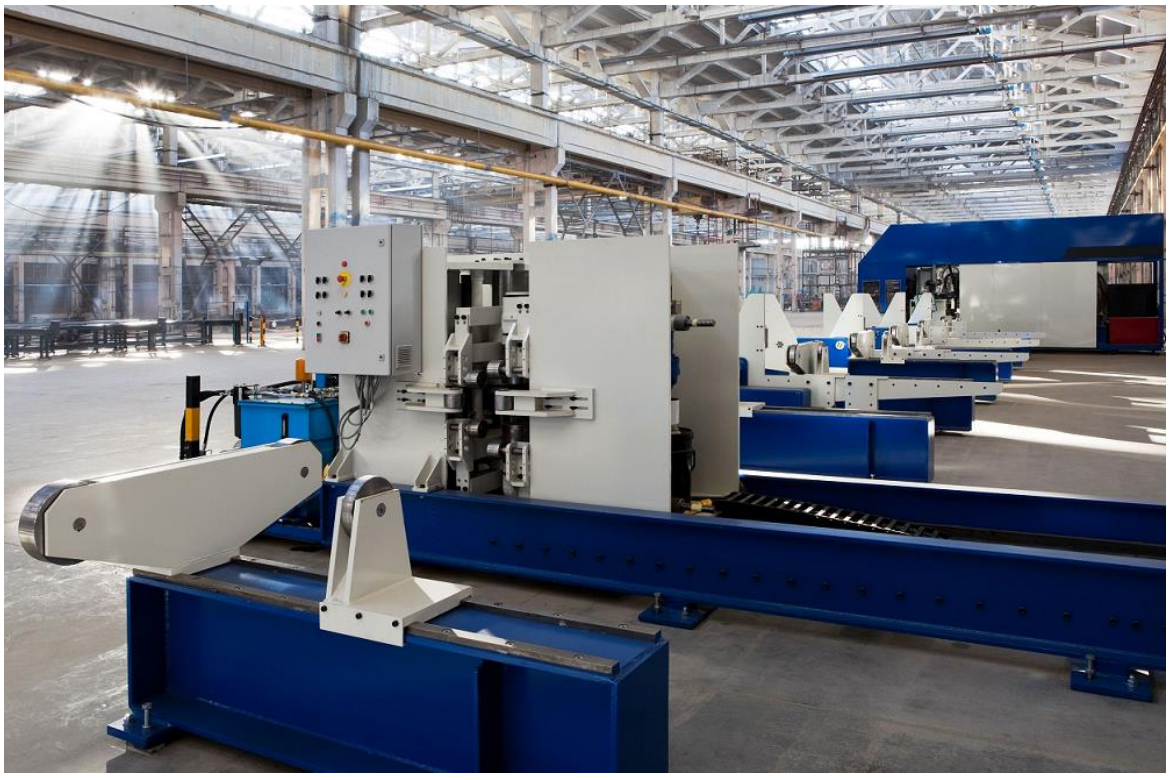
LOGIC DESIGN
corporation

Manufacturing Workflow Assessment



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LOGIC DESIGN
corporation
1530 South Norwood Drive • New Berlin, WI 53146-1419
Phone: 262-391-8697 • Web Site: **www.ldcglobal.com**

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Manufacturing Workflow Assessment

Executive Summary / Assessment Outline

Logic Design Corporation (LDC) is a software development and technology integration company that specializes in innovative, leading edge software solutions that help manufacturing companies transform engineering and manufacturing to quote, design and build products better, faster and more cost effectively. LDC has devised a ***"Manufacturing Workflow Assessment"*** that is designed to help manufacturing companies identify bottlenecks and inefficiencies in the quoting, engineering and manufacturing workflow processes. The goal of the ***Manufacturing Workflow Assessment*** is to help identify potential improvement areas that can be automated with the ***Global Edge 2018 – Automated Manufacturing*** system which is the premier quoting and product configuration system for the sheet metal fabrication industry including engineered to order and custom products.

