

RESUME

OF

Cleo McKinney

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Over 10 years of experience as a **MAJOR MECHANICAL, ELECTRO-MECHANICAL, EM Packaging PRO-E DESIGN ENGINEERING CAD DESIGNER/ DETAILER** with **(20,000+ hours)** 3D-SOLID MODELING **PRO-E** software. **Major Mechanical Assemblies.** Working knowledge of **Pro- Sheet metal, Pro-Diagram, Pro-Surface, Pro-Pipe, Pro-Assembly, Pro-Draw/ Detail, Pro-Program, Pro-PDM** thru **Pro-Intralink 3.5**. Designs include Tight tolerance (precision) parts, power supplies, Enclosures, Control Panels, Junction boxes, Controllers, Extrusions, , Castings, Electronic Chassis, Weldments, **ELECTRTICAL – COMMERCIAL – SATTALITE/ COMUNICATION and MILITARY EQUIPMENT STORAGE RACKS, Plastic Injection Molds Tooling, Pick and Place Automation/ Robotic and Capital Equipment. GROUND-LAND-SEA- UNDER SEA AND AEROSPACE RADAR MICRO WAVE RADAR SYSTEMS.** Experience includes **ANSI Y14.5, MIL 100 SPEC'S, ISO 9001 Geometric Dimensioning and Tolerance (GD&T), and Heavy Structural Steel Equipment. Top-Down Large Assembly Management** utilizing **PRO E 2000, PROE 2000i2, Pro-E Wildfire 1.0, Wildfire 2.0 & Wildfire 3.0, Wildfire 4.0 . INTRALINK 3.5.**

EXPERIENCE:

(2/10 to present) ITT (Electronics Systems Integrated Electronic Warfare Systems), Nashua, NH.

Major Mechanical, Electro-Mechanical, E/M Packaging.

PRO-E Design/ Detailer of EM Packaging, (EMI SHIELD), Electro-Magnetic Interference Circuit Board Assembly & Electronic Power Supply Equipment, EM Interfaces. Create various types of new **CHASSIS DESIGNS for Models of Rugged Enclosures for Ruggedized Computing Systems** utilized in Military applications, Extrusions, Brazements or Bonded/ Glued type of Electronic Housing for Memory Storage. Design Sheet metal Enclosures to house Servers for rugged environment containing Memory cards, Converters, Power Supplies. Provide structural stability to enclosures. Create test fixture Enclosures for RF Micro Wave applications containing Power & Data Cables. Design Honey Cone weight reduction patterns for stability & ruggedness on Plates for Brazed or Bonded Enclosures. Create Detailed Drawings of Assembly & piece part components. Create and Manage Large Assemblies of **MECHANICAL - ELECTRONIC MILITARY EQUIPMENT, STORAGE RACKS UTILIZING Pro E wildfire 2-3, Pro Sheet Metal, Pro Pipe, and Intralink 3.5**

(5/08 to 12/09) LOCKHEED/ MARTIN, SYRACUSE, NY. Mechanical, Electro-Mechanical PRO-E Design/ Detailer for Submarine Control Panels, Responsible for Equipment Installations as well as the Integration, Design development of **ROTARY ELEVATION RADAR ASEMBLIES. Norththrop Grumman (NAV AIR) Under Sea War fare, Structural Design & ground based Radar Systems. Hydrogen Fuel Cell technology.** Creating Hydraulic Tank Weldment Assemblies and Equipment Racks and Secondary Support Structures. Perform modifications to Equipment Racks, Antenna locations, and Utility Systems. **EM Packaging, (EMI SHIELD) Electro-Magnetic**

Interference Circuit Board Assembly & Electronic Equipment, EM Interfaces.

Create **Models of multiple Enclosures** of Extrusions, Brazements or Bonded/ Glued type of Electronic Housings. Create and Manage Large Assemblies of **ELECTRICAL MILITARY EQUIPMENT, STORAGE RACKS, Electro – Optical Lens Assemblies**, Mechanical Optical Sight Glass Assemblies, Lens Assemblies and Platforms. Developing Installation Drawings, Assembly Drawings, Detail Drawings, Tightly Toleranced Precision Designed Sheet metal cabinets, Enclosures, frames and Floor stand Weldments, Control Panels and Electrical Junction Boxes. Utilize Pro- Piping for creating Piping, Flex Pipe and Hose Assemblies, utilizing Pro-e wildfire 2-3 and Pro-Intra Link 3.5

(2/07 to 5/08) BAE, (Electronics & Integrated Systems), Binghamton, N.Y.

