



*mini*SED®

**Automated Erythrocyte  
Sedimentation Rate Analyzer**  
SERVICE MANUAL

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## 1. Package Contents

The documents and procedures listed in the following tables are provided by ALCOR Scientific Inc (ALCOR). Only the latest revision of a document is approved by ALCOR.

**NOTE: For information not listed in this document, please refer to the latest revision of the *miniiSED* Operator's Manual.**

### 1.1. Supporting Document Procedures and Instructions:

	<b>Document ID</b>	<b>Description</b>
1	1017-09-018	<i>miniiSED</i> Communication Protocol
2	1017-09-014	<i>miniiSED</i> Unpacking Instructions
3	1017-09-019	Checklist for <i>miniiSED</i> Instrument Return
4	1017-09-021	<i>miniiSED</i> Test Credit Transfer Card Procedure
5	1017-24-003	<i>miniiSED</i> Barcode Alignment Procedure
6	1017-24-008	<i>miniiSED</i> Vacuum Test Procedure
7	1017-09-016	<i>miniiSED</i> Operating Software Upgrade Instructions
8	1017-28-003	<i>miniiSED</i> Bleach Cleaning Procedure
9	1017-28-004	<i>miniiSED</i> Needle Replacement Procedure
10	1017-28-005	<i>miniiSED</i> Pump Tubing Replacement Procedure

### 1.2. *miniiSED* Inspection and Test Documents

<b>Document ID</b>	<b>Description</b>	<b>Type</b>
1017-28-002	<i>miniiSED</i> Service Report	Excel (XLSX)

## 2. When Should Each Document be Used?

### 2.1. *miniiSED* Communication Protocol

2.1.1. To facilitate the setup of *miniiSED* communication with LIS system.

### 2.2. *miniiSED* Unpacking Instructions

2.2.1. Handling of Instrument when taking it out of the box.

### 2.3. Checklist for *miniiSED* Instrument Return

2.3.1. Checklist and instructions on how and what to package with the *miniiSED* if the instrument must be transported or returned for service.

### 2.4. *miniiSED* Test Credit Transfer Card Procedure

2.4.1. If the *miniiSED* must be sent back for repair AND a loaner is issued, this document is used to describe how to transfer the remaining credits purchased from one *miniiSED* to another.

### 2.5. *miniiSED* Barcode Alignment Procedure

2.5.1. Used when a customer reports that *miniiSED*® is not scanning sample tube barcodes consistently or the Barcode Scanner needs to be replaced.

### 2.6. *miniiSED* Vacuum Test Procedure

2.6.1. In the event of replacement of the following parts:

- A. Needle Tip Assembly (112-13-010)
- B. Reading Cell (100-01-001)
- C. Tube, Needle to Reading Cell Sub Assembly (112-13-023)
- D. Tube, Reading Cell to Primary Pump Sub Assembly (112-13-030)
- E. Tube, Peristaltic Pump Sub Assembly (112-13-002)
- F. Primary Pump Assembly (112-13-033)

2.6.2. When checking for presence of leaks in the hydraulic system.

## 2.7. *miniiSED* Operating Software Upgrade Instructions

2.7.1. In the event of operating system software upgrade for the *miniiSED*.

## 2.8. *miniiSED* Bleach Cleaning Procedure

2.8.1. In the event of a recently found clog in the internal tubing of the *miniiSED* and to clear out residual blood from previous tests.

2.8.2. When experiencing “Tail Sensor Calibration” errors repeatedly.

2.8.3. Use this procedure for *miniiSED* analyzers with software version v2.2.5 or earlier. Future versions will have an automated operation for this procedure, called “Deep Clean.”

## 2.9. *miniiSED* Needle Replacement Procedure

2.9.1. When regular maintenance is performed; every 30,000 tests.

2.9.2. Broken, damaged or bent Needle Tip Assembly (112-13-002). This can be caused by misalignment of Needle Assembly

2.9.3. “Unable to Withdraw” errors and it is determined that a blockage is within the Needle Tip Assembly (112-13-002).

## 2.10. *miniiSED* Pump Tube Replacement Procedure

2.10.1. Preventive Maintenance: When the Pump Tubing Maintenance Timer has reached the set number of hours indicating maintenance is required.

