Please read manual before operating your JorVet Infusion Pump

Jorgensen Laboratories
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800-525-5614
Introduction

Thank you for choosing the Jorvet infusion pumps J1060. Please read this manual before you use the pump. Save this manual for troubleshooting.

Warranty

TWO year limited warranty for infusion pump. ONE year warranty on the finger cassette, drip counter and power cord. Any pump or part damaged will not be covered by warranty.

Safety precautions

1. Trained technicians or veterinarians who are familiar with the use of this product should only operate the pump.

2. Do not use any other power supply than the power cord that comes with the unit.

3. Dispose of battery in accordance with your local regulations.

4. Don’t tear or break outer sheath of battery. This may cause chemical burning.

5. Hold the power plug firmly when inserting or removing. Do not touch power plug with wet hands.

6. Do not share the same electrical outlet with other devices.

7. Check unit regularly to be sure all components are working properly.

8. Contact Jorgensen Laboratories if there are any problems with the unit.
Chapter Overview

Application

Use to infuse IV fluids and medication to patients.

Technical specification

<table>
<thead>
<tr>
<th>Product name</th>
<th>Jorvet Infusion pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>J1060</td>
</tr>
<tr>
<td>IV set requirement</td>
<td>10, 15, 20, or 60 drops/ml (standard PVC with outer diameter: 3.4mm - 4.5mm) Abbott, Baxter and Hospira are recommended.</td>
</tr>
<tr>
<td>Pump type</td>
<td>Peristaltic finger pump</td>
</tr>
<tr>
<td>Control method</td>
<td>Drip count method</td>
</tr>
<tr>
<td>Air detection method</td>
<td>Ultrasonic (8 levels of sensitivity)</td>
</tr>
<tr>
<td>Drip detection method</td>
<td>Infrared photoelectric beam</td>
</tr>
<tr>
<td>KVO (keep vein open)</td>
<td>1ml/h (The lowest infusion rate to keep vein open)</td>
</tr>
<tr>
<td>Maximum flow rate</td>
<td>999.9ml/h (10, 15, 20-drops/ml IV set) 200ml/h for 60 drops/ml IV set)</td>
</tr>
<tr>
<td>Drip rate accuracy</td>
<td>±2%</td>
</tr>
<tr>
<td>Flow rate accuracy</td>
<td>±5% (using high quality IV set. Continued infusion over 100ml can achieve precise administration.)</td>
</tr>
<tr>
<td>Occlusion pressure</td>
<td>40~140Kpa, 8 levels of sensitivity available</td>
</tr>
<tr>
<td>Volume infused display</td>
<td>0-9999ml</td>
</tr>
<tr>
<td>Volume limit setting</td>
<td>1-9999ml</td>
</tr>
</tbody>
</table>

Types of Alarm are: Air in IV line, door open, occlusion, pause overtime, infusion complete, abnormal drips, leakage, tube slope, low battery, damaged battery, empty, abnormal drip detector, finger pump cassette abnormal, volume for adjustment is too low, and interruption of power supply.
Product specification

**Power source**: ≤25VA

**Peristaltic finger pump**: Detachable

**Tube clamp**: Detachable

**Display**: Color LCD with high backlight

**Power source**: AC 100V～, 50Hz/60Hz (Do not share the same outlet with other devices)

**Battery**: Rechargeable Ni-Hydrogen battery, DC12V, 2000mAh. (Discharge time is over 4 hours at flow rate of 30drops/min or 90ml/h)

**Classification**: Internal power supply, Type CF, IPX4

**Net weight**: 2.1 KG (4.5lbs)

**Dimension**: 5 ½” (w) x 7” (d) x 9” (h)

Function descriptions

1. J1060 can control the flow rate automatically.

2. The normal IV sets (10, 15, 20, 60drops/ml) are applicable. (We suggest using high quality brands such as Abbott, Baxter or Hospira).