The ***Manufacturing Workflow Assessment*** includes the following sections:

Section 1 – Company Review
- 1.01 – Company Profile
- 1.02 – Company Goals / Objectives
- 1.03 – Product Families

Section 2 – Sales Department Review
- 2.01 – Sales Department Profile

Section 3 – Quoting Review
- 3.01 – Quote Part Library
- 3.02 – Quote Cost Calculations
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Section 4 – Product Family Review
- 4.01 – Product Family Description
- 4.02 – Quote Parameters
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- 4.04 – Quoting Steps

This document is a supplement for a matching Excel spreadsheet for entering assessment information. In the assessment spreadsheet, values can be entered into the green cells and selections can be made with the available check boxes where they are available in specific sections. The information entered in the assessment spreadsheet will be utilized to develop a plan to achieve an automated quoting system utilizing the ***Global Edge*** system and maintaining the existing quoting steps and technologies that are currently in place and working well.

Section 1 – Company Review

1.01 – Company Profile

This section includes company profile information including a list of the people who will participate in the assessment process:

Assessment Date:		**Company Name:**	
Main Phone:		**Division:**	
Fax:		**Address 1:**	
Web Site:		**Address 2:**	
		City:	
Primary Contact:		**State:**	
Primary Contact Phone:		**Postal Code:**	
Primary Contact Email:		**Country:**	

Company Locations	**Location Products & Services**	**Employees**
Location #1:		
Location #2:		
Location #3:		
Location #4:		
Location #5:		

Assessment Participants	**Phone / Ext**		
Participant #1:		**Email:**	
Participant #2:		**Email:**	
Participant #3:		**Email:**	
Participant #4:		**Email:**	
Participant #5:		**Email:**	

1.01 – Company Profile (Continued …)

This section includes further company profile information that includes employee counts, revenues, ERP / Business System utilized, primary products and services, primary competitors, type of manufacturing operation, and the enterprise level software utilized by your company:

(1.01.01) – Total Employee Count:	**0**	**Revenues:**	**$## Million**	**ERP / Business System:**		
Corporate Level / Front Office:			O $1MM - $4.9 MM		[ ] Dynamics GP	[ ] MaCola Mfg. Pro
Sales Department:			O $5MM - $9.9 MM		[ ] Epicor	[ ] MAX ERP
Customer Service Department:			O $10MM - $24.9 MM		[ ] Exacta	[ ] Microsoft Dynamics
Engineering Department:			O $25MM - $49.9 MM		[ ] Glovia ERP	[ ] Oracle E-Bus. Suite
Manufacturing / Shop Floor:			O $50MM - $99.9 MM		[ ] IFS	[ ] QAD
Supply Chain / Inventory:			O $100MM - $499.9 MM		[ ] IQMS	[ ] Quick Books
Finance / Accounting:			O $500MM or Greater		[ ] JD Edwards	[ ] Sage
Information Technology:					[ ] Job Boss	[ ] SAP
Other / Remaining:		**Network Size / Users:**			[ ] Lawson	[ ] Syteline / Symix

Note (1.01.01): The ***"Total Employee Count"*** automatically adds up the count in the cells directly below.

(1.01.02) – Primary Product & Services:	

Note (1.01.02): Enter your primary products and services as it pertains to your quoting process.

(1.01.03) – Manufacturer Type:	[ ] Engineer to Order (ETO)	**Enterprise / CRM:**			
	[ ] Discrete Manufacturing			[ ] Homegrown / Legacy	[ ] MS Dynamics CRM
	[ ] Mixed Mode Manufacturing			[ ] Lotus Notes	[ ] NetSuite
	[ ] Process Manufacturing			[ ] MS Office	[ ] Oracle
	[ ] Repetitive / Make to Stock			[ ] MS Office 365	[ ] Sage ACT!
	[ ] Make to Order (MTO)			[ ] SharePoint	[ ] Sales Force
	[ ] Job Shop			[ ] Homegrown CRM	[ ] Saleslogix
	[ ] Industrial Distribution			[ ] GoldMine CRM	[ ] SugarCRM
	[ ] Light Assembly / Kitting			[ ] Other:	
	[ ] Prof. Serv. (Non-Manufacturing)			[ ] Other:	
	[ ] Other:			[ ] Other:	

Note (1.01.03): Check each of the boxes as it applies to your company including your existing ERP and CRM systems in place.

