I. Card Access Device

A. Changing a CAD

1. Open the vending machine door
2. Open interior panel to access CAD.
3. Unplug the black cable and network cable from the unit. Be careful, as the Molex connector is delicate.
4. Unscrew the (4) nuts using 11/32″ nut driver, wrench or socket and remove the unit.
5. Replace the damaged device with a new CAD and attach using the (4) retained nuts
6. Reattach the two connecting cables.
7. Close the door of the vending machine making sure not to pinch the cables in the hinge.
8. Test the unit by inserting a NC card. If device can read the chip balance, you are finished troubleshooting.

B. Changing a SAM in a CAD

1. Open the vending machine door
2. Open interior panel to access CAD.
3. If it is necessary to remove the unit begin by, unplugging the black cable and network cable. Be careful, as the Molex connector is delicate.
4. Unscrew the (4) nuts using 11/32″ nut driver, wrench or socket and remove the unit.
5. Depress the front of the cover and pull it towards you to reveal the SAM.
6. There should only be one SAM in the device located in the top right corner.
7. Gently slide the SAM holder in the direction of the arrow. It spring upwards releasing the SAM.
8. Remove the SAM, noting the location of the notched corner.

9. Snap a new SAM out of the Smart Card Toolkit. Be careful not to touch the gold contact points.

10. Place the SAM into the holder, noting its orientation. Press down and slide forward to lock.

11. Replace the cover by sliding it up and forward.

12. Reattach the CAD using the (4) retained nuts.

13. Reattach the two connecting cables.

14. Close the door of the vending machine making sure not to pinch the cables in the hinge.

15. Test the unit by inserting a NC card. If device can read the chip balance, you are finished troubleshooting.

C. Cleaning CAD Card Reader

1. Locate the CAD on the front of vending machine

2. Open a new cleaning card packet.

3. Insert and remove the card several times. Use both ends and throw away when finished.

D. Cleaning a SAM in a CAD

1. Open the vending machine door

2. Open interior panel to access CAD.

3. If it is necessary to remove the unit begin by, unplugging the black cable and network cable from the unit. Be careful, as the Molex connector is delicate.

4. Unscrew the (4) nuts using 11/32″ nut driver, wrench or socket and remove the unit.

5. Depress the front of the cover and pull it towards you to reveal the SAM.

6. There should only be one SAM in the device located in the top right corner.

7. Gently slide the SAM holder in the direction of the arrow. It will spring upwards releasing the SAM.
8. Remove the SAM, noting the location of the notched corner.
9. Wipe the gold contact points of the SAM using a lint-free cloth.
10. Place the SAM into the holder, noting its orientation. Press down and slide forward to lock.
11. Replace the cover by sliding it up and forward.
12. Reattach the CAD using the (4) nuts.
13. Reattach the two connecting cables.
14. Close the door of the vending machine making sure not to pinch the cables in the hinge.
15. Test the unit by inserting a NC card. If device can read the chip balance, you are finished troubleshooting.

II. K22 Point of Sale Device

A. Changing a SAM in a K22

1. This is the K22 POS device used in disbursing, ships' store and other locations on ship.
2. Open the cover and if necessary remove the batteries.
3. Slide out the plastic battery layout guide.
4. This will reveal the SAM. It should be in the top left corner.
5. Gently slide the SAM holder in the direction of the arrow. It will spring upwards releasing the SAM. Be careful not to break the delicate spring.
6. Remove SAM, noting the location of the notched corner.
7. Snap a new SAM out of the Smart Card Toolkit. Be careful not to touch the gold contact points.
8. Place the SAM into the holder, noting its orientation. Press down and slide forward to lock.
9. Replace the plastic battery layout guide, batteries, and cover.
10. Test the unit by inserting a NC card. If device can read the chip balance, you are finished troubleshooting.

B. Changing K22 Connector   (Not in movie)

1. Power off the K22.
2. Unplug the cable.
3. Loosen the two screws on the holder.
4. Slide the cables out of the small bracket.
5. Unplug the black power cord from the K22 cable.
6. Unscrew the K22 cable from the gray connector using the (2) thumbscrews.
7. Unplug the gray connector from the CAT5.
8. Plug the CAT5 into the new connector.