3. The battery supply system guarantees continuous infusion when moving the patient or if the AC power is interrupted. (The discharge time is over 4 hours below the flow rate of 30drops/min or 90ml/h).

4. The pump has an “empty” function, which can complete the infusion automatically.

5. Flow rate can be selected between “ml/hr” and “drop/min”.

6. The finger pump cassette is detachable and should be washed in warm water. Dry thoroughly before next use.

7. The tube clamp is detachable and can be washed in water. Dry thoroughly before next use.

Front view

**LCD:** To display working parameters.

**Key Pad:** easy to set parameters

**Power indicator:** indicates if unit is running on electrical or battery power. Also indicates when battery charging.

**Handle:** Easy grip.

**Alarm light:** Large and easily seen from a distance.

**Pump door:** Pull to open door

Infusion piping component

**IV guide slot**

**Finger pump cassette**

**Air detector**

**Occlusion sensor**

**Tube clamp**
**LCD**

**Adjust mode:** To set adjustment value.

**Select IV set:** can use 10, 15, 20 and 60d/ml

**Alarm information window**

**Flow rate setting:**
Two modes to set: drop/min and ml/h

**Volume setting window:** Set volume limit setting and display the volume infused

**Confirm key:** To confirm and store the data

**Start/Stop:** Button will illuminate when pump is turned on.

**Plus or minus:** Press (+) to increase or (–) to decrease data.

**Clear:** Press to clear the alarm or the setting parameter to zero.

**Power indicator:** When ✂️ illuminates, power is supplied by battery. When ⚡ illuminates, power is supplied by AC.

**Power switch**

**Drop/min**

**ML/hour**

**Total Volume infused display**

**Volume limit setting**

**Empty-mode key:** Press it to start or stop the empty-mode when setting infusion volume.

**Silence switch:** Press the key to start or stop silence when setting data.

**Cursor:** To switch the setting windows of the LCD, and choose the parameter desired to be set.

**Purge:** press to start purge, release to stop.
Rear view

**Drip detector**: Place on magnetic indicator when not in use.

**IV pole knob bolt**

**Knobs to adjust**
The Occlusion and Air sensitivity and Alarm volume

**Auto Adjust**: Press to adjust the IV set automatically.

**AC power switch**: Class II, type CF, Drip-proof design

**Drip detector receptacle**

**Remove the screw** and cover to change the battery.

**AC Power receptacle**: Class II type CF, Drip-proof design

**Bottom components**

**Receptacle** for battery

**Battery**

**Fixation port on bottom**: Threaded port is to mount pump on a permanent base.

Assembly and preparation for use

Packaging list

When the package is open, make sure the following items are included.

1) Infusion pump ...............1
2) Drip detector ...............1
3) Knob bolt ..................1
4) Power cord..................1
5) Operator Manual..........1
6) Quick guide...............1
Assembly

Set knob bolt

Attach knob bolt firmly to the pole holder that is on the rear of the J1060.

**Note:** If the knob bolt is not used, it should not be detached from the pump so it will not be lost.

Set drip detector

1) Drip detector plugs into the receptacle on the rear of the unit.

**Note:** If the drip detector is not properly connected, it will show “Err Err”.

2) When the drip detector is not in use, store on the point shown on the side of the unit.

Chapter III Operation Procedures

Preparation

The battery should be charged when first used or if it has been stored for a long period of time.

1. Connect Power cord to AC power receptacle and turn power on in back of unit. The (-) will be pushed in for power.

2. Press “ ” over 0.5 second to turn on the pump. AC power icon “ ” will illuminate and the battery icon “ ” will flash as it begins to charge.

3. Press “ ” for 1 second to turn pump off, on the front of unit only.

4. Flashing “ ” icon shows the unit is in charge mode. Approximately 16 hours later the indicator battery icon “ ” quits flashing, indicating the
battery is fully charged.

Installation

Install the pump

1. To attach the infusion pump firmly on the IV pole, use the knob bolt and pole holder on the back. Place IV pole through the opening and tighten knob bolt firmly. (Dropping pump will void the warranty.)

