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Important

This publication contains product-specific parts information for IBM ThinkPad Dock, ThinkPad Dock II, ThinkPad Port Replicator, ThinkPad Mini Dock, and ThinkPad Port Replicator II products.

This publication is intended for trained service personnel who are familiar with ThinkPad products.

Before servicing an IBM ThinkPad products, be sure to review the safety information on the hardware maintenance manual of the ThinkPad computer.

FRU replacement notices

This section contains 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 IBM ThinkPad 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.
- They should be used only once.

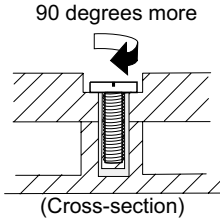
Do the following when you service this machine:

- Keep the screw kit (for the P/N, see "Parts list" on page 14) in your tool bag.
- Always use new screws.
- Use a torque screwdriver if you have one.

Tighten screws as follows:

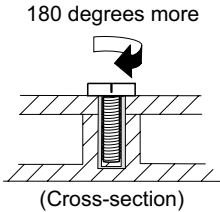
- **Plastic to plastic**

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



- **Logic card to plastic**

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



- **Torque driver**

If you have a torque driver, refer to the “Torque” column for each step.

- Make sure you use the correct screw. If you have a torque screwdriver, tighten all screws firmly to the torque shown in the table. **Never use a screw that you removed. Use a new one. Make sure the screws are tightened firmly.**

Removing and replacing a FRU

This section presents directions and drawings for use in removing and replacing a FRU. Be sure to observe the following general rules:

1. Do not try 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 1.
3. Begin by removing any FRUs that have to be removed before the failing FRU. Any 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 for removing the FRU, as indicated in the drawings by the numbers in square callouts.
5. When turning a screw to replace a FRU, turn it in the direction indicated by the arrow in the drawing.
6. When removing the FRU, move it in the direction indicated by the arrow in the drawing.
7. To put the new FRU in place, reverse the removal procedure and follow any notes that pertain to replacement.
8. When replacing a FRU, use the correct screw as shown in the procedures.

DANGER

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

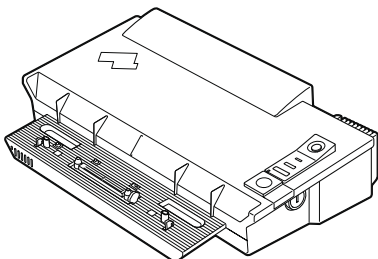
Attention: Before the computer is powered on after FRU replacement, make sure that all screws, springs, and other small parts are in place and are not loose inside the computer. Verify this by shaking the computer gently and listening for rattling sounds. Metallic parts or metal flakes can cause electrical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

1010 ThinkPad Dock PCI cover

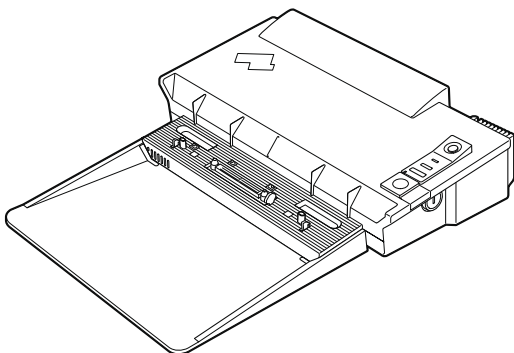
Before replacing the PCI cover:

There are two types of ThinkPad Dock, as follows:

- ThinkPad Dock: FRU no. 08N1546 (PCI cover: FRU no. 05K6246)

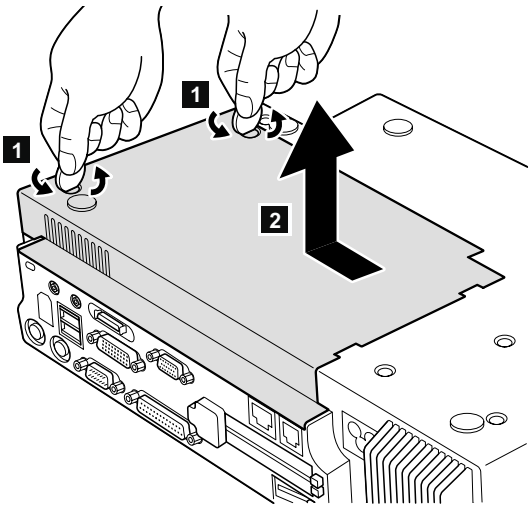


- ThinkPad Dock with extension plate: FRU no. 08N1537 (PCI cover: FRU no. 08N7317)



Confirm the FRU no. of the ThinkPad Dock first and choose the proper PCI cover FRU for the ThinkPad Dock you are servicing.

