

# Lenovo ideapad 320

ideapad 320-17AST/ideapad 320H-17AST/  
ideapad 320L-17AST/ideapad 320R-17AST/  
ideapad 320E-17AST/ideapad 320-17ABR/  
ideapad 320H-17ABR/ideapad 320L-17ABR/  
ideapad 320R-17ABR/ideapad 320E-17ABR

## Hardware

## Maintenance

## Manual

The image shows the Lenovo logo, which consists of the word "Lenovo" in a white, sans-serif font, oriented vertically within a black rectangular background.

Lenovo™

**Note:**

- Before using this information and the product it supports, be sure to read the general information under “Notices” on page 78.

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## About this manual

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

**Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/  
ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad  
320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad  
320E-17ABR**

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.

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## **Safety information**

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This chapter presents the following safety information that you need to get familiar with before you service a Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR computer:

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

## General safety

Follow these rules below to ensure general safety:

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

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

## Electrical safety

Observe the following rules when working on electrical equipments.

### Important:

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

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

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

**Attention:** Another person must be there to switch off the power, if necessary.
  - Use only one hand when working with powered-on electrical equipment; keep the other hand in your pocket or behind your back.
 

**Attention:** An electrical shock can occur only when there is a complete circuit. By observing the above rule, you may prevent a current from passing through your body.
  - When using testers, set the controls correctly and use the approved probe leads and accessories for that tester.
  - Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames.

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

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

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



## Safety inspection guide

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

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

Consider these conditions and the safety hazards they present:

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

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

Checklist:

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

## Handling devices that are sensitive to electrostatic discharge

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

### Notes:

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

When handling ESD-sensitive parts:

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

### Note:

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

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

## Grounding requirements

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

## Safety notices: multilingual translations

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

### Safety notice 1

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

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

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

לפני הפעלת המחשב לאחר החלפת FRU יש לוודא שכל הברגים, הקפיצים, וחלקים קטנים אחרים נמצאים במקומם ואינם חופשיים לזוז בתוך המחשב. כדי לוודא זאת, יש לטלטל את המחשב ולהקשיב לגילגולי 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 לשלוק את הסוללה בנדרש על ידי התקנות והחוקים המקומיים. יש להשתמש רק בסוללה המומייעה 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, veuillez 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.

מאזו הסוללה מכיל כמות קטנה של ניקל וקדמיום. אין לפרק את מאזו הסוללה, להשליך אותו לאש או למים או לקצר אותו. יש לסלק את מאזו הסוללה הסוללה כנדרש על ידי התקנות החוקיים המקומיים. יש להשתמש רק בסוללה המוביעה ברשימת החלקים המתאימה בזמן החלפת מאזו 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 température supérieure à 100°C, ne la faites pas brûler et n'en exposez pas le contenu à l'eau. Mettez la pile au rebut conformément à la réglementation en vigueur. Une pile inappropriée risque de prendre feu ou d'exploser.

Die Systematterie ist eine Lithiumatterie. 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 הליטיום עלולה לגרום לשריפה, להתפוצצות או לפגיעת עשוקות. אין לטעון אותה מחדש, לשלק את המחבר המקוטב שלה, למרק אותה או לחמם אותה לטמפרטורה העולה על 100 מעלות צלזיוס. אין לשרוף את הסוללה ואין לחשוף את תוכן התא למים. יש לשלק את הסוללה כנדרש במקנות ובחוקים המקומיים. יש להשתמש רק בסוללה המומייעה ברשימת החלקים המתאימים. שימוש בסוללה אחרת עלול לגרום לשכנת 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°C (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 incinerar 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 for at least 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 הנביש 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 sintoma 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 מוארקות 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 מארזי הסוללה, וזו 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 kontrol, 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，请勿直视激光束，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!

Apriendo 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 nehladte priamo s optickými nástrojmi do lúča a vyhnite sa priamemu vystaveniu lúčov.

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.

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## Important service information

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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>.

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## 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.

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## General checkout

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This chapter presents the following information:

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

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

**Important notes:**

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

## **What to do first**

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

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

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

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

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

### **The following are not covered under warranty:**

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

### **The following symptoms might indicate damage caused by nonwarranted activities:**

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



## Power system checkout

To verify a symptom, follow the steps below:

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

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

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

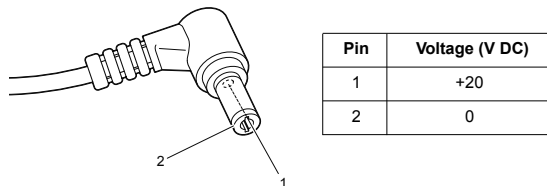
### Checking the AC adapter

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

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

To check the AC adapter, follow the steps below:

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



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

3. If the voltage is not correct, replace the AC adapter.
4. If the voltage is acceptable, do the following:
  - Replace the system board.
  - If the problem persists, go to “Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR” on page 27.

**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.

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## Related service information

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This chapter presents the following information:

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

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## Restoring the factory contents by using OneKey Recovery

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### Restore of factory default

The Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR computers come with pre-installed OneKey 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 Lenovo OneKey Recovery System and run **System Recovery**. For details of OneKey Recovery System, see *the User Guide for Lenovo OneKey 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.

When you use the recovery discs to boot your computer, the system will enter the user interface for system recovery automatically. Please follow the prompt to insert the backup discs to complete the whole recovery process.

**Note:** The recovery process might take up to 2 hours.

## **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 after the Administrator password has been set can the User password 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.

To reduce power consumption, the computer has two power management modes: sleep (standby), and hibernation.

### 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 and hold the Power key for about 1 to 5 seconds.
- Move the cursor to the lower-left corner, and then select the Start button.  
Select **Power**  → **Sleep**.


**Note:** Put your computer to sleep before you move it. Moving your computer while the hard disk drive is spinning can damage the hard disk, causing loss of data.

To wake up the computer, perform the following:

- Press any key on the keyboard.

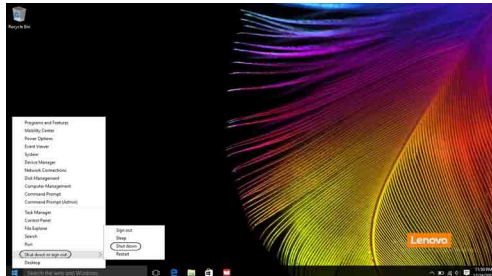
## Shutting down the computer

If you are not going to use your computer for a long time, shut it down.  
To shut down your computer, do one of the following:

- Select the Start button, then select **Power**  → **Shut down**.



- Right-click or press the Start button in the lower-left corner and select **Shut down or sign out** → **Shut down**.



## Lenovo ideapad 320-17AST/ideapad 320H-17AST/ ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR

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

- “Specifications” on page 27
- “Status indicators” on page 29
- “Hotkeys” on page 30
- “FRU replacement notices” on page 31
- “Removing and replacing an FRU” on page 32
- “Locations” on page 62
- “Parts list” on page 64

### Specifications

The following table lists the specifications of the Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR:

Table 1. Specifications

	ideapad 320-17AST/ ideapad 320H-17AST/ ideapad 320L-17AST/ ideapad 320R-17AST/ ideapad 320E-17AST	ideapad 320-17ABR/ ideapad 320H-17ABR/ ideapad 320L-17ABR/ ideapad 320R-17ABR/ ideapad 320E-17ABR
<b>Form Factor</b>		
Dimensions	Appr. 418 mm × 292.6 mm × 24.9 mm	
Weight	Appr. 2.8 kg with battery	
LCD size	17.3-inch	
<b>Processor</b>		
See the system properties of your computer, you can do this as follows: Click <b>Control Panel</b> , then click <b>Hardware and Sound</b> , click <b>Device Manager</b> under <b>Devices and Printers</b> and double click <b>Processors</b> .		
<b>Memory</b>		
Type and speed	DDR4-1600/1866 MHz (on select models)	
Maximum supported capacity	8 GB/16 GB	
Slots	SODIMM × 1	SODIMM × 1, on board × 1

Table 1. Specifications (continued)

<b>Hard disk drive</b>		
Form factor	2.5-inch, 7 mm	
Capacity	HDD: 500 GB/1 TB/2 TB SSD: 128 GB/256 GB/512 GB	
Interface	SATA 3	
<b>Optical Drive</b>		
Form factor	9.0 mm	
Type	Writer	
<b>Display</b>		
Display resolution (LCD)	16:9 (1,600 × 900/1,920 × 1,080 pixels)	
LCD backlight	LED	
<b>I/O Ports</b>		
USB	USB 3.0 × 1, USB 2.0 × 1	USB 3.0 × 2, Type-C × 1 (support USB 3.1 Gen 1, Output 5V DC, 0.9A DC)
Audio	Combo audio jack × 1	
Communication	RJ-45 × 1	
Video/Audio	HDMI slot × 1	
Memory card slot	4 in 1 slot × 1 (SD/SDHC/SDXC/MMC)	
<b>Battery pack</b>		
Type	Li-ion battery pack	
Cells/Capacity	2 cells, 30/35 Wh	
<b>Note:</b> The capacity given here is the typical or average capacity as measured in a specific test environment. Capacities measured in other environments may differ but are no lower than the rated capacity (see product label).		
<b>AC power adapter</b>		
Input	100-240 V, 50-60 Hz	
Output voltage	20 V DC	
Power	DIS 65 W, UMA 45 W	
<b>Miscellaneous</b>		
Camera	0.3 M/HD	
Security	Kensington mini security slot × 1	



## Status indicators

The system status indicators below show the computer status:

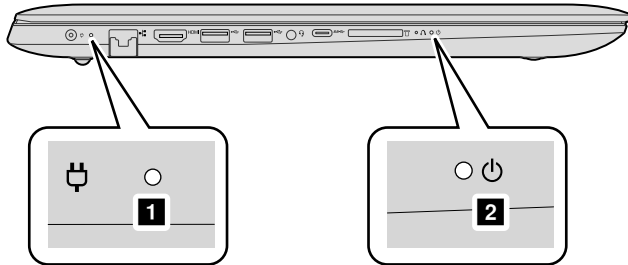


Table 2. Status indicators













AC power adapter status	Indicator status	Meaning
<b>Disconnected</b>	Off	The computer is in sleep mode or turned off; The battery has more than 20% charge.
	Solid amber	The battery has between 5% and 20% charge.
	Fast blinking amber	The battery has between 1% and 5% charge.
<b>Connected</b>	Slow blinking amber	The battery is being charged. When battery charge reaches 20%, the blinking color changes to white.
	Slow blinking white	The battery has between 20% and 80% charge and is still charging. When the battery reaches 80% charge the light will stop blinking.
	Solid white	The battery has more than 80% charge, charging will continue until the battery is fully charged.

Indicator	Indicator status	Meaning
<b>Power status indicator</b>	On (solid white)	The computer is powered on.
	Blinking	The computer is in sleep mode.
	Off	The computer is powered off.

## Hotkeys

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

Table 3. Hotkeys

	: Mutes/unmutes the sound.		: Enables/disables airplane mode.
	: Decreases the volume level.		: Enables/disables camera.
	: Increases the volume level.		: Locks/unlocks the LCD screen.
	: Enables/disables microphone.		: Enables the external projector or dangles the external display.
	: Refreshes page.		: Decreases display brightness.
	: Enables/disables the touch pad.		: Increases display brightness.

## 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.
- Each one should be used only once.

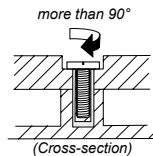
Do the following when you service this machine:

- 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:

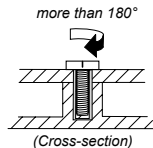
- **Plastic to plastic**

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 31.
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 62.
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.