2.10.2. When troubleshooting frequent withdrawal errors has determined the Primary Pump tubing is damaged or is not able to sustain a vacuum.

## 2.11. *miniiSED* Service Report

**The Service Report (1017-28-002) contains procedures and tests that are required to be performed at every service, regardless of the problem or failure.**

Must be filled out completely and sent to [techservice@alcorscientific.com](mailto:techservice@alcorscientific.com).

### 3. Assembly Identification Diagrams

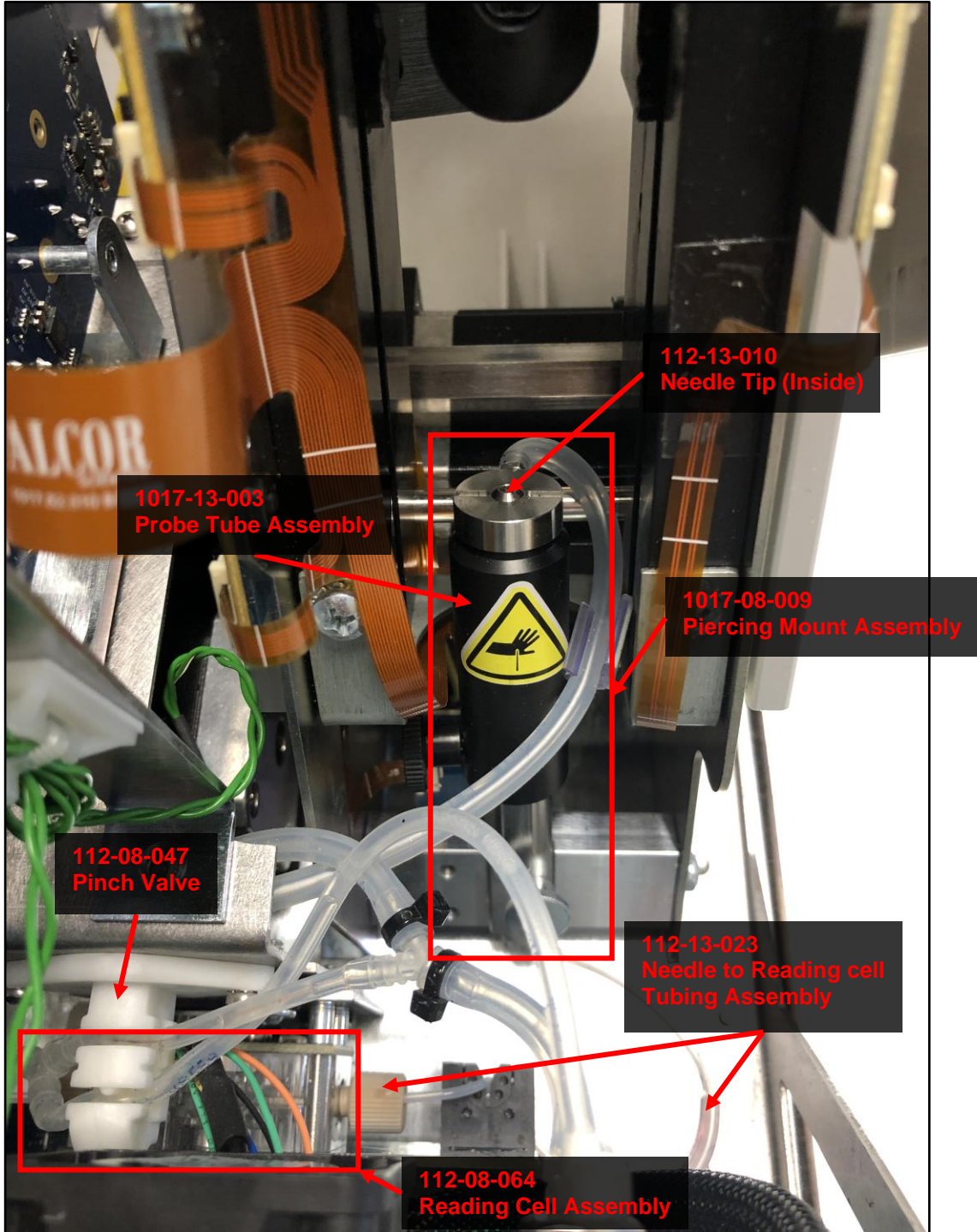


Figure 1: Syringe View-Quick Identification Overview of Assembly Items and Locations

