

Frequently Asked Questions about the SKF MARLIN System

QUESTION: What is the SKF MARLIN?

ANSWER: The SKF Machine Reliability and Inspection System, or MARLIN, is a “smart” data collection and analysis system that automates the machinery inspection process. It enables users to easily collect, store and trend plant machinery process and vibration data to identify and detect problems that lead to unexpected machine or plant downtime early.

QUESTION: What does the SKF MARLIN System include?

ANSWER: Components include the SKF MARLIN data manager (MDM), which is a pen-based computer or PDA, the machine condition detector (MCD), which is a handheld vibration detector, and an SKF MARLIN programmable stud (MPS), which is a sensor with memory. Companion software enables on-the-spot analysis with the MPS and also interfaces with PRISM⁴ for Windows Data Management and Analysis software, the core software of the PRISM⁴ solutions suite of software from SKF.

QUESTION: What does the SKF MARLIN do?

ANSWER: The SKF MARLIN system as a whole is designed for the efficient collection of machinery process and vibration data. It is designed for the easy and convenient analysis of such data to provide insight into machine condition, making this information easily available to plant-wide personnel (operations, maintenance, vibration analysis, reliability) across functional lines. It brings state of the art technology to those who have relied on traditional methods (pencil and paper) of assessing machine operational status and applies proven technology for the detection of mechanical and rolling element bearing and other conditions leading to unexpected downtime.



Fig. 1. SKF Condition Monitoring's SKF MARLIN system consisting of the SKF MARLIN data manager (MDM), machine condition detector (MCD) probe and SKF MARLIN programmable stud (MPS).

QUESTION: How is the SKF MARLIN used?

ANSWER: The SKF MARLIN system actually achieves several objectives for the user. For companies with no program in place, it is a simple and powerful tool to start a condition monitoring program. The machine condition detector probe, or MCD, assesses machine vibration and temperature to enable early detection of bearing or other machine problems. Optional SKF MARLIN QuickConnect studs attach the probe to a machine point; the user pushes a button and a red (DANGER), yellow (ALERT) or green (OK) light indicates machine status. The SKF MARLIN offers the capability to program each machine point with specific and unique alarm criteria.

For plants with a program in place, the data manager automates the machinery inspection process, enabling a machine operator to quickly and efficiently input plant process information and trend data to create an accurate and accessible machine history, and to easily identify conditions that indicate a change in machine operation.

As a system, SKF MARLIN provides an added dimension to a plant's reliability efforts by extending the capability and responsibility for optimum machine availability across functional lines.

QUESTION: Is SKF MARLIN just another predictive maintenance instrument?

ANSWER: NO! In addition to monitoring vibration and temperature, SKF MARLIN enables the collection, storage and trending of machinery process data and visual inspections. Used as an operator's log, the SKF MARLIN data manager makes documenting, trending, storing and accessing machine history easy and convenient. Plants can use the SKF MARLIN to arm maintenance craftsmen and operations personnel with the tools to supplement existing predictive maintenance/reliability effort. It does not replace the more advanced vibration diagnostic tools such as spectral and phase analysis provided by portable or on-line monitoring systems.

QUESTION: How does SKF MARLIN benefit a plant?

ANSWER: In addition to the early detection of bearing and machine problems, and the capability to record, store, trend and share process data throughout the plant, the SKF MARLIN facilitates teamwork in all types of industrial facilities. With the SKF MARLIN, plant personnel from maintenance, operations, vibration analysis and reliability departments work effectively to identify, prioritize and act upon the mechanical and process problems that result in the majority of machine component failures that can often lead to unanticipated downtime. Overall, SKF MARLIN performs as an asset management tool that contributes to a plant's bottom line profitability by reducing unexpected downtime, increasing plant productivity, containing costs and optimizing resources.

QUESTION: When should a plant consider implementing SKF MARLIN?

ANSWER: Any plant that is interested in increasing machine availability should consider using the SKF MARLIN. The SKF MARLIN offers a convenient, easy to use means for those who are not trained in machinery vibration and analysis to participate in detecting and reporting machine problems early. It is also an ideal mechanism for developing a machine operational history. SKF MARLIN enables plants to use existing resources to support a plant's reliability goals.

QUESTION: How does SKF MARLIN work?

ANSWER: The machine condition detector (MCD) is a handheld probe that attaches to a machine point to assess vibration or temperature. A red, yellow or green LED offers a go/no-go indication of machine condition. A red light (DANGER) indicates an alarm condition that requires further investigation; a yellow light (ALERT) signals a warning alarm level indicating a possible problem; and a green light (OK) signals no problem.

For more convenient and accurate data collect, an SKF MARLIN QuickConnect (MQC) stud can be mounted to a machine to hold the MCD during data collection. The MARLIN QuickConnect stud is a small stud-like device that mounts permanently to a machine measurement POINT.

The SKF MARLIN data manager is a portable machinery data input, storage and review computer with a touch sensitive display. Machine inspection, vibration, temperature, process and user notes can be displayed in both alphanumeric or graphical formats.

Vibration and temperature measurements are input directly from the MCD probe, whereas process and visual inspection data are easily recorded using the SKF MARLIN data manager's touch sensitive display. Recorded machine data and alarm information are displayed on the SKF MARLIN data manager's LCD display for immediate in-the-field fault detection and analysis. Alert and danger messages prompt the user to perform on-the-spot corrective actions.