(Mechanical/ Electro-Mechanical Pro-E Engineering Designer/ Detailer), EM Packaging, (EMI SHIELD) Electro-Magnetic Interference Circuit Board Assembly, EM Interfaces

"FUTURE WEAPONS SYSTEMS" **ELECTRICAL-MECHANICAL Pro-E DESIGN PACKAGING AND MAJOR MECHANICAL CONCEPTS AND ASSEMBLIES. LARGE VEHICLE POWER TRAIN, CHASSIS DESIGN, FLIGHT CONTROL SYSTEMS, ELECTRONIC CHASSIS ASSEMBLYS, HIGH VOLTAGE FILTER ASSEMBLY'S**, Cold Plate Cooling Loop Brazements CONCEPTS FOR MILITARY HEV (HEAVY ENGINEERED VEHICLES) AND ELECTRONIC CHASSIS DESIGN WITH COOLING LOOP SYSTEMS MANIFOLDS. Create and Manage Large Assemblies of **ELECTRICAL – COMMERCIAL – SATTALITE/ COMUNICATION and MILITARY EQUIPMENT STORAGE RACKS.**

Automotive Hybrid -ELECTRIC Propulsion modified Truck and Bus Design for the **Metropolitan Transit Authority of N.Y.C. and Freightliner Trucking Designing/** Creation of Pro-E models of **Truck and Bus Engine and Electric Generator Assemblies**, replacing old components with new Conceptual Design of Engines, Chassis, Suspension, Transmissions. (FCC) Flight Control Computer Black Box Design of Electronic Chassis, Electronic Controllers. Create and Assemble Engine and Electronic Generator Assemblies for Hybrid Propulsion Engine Applications Utilizing **Pro-E Wildfire 2.0 & Wildfire 3.0, INTRALINK 3.5.**

(3/05 to 10/06) Honeywell Automation Security Systems, Syosset, long Island, N.Y.

Pro- E Engineering Designer/ Detailer of Consumer Plastic Products. Mechanical Design/ Detailing of Automated door card readers. Creation of compact housings for Electro-Mechanical Assemblies containing sensor devices and Printed Circuit Board Assemblies and Card Racks for use in Door Card Code reading applications. Applying tight tolerances utilizing GD&T Tolerancing practices. Creation of Rapid prototyped (SLA) plastic model Prototypes. Extensive Detailing and Specification for (RHOS) **European** specification compliance. Utilizing **Pro-E INTRALINK rel 3.3**, release level procedures. Creating and completing ECO certifying conformance to ISO 9001, ANSY-14.5 standards. **Pro-E Wildfire 1.0, Wildfire 2.0. INTRALINK 3.5 (PARAMETRIC DATABASE STORAGE SYSTEM)**

(10/04 – 3/05) Engineered Air Systems/ (EASI) Engineering, (St. Louis, Mo.)

Minute Man Missile Silo Program: **Engineering Designer / Detailer. Mechanical**, Control Panel, Air/ ventilation Ducts for Missile and Air Base heat and Air ventilation Facilities and accessories. Sheet metal piece parts and Large Assembly Management. Weldments, Floor stands, Piping & Flexible tubing Assemblies, **Chemical Biological Portable Shelter Military Facilities:**

Heating/ Air ventilation System Ducts. Controller Assembly Units, Personal Carrier Seating Assemblies/ controller cover housings. Mechanical weldments and cabinet frames. **Major Mechanical Assemblies, Electro- Mechanical Assemblies**, Schematic's, (ECO) Engineering Change Orders, (DCO), Design Change, Orders. Create and Manage Large Assemblies of **ELECTRTICAL – COMMERCIAL – SATTALITE/ COMUNICATION and MILITARY EQUIPMENT STORAGE RACKS**, Developing Installation Drawings, Assembly Drawings, Detail Drawings, Pro-Diagrams, Utilizing Pro-E Pro-Sheet metal, Pro-Pipe, Large Assembly Management, IntraLink 3.3 Sheet Metal, Pro Pipe. Pro-E large Assembly Management. ANSI -Y14.5, Mil 100 MIL Spec's, GD&T. **Pro-E WILDFIRE 2.0**

(6/04 to 10/04) TRANE CORPORATION, (Panama City, Florida).

Pro-E Engineering Designer/ Detailer for AIR CONDITIONING & REFRIGERATION UNITS.