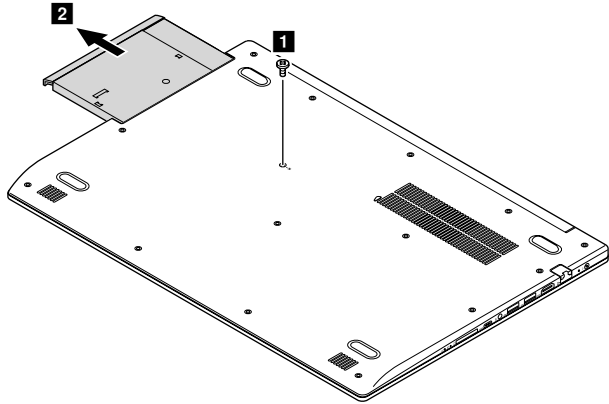
**Attention:** The system board is sensitive to, and can be damaged by, electrostatic discharge. Before touching it, establish personal grounding by touching a ground point with one hand or using an electrostatic discharge (ESD) strap (P/N 6405959) to remove potential shock reasons.

Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR

## 1010 Optical drive

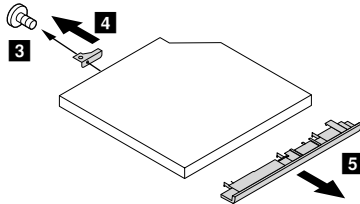
Figure 1. Removal steps of optical drive

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



Step	Screw (quantity)	Color	Torque
<b>1</b>	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
<b>3</b>	M2 × 3 mm, Phillips head, nylok-coated (1) ODD BRK TO ODD MODULE	Silver	1.85+/-0.15 kgf/cm

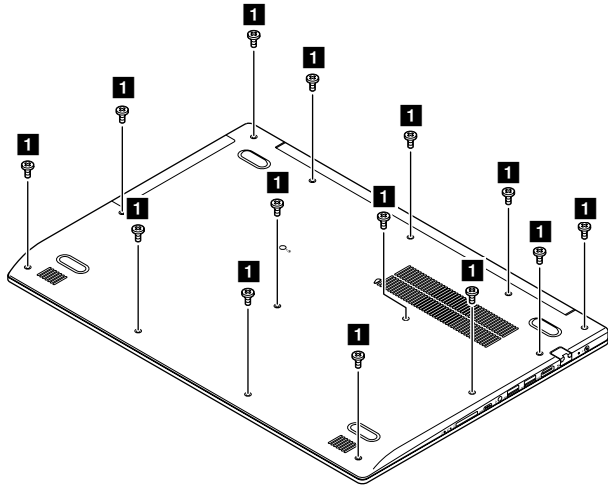
## 1020 Base cover

For access, remove this FRU:

- “1010 Optical drive” on page 33

Figure 2. Removal steps of base cover

Remove the screws ■.

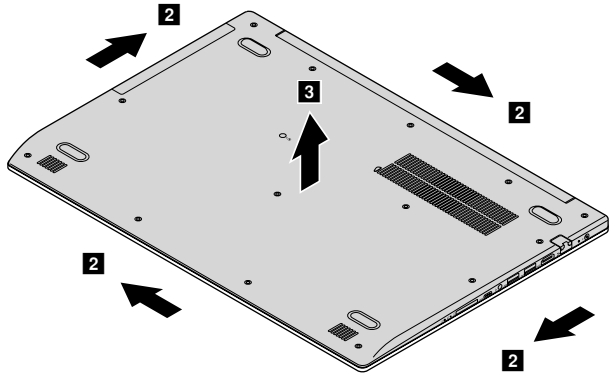


Step	Screw (quantity)	Color	Torque
■	M2.5 × 7 mm, Phillips-head, nylok-coated (14)	Black	1.85+/-0.15 kgf/cm

*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Figure 2. Removal steps of base cover (continued)*

Remove the base cover in the directions shown by arrows **2** and **3**.



**Note: Applying labels to the base cover**

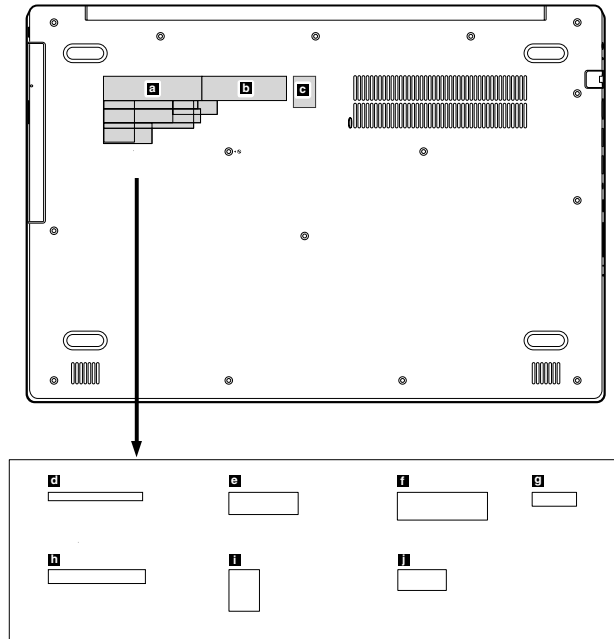
The new base cover FRU is shipped with a kit containing labels of several kinds. When you replace the base cover, you need to apply the following labels:

The following labels need to be peeled off from the old base cover and put on the new base cover.

- a** Rating label
- b** Rating label for print
- c** OS label
- d** Argentina label 68 × 6mm
- e** KCC label 50 × 16mm
- f** Adapter label 65 × 20mm
- g** Indonesia label 32 × 10mm
- h** TW label 70 × 10mm
- i** BIS label 22 × 30mm
- l** WL/BT label 35 × 15mm

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 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR

## 1030 Battery pack

### **⚠ DANGER**

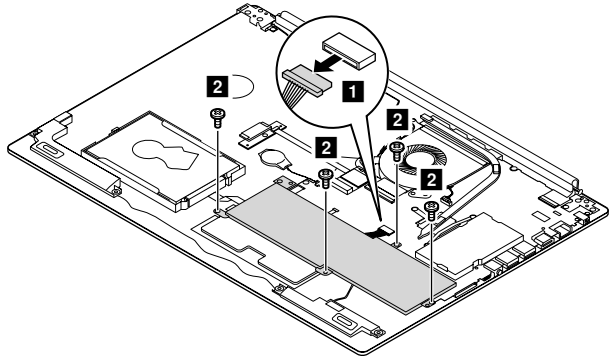
Only use the battery specified in the parts list for your computer. Any other battery could ignite or explode.

For access, remove these FRUs in order:

- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34

Figure 3. Removal steps of battery pack

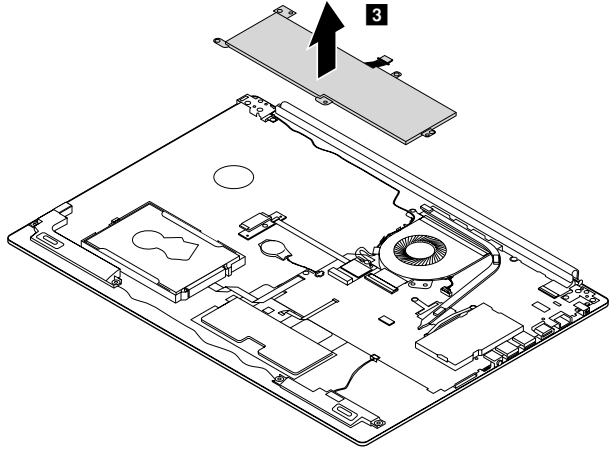
Detach the battery pack connector in the direction shown by arrow **1**, remove the screws **2**.



Step	Screw (quantity)	Color	Torque
<b>2</b>	M2 × 6 mm, Phillips-head, nylok-coated (4) battery---log up	Black	1.85+/-0.15 kgf/cm

Figure 3. Removal steps of battery pack (continued)

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



## 1040 PCI Express Mini Card for wireless LAN

For access, remove these FRUs in order:

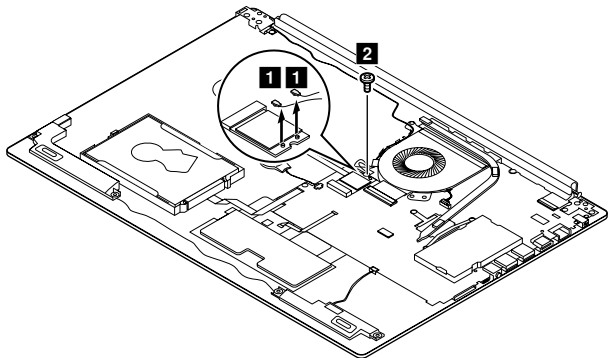
- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37

### 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 65 for Lenovo part numbers for the approved modules.

Figure 4. Removal steps of PCI Express Mini Card for wireless LAN

Disconnect the two wireless LAN cables (black, gray) ■, and then remove the screw ■.



In step ■, 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.

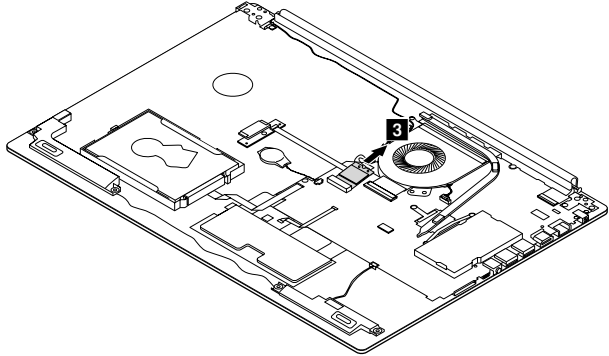
**Notes:** The wireless LAN card has 2 cables in step ■.

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

Step	Screw (quantity)	Color	Torque
■	M2 × 3 mm, Phillips-head, nylok-coated (1) wireless card—log up	Silver	1.85+/-0.15 kgf/cm

Figure 4. Removal steps of PCI Express Mini Card for wireless LAN (continued)

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



**When installing:**

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

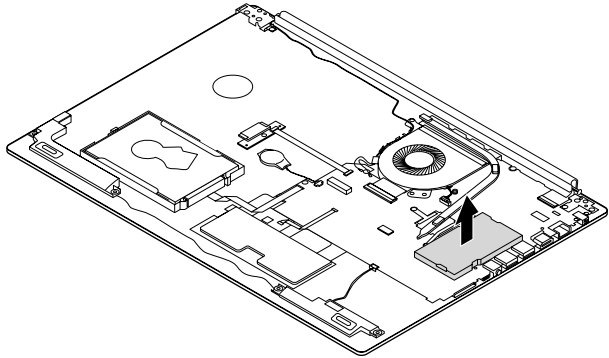
## 1050 DIMM

For access, remove these FRUs in order:

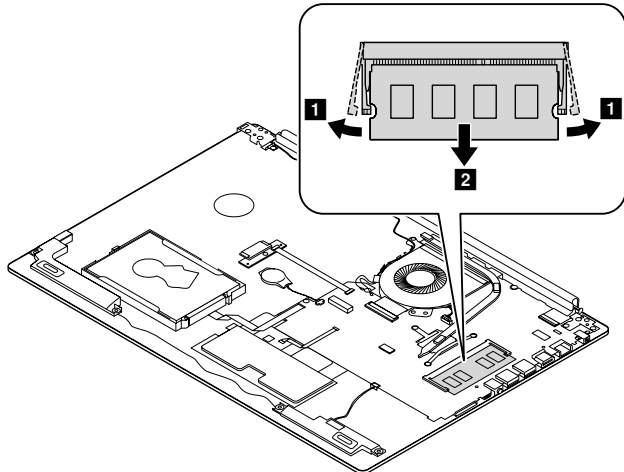
- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39

Figure 5. Removal steps of DIMM

Insert a flat blade tool into the memory module cover, and then remove the memory module cover manually.



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**.