(1.01.04) – CAD:	[ ] AutoCAD 2D	**PDM / PLM Software:**					
	[ ] AutoCAD Architectural			[ ] Team Center			
	[ ] AutoCAD Mechanical Desktop			[ ] Windchill			
	[ ] Catia			[ ] Other:	-		
	[ ] Pro Engineer			[ ] Other:	-		
	[ ] Solid Edge			[ ] Other:	-		
	[ ] SolidWorks						
	[ ] Other:						
	[ ] Other:						
	[ ] Other:						

Note (1.01.04): Check each of the boxes that your company utilizes with CAD / PDM / PLM software including other third party or home grown systems.

1.02 – Company Goals / Objectives

The first step in developing an assessment for a manufacturing company is to first determine the overall goals of the company. Identifying overall higher level company goals will help with the process of determining what is possible to automate and what is the cost savings potential of automating specific quoting, engineering and manufacturing workflow tasks. In the following green boxes enter primary goals and objectives as it relates to the sales, quoting and product configuration process:

(1.02.01) – Company Goal / Objective #1:

(1.02.02) – Company Goal / Objective #2:

(1.02.03) – Company Goal / Objective #3:

(1.02.04) – Company Goal / Objective #4:

(1.02.05) – Company Goal / Objective #5:

Note (1.02.01 through 1.02.05): Enter your company goals / objectives as it pertains to overall company performance and your sales, quoting, engineering and manufacturing workflow processes.

1.03 – Product Families

This section includes a list of the primary products (families of products) produced by your company. Please indicate with each product family whether or not the product is configurable, engineer to order, or custom:

	Product Description	Config?	Engineer?	Custom?
(1.03.01) – Product Family #1:		-	-	-
(1.03.02) – Product Family #2:		-	-	-
(1.03.03) – Product Family #3:		-	-	-
(1.03.04) – Product Family #4:		-	-	-

Note (1.03.01 through 1.03.04): Enter up to four descriptions of your company's product families and whether these product families are Configurable, Engineered to Order, or Custom products, including a combination of each. These entries will ripple down in the assessment spreadsheet with an opportunity to enter more detailed information (refer to Section 4.01).

(1.03.05) – General Products Description:	

Note (1.03.05): Enter a general description of your company's products as it pertains to the sales and quoting process.

Section 2 – Sales Department Review

2.01 – Sales Department Profile

This section includes profile information of your sales department as it pertains to the sales and quoting process:

(2.01.01) – Number of Quoting People:	0		**Full-Time:**	0		**Part-Time:**	0			

(2.01.02) – Quote Types:		**Percent:**	0%
	[ ] Sheet Metal Parts		
	[ ] Assemblies	**Percent:**	0%
	[ ] Configurable Products / Assemblies	**Percent:**	0%
	[ ] Custom Products / Parts	**Percent:**	0%
	[ ] Other:	**Percent:**	0%

(2.01.03) – Simple Quote – Avg. Time:	0.00	**Hours**	**No. Items:**	0		**# / Week:**	0	**Hrs/Wk:**	0.00	**Hours**
(2.01.04) – Medium Quote – Avg. Time:	0.00	**Hours**	**No. Items:**	0		**# / Week:**	0	**Hrs/Wk:**	0.00	**Hours**
(2.01.05) – Complex Quote – Avg. Time:	0.00	**Hours**	**No. Items:**	0		**# / Week:**	0	**Hrs/Wk:**	0.00	**Hours**
(2.01.06) – Average Quote Time:	0.00	**Hours**	**No. Items:**	0		**# / Week:**	0	**Hrs/Wk:**	0.00	**Hours**
(2.01.07) – Quote Close Percent:	0%									

Note (2.01.01): Enter the total number of people that do quoting for your company followed by how many perform the process full and part-time.