Conversion of previous Product Line of Sheet Metal Large Assembly Enclosures, which use Sheet Metal piece parts and component into Plastic Molded components. Creating Piping/ tubing Assemblies, Condenser Coils, and Plastic Molded parts with draft and Detailing drawings to reflect these concepts. Pro Surface/ Advanced Surface Design, (ASD) for Plastic Components needing DRAFT. Utilizing Pro-Sheet Metal, Pro-pipe, Pro Diagram for Piping and Electrical Diagrams. Top Down, Large Assembly Management. Top Down Large assembly management that I utilized basically for large Piping Systems. Setting up Top Level Skeletons with Published Geometry and External Copy geometry to reduce Piping System failures. Create Sheet Metal Enclosures containing Front, Top, Side, Back Panels, Door latches, Solar Panels, Compressor, heat exchangers, Economizer Control Actuators, Sheet Metal Access Panels. Pro - Piping for Gas Installation Piping. Utilizing **AutoCAD 2002, Pro-E Wild Fire 2,0 and IntraLink version 3.3.** ANSI -Y14.5, GD&T

01/04 to 06/04 (Albany Automation/ Door Systems, Lawrenceville, Ga.) Major Mechanical

PRO-E DESIGNER/ DETAILER OF LARGE Industrial & Commercial Automated Door Systems.

New Product Design in a R&D environment for Part Design/ Modeling of overhead Header Assemblies involving Sheet metal enclosures housing Electro-Mechanical Sub-Assemblies, Pro-pipe, Pro Diagram for Piping and Electrical Diagrams, Control Panels, junction boxes, Molded plastic parts, E-chain Assemblies, sensors, Proximity switches, floor stand, weldments. Redesign old existing Piece parts for new generation Automated Door systems. Designed control panels for air cylinders, hydraulic slides, laser optics sensors, conveyor assemblies. Performed Geometric Dimensioning and Tolerancing (GDT) for high precision tooling of close tolerance parts. Large Assembly creation and Detailing. Utilizing AutoCAD 2002 Pro-E 2001, **Pro-E Wildfire 2.**

(11/02 to 9/03) (Goodrich AEROSPACE/ Electro-Optical & Tactical Space Systems) Danbury, CT.

(Pro-E Mechanical, Electro-Mechanical Designer/ Detailer) Of Laser Lock Warning Sensor Black Box Devices, **electronic** printed circuit board Assy's , electrical components, such as connectors and cables connections. Receiver Antenna/ Fuselage Interface Sensor Units Enclosures for Circuit Card Cages, Pro-pipe, Pro Diagram for Piping and Electrical Diagrams. Electrical Card Racks, **EM Packaging for Coherency Detector Substrates, Coherency Detector and (EMI SHIELD) Electro-Magnetic Interference Circuit Board Assembly, EM Interfaces & Comparator Housings** Mechanical Design/ Detailing of Forward - Aft- Common Sensor Detection Units for Aerospace and Ground Based **Electro-MECHANICAL Optical** Sensor Unit Housings.

Pro-Piping for **Large Telescope Assembly Star, Earth & Sun Tracker. Routing piping (representing Cabling) for Thermal Sensors Located in multiple locations Between the Primary Mirror & Secondary Mirror Assemblies following Strut Framework for housing Electro- MECHANICAL Optical**

Large Telescope Assembly and Electro- MECHANICAL Optical Sub Assemblies of Primary

MIRROR – SECONDARY MIRROR ASSEMBLIES. Pro-E 2001

Utilizing **Pro-E 2001, 2001i** as my Primary System & **AutoCAD 2002** as a Secondary System. ASSEMBLIES AND PACKAGING MIL-100 SPEC'S, DOD SPEC'S AND NASA SPEC'S. ANSI Y - 14.5.

10/01 TO 11/02 (AXCELIS/ EATON CORP), BEVERLY, MA.

Pro-E Engineering Mechanical, E/M Designer of CAPITAL EQUIPMENT, clean room ROBOTICS/ AUTOMATION EQUIPMANT Mechanical DESIGN OF COMPRESSORS, fluid flow Systems Design/Detailing of Semiconductor clean room facilities, Automation Equipment and Robotics Stations. Servo Motors, Rotary Switches & Actuators, Harmonic Slides, Hydraulic, Pneumatic Slides. **Proximity Location Switches & Sensors housings**, Conveyor/ Elevator Motor SPEC & Equipment. Create Major Assemblies, Detailing and Design of Tightly Tolerance Precision Sheet metal Enclosures, Sheet metal Cabinets. Utilizing Large Assembly Management Techniques, Pro Diagram for Piping and Electrical Diagrams. Pro Intralink 3.1 ADMINISTRATIVE Release Level Promotion techniques, On **Pro 2000I2, Pro 2001, INTRALINK and Legacy Conversions from AutoCAD 2000 to Pro E, Pro-E Wild Fire**

1/01 TO 10/01 STANLEY ACCESS TECHNOLOGIES, HARTFORD, CT.

