

 $\hfill\square$ This course explains the differences between this model and the HP4R2.5.









□ The only difference between the low cost models and the others is that the paper delivery table does not have fins.



- $\hfill\square$ The capacities are the same as the previous model.
- \Box The LCD is not a touch-panel.

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- $\hfill\square$ The paper feed capacity is the same as the previous model.
- $\hfill\square$ Here is a view of the paper feed side of the machine.

Options

- Document Feeder (ADF7000, D578): New item
 Similar to the AT-C3 and OR-C1
- Platen Cover Type 3352 (D593): Same as the AT-C3, AP-C3, AL-C2, and OR-C1
- □ Colour Drum Type 45R(L) (A3): Same as the HP4-R25
- □ Colour Drum Type 45R(M) (B4) : Same as the HP4-R25
- □ Black Drum Type 45R(S) (A4 only): Same as the HP4-R25
- □ Tape Dispenser Type 20: Same as previous models
- ADF Handle Type C (D593)
- □ Table (to be procured locally): Same as the HP4
- Network Controller (Printer Unit Type 4545A, also known as FV-LT): Based on the one used with HP4R2.5
- □ There is no sorter, Opal, or LCS.
- □ The drums cannot be used with the Opal or HQ-Opal.

No additional notes

Slide 7





 \Box This is the same as the HP4R2.















Auto Shut Off

□ Auto Shut-off helps the customer to save energy.

- In user settings, customers can choose either "Auto Shut-off" or "Energy Saver mode".
- If Auto Shut-off is chosen, the machine will be completely shut off after a certain period of time. The customer turns on the main power switch to re-start.
- Power consumption becomes zero after Auto Shut-off.

No additional notes

Slide 14













□ These are all the same as the HP4-R2.5



HP4-R2

- □ Maximum copies per master
 - ≻ 4,000
- Monthly Print Volume
 - > Average: 50k
 - > Maximum: 170k
- Estimated Unit Life
 - > 10,000k prints, 30k masters, or 5 years
- PM Cycle
 - 1200k or 6 months
- □ MCBC
 - ≻ 240k



□ This section explains differences between this model and the HP4R25.





- □ In platen mode, the original is put on the main exposure glass, and the scanner moves down the original during scanning.
- In ADF mode, the scanner stays at the home position, and the original is fed past the ADF exposure glass.
- □ The optics anti-condensation heater is an option. It prevents condensation on the mirrors, which will cause image problems.



- □ The same motor drives the first and second scanners.
 - The first scanner contains the exposure lamp, reflectors, the 1st mirror, and the lamp regulator. The second scanner contains the 2nd and 3rd mirrors.
 - The regulator is mounted on the scanner to reduce the wiring between the lamp and the regulator.
 - The second scanner moves at half the speed of the first scanner. This is to maintain the focal distance between lens and original.
- □ In this machine, wires are used instead of timing belts. These are more difficult to replace, but copy quality is better (less jitter).
- Note that the operation in ADF mode is different from platen mode (as shown on the previous page).
 - In ADF mode, the scanner goes to home position (detected by the home position sensor), and stays there during scanning.
- □ The scanner motor speed and image processing control the magnification.



- The machine uses the platen cover sensor to detect the document size.
 - Length: Determines the length when the platen cover sensor changes from an "Open" to a "Closed" state.
 - Width: When the sensor changes to "Open", the scanner lamp moves to the right. Then, when the sensor changes to "Closed", the scanner lamp turns on and moves to the home position, and the machine reads the document size as it moves.
- When the ADF is opened, the scanner carriage moves 30 mm from the home position.
- □ Then, when the ADF is closed, the exposure lamp turns on and the CCD detects the paper width.
 - The lamp turns on when the platen cover sensor detects that the cover is being closed.
 - If the cover stays open during copying, the CPU checks the original size when the Start key is pressed.
- When feeding with the ADF, the width and length sensors in the ADF detect the original size.







□ This ARDF is the same as the one that is used in the OR-C1 (similar to AT-C2.5 and R-C5.5).

Coverview It feeds originals above the main copier's DF exposure glass during scanning. The DF exposure glass is a narrow glass to the left side of the exposure glass. The ADF does not use the main exposure glass. The main glass is only used when the user selects book mode, and puts the originals on the glass. The inverter unit lets the user make copies of two-sided originals. It stacks the originals in the correct order after scanning.



□ The machine cannot detect more than one original width in the same job. But there is a mixed original-length mode, as explained on the next slide.



- □ This explains what occurs if the user selects mixed original-length mode.
- Normally, in mixed original-length mode, original length is detected as shown below:
 - The width is detected with the same procedure that is used when all originals are the same size.
 - The machine keeps an area in memory that is sufficient for an original of the detected width and 432 mm length.
 - Printing is done after length detection, and only the part of the memory that contains data up to the detected original length is printed.
- But, if some functions are selected (for example, Auto Reduce/Enlarge), the length must be detected before image scanning starts. Because of this, the machine must measure the length before scanning.
 - It must also make sure that the originals are in the correct sequence before scanning. Because of this, the three steps in the manual are done.
 - If the original is duplex, the original is inverted once again after scanning the first side. Then the second side is scanned, and the paper is fed out.
- Why must the machine measure length first when we use Auto Reduce/Enlarge, Centering, and other functions?
 - With these functions, the machine must know the length of the original accurately.
 - For example, with centering, the image is centered on the copy paper. This cannot be done if the machine does not know the length of the original accurately.
 - Also, with Auto Reduce/Enlarge, the size of the original's image is decreased to fit on the copy paper. This cannot be done if the machine does not know the length of the original accurately.



- Main points about the mechanism
 - The feed motor has two speeds. It feeds the first original to the glass quickly, but is slower for scanning (the speed during scanning is set by the reproduction ratio).
 - The original sensor detects the trailing edge of the last original, before the original set sensor does.
- □ The original set sensor detects if an original is in the feeder. Why not use that sensor? Why is one more sensor necessary?
 - In this machine, the copier feeds copy paper into the machine first, to increase the copy speed. The original sensor tells the copier that there are no more pages to be scanned. The copier can then stop paper feed.
 - The original set sensor is near the scan line, to tell the cpu that an original is in the feeder and is ready to be scanned. This is too far into the machine to tell the cpu sufficiently early to stop the next sheet of copy paper.
 - The original sensor is much nearer to the trailing edge of the stack. This gives sufficient warning to the cpu when the last page of the original is fed in.



□ The one-way clutches in the ADF mechanism allow the feed motor to have different effects when rotating forwards and in reverse.





- □ The machine scans the original through the DF exposure glass.
- The original stops at the registration sensor. But, there is no skew correction at this time (this is because the feed motor in the ADF stops). The original stops here for timing, to feed the original at the correct time to synchronize with the remaining part of the copy process.





 \Box The main points are on the next 4 slides.





PD-D1 Training

RICOH







 $\hfill\square$ This section explains other changes.





□ In some documentation, the master making unit is referred to as the 'plotter' unit.