## 1060 Hard disk drive

For access, remove these FRUs in order:

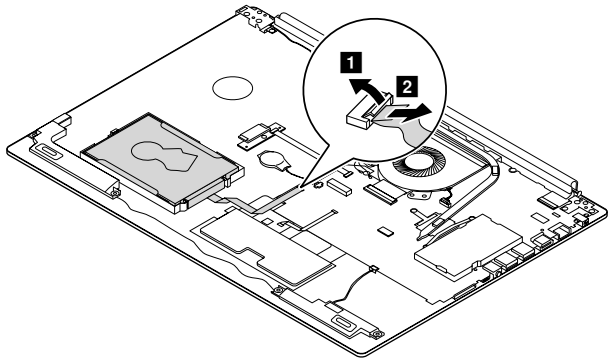
- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39
- “1050 DIMM” on page 41

### 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 in suspend mode.

*Figure 6. Removal steps of hard disk drive*

Detach the HDD board connector in the direction shown by arrows **1** and **2**.  
Remove the HDD board.

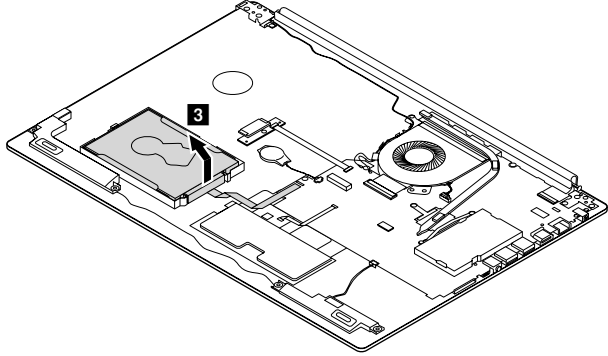


**When installing:** Make sure that the HDD board connector is attached firmly.

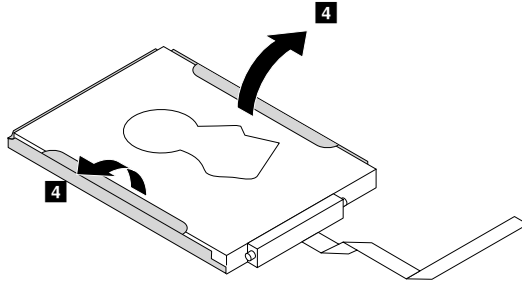
*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Figure 6. Removal steps of hard disk drive (continued)*

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



Detach the bracket from the hard disk drive.



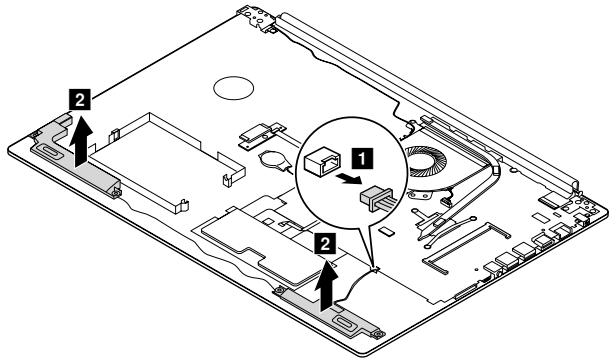
## 1070 Speakers

For access, remove these FRUs in order:

- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39
- “1050 DIMM” on page 41
- “1060 Hard disk drive” on page 42

*Figure 7. Removal steps of speakers*

Unplug the speaker connector **1**. Then remove the speakers **2**.



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



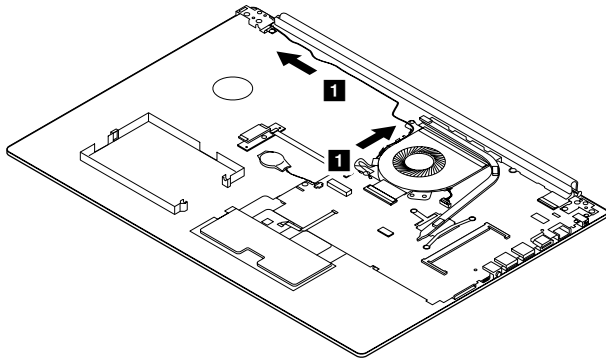
## 1080 Fan assembly and Heat Sink assembly

For access, remove these FRUs in order:

- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39
- “1050 DIMM” on page 41
- “1060 Hard disk drive” on page 42
- “1070 Speakers” on page 44

*Figure 8. Removal steps of fan assembly and Heat Sink assembly*

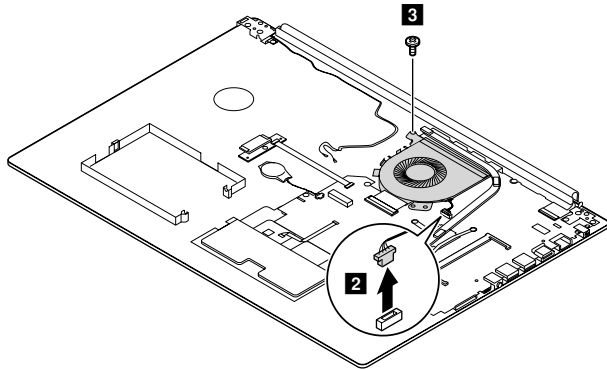
Release the cables from the cable guides in the direction shown by arrows ■.



**When installing:** Route the antenna cables along the cable guides. As you route the cables, make sure that they are not subjected to any tension. Tension could cause the cables to be damaged by the cable guides, or a wire to be broken.

Figure 8. Removal steps of fan assembly and Heat Sink assembly (continued)

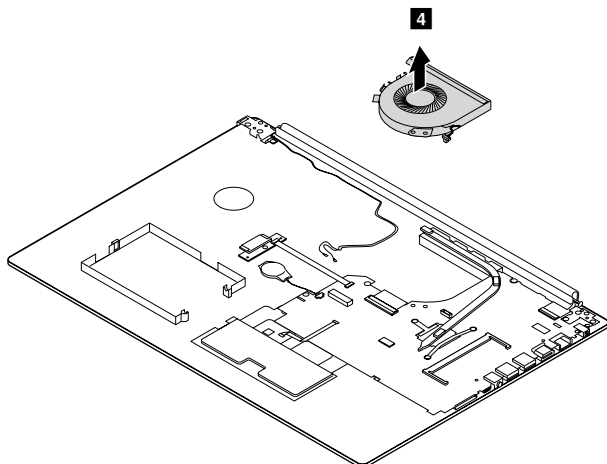
Unplug the fan connector in the direction shown by arrow **2**. Remove the screw **3**.



Step	Screw (quantity)	Color	Torque
<b>3</b>	M2 × 6 mm, Phillips head, nylok-coated (1) fan---mb---log up & fan---log up	Black	1.85+/-0.15 kgf/cm

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

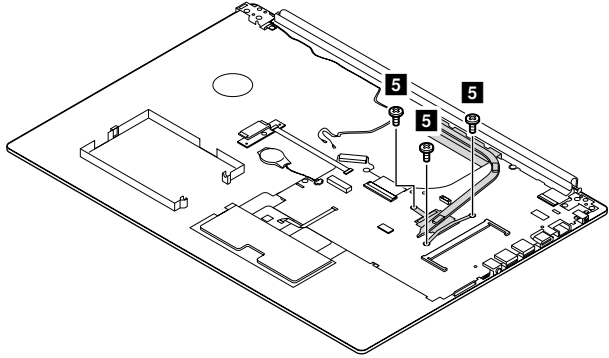
Remove the fan in the direction shown by arrow **4**. Be careful not to damage the connector.



*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Figure 8. Removal steps of fan assembly and Heat Sink assembly (continued)*

Remove the screws **5**.



Lift the heat sink in the direction shown by arrows **6**.

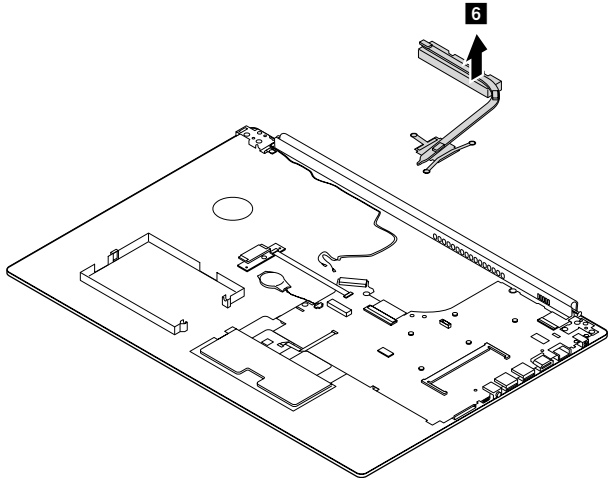
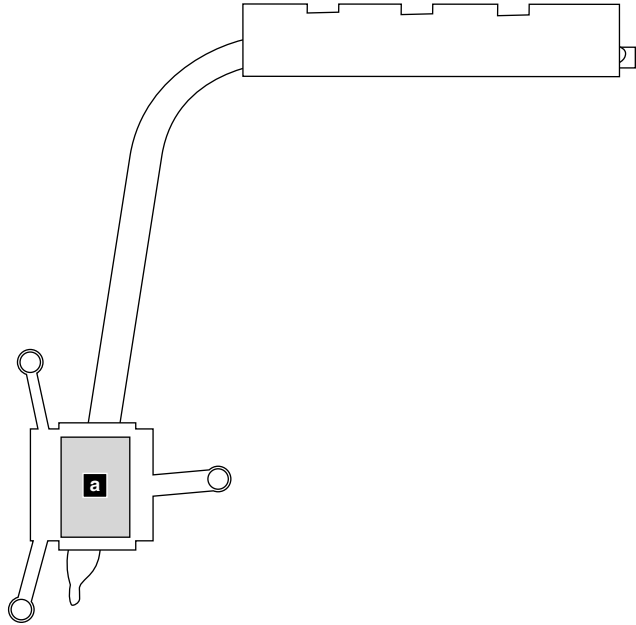


Figure 8. Removal steps of fan assembly and Heat Sink assembly (continued)



**When installing:** Before you attach the fan assembly to the computer, apply thermal grease, at an amount of 0.2 grams, to the **a** part 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.

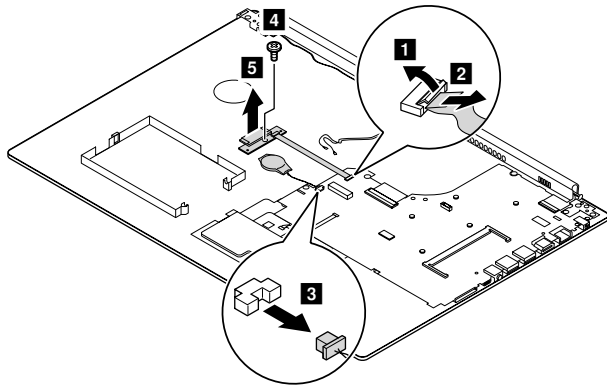
## 1090 ODD transfer board, backup battery and Fingerprint board

For access, remove these FRUs in order:

- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39
- “1050 DIMM” on page 41
- “1060 Hard disk drive” on page 42
- “1070 Speakers” on page 44
- “1080 Fan assembly and Heat Sink assembly” on page 45

*Figure 9. Removal steps of ODD transfer board, backup battery and Fingerprint board*

Detach the system board connector in the directions shown by arrows **1** and **2**. Unplug the backup battery connector in the direction shown by arrow **3**. Remove the screw **4**. Remove the ODD transfer board in the direction shown by arrow **5**.

