

Career History 1981 to Present

Ford Motor Co Ltd
Dunton Research and Engineering Centre
Basildon
Essex

August 1981 to April 1988

Electronic Control Specialist (Instrumentation Maintenance Dept)

Job Description:

To maintain and repair equipment including the following;

- Gas Analysers utilising Infra Red, Paramagnetic, Flame Ionisation, Chemiluminescent and Chromatograph techniques.
- Sample Handling Systems including Pumps, Valves, Regulators, Mass Flow Controllers/Meters, Filters, and Venturis etc.
- Rolling Roads and Dynamometers and associated control systems (including safety & interlock systems, PLC control etc).
- Other general Instrumentation including Tachometers, Chart Recorders and signal handling/switching. Vacuum/Pressure/Temperature measurement.
- Fault finding in both Electrical (415/240V AC through to low voltage DC) and Mechanical disciplines to component level.
- Use of all types of Electrical/Mechanical test equipment including Mega, mains analysers, DVM, Oscilloscopes, Frequency Generators/counters, mechanical/digital pressure meters/sensors, flow sensors and Soap Film Flow meters etc, etc.
- Most of above equipment interfaced with Computer systems so use of these as fault-finding aids with on board diagnostics. Repair of interfaces e.g. Digital, Analog Input/output techniques, PC's, DOS etc.

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Horiba Instruments Ltd
Moulton Park
Northampton

April 1988 to Dec 1999

Field Service Engineer

Job Description:

To carry out installation, maintenance, service and repair of Customers equipment both on and off site. These customers included both the Research facilities and production site of companies including; Lotus, Ford, Jaguar, Vauxhall, Rover, Nissan, BP, Shell, Johnson Matthey, Ricardo, Cosworth, Tickford and Aston Martin amongst others.

Due to the nature of the job however this encompassed other functions as well to include:

- Installation of Projects including liaising with contractors to organise electrical & mechanical services and supplies.
- Carrying out pre-delivery offsite commissioning and inspection/safety checks.
- Delivery and on site installation and commissioning including commissioning documentation, sign off & final hand over.

On site Service engineer

From 1992 onwards due to the volume of equipment on site (then to the value of approx £20M) Ford requested a permanent onsite Horiba Engineer at their Dunton Research facility. My primary job functions were as follows during the Ford contract time whilst still carrying out those listed above outside of those hours.

- Provide engineering assistance to the Ford Maintenance department as required.
- Provide Technical Data e.g. drawings, part numbers and prices.
- Ordering parts as needed to minimise downtime
- Set up database of Horiba spares held in Ford stores system
- Provide training on new equipment.
- Set up and implement Planned Maintenance parts lists and schedules
- Set up and implement procedures to ISO 9000 specification.
- Liase with Ford Engineers and Supervision at all levels both verbally and via E-Mail (use of Word, Excel, Access etc).

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May 2000 to November 2016

Ford Maintenance Engineer (Emissions Analyser Specialist)

Job Description:

Having left Horiba instruments in December 1999 I was requested by Ford Motor Co Ltd via the agency Technical Aid to return to the Ford Dunton Technical Centre to act as Maintenance Engineer in their Powertrain Development Laboratory. My original function was to streamline service kits, outsource components and generally cut cost etc. I was also to provide technical support to the maintenance department when required and generally utilise the knowledge I had gained whilst working for the analyser equipment manufacturer Horiba Instruments.

My job function over this 16 year period grew to include the following;