Once data collection is complete, it may be uploaded to the PRISM⁴ surveyor software for long term storage, reporting and in-depth analysis.



QUESTION: *We already have a predictive maintenance program in place, do we still need the SKF MARLIN?*

ANSWER: The SKF MARLIN is the perfect complement to a successful condition monitoring program. By putting the SKF MARLIN in the hands of the operations personnel and/or maintenance craftsmen, plants not only increase the frequency of monitoring plant machinery, but provide them with the capacity to play an active role in keeping plant machinery up and running. Many plants have found that once implemented, SKF MARLIN encourages operations personnel and maintenance craftspeople to take ownership for the optimum operation of plant machinery in a way they had not done before. In addition, observations on machine operation seem to become more detailed and a significant increase in potential operational problems are identified.

QUESTION: *On what kinds of machinery can we use SKF MARLIN?*

ANSWER: The SKF MARLIN data manager can be used to record information on any plant machinery. In addition, it can be customized for use in any industry or even for a specific division or plant department. The machine condition detector (MCD) probe can be used for balance of plant equipment including pumps, fans, motors, blowers and more. However, the MCD probe is not intended for use on high speed turbomachinery, certain very specialized or very low speed equipment.

QUESTION: *What industries are currently using it?*

ANSWER: SKF MARLIN has been tested in a variety of industry segments from petrochemical to pulp and paper to food processing, steel and more. Because it is easily customized to suit a specific industry or application, any type of business interested in optimizing machine availability would benefit from the SKF MARLIN system.

QUESTION: *How does SKF MARLIN work with my existing vibration program?*

ANSWER: SKF MARLIN complements an existing program by providing more feet on the beat. By putting an SKF MARLIN in the hands of plant operations and/or maintenance craftspeople, it provides an early warning system for detecting bearing and machine problems. It increases the frequency of data collection when it is used by those who check machine operation on a regular basis. When an alarm is identified, vibration analysis specialists may be called in to perform more detailed analysis. It frees up your vibration specialists to focus on root cause analysis to prevent future machine problems rather than simply collecting data.

QUESTION: *How does SKF MARLIN fit in with other plant systems?*

ANSWER: SKF MARLIN's PRISM⁴ surveyor software can export data to computerized maintenance management systems to generate work orders and guarantee that parts will be on hand for necessary repairs. It also replaces traditional clipboard/paper systems for documenting plant operation.

QUESTION: *How does SKF MARLIN fit in with programs like Total Productive Maintenance, Reliability Centered Maintenance, etc.?*

ANSWER: The SKF MARLIN system is the perfect tool to improve plant-wide reliability. Because it helps plants to keep an ongoing history of machine operation, it is an excellent tool for asset management. It also involves operations, maintenance, vibration analysis and reliability teams in a joint effort to achieve plant-wide reliability. By making plant process and machine information available on a PC, communication throughout the plant is increased and plant-wide reliability becomes everyone's responsibility. SKF MARLIN also incorporates statistical process control (SPC) rules to ensure awareness of subtle changes that can negatively impact plant operation.



QUESTION: We have another vendor's data collectors, can we still incorporate SKF MARLIN?

ANSWER: Yes, SKF MARLIN is a first line of defense and can enhance any predictive maintenance program already in place.

QUESTION: How much does SKF MARLIN cost?

ANSWER: The SKF MARLIN system is modular, so components such as the MDM (SKF MARLIN data manager), MCD (machine condition detector), MQC (SKF MARLIN QuickConnect) and PRISM⁴ surveyor can be used and purchased separately or as a system. Users can start a program simply with the MCD and upgrade to a complete system as their budget and requirements dictate. PRISM⁴ surveyor software also provides an upgrade path to SKF Micrologs and SKF on-line monitoring systems.

QUESTION: How can I sell SKF MARLIN internally in my plant?

ANSWER: SKF has produced a video and a CD that explains SKF MARLIN, how it is used and its benefits. There is no system on the market that offers the comprehensive capabilities of the SKF MARLIN system. SKF MARLIN provides a first line of defense by optimizing existing plant personnel and provides the tools to keep plant machinery up and running. On average, industrial companies have seen returns on investment of tenfold or more on their integrated maintenance and inspection programs. Some have experienced a reduction in equipment breakdown of nearly 75% – paving the way for significant savings in materials, labor and unscheduled downtime costs.

QUESTION: Is SKF MARLIN difficult to use?

ANSWER: No. SKF MARLIN was designed to simplify and automate the collection of machinery inspection and process data. Training required is minimal. Bar codes, touch screen and handwriting recognition make SKF MARLIN operation easy and efficient.



QUESTION: What training is available?

ANSWER: Because SKF MARLIN is extremely simple to use, a training CD is provided with the purchase of the system. Easy to read user manuals and on-line help screens are also available to answer questions as they arise. Public and private in-plant training programs are available, as well as start-up/turnkey implementation support.

QUESTION: How does SKF MARLIN stack up against the competition?

ANSWER: Currently, SKF MARLIN is unique in the marketplace in the comprehensive solution it provides. SKF MARLIN was designed specifically to address an emerging need in industry – to optimize plant personnel while increasing plant availability and reduce unexpected downtime.

Please contact:

SKF USA Inc.

Condition Monitoring Center – San Diego

5271 Viewridge Court · San Diego, California 92123 USA

Tel: +1 858-496-3400 · Fax: +1 858 496-3531

Web: www.skf.com/cm

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