2. Connect power cord to outlet, turn switch on in rear on, press “POWER” for 0.5 seconds. The AC “↙” icon lights up indicating the power supply is connected.

3. The pump will perform a self-check automatically after unit is turned on. The self-check includes:

   A. Indication that the battery is in working condition, drip detector is properly attached to drip chamber, and the IV set has been placed in unit properly. If there is a problem, the unit will indicate error codes (such as AIR, LOW BATTERY, etc.)

4. After turning on, the unit will check battery function. If the battery is low, it will recharge automatically and “()){” icon will flash.

   Note: If the machine is not connected to the AC power or cut off from the AC power, it will change to battery power automatically. The “'){” icon will illuminate. If “↙” icon flashes and alarms, press the “clear button” to turn off the alarm.

Install IV set

(1) After priming the IV set, close roller clamp.

Turn the roller clamp left to close it

(2) Press drip chamber of IV set gently between fingers to fill as shown picture.
**Note:** If the fluid chamber is more than $\frac{1}{2}$ full the drip detector will not be able to count the drips accurately.

Open door on the right side of the pump, thread the line from top of the pump to the bottom. You must hold latch on the bottom open to insert the IV line.

(3) Close the pump door.
(4) Release the roller clamp;

**Note:** Make sure that the fluids are not dripping in the chamber at this time. If there is leakage, check insertion of the line inside the pump.

**Install the drip detector**

Install the drip detector following these instructions:

(1) Place the drip detector on upper $\frac{1}{3}$ point of drip chamber, ensure detector is higher than the fluid level and lower than the drip stomata.

(2) Keep drip chamber horizontal. If the chamber is sloping too much the pump will not be able to accurately count drips and will alarm.

(3) Unit may also alarm if drops are on the side of the chamber or too much moisture build up within the chamber. Drain chamber and refill $\frac{1}{4}$ to $\frac{1}{3}$ full.
Select the type of IV set

(1) Press “ ” or “ ” to set the cursor at “ ”. When the “ ” icon flashes, the proper IV setting can be selected.

(2) Press “ ” or “ ” to choose the type of IV set, “ 10, 15, 20 or 60 DROP/ML ”. Press “ ” to continue.

**NOTE:** If the IV set selection is incorrect, it will affect the accuracy. Please be sure to choose the appropriate IV set selection.

Set the adjustment value

**Warning:** To make sure the infusion is accurate we recommend selection of high quality IV sets, such as Abbott, Baxter or Hospira. (Outer diameter is 3.4mm - 4.5mm). If you choose an IV set that doesn’t meet the required diameter, it will affect the accuracy.

<table>
<thead>
<tr>
<th>Reason for errors</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The dimension of IV sets among some brands is too large.</td>
<td>The IV set must be adjusted to your specific IV set. Please refer to the “Auto-adjustment for IV set” or “Manual-adjustment for IV set” to correct the IV set adjustment value.</td>
</tr>
<tr>
<td>2. Infusing fluids with a higher viscosity.</td>
<td>The tension of high viscosity fluids will be too large and the drops will beropy. We recommend when you infuse fluids of high viscosity, check their corresponding adjustment value on the value sheet and make the adjustment. <strong>Note:</strong> Most fluids are fairly low viscosity and you do not need to make changes in the adjustment value.</td>
</tr>
</tbody>
</table>
3. Distortion of IV tubing due to long term use

1) If the IV set has been used for 5-6 hours, we recommend moving IV tubing down or up approximately 20cm to a new position along the finger cassette.
2) Replace IV sets after 20 hours of use for best results.