Note (2.01.02): Check the boxes that apply to the type of products your company quotes and what percent of each consume the quoting process.

Note (2.01.03): Enter into this line the average time it takes your company to generate one of your simpler quotes (in hours) and the average number of line items, and the of these quotes that are generated per week. The spreadsheet will calculate the total hours per week spent on this process.

Note (2.01.04): Enter into this line the average time it takes your company to generate one of your medium complexity quotes (in hours) and the average number of line items, and the of these quotes that are generated per week. The spreadsheet will calculate the total hours per week spent on this process.

Note (2.01.05): Enter into this line the average time it takes your company to generate one of your more complex quotes (in hours) and the average number of line items, and the of these quotes that are generated per week. The spreadsheet will calculate the total hours per week spent on this process.

Note (2.01.06): Enter into this line the average time it takes your company to generate an average of simple, medium and complex sales quotes (in hours) and the average number of line items, and the of these quotes that are generated per week. The spreadsheet will calculate the total hours per week spent on this process.

Note (2.01.07): Enter in this box the percent of sales quotes that are generated that become orders.

(2.01.08) – Current Quoting Challenges:

[ ] Keeping quote costs up to date	
[ ] Heavy reliance on spreadsheet to generate sales quote	
[ ] Time consuming analysis of sheet metal parts	
[ ] Manual generation of routings / costs	
[ ] Quote turnaround time	
[ ] Inaccurate quote costs	
[ ] Manual configuration of quoted products / parts	
[ ] Delays in compiling quote costs	
[ ] Manual generation of quote drawings	
[ ] Other:	

Note (2.01.08): Check the boxes that apply to your current quoting challenges followed by a short explanation of these challenges.

Section 3 – Quoting Review

3.01 – Quote Part Library

This section includes part library information that is utilized by the quoting process:

(3.01.01) – # of Standard Quote Parts:		Explain:	
(3.01.02) – # of Configurable Quote Parts:		Explain:	
(3.01.03) – Total Number of Quote Parts:		Explain:	

(3.01.04) – # of Parts in Simple Assembly:		# of Config. Parts:		# of Standard Parts:		Custom:	
(3.01.05) – # of Parts in Medium Assembly:		# of Config. Parts:		# of Standard Parts:		Custom:	
(3.01.06) – # of Parts in Complex Assm:		# of Config. Parts:		# of Standard Parts:		Custom:	

(3.01.07) – Part Numbering Scheme:	
(3.01.08) – Deviations from Standard:	

Note (3.01.01): Enter number of part numbers that are utilized for standard parts in your quoting process followed by an explanation.

Note (3.01.02): Enter number of part numbers that are utilized for configurable parts in your quoting process followed by an explanation.

Note (3.01.03): Enter the total number of parts that are utilized in your quoting part library followed by an explanation.

Note (3.01.04): Enter the average number of parts that make up a simply assembly that your company quotes followed by how many of the parts in the assembly are Configurable, Standard and Custom.

Note (3.01.05): Enter the average number of parts that make up a medium complexity assembly that your company quotes followed by how many of the parts in the assembly are Configurable, Standard and Custom.

Note (3.01.06): Enter the average number of parts that make up a complex assembly that your company quotes followed by how many of the parts in the assembly are Configurable, Standard and Custom.

Note (3.01.07): Enter a description of your part numbering scheme is currently devised for quoted parts.

Note (3.01.08): Enter a description of any deviations from your standard quoting process.