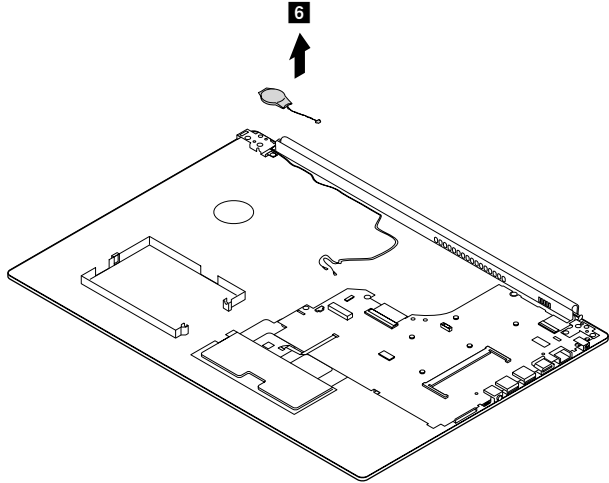


Step	Screw (quantity)	Color	Torque
<b>4</b>	M2 × 3 mm, Phillips-head, nylok-coated (1)	Silver	1.85±0.15 kgf/cm

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

Figure 9. Removal steps of ODD transfer board, backup battery and Fingerprint board (continued)

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



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

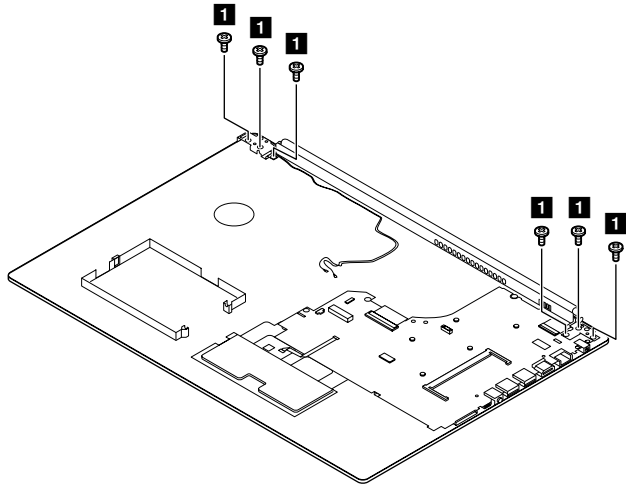
## 1100 Upper case

For access, remove these FRUs in order:

- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39
- “1050 DIMM” on page 41
- “1060 Hard disk drive” on page 42
- “1070 Speakers” on page 44
- “1080 Fan assembly and Heat Sink assembly” on page 45
- “1090 ODD transfer board, backup battery and Fingerprint board” on page 49

Figure 10. Removal steps of upper case

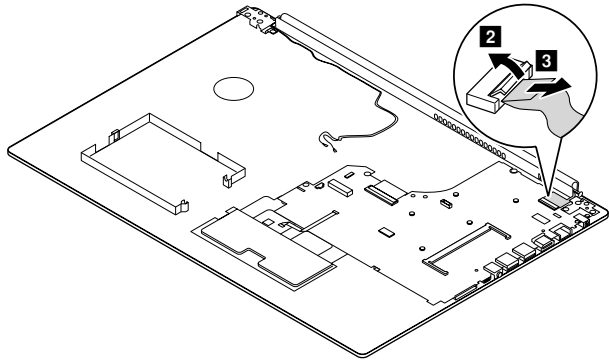
Remove the screws ■.



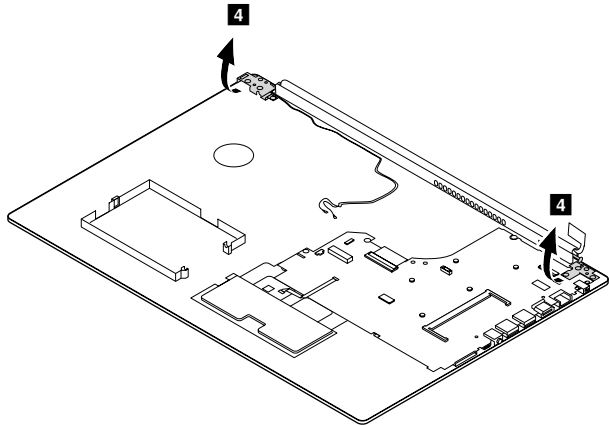
Step	Screw (quantity)	Color	Torque
■	M2.5 × 5 mm, Phillips-head, nylok-coated (6) left side hinge---log up & right side hinge---log up	Black	1.85 +/-0.15 kgf/cm

Figure 10. Removal steps of upper case (continued)

Detach the LCD unit connectors in the directions shown by arrows **2** and **3**.



Open the hinge in the direction shown by arrows **4**.

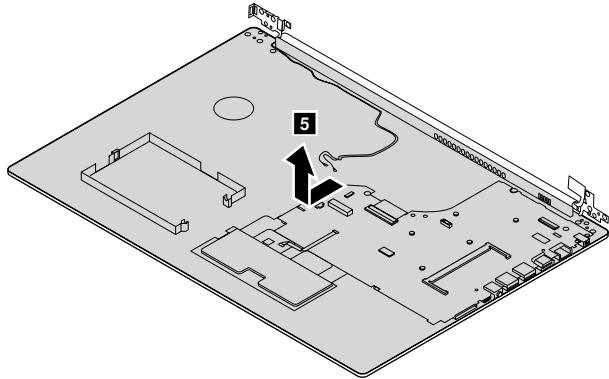




*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Figure 10. Removal steps of upper case (continued)*

Remove the upper case from the LCD module in the directions shown by arrow **5**.



## 1110 System board

### Important notices for handling the system board:

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

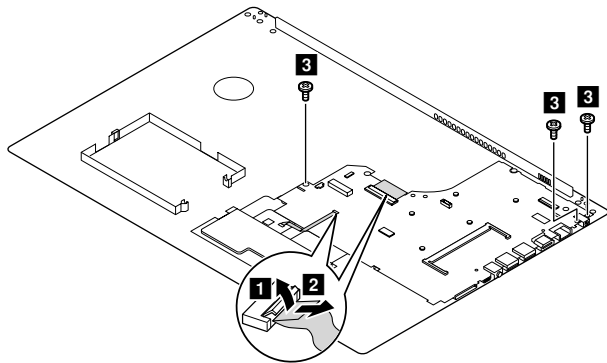
- Be careful not to drop the system board on a bench top that has a hard surface, such as metal, wood, or composite.
- Avoid rough handling of any kind.
- During the whole process, make sure not to drop or stack the system board.
- If you put a system board down, make sure to put it only on a padded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

For access, remove these FRUs in order:

- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39
- “1050 DIMM” on page 41
- “1060 Hard disk drive” on page 42
- “1070 Speakers” on page 44
- “1080 Fan assembly and Heat Sink assembly” on page 45
- “1090 ODD transfer board, backup battery and Fingerprint board” on page 49
- “1100 Upper case” on page 51

*Figure 11. Removal steps of system board*

Disconnect the connectors in the directions shown by arrows **1** and **2**. Then remove the screws **3**.

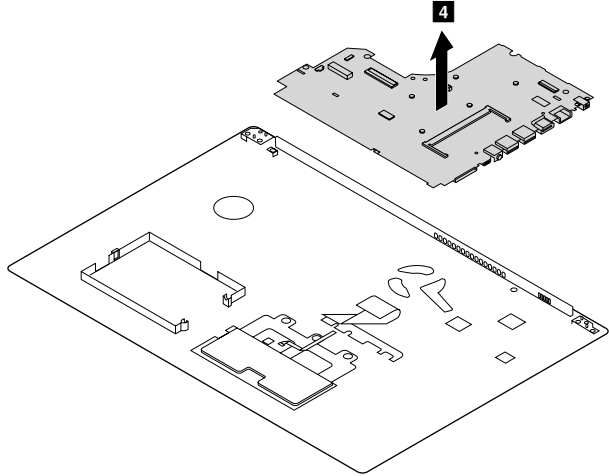


Step	Screw (quantity)	Color	Torque
<b>5</b>	M2 × 3 mm, Phillips-head, nylok-coated (3) M/B—log up	Black	1.85+/-0.15 kgf/cm

*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Figure 11. Removal steps of system board (continued)*

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



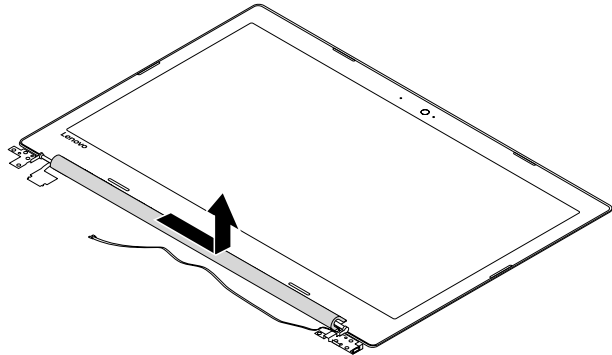
## 1120 LCD unit

For access, remove these FRUs in order:

- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39
- “1050 DIMM” on page 41
- “1060 Hard disk drive” on page 42
- “1070 Speakers” on page 44
- “1080 Fan assembly and Heat Sink assembly” on page 45
- “1090 ODD transfer board, backup battery and Fingerprint board” on page 49
- “1100 Upper case” on page 51
- “1110 System board” on page 54

*Figure 12. Removal steps of LCD unit*

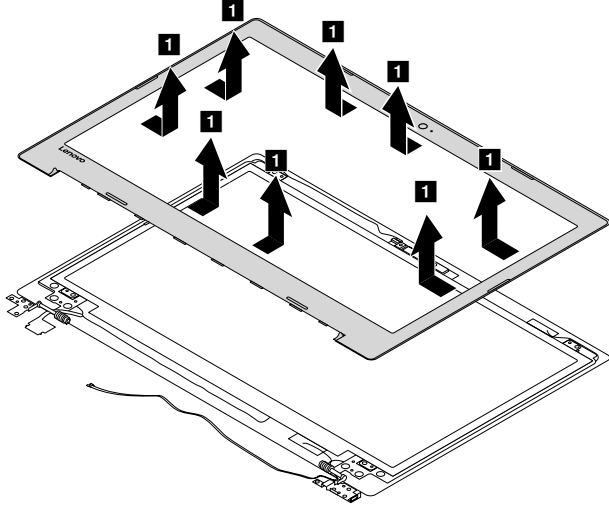
Pull the hinge cap to the right side to release the hooks.



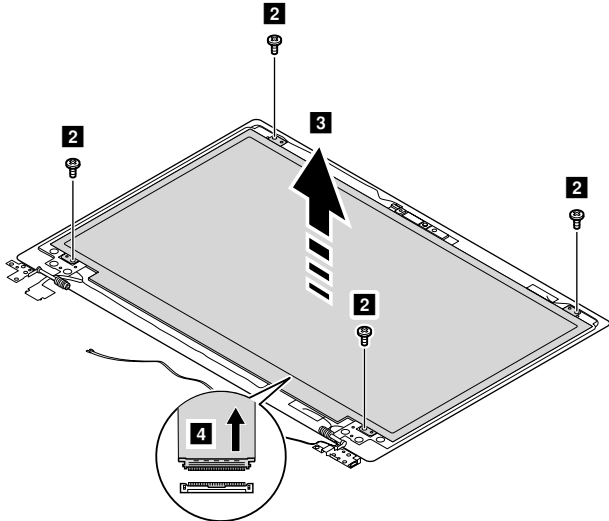
Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR

Figure 12. Removal steps of LCD unit (continued)

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



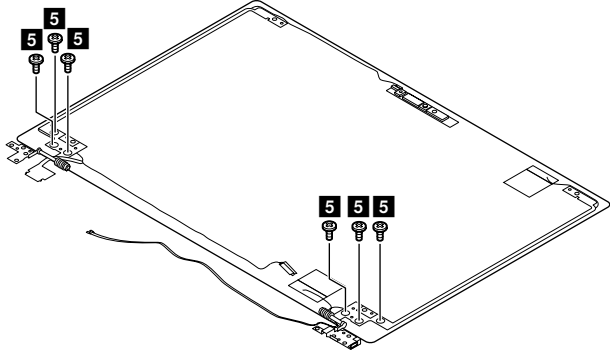
Remove the screws **2**. Lift the LCD module slightly **3**. Disconnect the connector in the direction shown by arrow **4**. Then remove the LCD module.