<table>
<thead>
<tr>
<th>Kinds of fluids</th>
<th>Adjustment value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard (common fluids)</td>
<td>0%</td>
</tr>
<tr>
<td>Dextrose (10%)</td>
<td>+5%</td>
</tr>
<tr>
<td>Dextrose (50%)</td>
<td>+10%</td>
</tr>
<tr>
<td>TPN</td>
<td>+5~10%</td>
</tr>
<tr>
<td>TPN+ fat-soluble vitamin</td>
<td>+10~20%</td>
</tr>
</tbody>
</table>

**Adjustment value for viscosity difference in fluids. (only for reference)**

**Calibration:**

1) The total adjustment value = IV set adjustment value (3%) + consistence fluid adjustment value +5% (example of 10% Dextrose). Therefore the total adjustment value needed would be 8%.
2) Press “” or “” on cursor [ADJUST MODE], the [ADJUST MODE] flashes;
3) Press “” or “”, input + 8%, then press “CONFIRM”.
This will assure that the pump will be delivering fluids accurately.

**Warning:** If you choose an IV set which doesn’t meet the diameter requirements, or if you haven’t set the adjustment value accurately for the specified fluids, you risk inaccurate infusion of the patient.

**Set the flow rate and volume limit**

(1) **Flow rate setting:** press“ ” or “ ” to set the cursor at
Please press “+” or “-” to change the rate of infusion. To increase the rate of infusion, press “+”, to “10”, then press “-” or “-” to position the cursor on the digit you want to change (if you position on the 1 on the number 10 it will increase the rate in 10’s). Press “CONFIRM” to then move down to the total volume limit setting.

(2) **Volume limit setting**: press “-” or “-”, to set the cursor at “mL LIMIT”. The “mL LIMIT” will flash, input the total volume amount desired. (Same method as above.) To complete the infusion automatically, press the “empty mode”.

(3) **Setting Range**

<table>
<thead>
<tr>
<th>IV set</th>
<th>ML/H</th>
<th>Drops/Min</th>
<th>Volume Limit Setting Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 drops/ML</td>
<td>1.0 ~ 999.9</td>
<td>1.0 ~ 166.6</td>
<td>1-9999ml</td>
</tr>
<tr>
<td>15 drops/ML</td>
<td>1.0 ~ 999.9</td>
<td>1.0 ~ 249.9</td>
<td>1-9999ml</td>
</tr>
<tr>
<td>20 drops/ML</td>
<td>1.0 ~ 999.9</td>
<td>1.0 ~ 333.3</td>
<td>1-9999ml</td>
</tr>
<tr>
<td>60 drops/ML</td>
<td>1.0 ~ 150.0</td>
<td>1.0 ~ 150.0</td>
<td>1-9999ml</td>
</tr>
</tbody>
</table>

(4) **Empty infusion mode. (The model with the drip counter has this function)**: When you are in the “Volume Limit Setting”, press the “-” to infuse the entire bag of fluids. It will flash “-” to indicate empty infusion mode. Press “CONFIRM”, and press “+” to start the infusion. The pump will now automatically infuse the entire bag.

(5) **Volume Infused Display**: The volume infused display cannot be changed, only set back to ZERO. Press “-” or “-” to reset the “mL TOTAL”, press and hold the “CLEAR”, to reset the data to “0”. Then press button to verify.
Start infusion

(1) Check that all settings are correct.
(2) Make sure there is no air in the IV line.

(3) Press “START” to start infusion. At this time the LCD “ Indicates the pump is infusing.

Attention: Check to see if the drip detector flashes at the same time the fluid drops. If you find the drip detector doesn’t flash at the same time, check detector to be sure it is properly installed.

Finish infusion

(1) When the “volume infused” display reaches volume limit setting, the pump will give a “FINISH” alarm to notify the infusion is completed. At this time the pump goes into a KVO mode, where a minimum flow rate is maintained to prevent the line from occluding.

(2) Press “STOP” to stop KVO. If you need to continue the infusion, input the volume limit setting again or press “CLEAR” to clear the current volume limit. Press “CONFIRM” to continue. Confirm all the parameters are set properly, then press “STOP” to restart your infusion.

Power off

When the infusion is finished, remove the device as follows:

(1) Press “STOP” to stop the pump.