9. Screw the K22 cable into the gray connector using the (2) thumbscrews.

10. Plug the black power cord into the K22 cable.

11. Slide down the cables so that the DB9 end is under the small bracket.

12. Tighten the two screws on the front of the holder.

13. Insert the RJ45 side of the cable into the K22.

14. Power on the K22 and test.

C. Cleaning K22 Card Reader

1. This is the K22 POS device used in disbursing, ships' store and other locations on ship.

2. Open a new cleaning card packet.

3. Insert and remove card several times. Use both ends and throw away when finished.

D. Cleaning a SAM in a K22

1. This is the K22 POS device used in disbursing, ships' store and other locations on ship.

2. Open the cover and if necessary remove the batteries.

3. Slide out the plastic battery layout guide.

4. This will reveal the SAM. It should be in the top left corner.

5. Gently slide the holder in the direction of the arrow. It will spring upwards releasing the SAM.

6. Remove SAM, noting the location of the notched corner.

7. Wipe the gold contact points with a lint-free cloth.

8. Place the SAM into the holder, noting its orientation. Press down and slide forward to lock.

9. Replace the plastic battery layout guide, the batteries, and cover.

10. Test the unit by inserting a NC card. If device can read the chip balance, you are finished troubleshooting.

III. K80 Cashless ATM

A. Remove and Replace Card Reader in K80

1. This is the K80 Cashless Automated Teller Machine.
2. Open the K80 using the key.
3. Locate the power supply at the rear of the unit.
4. Turn off the black, power switch followed by the red, master switch. Then unplug the K80 power cord.
5. The card reader is located behind the front panel.
6. Locate the (4) nuts and washers and the (2) ribbon cables.
7. Remove and retain the (4) nuts and washers using a 9/32″ nut driver, wrench or socket and unplug the (2) ribbon cables.
8. Remove the card reader and install the new unit.
9. Replace the four (4) nuts and washers.
10. Before tightening, align card reader by inserting and removing a NC card.
11. Once aligned, tighten the (4) nuts.
12. Plug in the (2) ribbon cables.
13. Plug in the K80 power cable and turn on the red, master switch followed by the black, power switch.
14. Close the K80 and remove the key.
15. Test the CATM by inserting a NC card and checking your balance. If balance displayed, you are done troubleshooting.

B. Remove and Replace the EPROM

1. This is the K80 Cashless Automated Teller Machine.
2. Open the K80 using the key.
3. Locate the power supply at the rear of the unit.
4. Turn off the black, power switch followed by the red, master switch. Then unplug the K80 power cord.

5. Locate the EPROM on the motherboard, noting the notched corner.
6. Using a paper clip, insert the end into one of the long corners and gently pry the EPROM up and away.
7. Switch to the opposite corner and gently pry up until you can remove it with your fingers.
8. Line up the notched corner and insert the new EPROM. Gently press down with your finger.   This should snap the EPROM into place.
9. Plug in the K80 power cable and turn on the red, master switch followed by the black, power switch.
10. Close the K80 and remove the key.
11. Test the unit by inserting a NC card and checking your balance. If balance displayed, you are done troubleshooting.

C. Changing K80 Motherboard

1. This is the K80 Cashless Automated Teller Machine.
2. Open the K80 using the key.
3. Locate the power supply at the rear of the unit.
4. Turn off the black, power switch followed by the red, master switch. Then unplug the K80 power cord.
5. Locate the motherboard on the door of the CATM.
6. Unplug the (13) wires and cables, noting each location.
7. Remove and retain the (4) screws and washers.
8. Carefully remove the motherboard only touching the green sides.
9. Line up the new motherboard with the screw holes on the K80.
10. Insert the (4) screws and washers.
11. Replace all (13) cables and wires. Do not force, the connectors are delicate.
12. Plug in the K80 power cable and turn on the red, master switch followed by the black, power switch.
13. Close the K80 and remove the key.

14. Test the unit by inserting a NC card and checking your balance. If balance displayed, you are done troubleshooting.

D. Changing a SAM in a K80

1. This is the K80 Cashless Automated Teller Machine.
2. Open the K80 using the key.
3. Locate the power supply at the rear of the unit.
4. Turn off the black, power switch followed by the red, master switch. Then unplug the K80 power cord.
5. Locate the motherboard.
6. Unplug the (13) wires and cables, noting each location.
7. Remove and retain the (4) screws and washers.
8. Carefully remove the motherboard only touching the green sides.
9. Look inside the opening and locate the SAM holder. There should only be one SAM in the K80.
10. Gently slide the holder in the direction of the arrow. It will spring upwards releasing the SAM.
11. Remove the SAM, noting the location of the notched corner.
12. Snap a new SAM out of the Smart Card Toolkit being careful not to touch the gold contact points.
13. Place the SAM into the holder, noting its orientation. Press down and slide forward to lock.
14. Line up the motherboard with the screw holes on the K80.
15. Insert the (4) screws and washers.
15. Replace all (13) cables and wires. Do not force, the connectors are delicate.
16. Plug in the K80 power cable and turn on the red, master switch followed by the black, power switch.