Step	Screw (quantity)	Color	Torque
<b>2</b>	M2 × 3 mm, Phillips-head, nylok-coated (4) lcd panel---lcd cover	Silver	1.85+/-0.15 kgf/cm

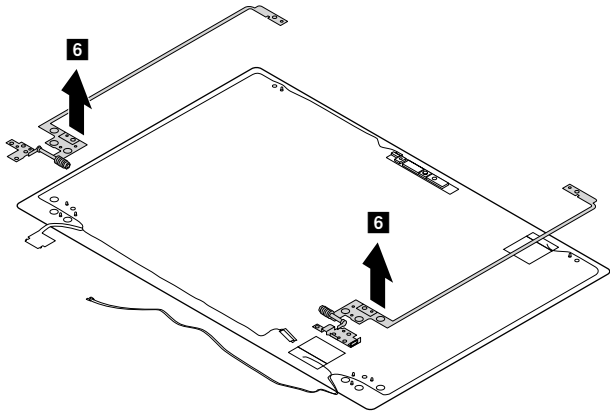
Figure 12. Removal steps of LCD unit (continued)

Remove the screws **5**.



Step	Screw (quantity)	Color	Torque
<b>5</b>	M2.5 × 2.5 mm, Phillips-head, nylok-coated (6) lcd brk---lcd cover	Silver	3+/-0.15 kgf/cm

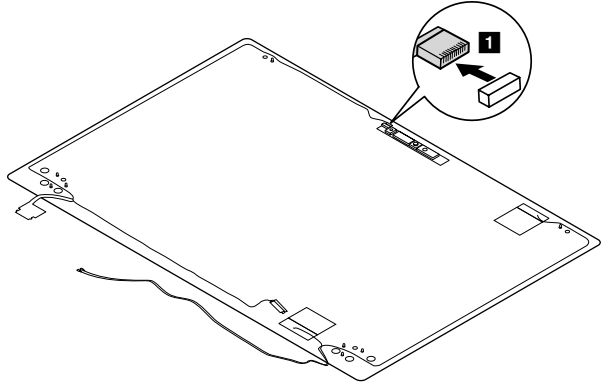
Remove the LCD hinges in the direction shown by arrows **6**.



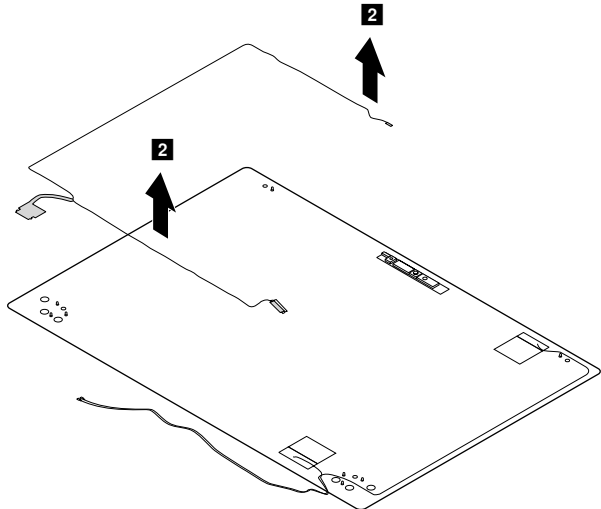
*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

Figure 12. Removal steps of LCD unit (continued)

Detach the camera connector in the direction shown by arrow **1**.



Remove the LCD cable in the direction shown by arrows **2**.



**When installing:** Make sure that the connector is attached firmly and that you do not pinch the antenna cables when you attach the LCD assembly. Route the LCD cable along the cable guides.

## 1130 Integrated camera and antenna assembly

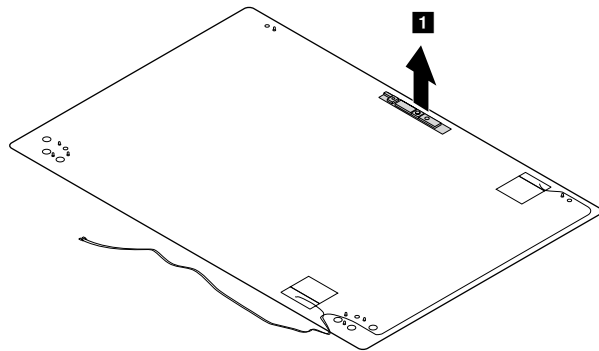
For access, remove these FRUs in order:

- “1010 Optical drive” on page 33
- “1020 Base cover” on page 34
- “1030 Battery pack” on page 37
- “1040 PCI Express Mini Card for wireless LAN” on page 39
- “1050 DIMM” on page 41
- “1060 Hard disk drive” on page 42
- “1070 Speakers” on page 44
- “1080 Fan assembly and Heat Sink assembly” on page 45
- “1090 ODD transfer board, backup battery and Fingerprint board” on page 49
- “1100 Upper case” on page 51
- “1110 System board” on page 54
- “1120 LCD unit” on page 56

*Figure 13. Removal steps of integrated camera and antenna assembly*

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

Remove the integrated camera in the direction shown by arrow **1**.



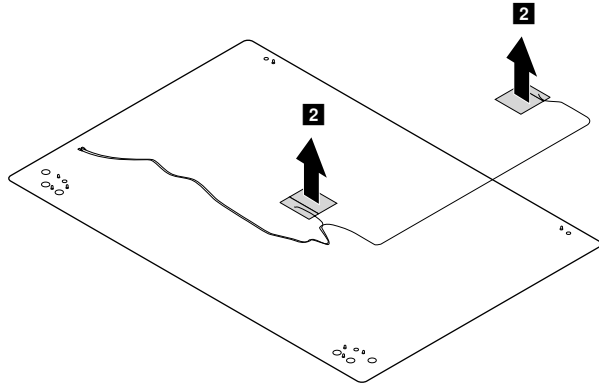
**When installing:** Stick the integrated camera to the top center of the LCD cover and adjust its placement to make sure the connector is attached firmly.



*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Figure 13. Removal steps of integrated camera and antenna assembly (continued)*

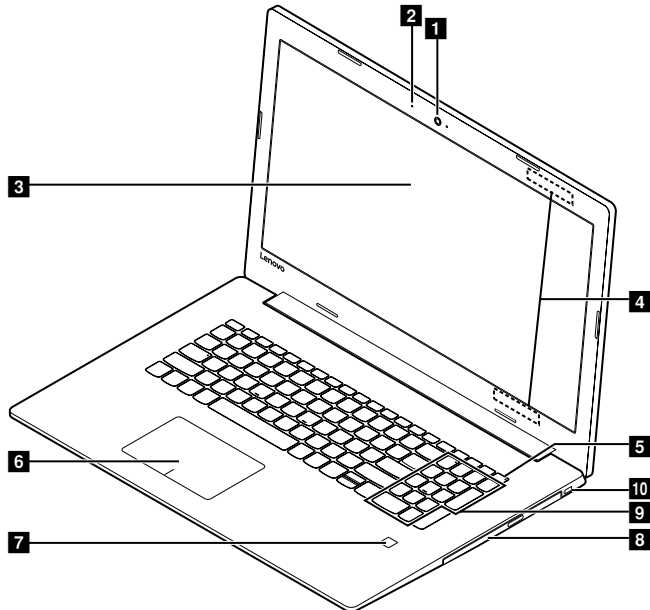
Peel off the adhesive tape securing the antenna boards, release the cables from the cable guide, and then remove the antenna assembly in the direction shown by arrows **2**.



## Locations

### Front view and right-side view

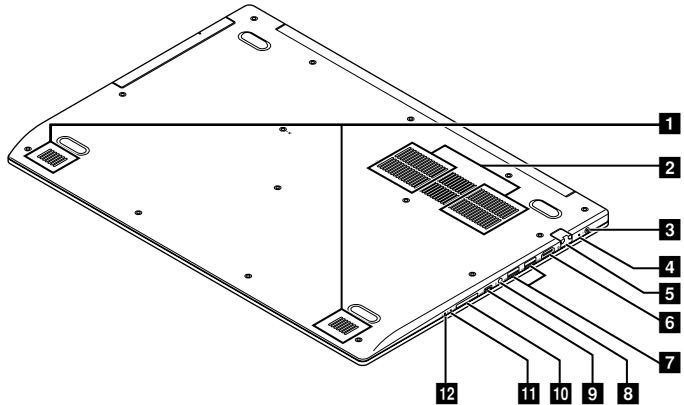
- Integrated camera
- 2 Built-in microphone
- 3 Computer display
- 4 Wireless LAN antennas
- 5 Power Key
- 6 Touch pad
- 7 Fingerprint reader (on select models)
- 8 Optical disc drive
- 9 Numeric keypad
- 10 Kensington Mini Security slot



*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

## Bottom and Left-side view

- Speakers
- 2 Ventilation slots
- 3 AC power adapter jack
- 4 Battery/Charging status indicator
- 5 RJ-45 port
- 6 HDMI port
- 7 USB 3.0 port
- 8 Combo audio jack
- 9 Type-C port (only on select models)
- 10 Memory card slot
- 11 Novo button
- 12 Power status indicator



## **Parts list**

This section presents the following service parts:

- “Overall” on page 65
- “LCD FRUs” on page 73
- “Miscellaneous parts” on page 75
- “AC adapters” on page 75
- “Screws” on page 77

**Note:**

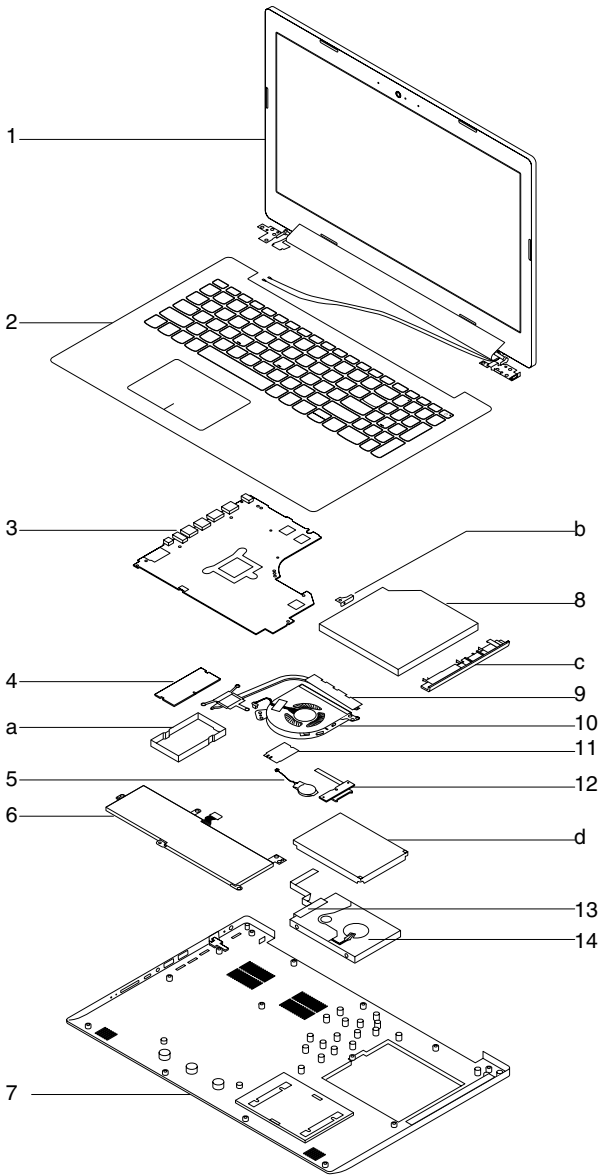
Each FRU is available for all types or models, unless specific types or models are specified.