(2) Press “POWER” for one second to turn power off on unit.

(3) Close the roller clamp and open door, remove IV tubing.
Other operations

Pause/Restart

a) Pause infusion

Press the “START STOP” button during infusion, the pump will pause.

b) Restart

Press the “START STOP” button again. Pump will then restart the infusion.

Note:
If the pump is paused for more than 2 minutes Error 3 will alarm. Press “CLEAR” to stop alarm and keep pump in pause mode.

3.9.2 To continue with another bag of fluids:

1. Make sure the IV set is connected correctly.
2. Move the IV tubing up or down 20cm to reposition over the finger cassette. This will prevent distortion of the tubing.
3. Reset your volume limit if necessary.
4. Press “START STOP” to restart infusion.

Perform purge

This function will remove air in the line and push fluids past the air sensor. If too large, disconnect tubing from patient and flush air from line. This function can also be used for a bolus of fluids.

Please follow the steps below:

1. Press “START STOP” and hold button to start the purge mode.
2. Purge Rate: 10, 15, 20 drops/ml IV set purge rate is 600ml/h; 60drops/ml IV set purge rate is 150ml/h.

NOTE: Purged volume is not calculated into total volume infused.
Auto-adjustment for IV set

To make sure the infusion is accurate we suggest using high quality PVC IV sets. Abbott or Baxter IV sets are the most accurate. (The outer diameter is 3.4mm-4.5mm).

Because there is some dimension warp on different brands of IV set, please select 0.9% standard saline or the pure water for adjustment. Follow steps below:

1. Test with 200ml (or 250ml) saline or pure water.
2. Close the roller clamp of IV set, make sure that no leakage occurs.
3. Insert IV set into the pump with the drip detector in place, open the roller clamp.
4. Connect to AC power and turn on the pump.
5. Press the “AUTO ADJUST” key on the back panel so the indicator light illuminates, and flashes.
6. Press “” or “” on cursor at and check if the type of IV set selected is correct.
7. Press “” or “” on cursor at setting the flow rate 200ml/h. (We suggest setting a common flow rate)
8. Press “” or “” on cursor at setting the volume limit to 200ml (or 250ml).
9. Press “” to start the function of auto-adjustment. Check the indicator light on the drip sensor to make sure it flashes at the same as the fluids drop.
10. When it is running the auto-adjustment procedure, will flash to show it is in the process of adjustment. When 200ml (or 250ml) of saline or water has infused completely, the pump will stop automatically and give alarm.
11. The LCD will indicate “FINISH” after auto-adjustment is established successfully. “ADJUST MODE” will flash and indicate the adjustment value. You can press “CONFIRM” to store the value.

12. If the adjustment value is incorrect, the pump will stop and the LED will indicate “Err” showing failure of the adjustment. Turn off the pump and restart the adjustment process.

13. Make sure the IV bag contains 200 – 250mls and repeat steps above until the correct adjustment value is obtained.

14. While “ADJUST MODE” is flashing and the adjustment value (automatically calculated by system) is displayed, press “CONFIRM” and store results to memory which will be used for the default setting the next time the unit is powered on.

**NOTE:** If the hospital uses many types of IV sets, they must record and change the settings to ensure infusion accuracy.

### Manual-adjustment for IV set

If not using the Auto-adjustment method for these IV sets, you can manually change the value as detailed below:

1. To make sure the infusion is accurate the IV sets of different brands or type must be used with saline or water. The flow rate is best done at a common infusion rate. Use an average flow rate of 125ml/h. This is considered a common infusion rate and will insure a very accurate deliver of fluids.

