

Proper installation is critical to the performance, integrity and credibility of your Vibration Monitoring or Information System. A proper installation is dependent on, quality design and planning, quality workmanship, training, and proper configuration/programming of your vibration monitoring system.

Several levels of Field Service are available for your convenience and budget. First time users of vibration monitoring equipment and information systems usually require more assistance than those who have completed several installations. In many cases even experienced customers simply do not have the manpower available during crucial overhaul periods to properly complete system installation without assistance.

The following services are available from our Field Service Group and your requirements may of course be customized depending on your circumstances and requirements.

- Pre-Installation Survey
- Installation Assistance
- Startup and Calibration
- Complete Turnkeys
- Training

### Pre-Installation Engineering

The purpose of the pre-installation engineering is to finalize as many details as possible as to the system installation. A site survey is completed and detailed drawings and documentation are prepared to guide the customer in completing the actual installation.

#### Site (Machine) Survey

1. Machine Survey
2. Available Documentation Survey
3. Transducer Application Review
4. Transducer Installation Methods
5. Junction Box Locations
6. Conduit Layout
7. Monitor Location and Mounting
8. Alarm (Relay) Requirements and Logic
9. Startup Contact Requirements
10. Recorder Output Requirements

### Office Engineering

1. Machine Layout Drawing
2. Transducer Installation Detail Drawing
3. Transducer Bracket Design
4. Bracket Fabrication Drawings
5. Conduit and Instrument Wire Drawings
6. Purchase Order Review
7. Formal Report with Drawings

### Installation Assistance

In many cases customers desire on site supervision during system installation. Our Field Service Technician will supervise and assist in all phases of the actual installation to insure system reliability and integrity.

1. Transducer Installation
2. Monitor Installation
3. Instrument wire terminations

### Startup and Calibration

The most often performed service, Startup and Calibration includes the following after the preliminary installation has been completed by the customer:

1. Transducer calibration check
2. Transducer mounting (gap) check
3. Wire termination Check
4. Monitor Power Up
5. Monitor Configuration and Programming
6. Monitor calibration
7. Baseline machine information
8. Formal Report

### Turnkey

In some cases customers may elect to have a Turnkey performed due to manpower or time shortages. Turnkeys remove almost all planning and manpower requirements from the customer. We will take responsibility for all facets of the installation from transducer installation, conduit and wire, to monitor installation and programming. Extensive documentation packages are included for future reference.

Turnkeys require advanced planning and a prior site visit by one of our Field Service Representatives where your requirements, installation details, electrical and mechanical contractors can be discussed.

The basic steps to complete a turnkey are:

1. Site Visit
2. Preparation of Bid Documents
3. Purchase Order
4. Preliminary Design Documents
5. Electrical Work (Conduit, J-Boxes and Wire)
6. Machine Shutdown
7. Mechanical Work (Machining/Drill & Tap)
8. Transducer Installation
9. Monitor Installation
10. Wiring Terminations
11. Startup and Calibration
12. Training
13. Final Report and Documentation

## Training

Training is an integral part of a successful Vibration System Startup. Operators must be instructed in the use of the system, Instrument Technicians must be instructed as to the care and maintenance of the system. Training may be customized for each plants requirements and needs.

1. Basic Vibration Training
2. Transducer Theory and Operation
3. Operator Monitor Training
4. Instrument Technician Training

## Customer Responsibility

The customer normally takes responsibility for the following items except in the case of a Turnkey project or if other arrangements have been made:

1. Machine preparation including:
2. Bearing Drilling and Tapping
3. Bearing Machining if required
4. Transducer Installation
5. Junction Box Installation
6. Conduit Installation
7. Instrument wire pulls
8. Wire Terminations
9. Panel Cutout and preparation
10. AC Power for Monitor
11. Installation of Monitor

## Project Checklist

### Pre-Installation:

1. Application Review
2. Plant Objectives
3. Transducer Call-out
4. System Call-out
5. Purchase Vib. System

### System Design:

Transducer Installation Details

1. Mounting Design
2. Bracket Design

Field Wiring Layout

1. Junction Box Layout
2. Conduit Layout
3. Transducer Field Wiring
4. AC Power
5. Recorder Outputs
6. Relay Outputs
7. Digital Communications

Monitor/Mux. Installation Details

Custom Panel Design (if required)

Bill of Materials

Purchase Non-IRD Supplied Materials

### Installation:

Install Monitor/Host/Mux.

Install Conduit

Pull Wire:

1. Transducer Instrument Wire
2. AC Power
3. Recorder Outputs
4. Relay Outputs
5. Digital Communications

Fabricate Brackets/Adapters

Prepare Brgs/Caps (Drill/Tap)

Prepare Notch/Proj. For Speed/Phase

Install Transducers

Install Flex. Conduit & Trans. Wire

Terminate Field Wiring

## **Start-up and Calibration:**

1. Wiring Check
2. Power up System
3. Calibrate System
4. Install/Program Software/Firmware
5. System Start-up
6. Validate System
7. Training
8. System Acceptance\Sign-off