Mechanical Designer, Mechanical Design/Detailing of automation equipment and robotics stations, PIC & PLACE Units, servomotors, Rotary Switches & Actuators, Harmonic Slides, Hydraulic, Pneumatic Slides. **Motion Sensor and Light Sensor Plastic Enclosures for the Automation/ Robotics Applications. Proximity Location Switches & Sensors housings**, Conveyor/ Elevator Motor SPEC & Equipment. Facilities layouts for elevator conveyer units, Enclosures, Cabinets, Floor Stands and Weldment, framework for **robotic stations**. Designed control panels for air cylinders, hydraulic slides, **laser optics sensors**, conveyor assemblies. Performed Geometric Dimensioning and Tolerance (GDT) for high precision tooling of close toleranced parts. Large ASSEMBLY MANAGEMENT techniques. ANSI-Y14.5, ISO-90001, **Pro-E Wild Fire**

2/2000 To 1/2001 NAVAL RESEARCH LABORATORY, Washington, D.C.

(REMOTE SENSING DIV, PASSIVE MICROWAVE SECTOIN).

(ON SITE GENERAL DYNAMICS, WOODBRIDGE, VA.) (A-A-A ADVANCED AMPHIBIOUS ASSUALT VEHICLH) PIPING DESIGNER for (AFES) HAZARDOUS CHEMICAL RETARDENT EXTINGUISHING SYTEMS AND TURBO ENGINES. **Major Mechanical. PRO-E Designer/ Detailer. Electro-Mechanical Design/ Detailing for EM Packaging, (EMI SHIELD) Electro-Magnetic Interference Circuit Board Assembly, EM Interfaces** Creating Major Mechanical Assemblies for internal satellite Equipment. **Electro – Optical Lens Assemblies, Mechanical Optical Sight Glass Inclosuours/ Lens Assemblies and Platforms** Creating **Equipment Racks** and Secondary Support Structure. Perform modifications to Equipment Racks, Antenna locations, and Utility Systems. Developing Installation Drawings, Assembly Drawings, Detail Drawings, and Bill of Materials necessary to complete the Kit Installation.. RF Engineering Surface Mount PC Board. Design- Detailing of MIL/ NASA AEROSPACE Spec Multi Sheet Drawings servo motors, Rotary Switches & Actuators, Harmonic Slides, Hydraulic, Pneumatic Slides. Design/ Detailing of large Assemblies, Developing Installation Drawings, Assembly Drawings, Detail Drawings utilizing TOPDOWN ADVANCED ASSEMBLY MANAGEMENT techniques. ANSI-Y14.5, ISO-90001, NASA -specs, DOD SPEC'S, MIL-100. GD&T, **Pro 2000I2, Pro 2001.**

6/98 To 2/2000 LOCKHEED/ MARTIN (Tactical Defense Systems), Archibald, Pa. Mechanical,

Electro-Mechanical PRO-E Design/ Detailer for **Nuclear Submarine Control Panels**, and. Responsible for Equipment Installations as well as the Integration, Design development, and kit definitions associated with the **Structural Designs**. Creating **Equipment Racks and Secondary Support Structure. Perform modifications to Equipment Racks, Antenna locations, and**

Utility Systems. Create electronic printed circuit board Assy's, electrical components, such as connectors and cables connections. Developing Installation Drawings, Assembly Drawings, Detail Drawings. RF MICROWAVE EM PACKAGING .Create and Manage Large Assemblies of ELECTRICAL – COMMERCIAL – SATTALITE/ COMMUNICATION and MILITARY EQUIPMENT STORAGE RACKS, Developing Installation Drawings, Assembly Drawings, Detail Drawings. Knowledge of the following CAD software packages: Pro Engineering REL. 2000I, PRO INTRALINK, PRO ASSEMBLY, PRO DETAIL/ DRAW,PRO SURFACE, PRO SHEETMETAL,

Work history prior to 1998 available upon request

EDUCATION:

BS MECHANICAL ENGINEERING
DEANZA COLLEGE, CUPERTINO, CA.

CERTIFICATES OF COMPLETION IN:

PRO-E (ADVANCED SURFACE DESIGN),
PRO ASSEMBLY,
PRO PIPING,
PRO MOLD,
PRO SHEETMETAL,
PRO DRAW/ DETAIL.
Pro Diagram (Schematic Imports)