Note: The following illustration shows how to remove the PCI cover of ThinkPad Dock (FRU no. 08N1546). Do the same to remove the PCI cover of ThinkPad Dock with extension plate (FRU no. 08N1537).

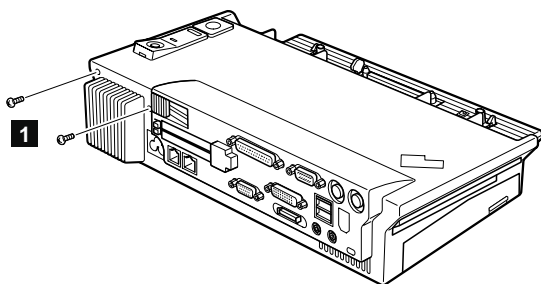


(Bottom view)

1020 ThinkPad Dock top cover

Note

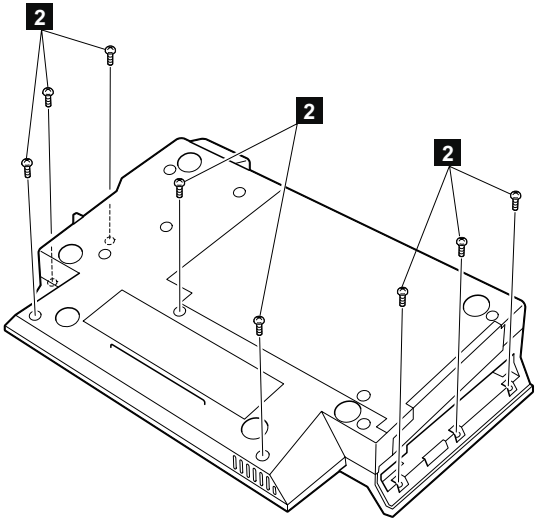
This section is only for the ThinkPad Dock (FRU no. 08N1546). The top cover and screw kit for ThinkPad Dock (FRU no. 12P4143) is not available for the ThinkPad Dock with extension plate (FRU no. 08N1537) .



(Rear view)

Step	Screw (quantity)	Torque
1	M2.5 × 4.8 mm (2)	0.392 Nm (4 kgfcm)

(continued)

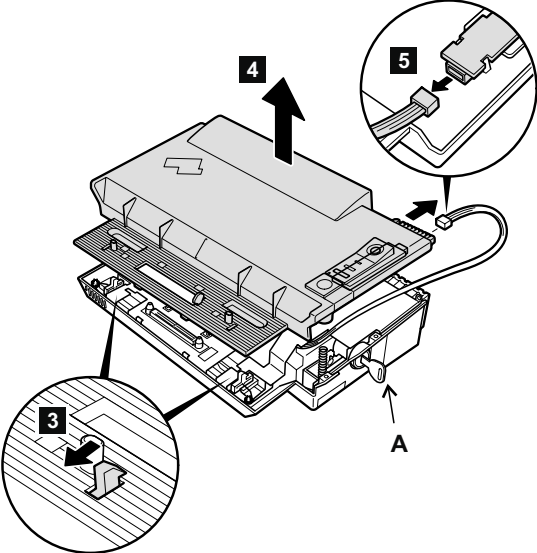


(Bottom view)

Step	Screw (quantity)	Torque
2	M2.5 × 4.8 mm (8)	0.392 Nm (4 kgfcm)

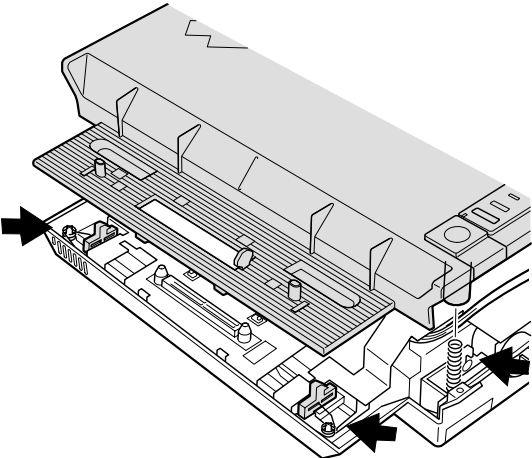
(continued)

Make sure that the system lock key **A** is set to the Unlock position. Release the front latches in step **3**, and then remove the top cover **4**. For step **5**, see the inside view, shown in the circle.