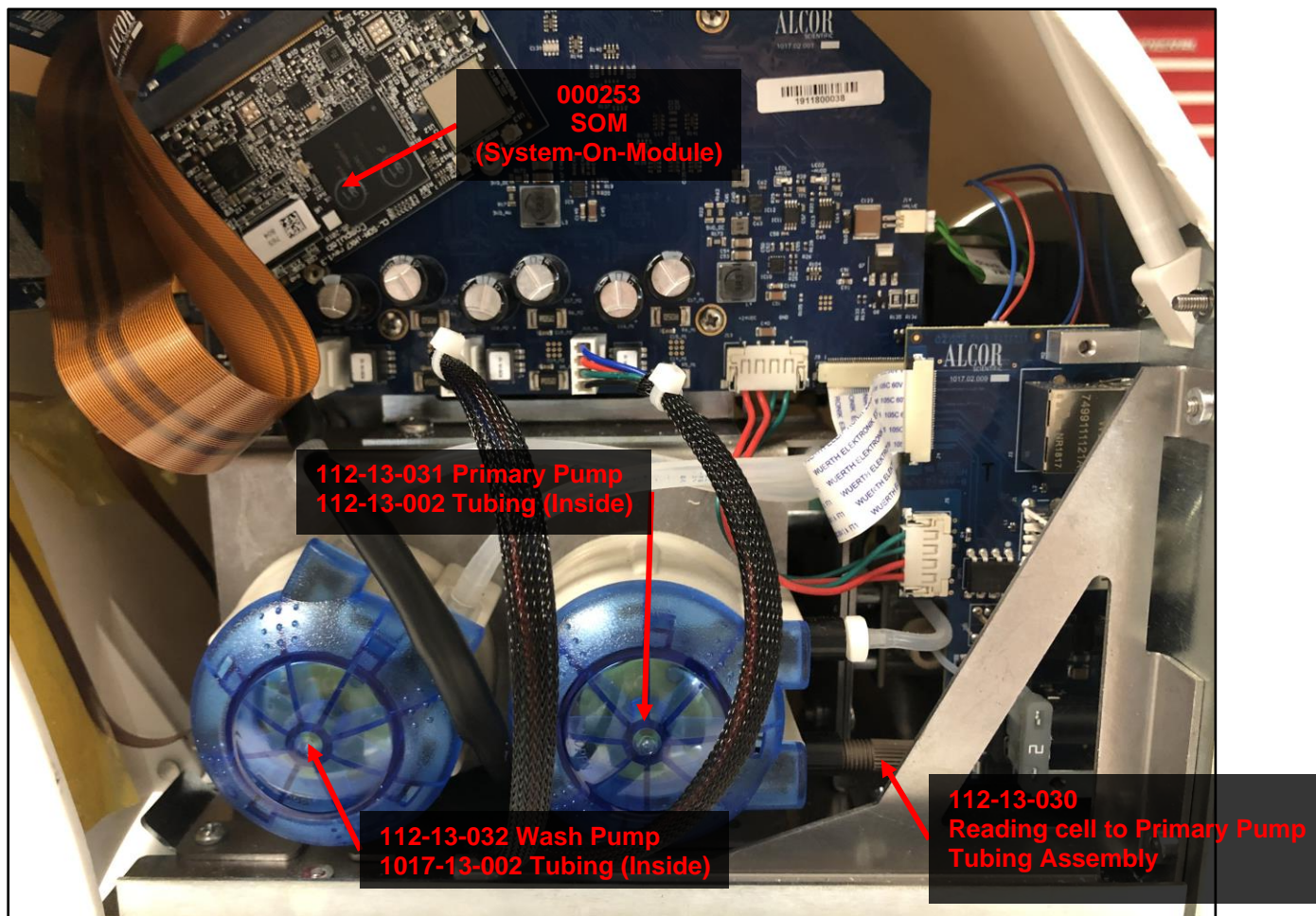


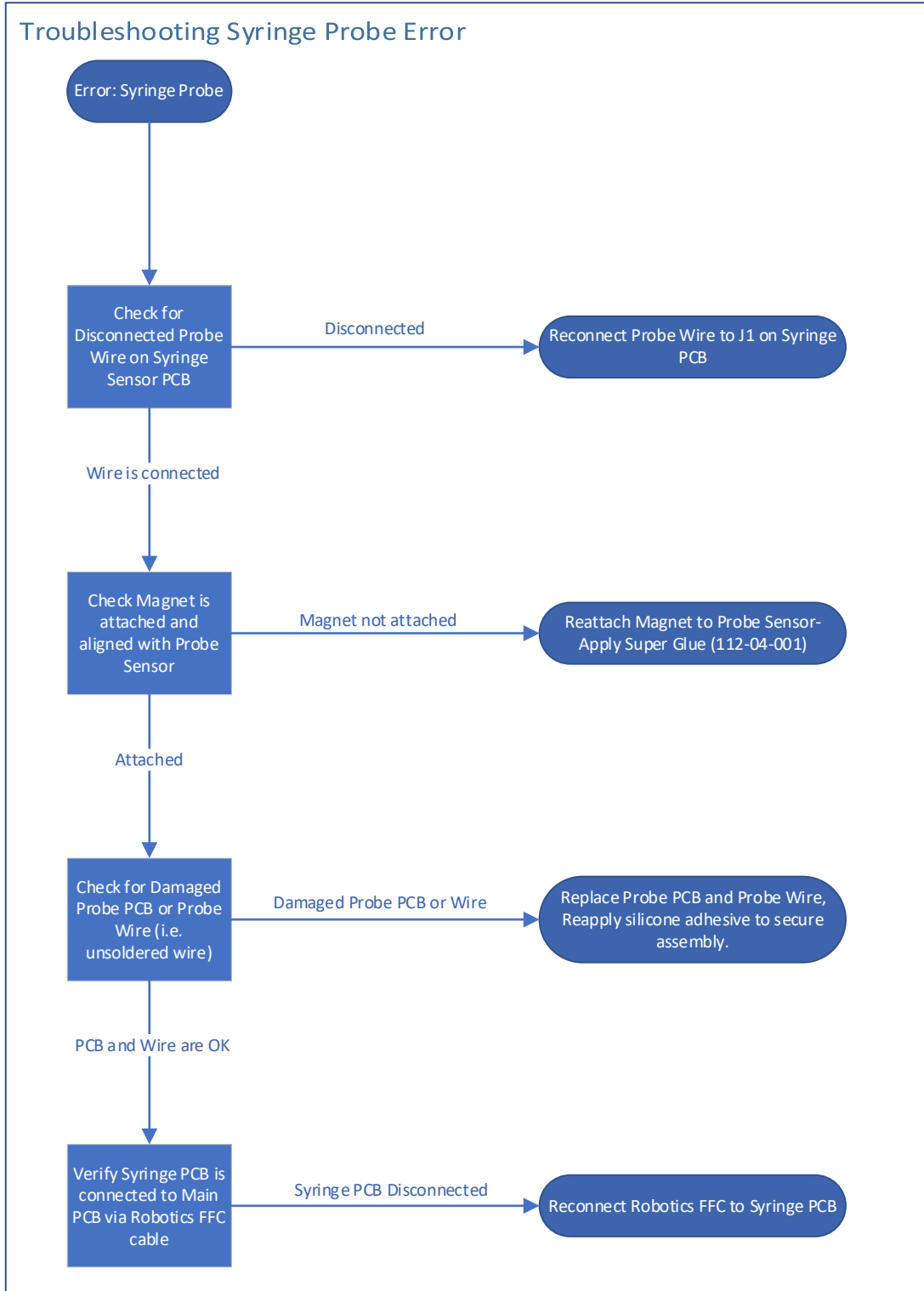
Figure 2: Pump View-Quick Identification Overview of Assembly Items and Locations