17. Close the K80 and remove the key.

18. Test the unit by inserting a NC card and checking your balance. If balance displayed, you are done troubleshooting.

E. Cleaning the K80

1. This is the K80 Cashless Automated Teller Machine.

2. Open the K80 using the key.

3. Locate the power supply at the rear of the unit.

4. Turn off the black, power switch followed by the red, master switch. Then unplug the K80 power cord.

5. Using a compressed air bottle, blow any dust or debris from the interior of the unit.

6. Take time to blow air through the back of the card reader.

7. Plug in the K80 power cable and turn on the red, master switch followed by the black, power switch.

8. Close the K80 and remove the key.

F. Cleaning K80 Card Reader

1. This is the K80 Cashless Automated Teller Machine.

2. Open the K80 using the key.

3. Open a new cleaning card packet.

4. Insert and remove card several times. Use both ends of the card.

5. Throw away when finished.

G. Cleaning a SAM in a K80

1. This is the K80 Cashless Automated Teller Machine.
2. Open the K80 using the key.
3. Locate the power supply at the rear of the unit.
4. Turn off the black, power switch followed by the red, master switch. Then unplug the K80 power cord.
5. Locate the motherboard.
6. Unplug the (13) wires and cables, noting each location.
7. Remove and retain the (4) screws and washers. Try using tweezers or needle nose pliers to help you handle the small hardware.
8. Carefully remove the motherboard only touching the green sides.
9. Look into the opening and locate the SAM holder. There should only be one SAM in the K80.
10. There is an arrow marked on the top of each holder. Slide the holder in the direction of the arrow. It will release and spring upwards. Be careful not to break the delicate spring.
11. Remove the SAM, noting its orientation.
12. Wipe the gold contact points with a lint-free cloth.
13. Place the SAM into the holder, noting its orientation. Press down and slide forward to lock.
14. Line up the motherboard with the screw holes on the K80.
15. Insert in the (4) screws and washers.
16. Replace all (13) cables and wires. Do not force, the connectors are delicate.
17. Plug in the K80 power cable and turn on the red, master switch followed by the black, power switch.
18. Close the K80 and remove the key.
19. Test the unit by inserting a NC card and checking your balance. If balance displayed, you are done troubleshooting.

H. Realigning the K80 Card Reader

1. This is the K80 Cashless Automated Teller Machine.
2. Open the K80 using the key.
3. Locate the power supply at the rear of the unit.
4. Turn off the black, power switch followed by the red, master switch. Then unplug the K80 power cord.
5. The card reader is located behind the front panel.
6. Locate the (4) nuts and washers and loosen them using a 9/32″ nut driver, wrench or socket.
7. This will allow you to shift the reader around for better placement.
8. Test the reader by inserting and removing a Navy Cash card.
9. Once aligned, tighten the (4) nuts.
10. Plug in the K80 power cable and turn on the red, master switch followed by the black, power switch.
11. Close the K80 and remove the key.
12. Test the unit by inserting a NC card and checking your balance. If balance displayed, you are done troubleshooting.

I. Stuck Card

1. This is the K80 Cashless Automated Teller Machine.
2. Open the K80 using the key.
3. Locate the power supply at the rear of the unit.
4. Turn off the black, power switch followed by the red, master switch. Then unplug the K80 power cord.
5. The card reader is located behind the front panel.
6. Locate the (4) nuts and washers and the (2) ribbon cables.
7. Remove and retain the (4) nuts and washers using a 9/32″ wrench or socket and unplug the (2) ribbon cables.
8. Remove the card reader.
9. Locate the retractor dial on the card reader and dial the card out.
10. In severe cases you may need to remove the cover from the reader.
11. Reinstall the card reader.

12. Replace the four (4) nuts and washers.

13. Before tightening, align card reader by inserting and removing a NC card.

14. Once aligned, tighten the (4) nuts.

15. Plug in the (2) ribbon cables.

16. Plug in the K80 power cable and turn on the red, master switch followed by the black, power switch.

17. Close the K80 and remove the key.

18. Test the unit by inserting a NC card and checking your balance. If balance displayed, you are done troubleshooting.