SOP Template: Equipment Calibration and Setup Instructions

This SOP provides detailed **equipment calibration and setup instructions** to ensure accurate and reliable operation of machinery and instruments. It includes step-by-step procedures for initial setup, calibration frequency, adjustment methods, verification processes, and documentation requirements. Following this SOP helps maintain equipment precision, reduces operational errors, and supports consistent quality in production and testing environments.

1. Purpose

To define the procedure for correct equipment setup and calibration, ensuring accuracy, reliability, and compliance with quality requirements.

2. Scope

This SOP applies to all personnel responsible for the operation, calibration, and maintenance of production and testing equipment.

3. Responsibilities

- **Operators:** Perform setup and assist in calibration as instructed.
- **Maintenance Personnel:** Perform regular calibration, adjustment, and repair.
- **Quality Assurance:** Verify calibrations and maintain records as required.

4. Definitions

- **Calibration:** The process of configuring an instrument to provide results within an acceptable range.
- **Verification:** The confirmation that equipment is performing as intended.
- **Adjustment:** The modification of equipment settings to achieve desired accuracy.

5. Equipment & Materials

- Equipment to be calibrated
- Calibration standards or reference instruments
- Calibration labels/tags
- Calibration log or electronic tracking system
- Personal protective equipment (if required)

6. Procedure

1. **Initial Setup**
    - Unpack equipment and inspect for visible damage.
    - Verify model and serial number against records.
    - Place equipment in operating location; ensure a stable, clean environment.
    - Connect all required power and data cables as specified in the user manual.
2. **Calibration Frequency**
    - Refer to manufacturer recommendations and internal quality requirements.
    - Record calibration due dates and set reminders or schedule tasks.
3. **Calibration Procedure**
    - Turn on equipment and allow to warm up as required.
    - Use certified calibration standards/references.
    - Access calibration mode, if available, following manufacturer's instructions.
    - Adjust settings (e.g., zero, span) to align with calibration standards.
    - Record all values before and after adjustment.
4. **Verification**
    - Test equipment output after calibration with a known reference.
    - Document any deviations and re-adjust if necessary.
5. **Documentation**
    - Complete calibration log: include date, time, personnel, equipment ID, results, and next due date.
    - Attach calibration label/tag showing date and initials.
6. **Restoration and Clean-Up**

- Return equipment to operational mode.
- Remove any calibration tools or standards.
- Clean and store equipment as necessary.

7. Acceptance Criteria

- Equipment must meet manufacturer's specified accuracy after calibration.
- No abnormal noise, vibration, or error messages after setup and calibration.

8. Records and Documentation

Document	Responsible	Retention Period
Calibration Log	Quality Assurance	3 Years
Equipment Setup Checklist	Operators	1 Year

9. References

- Manufacturer's User Manuals
- Internal Quality Standards
- ISO/IEC 17025: General Requirements for the Competence of Testing and Calibration Laboratories

10. Revision History

Revision	Date	Description	Approved By
1.0	2024-06-12	Initial Release	QA Manager