2. **After more than 50ml is infused, start the calculation for adjustment.**

3. The formula for adjustment as below:

\[
\text{Adjustment Value(\%)} = \left(\frac{\text{Volume Infused Display} - \text{Actual Volume Infused}}{\text{Actual Volume Infused}}\right) \times 100\%
\]

Note: “Volume Infused Display” is for “mL TOTAL”, actual volume infused needs to be collected and measured. The adjustment for IV set should be in the scale of -30%~ +30%.
Occlusion valve adjustment

Use a very small Phillips screwdriver to rotate the potentiometer located on the back panel (as shown in the right picture). Turn the value (40Kpa~140Kpa, divided into 8 levels sensitivity) clockwise to increase sensitivity, counter-clockwise to decrease sensitivity. Small adjustments of ¼ to ½ turn is all that is normally needed.

Sound and Volume adjustment

The alarm sound volume can be adjusted by using a small screwdriver to Rotate clockwise to increase volume or counter-clockwise to decrease the volume. (Shown in picture to the right.)

You can manually turn the alarm off 📣 on the front panel. If the alarm is not manually turned back on, it will automatically reset after 3 minutes.

Explanation of toggle switch

Five toggle switches are provided at the bottom of the unit (refer to the picture below). A technician trained to repair these units should only change these switches.

<table>
<thead>
<tr>
<th>Switch No.</th>
<th>Name</th>
<th>ON</th>
<th>OFF</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Work model</td>
<td>Engineering mode</td>
<td>User mode</td>
<td>Factory setting: OFF</td>
</tr>
<tr>
<td>2</td>
<td>Work model</td>
<td>Engineering mode</td>
<td>User mode</td>
<td>Factory setting: OFF</td>
</tr>
<tr>
<td>3</td>
<td>Work model</td>
<td>Engineering mode</td>
<td>User mode</td>
<td>Factory setting: OFF</td>
</tr>
<tr>
<td>4</td>
<td>Work model</td>
<td>Engineering mode</td>
<td>User mode</td>
<td>Factory setting: OFF</td>
</tr>
<tr>
<td>5</td>
<td>Work model</td>
<td>Engineering mode</td>
<td>User mode</td>
<td>Factory setting: OFF</td>
</tr>
</tbody>
</table>
Battery Supply - The pump will automatically switch to battery supply and the indicator ‘[ ]’ will illuminate if:

(1) The AC power supply is cut off.
(2) AC power switch is turned off.

Note: When the battery is low, “[LOWBATT]” will flash and alarm. (The device stops infusion after 27 minutes and will turn off automatically after 30 minutes). Connect the AC power so the device will continue working and recharge the battery automatically.

Trouble Shooting

Alarm notice (please pay attention on alarm code)

<table>
<thead>
<tr>
<th>Alarm code</th>
<th>Probable causes</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="AIR" /></td>
<td>No IV set installed or IV set not properly installed</td>
<td>Check IV set and make sure it is mounted properly for air detection.</td>
</tr>
</tbody>
</table>
| ![AIR](image) | Air in tube | 1. Flush fluids through IV line until the air bubble is out of the line.  
2. Tap on tubing to expel air back into drip chamber.  
3. Reinstall the tubing and close the pump door. Continue infusion. |
| ![DOOR](image) | Occlusion in IV bag inlet | Check the air inlet of solution bag and make sure it isn’t blocked. |
| ![DOOR](image) | Alarm not cleared | Press“CLEAR” to clear the alarm. |
| ![OCC](image) | Pump door is open. | Close and lock the pump door. |
| ![OCC](image) | occlusion in IV tubing | Make sure there are no crimps in the IV line. |
| ![OCC](image) | IV Tubing crimped |  
Roller clamp is closed | Open the roller clamp. |
<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venipuncture needle or catheter site is blocked.</td>
<td>Check to see if the needle or catheter site is blocked.</td>
</tr>
<tr>
<td>The IV set is too hard or too large.</td>
<td>Replace the IV set or lower the sensitivity of occlusion.</td>
</tr>
<tr>
<td>Battery voltage is low.</td>
<td>When operating on battery, <img src="image" alt="LOW BATT." /> indicates the battery voltage is low. Connect to AC power and turn switch in back to (-) on. Replace with same type battery available through Jorgensen Laboratories.</td>
</tr>
<tr>
<td>2. Means battery failed</td>
<td>If connected to AC power supply, <img src="image" alt="LOW BATT." /> indicates that the battery has failed. Check the connection of the battery. Replace with same type battery available through Jorgensen Laboratories.</td>
</tr>
<tr>
<td>Infusion finished</td>
<td>1. Change fluid bag and reset the parameters. 2. Once infusion is finished, remove the IV set.</td>
</tr>
<tr>
<td>Auto-adjustment finished</td>
<td>Turn off the machine and restart. (The <img src="image" alt="ADJUST MODE" /> flashes)</td>
</tr>
<tr>
<td>Motor rotation abnormal</td>
<td>Please stop use and contact Jorgensen Laboratories.</td>
</tr>
<tr>
<td>Drip detector disconnected</td>
<td>1. Check the drip detector for proper connection; make sure it is mounted properly. 2. Check to see if connector is broken.</td>
</tr>
<tr>
<td>Error</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td><strong>Err3</strong></td>
<td>Pause overtime (more than 2 minutes)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Err4</strong></td>
<td>Leakage</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Err5</strong></td>
<td>No drops detected</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Err6</strong></td>
<td>Pump Cassette not running</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Err7</strong></td>
<td>Pressure detection is abnormal.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Err8</strong></td>
<td>Error IV type setting</td>
</tr>
<tr>
<td><strong>Err9</strong></td>
<td>Infusion abnormal</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ErrA</strong></td>
<td>Abnormity of sound</td>
</tr>
</tbody>
</table>
Adjustment finished, please restart.  
Turn off and restart