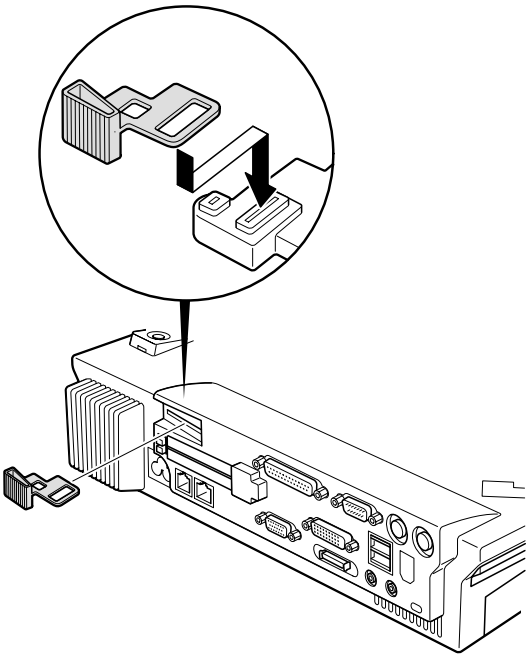
When replacing the top cover, do the following:

- Make sure that the springs are placed correctly.

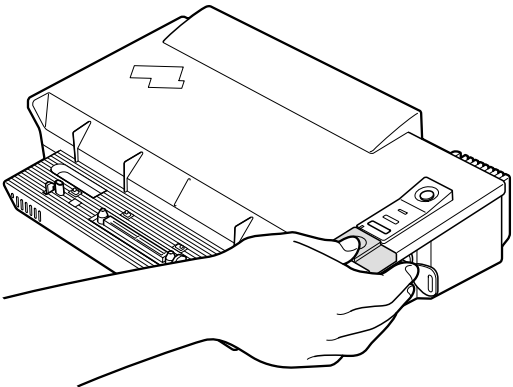


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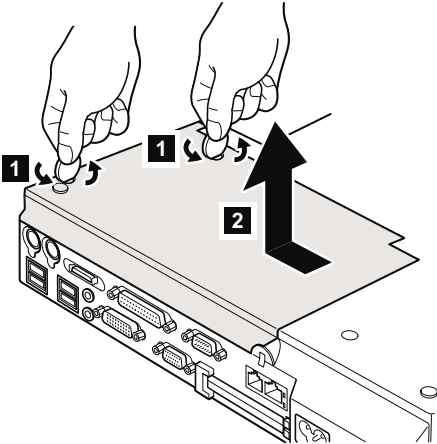
- Make sure that the device release lever is seated correctly.



- Make sure that the release button works correctly.

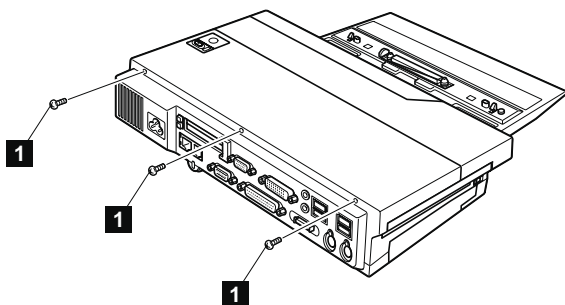


2010 ThinkPad Dock II PCI cover



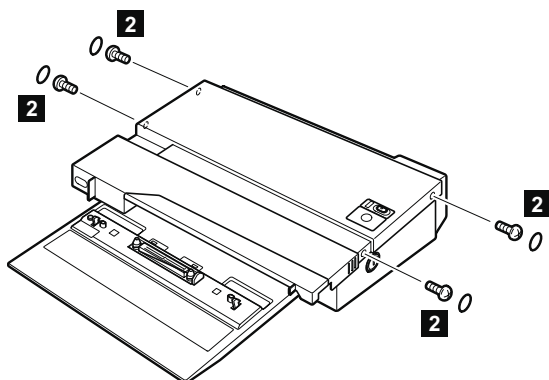
(Bottom view)

2020 ThinkPad Dock II top cover



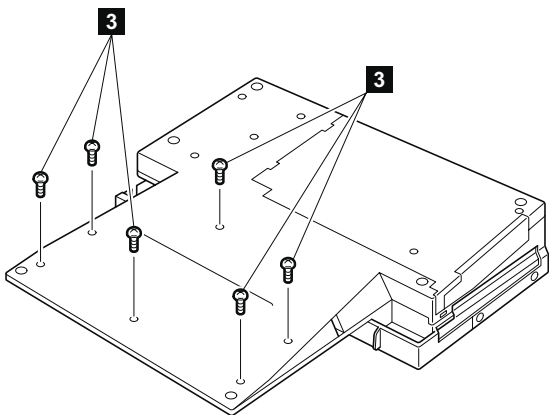
(Rear view)

Step	Screw (quantity)	Torque
1	M2.5 × 4.8 mm (3)	0.392 Nm (4 kgfcm)



Step	Screw (quantity)	Torque
2	M2.5 × 4.8 mm (4)	0.392 Nm (4 kgfcm)

(continued)