**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.**

*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

**Overall**



**/// ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/  
ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/  
ideapad 320R-17ABR/ideapad 320E-17ABR Hardware Maintenance Manual**

**Table 4. Parts list—Overall**

No.	FRU	FRU no.	CRU ID.
a-d	See "Miscellaneous parts" on page 75.		
1	LCD unit (see "LCD FRUs" on page 73).		
2	UpperCaseASML80XM IGUSKBNFP	5CB0N96198	
2	UpperCaseASML80XM IGUKEKBNFP	5CB0N96245	
2	UpperCaseASML80XM IGITAKBNFP	5CB0N96243	
2	UpperCaseASML80XM IGSPAKBNFP	5CB0N96220	
2	UpperCaseASML80XM IGTURKBNFP	5CB0N96310	
2	UpperCaseASML80XM IGTHAIKBNFP	5CB0N96205	
2	UpperCaseASML80XM IGPORKBNFP	5CB0N96272	
2	UpperCaseASML80XM IGLA SPAKBNFP	5CB0N96197	
2	UpperCaseASML80XM IGFRA/ENGKBNFP	5CB0N96289	
2	UpperCaseASML80XM IGKORKBNFP	5CB0N96320	
2	UpperCaseASML80XM IGTCKBNFP	5CB0N96264	
2	UpperCaseASML80XM IGRUSKBNFP	5CB0N96247	
2	UpperCaseASML80XM IGFRAKBNFP	5CB0N96231	
2	UpperCaseASML80XM IGGERKBNFP	5CB0N96317	
2	UpperCaseASML80XM IGARAKBNFP	5CB0N96208	
2	UpperCaseASML80XM IGBRLKBNFP	5CB0N96276	
2	UpperCaseASML80XM IGDUTCHKBNFP	5CB0N96296	
2	UpperCaseASML80XM IGGREKBNFP	5CB0N96199	
2	UpperCaseASML80XM IGHBWKBNFP	5CB0N96202	
2	UpperCaseASML80XM IGHUNKBNFP	5CB0N96268	
2	UpperCaseASML80XM IGNORDICKBNFP	5CB0N96226	
2	UpperCaseASML80XM IGBELKBNFP	5CB0N96207	
2	UpperCaseASML80XM IGLDKBNFP	5CB0N96210	N
2	UpperCaseASML80XM IGSLVKBNFP	5CB0N96274	
2	UpperCaseASML80XM IGSWSKBNFP	5CB0N96293	
2	UpperCaseASML80XM IGEURO ENKBNFP	5CB0N96228	
2	UpperCaseASML80XM IGCZE/SLKKBKBNFP	5CB0N96286	
2	UpperCaseASML80XM IGBULKBNFP	5CB0N96318	
2	UpperCaseASML80XM IGHINKBNFP	5CB0N96200	
2	UpperCaseASML80XM IGFRA/ARAKBNFP	5CB0N96292	
2	UpperCaseASML80XM IGUKRKBKBNFP	5CB0N96242	
2	UpperCaseASML80XM PGUS KKBKBNFP	5CB0N96215	
2	UpperCaseASML80XM PGUKEKBNFP	5CB0N96316	
2	UpperCaseASML80XM PGITAKBNFP	5CB0N96314	
2	UpperCaseASML80XM PGSPAKBNFP	5CB0N96275	
2	UpperCaseASML80XM PGTURKBNFP	5CB0N96221	
2	UpperCaseASML80XM PGTHAIKBNFP	5CB0N96224	
2	UpperCaseASML80XM PGPORKBNFP	5CB0N96223	
2	UpperCaseASML80XM PGLA SPAKBNFP	5CB0N96256	
2	UpperCaseASML80XM PGFRA/ENGKBNFP	5CB0N96218	
2	UpperCaseASML80XM PGKORKBNFP	5CB0N96203	
2	UpperCaseASML80XM PGTCCKBNFP	5CB0N96209	
2	UpperCaseASML80XM PGRUSKBNFP	5CB0N96244	
2	UpperCaseASML80XM PGFRAKBNFP	5CB0N96260	
2	UpperCaseASML80XM PGGERKBNFP	5CB0N96307	

*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad  
320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/  
ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Table 4. Parts list—Overall (continued)*

<b>No.</b>	<b>FRU</b>	<b>FRU no.</b>	<b>CRU ID.</b>
2	UpperCaseASML80XM PGARAKBNFP	5CB0N96298	N
2	UpperCaseASML80XM PGBRLKBNFP	5CB0N96222	
2	UpperCaseASML80XM PGDUTCHKBNFP	5CB0N96254	
2	UpperCaseASML80XM PGGREKBNFP	5CB0N96287	
2	UpperCaseASML80XM PGHBWKBFP	5CB0N96232	
2	UpperCaseASML80XM PGHUNKBNFP	5CB0N96252	
2	UpperCaseASML80XM PGNORDICKBNFP	5CB0N96216	
2	UpperCaseASML80XM PGBELKBNFP	5CB0N96308	
2	UpperCaseASML80XM PGILDKBNFP	5CB0N96267	
2	UpperCaseASML80XM PGSLVKBNFP	5CB0N96284	
2	UpperCaseASML80XM PGSWSKBNFP	5CB0N96212	
2	UpperCaseASML80XM PGEURO ENGBBNFP	5CB0N96313	
2	UpperCaseASML80XM PGCZE/SLKKBNFP	5CB0N96309	
2	UpperCaseASML80XM PGBULKBNFP	5CB0N96236	
2	UpperCaseASML80XM PGHINKBNFP	5CB0N96239	
2	UpperCaseASML80XM PGFRA/ARAKBNFP	5CB0N96250	
2	UpperCaseASML80XM PGUKRKBFP	5CB0N96237	
2	UpperCaseASML80XM IGUS KBKBF	5CB0N96238	
2	UpperCaseASML80XM IGUKKBF	5CB0N96277	
2	UpperCaseASML80XM IGITAKBF	5CB0N96233	
2	UpperCaseASML80XM IGSPAKBF	5CB0N96261	
2	UpperCaseASML80XM IGTURKBF	5CB0N96234	
2	UpperCaseASML80XM IGTHAIKBF	5CB0N96240	
2	UpperCaseASML80XM IGPORKBF	5CB0N96299	
2	UpperCaseASML80XM IGLA SPAKBF	5CB0N96219	
2	UpperCaseASML80XM IGFRA/ENGBFP	5CB0N96211	
2	UpperCaseASML80XM IGKORKBF	5CB0N96291	
2	UpperCaseASML80XM IGTCKBF	5CB0N96248	
2	UpperCaseASML80XM IGRUSKBF	5CB0N96263	
2	UpperCaseASML80XM IGFRAKBF	5CB0N96285	
2	UpperCaseASML80XM IGGERKBF	5CB0N96227	
2	UpperCaseASML80XM IGARAKBF	5CB0N96269	
2	UpperCaseASML80XM IGBRLKBF	5CB0N96253	
2	UpperCaseASML80XM IGDUTCHKBF	5CB0N96302	
2	UpperCaseASML80XM IGGREKBF	5CB0N96319	
2	UpperCaseASML80XM IGHBWKBF	5CB0N96281	
2	UpperCaseASML80XM IGHUNKBF	5CB0N96270	
2	UpperCaseASML80XM IGNORDICKBF	5CB0N96271	
2	UpperCaseASML80XM IGBELKBF	5CB0N96311	
2	UpperCaseASML80XM IGILDKBF	5CB0N96255	
2	UpperCaseASML80XM IGSLVKBF	5CB0N96201	
2	UpperCaseASML80XM IGSWSKBF	5CB0N96262	
2	UpperCaseASML80XM IGEURO ENGBFP	5CB0N96280	
2	UpperCaseASML80XM IGCZE/SLKKBF	5CB0N96204	
2	UpperCaseASML80XM IGBULKBF	5CB0N96304	
2	UpperCaseASML80XM IGHINKBF	5CB0N96294	
2	UpperCaseASML80XM IGFRA/ARAKBF	5CB0N96206	

Table 4. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID.
2	UpperCaseASML80XM IGUKRKBFP	5CB0N96278	N
2	UpperCaseASML80XM PGUS KBKBFPP	5CB0N96266	
2	UpperCaseASML80XM PGUKEKBFP	5CB0N96283	
2	UpperCaseASML80XM PGITAKBFP	5CB0N96258	
2	UpperCaseASML80XM PGSPAKBFP	5CB0N96251	
2	UpperCaseASML80XM PGTURKBFP	5CB0N96315	
2	UpperCaseASML80XM PGTHAIKBFP	5CB0N96259	
2	UpperCaseASML80XM PGPORKBFP	5CB0N96235	
2	UpperCaseASML80XM PGLA SPAKBFP	5CB0N96230	
2	UpperCaseASML80XM PGFRA/ENGBFP	5CB0N96297	
2	UpperCaseASML80XM PGKORKBFP	5CB0N96249	
2	UpperCaseASML80XM PGTCKBFP	5CB0N96288	
2	UpperCaseASML80XM PGRUSKBFP	5CB0N96279	
2	UpperCaseASML80XM PGFRAKBFP	5CB0N96290	
2	UpperCaseASML80XM PGGERKBFP	5CB0N96257	
2	UpperCaseASML80XM PGARAKBFP	5CB0N96246	
2	UpperCaseASML80XM PGBRLKBFP	5CB0N96273	
2	UpperCaseASML80XM PGDUTCHKBFP	5CB0N96241	
2	UpperCaseASML80XM PGGREKBFP	5CB0N96229	
2	UpperCaseASML80XM PGHBWKBFP	5CB0N96303	
2	UpperCaseASML80XM PGHUNKBFP	5CB0N96213	
2	UpperCaseASML80XM PGNORDICKBFP	5CB0N96295	
2	UpperCaseASML80XM PGBELKBFP	5CB0N96301	
2	UpperCaseASML80XM PGBULKBFP	5CB0N96225	
2	UpperCaseASML80XM PGSVLKBFP	5CB0N96300	
2	UpperCaseASML80XM PGSWSKBFP	5CB0N96214	
2	UpperCaseASML80XM PGEURO ENGBFP	5CB0N96306	
2	UpperCaseASML80XM PGCZE/SLKBFP	5CB0N96282	
2	UpperCaseASML80XM PGBULKBFP	5CB0N96305	
2	UpperCaseASML80XM PGHINKBFP	5CB0N96265	
2	UpperCaseASML80XM PGFRA/ARAKBFP	5CB0N96312	
2	UpperCaseASML80XM PGUKRKBFP	5CB0N96217	
3	MBL80XW321A99420UMANFPNOK	5B20P15345	
3	MBL80XW321A99420UMANFPWIN	5B20P15361	
3	MBL80XW321A69220R17MM1 2GNFPNOK	5B20P15356	
3	MBL80XW321A69220R17MM1 2GNFPWIN	5B20P15357	
3	MBL80XW321E29000R17MM1 2GNFPNOK	5B20P15339	
3	MBL80XW321E29000R17MM1 2GNFPWIN	5B20P15341	
3	MBL80XW321E29000UMANFPNOK	5B20P15365	
3	MBL80XW321E29000UMANFPWIN	5B20P15371	
3	MBL80XW321A49120UMANFPNOK	5B20P15342	
3	MBL80XW321A49120UMANFPWIN	5B20P15331	
3	MBL80XW321A69220UMANFPNOK	5B20P15322	
3	MBL80XW321A69220UMANFPWIN	5B20P15313	
3	MBL80XW321A99420R17MM1 2GNFPNOK	5B20P15348	
3	MBL80XW321A99420R17MM1 2GNFPWIN	5B20P15340	
3	MBL80XW321A49120R17MM1 2GNFPNOK	5B20P15385	



*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Table 4. Parts list—Overall (continued)*