The volume limit for the auto-adjustment is too low  
Refer to the manual for proper level of adjustment.

Auto-adjustment failed, please restart.  
If the pump alarms “OPEN”, “OCCL”, “Pump not running” in the process of auto-adjustment, turn off and restart the machine. Reset the auto-adjustment accordingly.

<table>
<thead>
<tr>
<th>Other failures</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Checking points</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press “POWER” but won’t turn on.</td>
<td>See if the battery is installed properly.</td>
<td>Reinstall the battery properly.</td>
</tr>
<tr>
<td></td>
<td>Check the AC power for proper connection.</td>
<td>Connect to the AC power and switch on. (-)</td>
</tr>
<tr>
<td>Failed to infuse, strange sound emitted from finger cassette.</td>
<td>Finger cassette.</td>
<td>Remove cassette and clean the components.</td>
</tr>
</tbody>
</table>
| IV set installed and no air in tube, but “AIR” still flashes. | Make sure the IV set is mounted properly. | 1. Press “CLEAR” to clear the alarm.  
2. Mount the IV set correctly.  
3. Make sure the line is not distorted. |
## Daily check

<table>
<thead>
<tr>
<th>Checking items</th>
<th>Checking Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check for damage.</td>
<td>Check the power cord</td>
</tr>
</tbody>
</table>
| Check the finger pump cassette. | 1. Open pump door and push the tube clamp to the left.  
2. Remove the finger pump cassette and rotate the gear with fingers to check for proper rotation. |
| Performance of Air detector    | 1. When turning on pump, the “AIR” will flash if the IV set is not charged and properly installed.  
2. Shut door, press “CLEAR”, the “AIR” flash will stop. |
| Performance of door sensor     | 1. Press “POWER” for 1 second to turn on pump.  
2. Open the pump door, “DOOR” will flash. Shut the door and the flash will stop. |

**NOTE:** If above problems can’t be solved, please stop use and call Jorgensen Laboratories.
Chapter IV Maintenance

Weekly Maintenance

Clean the cover with a soft cotton cloth immersed in a neutral diluted detergent.

Air detector

Gently wipe the detector surface with a damp cotton cloth and dry well. If damaged, it will cause failure of air detection.

Finger pump cassette

Remove the finger pump cassette and wash with a mild detergent. Dry and place back in unit.

Drip detector

1) Wipe the drip detector with a damp cloth.

2) Dry and replace in unit.