#### 4. Troubleshooting Flowcharts

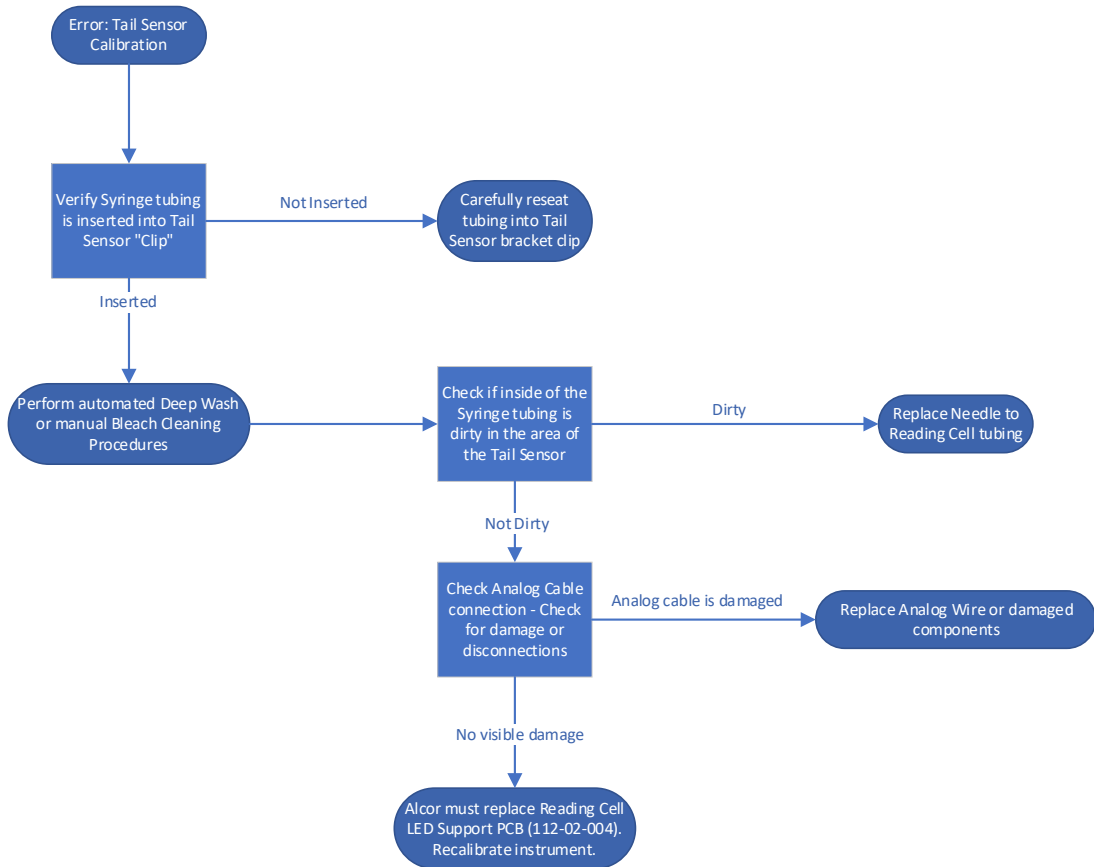
Key Terms:

“PCB” – Printed Circuit Board

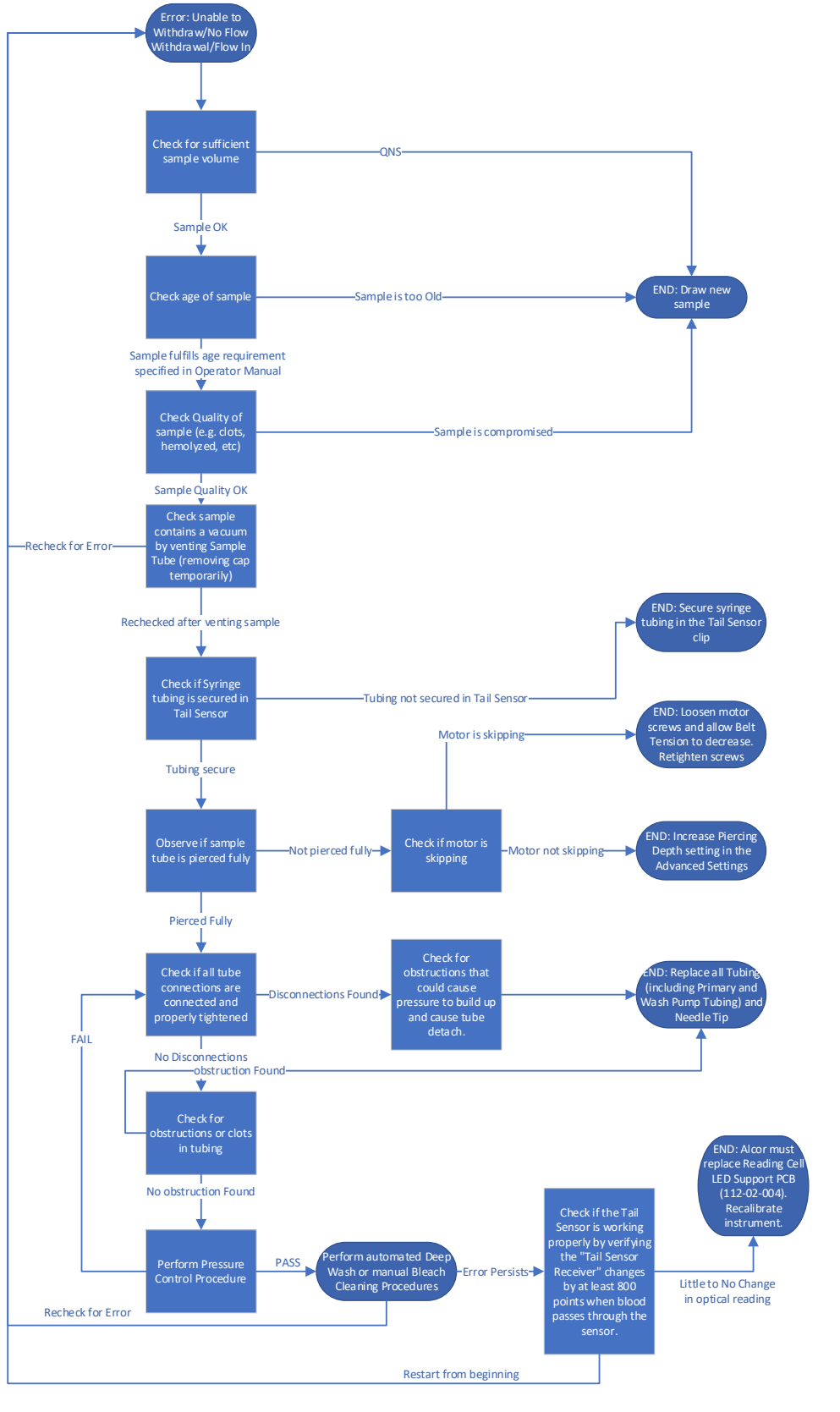
“FFC” – Flexible Flat Cable



## Troubleshooting Tail Sensor Calibration Error



### Troubleshooting No Flow Withdrawal Error



## Technical Support

If you experience any problems while servicing the instrument, please contact ALCOR Scientific Inc. ALCOR Scientific offers Technical Support Monday through Friday 8:30am-5:00pm EST (excluding all USA Federal Holidays). We can be reached by any of the following:

**Toll Free:** (800) 495.5270 (USA Only)      **Fax:** +1 (401) 737.4519

**International:** +1 (401) 737.3774

**Mail:** ALCOR Scientific Inc.  
20 Thurber Blvd  
Smithfield, RI 02917  
USA

**Email:** [techservice@alcorscientific.com](mailto:techservice@alcorscientific.com)



**WARNING:** If the instrument must be returned for service, REMOVE ALL FLUID CONTAINERS BEFORE SHIPPING.



**CAUTION:** Remove any liquid waste or on-board sample tubes and decontaminate before returning for service.

Any instrument containing accumulated blood must be cleaned prior to shipment to the manufacturer. This decontamination is required by Federal Law (Title 48 and 49 of the Federal Regulations) in accordance with the Environmental Protection Agency Regulations for Biohazard Waste Management.



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