<b>No.</b>	<b>FRU</b>	<b>FRU no.</b>	<b>CRU ID.</b>
3	MBL80XW321A49120R17MM1 2GNFPWIN	5B20P15332	N
3	MBL80YNA109620PR17M1 2G4GNFPNOK	5B20P15886	
3	MBL80YNA109620PR17M1 2G4GNFPWIN	5B20P15879	
3	MBL80YNA109620PUMA 4GNFPNOK	5B20P15855	
3	MBL80YNA109620PUMA 4GNFPWIN	5B20P15907	
3	MBL80YNA109620PR17M1 2GNFPNOK	5B20P15894	
3	MBL80YNA109620PR17M1 2GNFPWIN	5B20P15905	
3	MBL80YNA109620PUMANFPNOK	5B20P15859	
3	MBL80YNA109620PUMANFPWIN	5B20P15865	
3	MBL80YNA129720PR17M1 2G4GNFPNOK	5B20P15858	
3	MBL80YNA129720PR17M1 2G4GNFPWIN	5B20P15868	
3	MBL80YNA129720PR17M1 4G4GNFPNOK	5B20P15876	
3	MBL80YNA129720PR17M1 4G4GNFPWIN	5B20P15897	
3	MBL80YNFX9800PR17M1 4GFPNOK	5B20P15863	
3	MBL80YNFX9800PR17M1 4GFPWIN	5B20P15908	
3	MBL80YNFX9800PUMAFPNOK	5B20P15890	
3	MBL80YNFX9800PUMAFPWIN	5B20P15875	
3	MBL80YNA129720PUMA 4GNFPNOK	5B20P15914	
3	MBL80YNA129720PUMA 4GNFPWIN	5B20P15916	
3	MBL80YNA129720PR17M1 2GNFPNOK	5B20P15853	
3	MBL80YNA129720PR17M1 2GNFPWIN	5B20P15899	
3	MBL80YNA129720PR17M1 4GNFPNOK	5B20P15889	
3	MBL80YNA129720PR17M1 4GNFPWIN	5B20P15893	
3	MBL80YNA129720PUMANFPNOK	5B20P15867	
3	MBL80YNA129720PUMANFPWIN	5B20P15864	
3	MBL80YNFX9800PR17M1 2G4GNFPNOK	5B20P15912	
3	MBL80YNFX9800PR17M1 2G4GNFPWIN	5B20P15887	
3	MBL80YNFX9800PR17M1 4G4GNFPNOK	5B20P15871	
3	MBL80YNFX9800PR17M1 4G4GNFPWIN	5B20P15902	
3	MBL80YNFX9800PUMA 4GNFPNOK	5B20P15861	
3	MBL80YNFX9800PUMA 4GNFPWIN	5B20P15866	
3	MBL80YNFX9800PR17M1 2GNFPNOK	5B20P15854	
3	MBL80YNFX9800PR17M1 2GNFPWIN	5B20P15884	
3	MBL80YNFX9800PR17M1 4GNFPNOK	5B20P15898	
3	MBL80YNFX9800PR17M1 4GNFPWIN	5B20P15882	
3	MBL80YNFX9800PUMANFPNOK	5B20P15869	
3	MBL80YNFX9800PUMANFPWIN	5B20P15873	
3	MBL80YNA109620PR17M1 2G4GFPNOK	5B20P15856	
3	MBL80YNA109620PR17M1 2G4GFPWIN	5B20P15903	
3	MBL80YNA109620PUMA 4GFPNOK	5B20P15874	
3	MBL80YNA109620PUMA 4GFPWIN	5B20P15857	
3	MBL80YNA109620PR17M1 2GFPNOK	5B20P15892	
3	MBL80YNA109620PR17M1 2GFPWIN	5B20P15870	
3	MBL80YNA109620PUMAFPNOK	5B20P15862	
3	MBL80YNA109620PUMAFPWIN	5B20P15904	
3	MBL80YNA129720PR17M1 2G4GFPNOK	5B20P15896	
3	MBL80YNA129720PR17M1 2G4GFPWIN	5B20P15880	

**Table 4. Parts list—Overall (continued)**

No.	FRU	FRU no.	CRU ID.
3	MBL80YNA129720PR17M1 4G4GFPNOK	5B20P15900	N
3	MBL80YNA129720PR17M1 4G4GFPWIN	5B20P15911	
3	MBL80YNA129720PUMA 4GFPNOK	5B20P15860	
3	MBL80YNA129720PUMA 4GFPWIN	5B20P15910	
3	MBL80YNA129720PR17M1 2GFPNOK	5B20P15877	
3	MBL80YNA129720PR17M1 2GFPWIN	5B20P15913	
3	MBL80YNA129720PR17M1 4GFPNOK	5B20P15891	
3	MBL80YNA129720PR17M1 4GFPWIN	5B20P15872	
3	MBL80YNA129720PUMAFPNOK	5B20P15878	
3	MBL80YNA129720PUMAFPWIN	5B20P15909	
3	MBL80YNFX9800PR17M1 4G4GFPNOK	5B20P15883	
3	MBL80YNFX9800PR17M1 4G4GFPWIN	5B20P15915	
3	MBL80YNFX9800PR17M1 2G4GFPNOK	5B20P15901	
3	MBL80YNFX9800PR17M1 2G4GFPWIN	5B20P15885	
3	MBL80YNFX9800PUMA 4GFPNOK	5B20P15906	
3	MBL80YNFX9800PUMA 4GFPWIN	5B20P15895	
3	MBL80YNFX9800PR17M1 2GFPNOK	5B20P15888	
3	MBL80YNFX9800PR17M1 2GFPWIN	5B20P15881	
4	DDR4 Memroy, On Board DDR4 Memory 8Gb*16, K4A8G165WB-BCRC	SM30L08874	
4	DDR4 Memroy, On Board DDR4 Memory 8Gb*16, K4A8G165WC-BCRC (C/8Gb/18nm /SDP)	SM30N71798	
4	DDR4 Memroy, On Board DDR4 Memory 8Gb*16, H5AN8G6NAFR-UHC	SM30L08875	
4	DDR4 Memroy, On Board DDR4 Memory 8Gb*16, MT40A512M16JY-083E:B	SM30L08877	
4	DDR4 Memroy, 2GB DDR4 2400 SoDIMM, M471A5644EB0-CRC	SM30G16500	
4	DDR4 Memroy, 2GB DDR4 2400 SoDIMM, HMA425S6AFR6N-UH	SM30G16501	
4	DDR4 Memroy, 2GB DDR4 2400 SoDIMM, MTA4ATF25664HZ-2G3B1	SM30G16502	
4	DDR4 Memroy, 2GB DDR4 2400 SoDIMM, RMSA3270MB76H8F-2400	SM30G16503	
4	DDR4 Memroy, 4GB DDR4 2400 SoDIMM, M471A5244CB0-CRC	SM30M49902	
4	DDR4 Memroy, 4GB DDR4 2400 SoDIMM, HMA851S6AFR6N-UH	SM30G16505	
4	DDR4 Memroy, 4GB DDR4 2400 SoDIMM, MTA4ATF51264HZ-2G3B1	SM30G16506	
4	DDR4 Memroy, 4GB DDR4 2400 SoDIMM, RMSA3270MB86H9F-2400	SM30G16507	
4	DDR4 Memroy, 8GB DDR4 2400 SoDIMM, M471A1K43CB1-CRC	SM30M49901	
4	DDR4 Memroy, 8GB DDR4 2400 SoDIMM, HMA81GS6AFR8N-UH	SM30G16509	
4	DDR4 Memroy, 8GB DDR4 2400 SoDIMM, MTA8ATF1G64HZ-2G3B1	SM30G16510	
4	DDR4 Memroy, 8GB DDR4 2400 SoDIMM, RMSA3260MB78HAF-2400	SM30G16511	
4	DDR4 Memroy, 16GB DDR4 2400 SoDIMM, M471A2K43CB1-CRC	SM30M49903	
4	DDR4 Memroy, 16GB DDR4 2400 SoDIMM, HMA82GS6AFR8N-UH	SM30G16513	
4	DDR4 Memroy, 16GB DDR4 2400 SoDIMM, MTA16ATF2G64H-2G3B1	SM30G16514	
4	DDR4 Memroy, 4GB DDR4 2400 SoDIMM, M471A5244CB0-CRC	SM30M49902	
4	DDR4 Memroy, 4GB DDR4 2400 SoDIMM, HMA851S6AFR6N-UH	SM30G16505	
4	DDR4 Memroy, 4GB DDR4 2400 SoDIMM, MTA4ATF51264HZ-2G3B1	SM30G16506	
4	DDR4 Memroy, 4GB DDR4 2400 SoDIMM, RMSA3270MB86H9F-2400	SM30G16507	
4	DDR4 Memroy, 8GB DDR4 2400 SoDIMM, M471A1K43CB1-CRC	SM30M49901	
4	DDR4 Memroy, 8GB DDR4 2400 SoDIMM, HMA81GS6AFR8N-UH	SM30G16509	

*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

*Table 4. Parts list—Overall (continued)*

No.	FRU	FRU no.	CRU ID.
4	DDR4 Memroy, 8GB DDR4 2400 SoDIMM, MTA8ATF1G64HZ-2G3B1	SM30G16510	N
4	DDR4 Memroy, 8GB DDR4 2400 SoDIMM, RMSA3260MB78HAF-2400	SM30G16511	
5	RTC Battery L 80WK	5B10N00276	
6	Battery, Polymer 30W Normal (15wh* 2cell), 320 SP/A L16M2PB1 7.5V30Wh2cell bty	5B10M86148	
6	Battery, Polymer 30W Normal (15wh* 2cell), 320 CP/C L16C2PB2 7.6V30Wh2cell bty	5B10M88058	
6	Battery, Polymer 30W Normal (15wh* 2cell), 320 LG L16L2PB2 7.4V30Wh2cell bty	5B10M91442	
6	Battery, Polymer 30W Normal (15wh* 2cell), 320 SP/A L16M2PB3 7.68V30Wh2cell bty	5B10M86147	
6	Battery, Polymer 30W Normal (15wh* 2cell), 320 LG L16L2PB1 7.6V30Wh2cell bty	5B10M90492	
6	Battery, Polymer 35w Normal (17.5wh *2Cell), 320 SP/A L16M2PB2 7.5V35Wh2cell bty	5B10M86149	
6	Battery, Polymer 35w Normal (17.5wh *2Cell), 320 CP/C L16C2PB1 7.6V35Wh2cell bty	5B10M88059	
6	Battery, Polymer 35w Normal (17.5wh *2Cell), 320 SY L16S2PB1 7.6V35Wh2cell bty	5B10M90490	
6	Battery, Polymer 35w Normal (17.5wh *2Cell), 320 LG L16L2PB3 7.6V35Wh2cell bty	5B10M91443	
7	Lower Case L80XM COOL GREY TEXTURE	5CB0N91538	
7	LowerCaseL80XW GRAY	5CB0P15316	
8	DUMMYODD for 2nd HDD CG L80XK	5M20N82345	*
8	DUMMY ODD CG L80XK	5M20N82244	
8	ODD, 9.0mm Rambo ODD, HLDS GUE0N 9.0mm Slim Tray Rambo ODD	5DX0J46488	
8	ODD, 9.0mm Rambo ODD, PLDS DA-8AESH 9.0 mm Slim Tray Rambo ODD	5DX0L08424	N
9	THERMAL MODULE UMA L80XS	5H40P11134	
9	THERMAL MODULE DIS L80XS	5H40P11135	
9	THERMAL MODULE UMA L80XW	5H40P15350	
9	THERMAL MODULE DIS L80XW	5H40P15382	
10	FAN DC5V L80XK	5F10N82225	
11	WLAN, Wifi 1X1 AC+ BT 4.1, Cbt RTL8821AE 1x1AC+BT PCIE M.2 WLAN	SW10A11648	
11	WLAN, Wifi 1X1 AC+ BT 4.1, Ltn NFA435A 1x1AC+BT PCIE M.2 WLAN	SW10K97461	
12	ODD BOARD W/FFC L80XW	5C50P15336	
13	HDD BD L80XM FOR 2ND HDD W/FFC	5C50N91537	
14	HDD (7mm ), 500G 5400rpm 7mm, ST500LT012 6G 7mm 5.4K 500G HDD	16200383	
14	HDD (7mm ), 500G 5400rpm 7mm, MQ01ABF050 6G 7mm 5.4K 500G HDD	5H20L34560	
14	HDD (7mm ), 500G 5400rpm 7mm, WD5000LPCX-24VHAT0 7mm 5400rpm 500G HDD	5H20J35762	
14	HDD (7mm ), 1TB 5400rpm 7mm, Seagate ST1000LM035 1T 2.5" 7mm 5400rpm HDD	5H20L22184	
14	HDD (7mm ), 1TB 5400rpm 7mm, WD10SPCX-24HWST1 6G 7mm 1T HDD	16200554	