(3.01.09) – Stock Items: No. of Part Numbers:

Quote Part Source:	[ ] Last Cost from ERP	[ ] Quoting Spreadsheet	[ ] Quote Part Database	[ ] RFQ / Vendor
Frequency of Cost Update:	[ ] Weekly	[ ] Weekly	[ ] Weekly	[ ] Weekly
	[ ] Monthly	[ ] Monthly	[ ] Monthly	[ ] Monthly
	[ ] Quarterly	[ ] Quarterly	[ ] Quarterly	[ ] Quarterly
	[ ] Yearly	[ ] Yearly	[ ] Yearly	[ ] Yearly
	[ ] Per Quote	[ ] Per Quote	[ ] Per Quote	[ ] Per Quote

Note (3.01.09): Enter into the green box the number of ***"Stock Item"*** part numbers are utilized in your quoting process followed by selecting the source of those part numbers and how frequently the costs of those parts are updated.

(3.01.10) – Non-Stock Items: **No. of Part Numbers:**

Quote Part Source:	[ ] Last Cost from ERP	[ ] Quoting Spreadsheet	[ ] Quote Part Database	[ ] RFQ / Vendor
Frequency of Cost Update:	[ ] Weekly	[ ] Weekly	[ ] Weekly	[ ] Weekly
	[ ] Monthly	[ ] Monthly	[ ] Monthly	[ ] Monthly
	[ ] Quarterly	[ ] Quarterly	[ ] Quarterly	[ ] Quarterly
	[ ] Yearly	[ ] Yearly	[ ] Yearly	[ ] Yearly
	[ ] Per Quote	[ ] Per Quote	[ ] Per Quote	[ ] Per Quote

Note (3.01.10): Enter into the green box the number of ***"Non-Stock Item"*** part numbers are utilized in your quoting process followed by selecting the source of those part numbers and how frequently the costs of those parts are updated.

(3.01.11) – Raw Materials: **No. of Part Numbers:**

Quote Part Source:	[ ] Last Cost from ERP	[ ] Quoting Spreadsheet	[ ] Quote Part Database	[ ] RFQ / Vendor
Frequency of Cost Update:	[ ] Weekly	[ ] Weekly	[ ] Weekly	[ ] Weekly
	[ ] Monthly	[ ] Monthly	[ ] Monthly	[ ] Monthly
	[ ] Quarterly	[ ] Quarterly	[ ] Quarterly	[ ] Quarterly
	[ ] Yearly	[ ] Yearly	[ ] Yearly	[ ] Yearly
	[ ] Per Quote	[ ] Per Quote	[ ] Per Quote	[ ] Per Quote

Note (3.01.11): Enter into the green box the number of ***"Raw Material"*** part numbers are utilized in your quoting process followed by selecting the source of those part numbers and how frequently the costs of those parts are updated.

(3.01.12) – Outsourced Items: **No. of Part Numbers:**

Quote Part Source:	[ ] Last Cost from ERP	[ ] Quoting Spreadsheet	[ ] Quote Part Database	[ ] RFQ / Vendor
Frequency of Cost Update:	[ ] Weekly	[ ] Weekly	[ ] Weekly	[ ] Weekly
	[ ] Monthly	[ ] Monthly	[ ] Monthly	[ ] Monthly
	[ ] Quarterly	[ ] Quarterly	[ ] Quarterly	[ ] Quarterly
	[ ] Yearly	[ ] Yearly	[ ] Yearly	[ ] Yearly
	[ ] Per Quote	[ ] Per Quote	[ ] Per Quote	[ ] Per Quote

Note (3.01.12): Enter into the green box the number of ***"Outsourced Item"*** part numbers are utilized in your quoting process followed by selecting the source of those part numbers and how frequently the costs of those parts are updated.

(3.01.13) – Notes About Quote Part Library:

Note (3.01.13): Enter any notes and special explanations of how your company maintains and updates costs in your quote part library.