Battery

Completely use power in battery before charging again.

When J1060 has been stored for a long time, the battery will require recharging.

1) The battery will require recharging every 6 months.

2) Normal battery life is 2 years.

3) For safety, replace with the specified type of battery.
Note: Disposable of battery should be handled in accordance with local ordinances, recycled if possible.

Recharging the battery

If the “low” battery alarms, please connect to AC power and turn on. (-) The pump will recharge automatically. If low battery alarms or the battery has been stored for a long time, recharge:

1) Press “POWER” 0.5 seconds to turn on power. When “√” is lit, “unded” light will start flashing indicating the battery is charging.

2) Press “POWER” for 0.5 seconds to turn off power, the battery will continue to charge. In approx 16 hours, “unded” stop flashing, battery will be fully charged.

Replacement of battery

1) Loosen screw and remove battery cover. Remove battery from pump.
2) Replace battery, attach battery cover. Make sure the battery cover does not crimp lead wire.

Note: Store battery at room temperature.

Periodic replacement of some items

The following parts should be replaced periodically. The replacement time may be shortened depending on maintenance.

<table>
<thead>
<tr>
<th>Parts</th>
<th>Recommended replacement period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery</td>
<td>2 years</td>
</tr>
<tr>
<td>Finger pump cassette</td>
<td>3 years</td>
</tr>
</tbody>
</table>
Storage

Store your J1060 in the following environment after cleaning.

Ambient temperature: +55°F~ +75°F  Relative humidity: ≤90%

**Do not store J1060 in the following places:**

a) Direct sunshine or under direct bright light.
b) Direct airflow from heater, air conditioner, ventilator or humidifier, etc.
c) Where water can splash or spill on unit.
d) Where chemicals are stored or gases are generated.
e) Where there is excessive dust or vibration.
f) Where the floor is not level.

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**Specifications of JorVet Infusion Pump**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty</td>
<td>2 year limited warranty</td>
</tr>
<tr>
<td>Flow rate</td>
<td>1ml/h-999ml/hr</td>
</tr>
<tr>
<td>Flow rate adjustment</td>
<td>0.1 ml/hr</td>
</tr>
<tr>
<td>Volume infused display</td>
<td>0-9999ml</td>
</tr>
<tr>
<td>Volume limit</td>
<td>0-9999ml</td>
</tr>
<tr>
<td>Purge rate</td>
<td>600ml/h</td>
</tr>
<tr>
<td>IV set requirement</td>
<td>standard 10, 15, 20 drop or micro 60 drop/ml</td>
</tr>
<tr>
<td>Display</td>
<td>color LCD with high backlights</td>
</tr>
<tr>
<td>Occlusion pressure</td>
<td>40kpa-140kpa-8 adjustment levels. 1kpa=0.145psi</td>
</tr>
<tr>
<td>Drip detection method</td>
<td>infrared photo beam</td>
</tr>
<tr>
<td>Power source</td>
<td>110v/50hz</td>
</tr>
<tr>
<td>Battery</td>
<td>rechargeable ni-hydrogen battery DC 12V</td>
</tr>
<tr>
<td>Pumping type</td>
<td>finger pump (detachable)</td>
</tr>
<tr>
<td>Alarms</td>
<td>air, door open, occlusion, pause, infusion complete, abnormal, leakage, tube slope</td>
</tr>
<tr>
<td>Diagnostic alarm</td>
<td>low battery, damaged battery, abnormal drip detector, and abnormal peristaltic finger pump</td>
</tr>
<tr>
<td>KVO (keep vein open)</td>
<td>1ml/h</td>
</tr>
<tr>
<td>Weight</td>
<td>2.1kg (4.5lbs)</td>
</tr>
<tr>
<td>Fluids</td>
<td>most fluids except BLOOD</td>
</tr>
<tr>
<td>Size</td>
<td>5½”(w) x 7”(d) x 9”(h)</td>
</tr>
</tbody>
</table>