**Table 4. Parts list—Overall (continued)**

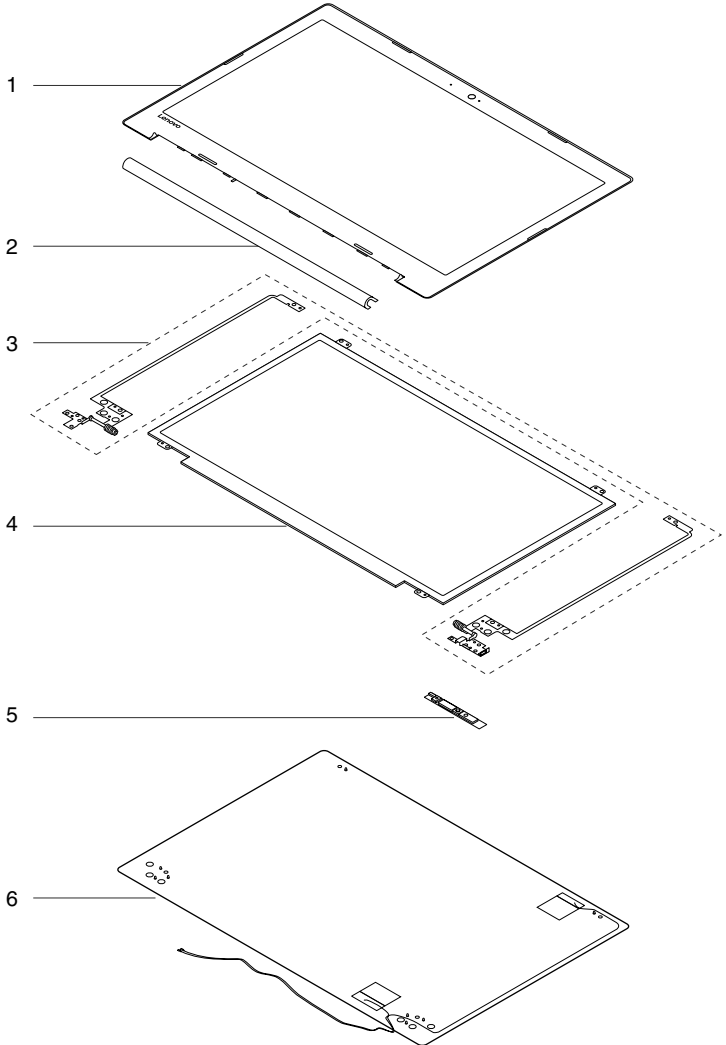
<b>No.</b>	<b>FRU</b>	<b>FRU no.</b>	<b>CRU ID.</b>	
14	HDD (7mm ), 1TB 5400rpm 7mm, TSB MQ02ABF100 6G 7mm 5.4k 1TB HDD	5H20G09709	N	
14	HDD (7mm ), 2TB 54rpm (7mm), ST Rosewood2D 7mm 2TB HDD	5H20M37521		
14	SSD, 128G, CV3	5SD0L02317		
14	SSD, 128G, MZYT128HDHP-000L2 2.5" 128G 5mm SSD	5SD0L14645		
14	SSD, 128G, SC308-128 2.5" 5mm 128GB 6Gb/s SATA HFS128G3BTND-N210A SSD	5SD0M38535		
14	SSD, 128G, 5mm 128GB 2.5" SATA 6Gb/s RTNRB128RFM2KWDL SSD	5SD0M61138		
14	SSD, 256G, CV3	5SD0L02316		
14	SSD, 256G, PM871A	5SD0K93729		
14	SSD, 256G, SC308-256 2.5" 5mm 256GB 6Gb/s SATA HFS256G3BTND-N210A SSD	5SD0M38533		
14	SSD, 256G, 5mm 256GB 2.5" SATA 6Gb/s RTNRB128RFM2KWDL SSD	5SD0M61139		
14	SSD, 512G, CV3	5SD0L02321		
14	SSD, 512G, MZYT512HDJH 2.5" 5mmT 512G SSD	5SD0L77695		
14	SSD, 512G, SC308-512 2.5" 5mm 512GB 6Gb/s SATA HFS512G3BTND-N210A SSD	5SD0M38534		
—	AC adapter (see "AC adapters" on page 75).			

*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

**LCD FRUs**

In Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR, there is following type of LCD.

- “17.3-in. HD LED”



**Table 5. Parts list—LCD FRUs**

<b>No.</b>	<b>FRU</b>	<b>FRU no.</b>	<b>CRU ID.</b>
1	LCD BEZEL L80XM	5B30N91539	N
2	HINGE CAP L80XM OB	5CB0N91547	
2	HINGE CAP L80XM PG	5CB0N91542	
3	HINGE L+R L80XM	5H50N91546	
4	17.3' Panel, 17.3" HD+ TN GL Flat(4.0mm), AU B173RTN02.2 0A HD+T G F NB	5D10J46200	
4	17.3' Panel, 17.3" HD+ TN GL Flat(4.0mm), BO NT173WDM-N11 HD+T G F NB	5D10J46199	
4	17.3' Panel, 17.3" FHD IPS AG, AUO B173HAN01.0 1A FHD AG F NB	5D10H45210	
4	17.3' Panel, 17.3" FHD IPS AG, LG LP173WF4-SPF5 FHDI AG F NB	5D10M56006	
4	17.3' Panel, 17.3" HD+ TN AG Flat(4.0mm), AU B173RTN02.1 1A HD+T AG F NB	5D10J46203	
4	17.3' Panel, 17.3" HD+ TN AG Flat(4.0mm), BO NT173WDM-N21 HD+T AG F NB	5D10J46202	
5	Camera, HD W /Single MIC, BIS BNCR1NKSK HD NB camera	SC20M52085	
5	Camera, HD W /Single MIC, CCY CNFGH41 HD NB camera	SC20M52089	
5	Camera, HD W /Single MIC, LTN 6SF111N2 HD NB camera	SC20M52114	
5	Camera, HD W /Single MIC, AVC HAA-8F4A03 HD NB camera	SC20M52087	
5	Camera, 0.3M W/ Single MIC, BIS BNCRVTKTL 0.3M NB camera	SC20M52088	
5	Camera, 0.3M W/ Single MIC, CCY CNFG020 0.3M NB camera	SC20M52082	
5	Camera, 0.3M W/ Single MIC, AWA AM-6SF5A02 0.3M NB camera	SC20M52079	
5	Camera, 0.3M W/ Single MIC, AVC HAA-93C501 0.3M NB camera	SC20M52080	
5	CAMERA L80XM 0.3M W/MIC	5C20N91541	
5	CAMERA L80XM 720P W/MIC	5C20N91544	
6	LCD Cover L80XM OB PT W/ANTE W/EDP	5CB0N91543	
6	LCD Cover L80XM PG PT W/ANTE W/EDP	5CB0N91540	

*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

## Miscellaneous parts

Table 6. Parts list—Miscellaneous parts

FRU	FRU no.	CRU ID.
System miscellaneous parts:		
• (a) RAM EMI SHIELDING ASSYL80YL	5S60N98522	N
• (b) ODD BRACKET L80SL	5B40L35764	
• (c) ODD BEZEL L80XL TEX CG	5B30N86570	
• (d) HDD BRACKET L80XK	5B40N82219	
<b>Note:</b> Italicized letters in parentheses are references to the exploded view in "Overall" on page 65.		

## AC adapters

Table 7. Parts list—AC adapters

FRU	P/N	CRU ID.
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW A 20V2.25A COO	SA10M42800	*
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW J 20V2.25A COO	SA10M42721	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW B 20V2.25A COO	SA10M42785	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW D 20V2.25A COO	SA10M42696	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW H 20V2.25A COO	SA10M42699	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW G 20V2.25A COO	SA10M42774	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW E 20V2.25A COO	SA10M42748	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW C 20V2.25A COO	SA10M42700	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Delta ADP-45DW K 20V2.25A COO	SA10M42804	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LN 20V2.25A COO	SA10M42711	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LG 20V2.25A COO	SA10M42709	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LL 20V2.25A COO	SA10M42742	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LK 20V2.25A COO	SA10M42530	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LI 20V2.25A COO	SA10M42734	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LR 20V2.25A COO	SA10M42701	

*Table 7. Parts list—AC adapters (continued)*

FRU	P/N	CRU ID.
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LS 20V2.25A COO	SA10M42736	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LU 20V2.25A COO	SA10M42743	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Liteon PA-1450-55LZ 20V2.25A COO	SA10M42752	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCA 20V2.25A COO	SA10M42726	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCB 20V2.25A COO	SA10M42737	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCC 20V2.25A COO	SA10M42697	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCD 20V2.25A COO	SA10M42790	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCK 20V2.25A COO	SA10M42768	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCE 20V2.25A COO	SA10M42706	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCF 20V2.25A COO	SA10M42746	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCG 20V2.25A COO	SA10M42792	
Adaptor, 45W(New) wall mount with round plug ( Low cost 45w Adaptor), Chicony ADL45WCH 20V2.25A COO	SA10M42786	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGCG2A 20V3.25A COO	SA10M42764	*
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGGG2A 20V3.25A COO	SA10M42758	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGU2A 20V3.25A COO	SA10M42765	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGK2A 20V3.25A COO	SA10M42745	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGI2A 20V3.25A COO	SA10M42796	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGR2A 20V3.25A COO	SA10M42775	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGA2A 20V3.25A COO	SA10M42718	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGE2A 20V3.25A COO	SA10M42794	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Delta ADLX65CDGB2A 20V3.25A COO	SA10M42769	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGC2A 20V3.25A COO	SA10M42791	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGG2A 20V3.25A COO	SA10M42714	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGU2A 20V3.25A COO	SA10M42725	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGK2A 20V3.25A COO	SA10M42531	



*Lenovo ideapad 320-17AST/ideapad 320H-17AST/ideapad 320L-17AST/ideapad 320R-17AST/ideapad 320E-17AST/ideapad 320-17ABR/ideapad 320H-17ABR/ideapad 320L-17ABR/ideapad 320R-17ABR/ideapad 320E-17ABR*

Table 7. Parts list—AC adapters (continued)

FRU	P/N	CRU ID.
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGI2A 20V3.25A COO	SA10M42753	*
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGR2A 20V3.25A COO	SA10M42738	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGA2A 20V3.25A COO	SA10M42793	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGE2A 20V3.25A COO	SA10M42740	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Liteon ADLX65CLGB2A 20V3.25A COO	SA10M42817	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGC2A 20V3.25A COO	SA10M42805	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGG2A 20V3.25A COO	SA10M42815	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGU2A 20V3.25A COO	SA10M42762	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGK2A 20V3.25A COO	SA10M42735	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGI2A 20V3.25A COO	SA10M42751	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGR2A 20V3.25A COO	SA10M42704	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGA2A 20V3.25A COO	SA10M42766	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGE2A 20V3.25A COO	SA10M42760	
Adaptor, 65W(New) wall mount with round plug (Low cost 65W Adaptor), Chicony ADLX65CCGB2A 20V3.25A COO	SA10M42707	

## Screws

Table 8. Parts list—screws

FRU	P/N	CRU ID.
SCREW L80T6 MM 2.5D 2.5L K 8.0D NI	5S10L45749	N
Screw L Y700-15ACZ Hinge base	5S10K26861	N
Screw L Y700-17ISK 1.98D	5S10K37639	N
Screw L 80Q1 2.0D 2.0L K 7.0D 0.5T	5S10L22121	N
AILZA Screw M M 3.0D 3.0L K 4.9D	90203986	N
ACLU1ScrewD-C/D-KB/ODD-D-MB-KB/FAN	90205118	N
SCREW MM2.5D7.0LKTZK L80QH	5S10K61894	N

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