●
ADL45WCA 20V2.25A COO	01FR126	*	●	●	●
ADLX65CCGB2A 20V3.25A COO	01FR160	*	●	●	●
ADLX65CCGI2A 20V3.25A COO	01FR156	*	●	●	●
ADLX65CLGI2A 20V3.25A COO	01FR147	*	●	●	●
ADLX65CLGB2A 20V3.25A COO	01FR151	*	●	●	●
ADLX65CDGG2A 20V3.25A COO	01FR136	*	●	●	●
PA-1450-55LN 20V2.25A COO	01FR118	*	●	●	●
ADLX65CCGG2A 20V3.25A COO	01FR153	*	●	●	●
ADLX65CLGG2A 20V3.25A COO	01FR145	*	●	●	●
ADLX65CLGK2A 20V3.25A COO	01FR037	*	●	●	●
ADLX65CLGC2A 20V3.25A COO	01FR144	*	●	●	●
ADLX65CDGB2A 20V3.25A COO	01FR143	*	●	●	●
ADLX65CDGC2A 20V3.25A COO	01FR135	*	●	●	●
PA-1450-55LZ 20V2.25A COO	01FR125	*	●	●	●
ADP-45DW A 20V2.25A COO	01FR109	*	●	●	●
ADL45WCH 20V2.25A COO	01FR134	*	●	●	●
ADLX65CDGI2A 20V3.25A COO	01FR139	*	●	●	●
ADL45WCD 20V2.25A COO	01FR129	*	●	●	●
ADLX65CCGA2A 20V3.25A COO	01FR158	*	●	●	●
ADL45WCG 20V2.25A COO	01FR133	*	●	●	●
ADLX65CLGE2A 20V3.25A COO	01FR150	*	●	●	●
ADLX65CDGA2A 20V3.25A COO	01FR141	*	●	●	●
ADP-45DW C 20V2.25A COO	01FR116	*	●	●	●
ADP-45DW D 20V2.25A COO	01FR112	*	●	●	●
ADLX65CDGE2A 20V3.25A COO	01FR142	*	●	●	●

Table 7. Parts list—AC adapters (continued)

FRU	P/N	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
ADLX65CCGE2A 20V3.25A COO	01FR159	*	●	●	●
ADLX65CLGA2A 20V3.25A COO	01FR149	*	●	●	●
ADL45WCF 20V2.25A COO	01FR132	*	●	●	●
PA-1450-55LU 20V2.25A COO	01FR124	*	●	●	●
ADP-45DW K 20V2.25A COO	01FR117	*	●	●	●
PA-1450-55LG 20V2.25A COO	01FR119	*	●	●	●
ADL45WCB 20V2.25A COO	01FR127	*	●	●	●

Screws

Table 8. Parts list—Screws

FRU	P/N	CRU ID.	ideapad 130-14IKB	ideapad 130-15IKB	ideapad 130-15AST
Screw pack C 81H6	5S10R34864	N	●		
Screw pack C 81H7	5S10R34464	N		●	●

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