



2010

Distributor Training Content Outline

*Time announcements and content may vary:

Customer Service Department (~20min):

- Territory assignments and coverage
- Services and work detail
 - a. Quotations / standard product
 - b. Order entry and process control (orders, quotations, RMA's, etc.)
 - c. Technical assistance
 - d. Engineering design assistance
- Inquiry control
- Process philosophy
 - a. Price verification
 - b. Product availability
- Communication / information flow
- Part classification; standard / non-standard / custom
- Stocking philosophy
 - a. Type / quantity of parts

Production / Warehouse Department (~50min):

- Facility tour
- Warehouse shipping process / order flow
- Cutting methodology; processes
 - a. Saw operation
 - b. Measurements
 - c. E-dimensions
 - d. Communication and paperwork flow (specifications, drawings, etc.)
 - e. Lead times
- Lathe and mill processes
 - a. Capabilities
 - b. Tolerances
 - c. Capacities
 - d. Straightening / annealing
 - e. Lead times
- Part inspection
 - a. What
 - b. Why
 - c. How
- Assembly
 - a. Capabilities (preloads, alterations, kits, etc.)

Quotation Department (~30min):

- Submission
 - a. Website, fax, etc.
- Quotation forms / inquiry forms (Ballscrew Data Request form, etc.)
- Price construction
- Lead time determination
- Process / turn-around times

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Engineering Department (~5hrs; breakdown by product):

Linear Guideways (~75min):

- Concept
 - a. Why select a linear guideway
 - b. Advantages
- General definitions (dynamic loading, static loading, etc.)
- Guideway series discussion; EG, HG, MG, PG, QE, QH, RG, and WE
 - a. Features / contact types
 - b. Industries / equipment overview
 - c. Sizes / rail lengths
 - d. Construction (block type, load type, components, etc.)
 - e. Nomenclature (variable discussion; i.e. preload)
 - f. Speeds (friction)
 - g. Models
- Accuracy
 - a. Interchangeable / non-interchangeable
- Lubrication
- Options
 - a. E2, dust protection, coating, etc.
- Assembly and mounting basics
- Questions to ask customers
 - a. Inquiry form, conditions, etc.
- Vendor comparison
- New products
- Q & A

Ballscrews (~75min):

- Concepts
 - a. Advantages
 - b. Ballscrew incorporation / replaces
- Industries / equipment overview
- Nomenclature (variable discussion; i.e. circuits, recirculation types, etc.)
- Nut types
 - a. Advantages
 - b. Load capacities
 - c. Size
- Ground ballscrew discussion
 - a. Classes / accuracy
 - b. Material composition
 - c. Manufacturing range
 - d. General Info
- Rolled ballscrew discussion
 - a. Classes / accuracy
 - b. Material Composition
 - c. Manufacturing range
 - d. General Info
 - e. Models (stocked products)

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- Other options / materials
- Application dependant ballscrews
 - a. Super S
 - b. Heavy load
 - c. Roller
 - d. E2
 - e. Rotating ball nut
- Ballscrew calculations / definitions / concepts
 - a. Dangerous speed
 - b. Critical speed
 - c. Buckling load
 - d. Pretension
 - e. Preload
 - f. Load direction
- Lubrication
- Ballscrew requirements
 - a. Drawings (machining; end journal configuration, direction, etc.)
 - b. Ballscrew data request form (content discussion) / inquiry form
- Process discussion
 - a. Drawing creation, geometrical tolerances, sizing, etc.
- Q & A

Single Axis Robots (~30min):

- Concept
 - a. Advantages
- Industries / equipment overview
- Series breakdown (KK, KS, KA)
 - a. Features
 - b. Construction
 - c. Speed, loading, accuracy, etc.
 - d. Nomenclature (variable discussion)
 - e. Accessories / options (customizations, motors, etc.)
 - f. Lubrication
- Multi-axis
- Vendor comparison
- Q & A

Rotary Tables / Torque Motors (~30min):

- Concept
 - a. Advantages
 - b. Construction
- Industries / equipment overview / main uses
- Series breakdown (TMS, TMR / Elevator Motors)
 - a. Features
 - b. Sizes
 - c. Options
 - d. Nomenclature (variable discussion)
 - e. Technical data (torque, speeds, etc.)
 - f. Controllers / drives

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- New product development (TMD, etc.)
- Q & A

Linear Actuator (~45min):

- Concept
 - a. Advantages
 - b. Construction
 - c. Duty cycle
- Installation basics
- Industries / equipment overview
- Sizing
- Series breakdown (LAM, LAI, LAS, LAN, LAC)
 - a. Features
 - b. Nomenclature (variable discussion)
 - c. Customizations / options
 - d. Technical data (speed, thrust, etc.)
 - e. Feedback
- Controller series breakdown (LAK2, LAK4, LAK6)
 - a. Type variations
 - b. Nomenclature (variable discussion)
 - c. Features
 - d. Options
- Over current protection / settings
- Keypads / foot switch
- Q & A / inquiry form

Linear Motor (~45min):

- Concept
 - a. Advantages
 - b. Basic system setup
- Industries / equipment overview
- General definitions (attraction force, back emf, etc.)
- Component series breakdown (LMC, LMS, LMT)
 - a. Features
 - b. Construction
 - c. Nomenclature (variable discussion)
 - d. Force
- Stage series breakdown (LMX1E-C, LMX1L-S, LMX1L-T)
 - a. Features / Options
 - b. Components
 - c. Encoders
 - d. Technical data (acceleration, lengths, etc.)
 - e. Accuracy
- Nomenclature (variable discussion)
- Cross tables / other LM / gantry discussion
- Q & A / inquiry form

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