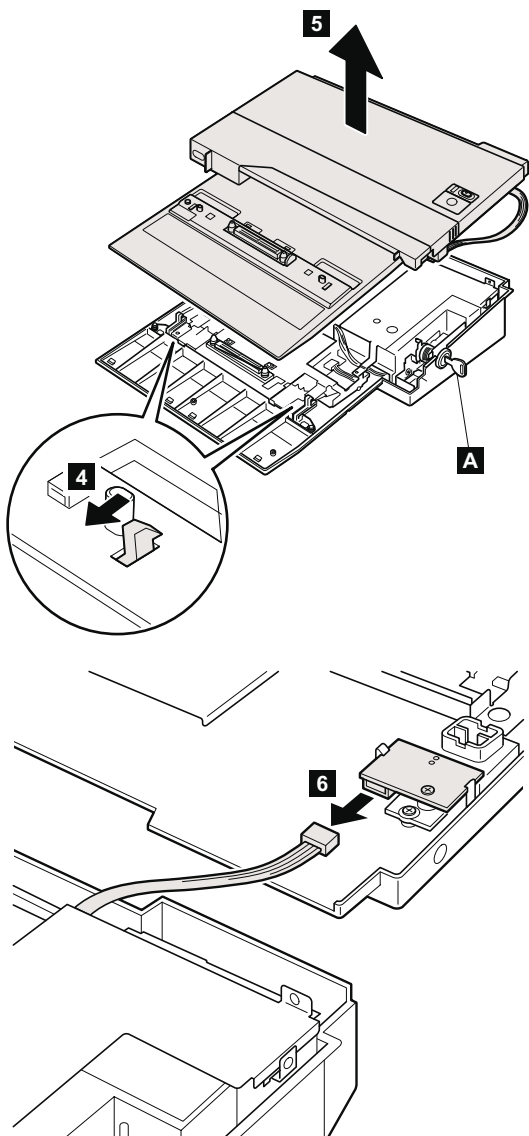


(Bottom view)

Step	Screw (quantity)	Torque
3	M2.5 x 4.8 mm (6)	0.392 Nm (4 kgfcm)

(continued)

Make sure that the system lock key **A** is set to the Unlock position. Release the front latches in step **4**, and then remove the top cover **5**. Then detach the connector cable **6** as in the figure.



Parts list

FRU	P/N	CRU ID
ThinkPad Dock	08N1546	N
ThinkPad Dock with extension plate	08N1537	N
ThinkPad Dock II	67P9010	*
ThinkPad Mini Dock	67P9011	*
ThinkPad Port Replicator	08N1536	N
ThinkPad Port Replicator II	74P6735	*

Optional FRUs

FRU	P/N	CRU ID
PCI cover for ThinkPad Dock	05K6246	N
Top cover and screw kit for ThinkPad Dock	12P4143	N
PCI cover for ThinkPad Dock with extension plate	08N7317	N
Top cover and screw kit for ThinkPad Dock II	46P3085	**
PCI cover for ThinkPad Dock II	46P3086	*
AC adapter (2 pin, 120 W), DELTA for ThinkPad Mini Dock	02K7086	*
AC adapter (2 pin, 120 W), LITEON for ThinkPad Mini Dock	02K7092	*
AC adapter (3 pin, 120 W), LITEON for ThinkPad Mini Dock	02K7094	*
AC adapter (3 pin, 120 W), LITEON for ThinkPad Mini Dock	02K7096	*

Power cords (ThinkPad Dock and ThinkPad Dock II)

IBM power cords for a specific country or region are usually available only in that country or region:

For 3-pin power cords:

Region	P/N	CRU ID
Argentina	36L8868	*
Australia, New Zealand	75H8988	
Brazil	49P2101	
Canada, Thailand, U.S.	75H8989	
Denmark	75H8992	
European countries	75H8990	
India, South Africa	75H8993	
Israel	75H8999	
Italy	75H8998	
Japan	75H8996	
Korea	76H3536	
China (P.R.C.) (other than Hong Kong S.A.R)	02K0540	
Switzerland	75H8997	
U.K.	75H8994	

Power cords (ThinkPad Mini Dock)

IBM power cords for a specific country or region are usually available only in that country or region:

For 2-pin power cords:

Region	P/N	CRU ID
Canada, U.S.	13H5264	*
Japan	13H5273	
Argentina	36L8870	
Brazil	49P2095	

For 3-pin power cords:

Region	P/N	CRU ID
Australia, New Zealand	76H3514	*
Taiwan, Thailand	76H3516	
Italy	76H3530	
Denmark	76H3520	
U.K., China (Hong Kong S.A.R.)	76H3524	
European countries	76H3518	
India, South Africa	76H3522	
Israel	76H3532	
Korea	76H3535	
China (P.R.C.) (other than Hong Kong S.A.R.)	02K0539	
Switzerland	76H3528	