3.02 – Quote Cost Calculations

This section includes information as to how costs are calculated in your quoting process:

(3.02.01) – Quote Spreadsheet Utilization:			
(3.02.02) – Routing Times Calculated:			
(3.02.03) – Routing Production Time Basis:			
(3.02.04) – Quote Item Exceptions:			
(3.02.05) – Sheet Metal Part Quote Time:	0.00 **Hours**		
(3.02.06) – Quote Turnaround Time:	0.00 **Days**		
(3.02.07) – Quote / Inventory P/N Match:	-	**Explain:**	
(3.02.08) – Quote Costs Excel Calculated:	-	**Explain:**	
(3.02.09) – How are Quote Costs Updated:			

Note (3.02.01): If an Excel spreadsheet is utilized in your quoting process, explain how and to what extent that spreadsheet is utilized.

Note (3.02.02): Enter a description as to how routing times are calculated for your quoting process.

Note (3.02.03): Provide an explanation if your routing times for the quoting process is based on actual production times per machine tool.

Note (3.02.04): Provide an explanation of exceptions that your company has with certain quote line items.

Note (3.02.05): Enter the average amount of time it takes your company to quote a sheet metal part followed by an explanation if applicable.

Note (3.02.06): Enter the average number of days it takes your company to generate a sales quote from request to delivery.

Note (3.02.07): Enter ***"Yes"***, ***"No"*** or ***"Both"*** whether your quote part numbers directly match your inventory part numbers.

Note (3.02.08): Enter ***"Yes"***, ***"No"*** or ***"Both"*** whether your quote costs are calculated with an Excel spreadsheet and an explanation if applicable.

Note (3.02.09): Enter an explanation of how your quote costs are updated.

3.03 – Quote Procedures

This section includes information with key steps in the quoting process:

(3.03.01) – Quote costing review approval:

(3.03.02) – Do you send RFQs to vendors:

(3.03.03) – Determine quote delivery dates:

(3.03.04) – Quotes deviated standards:

(3.03.05) – Do quotes have to show costs:

(3.03.06) – Quote approval process:

(3.03.07) – Other:

(3.03.08) – Other:

(3.03.09) – Other:

Note (3.03.01): Explain how your quote costs are reviewed and approved.

Note (3.03.02): If your company sends RFQs to vendors to assemble quote costs, explain any challenges that are related to this process.

Note (3.03.03): Explain how your company determines delivery dates for quoted products.

Note (3.03.04): Explain how steps in your quoting process can deviate from your standard quoting process.

Note (3.03.05): Does your company have to provide a detail of how your quote costs are generate and/or justified? If so, provide and explanations.

Note (3.03.06): Explain how your quote approval process works.

Note (3.03.07): Explain any additional processes that are key to your quoting process.

Note (3.03.08): Explain any additional processes that are key to your quoting process.

Note (3.03.09): Explain any additional processes that are key to your quoting process.

Section 4 – Product Family Review

4.01 – Product Family Description

This section includes information that describes each of the main product families that are utilized in the quoting process. The Assessment spreadsheet will ripple down the header information of each of the four product families:

(4.01.01) – Product Family #1:	Product Description	Config?	Engineer?	Custom?

(4.01.02) – Product Family 1 - Description:	
(4.01.03) – Configured - Typical Options:	
(4.01.04) – Engineered to Order:	
(4.01.05) – Customize to Order:	
(4.01.06) – Notes on Product Family #1:	

Note (4.01.01): This line will display the product header information that was entered in Section 1.03 for each product family.

Note (4.01.02): Enter a more detailed explanation of the product family as it applies to the quoting process.

Note (4.01.03): If the product being quoted is a ***"Configured"*** product, explain what the typical product options are for the quoted product.

Note (4.01.04): If the product being quoted is an ***"Engineered to Order"*** product, explain what considerations go into the quoting of these types of products.

Note (4.01.05): If the product being quoted is a ***"Custom"*** product, explain what considerations go into the quoting of these types of products.

Note (4.01.06): Enter any additional notes about the product family that apply to the quoting process.