- Acting as a 2 shift Engineer (Agency Grade H) complementing a grade 8 Ford engineer on the opposite shift.
- Engineering responsibilities to include all aspects involved within an engine test environment including Emissions equipment (gas analysis – Horiba Mexa 7000, Mexa 9000, AVL I60, CVS, particulates, pre filters), Dynamometers, engine data collection (RPM, torque, pressure, vacuum, temp, voltage), fuel consumption measurement, oil & water cooling techniques.
- Technical back up to the maintenance department in the above fields on a daily basis.
- Allocation of labour to maintenance requests in the absence of a Maintenance supervisor.
- Prioritisation of such functions across the facility on a daily basis.
- Advising on emissions equipment servicing requirements both on existing and new equipment. Price reduction of service kits etc.
- Ongoing reduction of components required to be held on stock.
- Setting out the annual planned maintenance and calibration schedule for 115 Engine Test Rooms 84 of which had full emissions analysis systems (Horiba and AVL) and associated engine test equipment.
- Tasked with reducing downtime as part of a 6 Sigma project team and involvement in various other 6 Sigma projects.
- Installation, commissioning, decommissioning & mothballing of equipment during test facility upgrades.
- Data collection and maintenance of databases for all maintenance requests for analysis to monitor equipment down time and isolate root cause of failures.
- Data collection and maintenance of databases for contractor work and parts requests for analysis to monitor usage of contractors, turn around of parts orders, ongoing contracts expenditure etc.
- Advise on and organisation of training for maintenance and operational personnel.
- Provide course material for such training.
- Provide formal training in my own specialist area of emissions analysis equipment.
- Feed back to management at regular meetings on equipment usage, downtime, efficiency improvement initiatives, hardware/software issues, departmental training requirements and costs, cost saving initiatives, contract issues and future requirements.

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November 2016 to 30th June 2018

Ford Projects Manager (Engine Test Rooms & Associated Equipment) Agency Grade H (Equivalent to Ford Senior Engineer status)

Job Description:

Project Planning and timing plans (MS Projects) including design, specification, financing (Ford CORA Course passed 2018), supplier and contractor quotations, tenders, environmental considerations, ECPL (Ford Course passed 2018),
Scope of Works, Risk Assessments (Ford Course passed 2018), Method Statements & CDM (Ford Course passed 2018), etc.

Current projects to a maximum value of £650K per project including;

Cold Fluids Thermal Shock Testing. Test Room upgrades to facilitate minus 40 DegC thermal shock testing.

Glycol mixing plant facility for engine coolant supply for 84 Test Rooms.

WLTP Emission Analyser Specification – AVL & Horiba.

MHEV Facility upgrade – including engine oil & water cooling, HVAC plant upgrade and integration into the BMS system. Integration of all plant and controls for engine testing with the AVL Puma Control System.

Horiba Mexa 7000 upgrade project, hardware and software.

Horiba MEDAS (Atmospheric Pressure Simulation Equipment) installation - Sub projects manager – minimal involvement up to this point in the project but have an understanding of the MEDAS technology.

Emission Analyser Pre-filtration Upgrade Project – to facilitate the change from disposable filters to long life filters back flushing filters. Electro-Mechanical design of the pre-filter control unit and specification of components.

Maintenance Workshop design and relocation (sub projects manager)

Plus other projects.

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July 2018 to Present Date.

Sub Contracting to Horiba UK Ltd via Blue Planet Consulting Limited at Ford Dunton Research Facility delivering the Mexa 7000 Analyser software/hardware Upgrade Project for 17 x Mexa 7100DEGR systems.

Sub Contracting to Horiba UK Ltd direct (I now have Horiba supplier status) at Ford Dunton Research Facility delivering Emissions Analyser Training for Operators, Technicians and Engineers for basic Exhaust Emission Principles (eg impact on the environment, past and present Emissions Legislation etc), Exhaust Emissions Analysis Techniques (infrared for CO/CO2/HC/N2O etc, paramagnetic for O2, Flame Ionisation for THC/CH4, Chemiluminescence for NOx/NO). CVS Training, particulates etc.

Supplying Project Management direct to Horiba UK Ltd for MEDAS and HPHW Upgrade Projects at Ford Dunton Research Facility.

January 2019 - Providing Mexa One and associated Emissions testing equipment commissioning and calibration checks for Horiba at their Northampton workshop facility.

I am currently available for;

Mexa 7000 & Mexa 9000 Installation, commissioning, servicing & repairs, calibration, remote technical support, on-site support, training (as above plus servicing & repair training) and project management.

All aspects of exhaust emission analysis and associated testing facility equipment regarding the above.