4.02 – Quote Parameters

This section includes information that describes the product parameter information that is utilized in the quoting process:

(4.02.01) – Quote Parameters:

[ ] Flat Length	[ ] Number of Round Holes	[ ] Number of Up Bends
[ ] Flat Width	[ ] Number of Round Hole Sizes	[ ] Number of Down Bends
[ ] Material	[ ] Number of Obround Holes	[ ] Number of Internal Up Bends
[ ] Material Thickness	[ ] Number of Obround Hole Sizes	[ ] Number of Internal Down Bends
[ ] Height	[ ] Number of Rectangular Cutouts	[ ] Maximum Up Bend
[ ] Width	[ ] Number of Rectangular Cutouts Sizes	[ ] Maximum Down Bend
[ ] Depth	[ ] Total Number of Cutouts	[ ] Number of Hems
[ ] Perimeter	[ ] Cutout Perimeter	[ ] Total Number of Folds
[ ] Other:	[ ] Other:	[ ] Other:
[ ] Other:	[ ] Other:	[ ] Other:

(4.02.02) – Assemblies:

	From	To
Assembly Part Count:	0	0
Standard Parts:	0	0
Configured Parts:	0	0
Optional Parts:	0	0
Customized Parts:	0	0

(4.02.03) – Manufacturing Processes:

[ ] Blank	[ ] Lathe / Turn	[ ] Spin Forming
[ ] Shear	[ ] Grind	[ ] Casting
[ ] Laser Cut	[ ] Deburr	[ ] 3D Painting
[ ] Plasma Cut	[ ] Heat Treating	[ ] Kitting
[ ] Turret Punch	[ ] Plating	[ ] Assembly
[ ] Form	[ ] Painting	[ ] Inspection / Testing
[ ] Panel Bend	[ ] Polishing	[ ] Packaging
[ ] NC Machine	[ ] Welding	[ ] Outsourcing
[ ] Other:	[ ] Other:	[ ] Other:
[ ] Other:	[ ] Other:	[ ] Other:

(4.02.04) – Config. Parameters / Options:

[ ] Size (Height / Width / Depth)	
[ ] Color Choices	
[ ] Materials	
[ ] Features	
[ ] Fill Patterns	
[ ] Other:	
[ ] Other:	

Note (4.02.01): Check the boxes that include part parameters that are utilized in your quoting process.

Note (4.02.02): Enter a range of parts that comprise typical assemblies that are included in your quoting process including a range of how many Standard, Configured, Optional and Customized parts make up these assemblies.

Note (4.02.03): Check the boxes that include the manufacturing processes that are utilized in your quoting process for determining quote costs.

Note (4.02.04): Check the boxes that include the configuration parameters and options that go into the quoting process of configured parts and/or assemblies.

4.03 – Information Gathering

This section includes information that is gathered and stored as part of the quoting process:

(4.03.01) – How Are RFQs Received:

[ ] Phone / Verbal	
[ ] Email / Website	
[ ] Fax	
[ ] U.S. Mail	
[ ] Government Solicitation	
[ ] Other	

(4.03.02) – Documentation Received:

[ ] Hard Copy / Prints	
[ ] 2D CAD Drawings	
[ ] 3D CAD Models	
[ ] DXF Files	
[ ] PDF Files	
[ ] Word Files	
[ ] Excel Spreadsheet Files	
[ ] Other	

(4.03.03) – Document Storage:

[ ] File Cabinet	
[ ] Customer File Folder	
[ ] PDM Doc. Storage	
[ ] U.S. Mail	
[ ] Other	

Note (4.03.01): Check the boxes that include how Request for Quotes (RFQ) are received by your company.

Note (4.03.02): Check the boxes that include how documentation from customers Request for Quotes (RFQ) are received by your company.

Note (4.03.02): Check the boxes that include how information for your quoting process is currently stored.

4.04 – Quoting Steps

This section is designed to describe each of the steps that take place to generate a sales quote during the quoting process:

Quote Step 1:

Quote Step 2:

Quote Step 3:

Quote Step 4:

Quote Step 5:

Quote Step 6:

Quote Step 7:

Quote Step 8:

Quote Step 9:

Quote Step 10: