

Streamingteacher's Mastercam vX Courseware

Block 1

3100	Introduction to Streamingteacher	6:41 min
	Introduction video that explains how to use the courseware and how to utilize it along side of Mastercam. Covers navigation through the Table of Contents, Searching, File Downloads, Alt-Tabbing, Video Player Controls and using the Interface.	
3105	Tooltips and Learning Mode Prompts	5:18 min
	How access tool tips and Learning mode prompts.	
3106	Help Menu	2:37 min
	Accessing Help. Navigating through the Help Menu. Accessing The Mastercam X Reference Guide.	
3107	MRU	2:53 min
	Most Recently Used	
3109	Windows Basics	4:55 min
	File naming, rename, delete, minimize, maximize, etc.	
3111	CAD/CAM Coordinate System	6:07 min
	Cartesian coordinates, Point Locations within the Cartesian Coordinate System.	

Block 2

3201	Menus / Interface	2:56 min
	How to access the menus to perform functions. How to use shortcut keys to access functions.	
3203	Toolbars	8:39 min
	Toolbar configuration, new toolbars, right mouse button config, etc.	
3205	Hotkeys	6:45 min
	Hotkeys for quick access.	
3207	Mouse Actions	7:55 min
Modified: 8/4/2005	Demonstrate Mouse Functionality as it Applies to Various Areas of Mastercam X.	
3209	Keyboard Data Entry	3:40 min
	Data entry shortcuts, prompt calculator, value input, inch, metric, angular and fast point.	
3211	System Info, View Gnomons and Status Bar Feedback	7:31 min
	Cursor Tracking, Units and Scale indicators, System Origin indicators, G-View, C-Plane, T-Plane, WCS Indicators, Hotkeys for quick access.	
3213	View Control	4:54 min
	Zoom/Un-Zoom, Fit to Screen, Pan vs. Spin, Dynamic Rotate, Zoom to a Target, Repaint, F9, Alt+S and Right Mouse-Click Functionality.	
3215	Auto Cursor / Auto Highlight	11:21 min
Modified: 8/3/2005	Auto Cursor Ribbon Bar. Auto Cursor / Highlight configuration and how it works. Snapping to lines, endpoints, midpoints, angles, etc. Visual Cues. Auto Cursor Override.	
3217	Status Bar	3:42 min
Modified: 8/3/2005	Items showing by default. How to access. Right and Left Click Functionality. Customization.	
3219	Operations Manager Panel Access	2:10 min
	How to access it, hotkeys and right click functionality.	
3221	General Selection Ribbon Bar	5:19 min
Modified: 8/3/2005	Overview of basic selection methods. Entity "Masks" for "All" and "Only". Hotkey tips.	
3223	Pre-Selection	2:49 min

Turning Pre-Selection On/Off, Selecting entities prior to function, Selecting entities after function, Unselecting entities.

3225	Masking	5:29 min
Modified: 8/10/2005	A more detailed look at the Masking option for entity selection. "All" and "Only". Setting Preferences. "Same As" Option. "Maintain Only" Option. Saving a Mask Configuration.	
3227a	Chaining Basics	7:59 min
	What is a Chain, Full chain, Partial Chain, How to access the Chain option, Chaining intersecting Geometry and Chain Direction.	
3227b	Chain Selection Problems	8:43 min
	Recognizing Chaining Problems: Overlapping Entities, Duplicate Entities, Improperly Trimmed Entities and Impact on Toolpaths.	
3229	Levels Basics	8:15 min
	What are Levels, How to Change Levels for New Geometry, Accessing the Levels Manager, Naming Levels, Level Visibility On or Off, Main Level Always Visible Option.	
3230	More on Levels	2:45 min
	How to change Levels for Existing Geometry, Match the Level of Existing Geometry.	
3231	Levels Manager	3:47 min
	Using Level Sets, Saving and Importing Level Formats, Selecting Levels, Creating a Levels Report.	
3235	Construction Plane	8:48min
	Creating Geometry using Standard Construction Planes. Changing Construction Planes. Changing C Planes and Z Depths in 2D and 3D Modes.	
3237	Graphics View	3:53 min
	Accessing Graphics Views. Hot Keys. Status bar Access. Right Mouse Button.	
3239	Named Views, WCS	12:18 min
Modified: 10/31/2005	WCS, Named Views, For Graphics Viewing and for Geometry Construction.	
3240	Changing The WCS	6:50 min
Modified: 9/16/2005	Create a Named View and Set the System WCS to recognize it as "Top".	
3241	Undo / Delete	5:02 min
	Undo / Redo. Unlimited or Limit. Delete / Undelete. Delete Duplicate Entities. Events not available for Undo.	
3243	Multi-Viewports	3:05 min
	How to access viewports, changing views inside a viewport and using viewports with backplot.	

Block 3

3303	Colors, Line Style and Width	4:47 min
	Set Attributes For Geometry to be created, Change attributes of Existing Geometry, Match Color of Existing Geometry.	
3305	Attributes Manager	7:05 min
	Access the Entity Attributes Manager, Setting Preferences, Apply to Existing Geometry.	
3306	File Merge / Pattern	7:15 min
Modified: 9/1/2005	How to use the Merge / Pattern function and the different uses and options.	
3307	Groups / Result	6:58 min
Modified: 9/1/2005	Creating Groups. Group Colors vs. Entity Color. Selecting entities by Groups. Automatically Generated Groups and Results.	
3308	Blank/Un-Blank, Hide/Un-Hide	4:31 min
Modified: 9/8/2005	Using the Hide / Blank Utilities to Temporarily Remove Entities from the Graphics Area.	
3309	2D / 3D Mode	8:06 min
	2D / 3D modes and using Z depth, Creating geometry in 2D space and Creating geometry in 3D space.	
3311	Ribbon Bar	4:58 min

Activating the ribbon bar. Unlocked, Soft-lock and Hard-lock. Navigating through the ribbon bar, tool tips, learning mode, closing the ribbon bar.

3313	Live, Fixed and Phantom Entities	1:49 min
3315	Properties of entities when they exist as a: Phantom Entity, Live Entity, Fixed Entity. Line Function	6:51 min
3316	How to access create line endpoint, input x and y coordinates for endpoints, create line with polar information, multi-line creation, create vertical and horizontal lines, create tangent lines. More Create Line Function	3:53 min
3317	Create line closest, line bisect, line perpendicular, line parallel, line parallel and tangent. Arc Tool	3:23 min
3317b	Basic Arc Tool Options. Create Circle Centerpoint. Ribbon Bar Fields / Hotkeys. Edit a Live Entity, Create Circle Centerpoint and Tangent. Arc Polar	5:18 min
3317c	Defining an Arc By Start and End Angles. Defining and Editing an Arc Center Point. Using the "Flip" option. Using The Tangent option. Create Circle Edge Point	3:21 min
3317d	Defining a Circle by 2 or 3 Points. Creating a Circle Tangent to 2 Entities, and to 3 Entities. Create Arc Endpoint	2:18 min
Modified:		
8/5/2005	Create Arcs Defined by Endpoints. Tangency Option for Create Arc Endpoint.	
3317e	Create Arc 3 Points	2:03 min
Modified:		
8/16/2005	Create Arcs as Defined By 3 Points. Create Arcs Tangent to 3 Entities.	
3317f	Create Arc Polar Endpoints	2:58 min
Modified:		
8/26/2005	Create Arcs Defined By End Point Positions.	
3317g	Create Arc Tangent	10:31 min
10/31/2005	Create Arc Tangent "Options" within the various Arc Functions, Plus Overview of the "Create Arc Tangent Function".	
3318	Relative Positioning	3:11 min
3319	Create Entities Relative to the position of another. Define location by X-Y coordinates, Polar Coordinates, and Distance along and entity. Fillet Tool	5:24 min
3320	Enter radius values, fillet styles, trim options, filleting chains vs. entities, chain / fillet direction options. Chamfer Tool	3:35 min
3321	Enter Distance Values, 1 Distance, 2 Distances, 1 Distance + Angle, Width, Trim Options, Chamfer Chains vs Entities. Point Tool	6:54 min
3322	Create Point Position, Create Point Dynamic, Create Node Points, Create Point Segments, Create Point Endpoint, Create Point Small Arcs. Create Bolt Hole Circles	1:25 min
3/17/2006	Accessing the Create Bolt Circles function. Setting the Radius, Start Angle, Angle Between and Number of Holes. Using the Create Holes option and setting the diameter.	
3323	Rectangle / Rectangular Shapes	5:05 min
3323b	Sketching a rectangle, defining by 2 points, defining by width and height, rectangle including a surface, rectangular shapes, "D" shape, double "D", ob-round, choosing an anchor point, filleted corners, center point and rotate the orientation. Create Bounding Box	3:22 min
3324	Create: Stock, Lines / Arcs, Points, Solids, Expand Options, Rectangular / Cylindrical, All Entities / Select Entities, Center on Axis. Create Polygon / Ellipse	4:21 min
3325	Sketching a Polygon, Defining the "Base Point", Defining Number of Sides, Radius across flats or corners, Filletting the corners, Defining the Base Point of an Ellipse, Entering values for Radius "A" and "B", Create a partial ellipse, Angle of orientation, Spline Tool	5:42 min

Create Spline Manual, Create Spline Automatic, Create Curves Spline, Create Blend Spline, Edit End Conditions.

3326	Converting Splines to Arcs	6:31 min
Modified: 10/11/2005	Convert Circular Shaped Splines to Arcs. Using the Simplify Function. Convert Splines to Arc Segments. Using Break Many Pieces. Converting a Chain of Arcs to a Single Spline. Using the Create Curves Spline Function.	
3327	Trimming Tool	7:53 min
3329	Break Functions	7:21 min
Modified: 8/5/2005	Break 1, 2, and 3 entities. Break Divide. Break at a Point. Break at a Distance. Break Extend.	
3332p3501	2D Sketcher Project 1	11:19 min
3332p3502	2D Sketcher Project 2	9:44 min
3332p3503	2D Sketcher Project 3	10:26 min
3332p3504	2D Sketcher Project 4	10:01 min
3332p3505	2D Sketcher Project 5 - Part 1	7:30 min
3332p3506	2D Sketcher Project 5 - Part 2	7:05 min
3332p3506b	2D Sketcher Project 6	8:12 min
Modified: 8/17/2005	Create Circle Center Point. Create Arc Polar. Create Line Horizontal, Vertical, Polar, Parallel. Create Arc Polar Tangent. Create Arc 3 Points Tangent. Create Circle Edge Points Tangent. Fillet, Trim, and Delete Tools.	
3333	2D Dimensioning	12:29 min
Modified: 9/8/2005	2D Dimensioning. Smart Dimension. Local and Global Settings. Adding Notes. Editing Dimensions. Hot Keys.	
3335a	Translate	5:28 min
3335b	Translate Project Function	4:13 min
3337	Mirror	3:10 min
3339	X-Form Rotate	3:52 min
3340a	X-Form Translate 3D Standard	1:27 min
3340b	X-Form Translate 3D Auxiliary View	2:13 min

Translate between Auxiliary views, Geometry Selection, X-Form Translate 3D Dialog Box, Accessing the View Mgr, Creating a New View, Source View, Source reference point, Destination View, Destination reference point.

3341p3507	X-Form Translate Project 1	4:06 min
	X-Form Translate Application, Geometry Selection, Move, Copy, or Join, Distance and Direction, Use New Attributes, Clear Colors, Apply vs. OK.	
3348	Intro to Solids	7:23 min
Modified: 10/11/2005	Accessing the solids manager, association between wireframe and solids, organizing entities. Using Extrude to create a body, cut a body and editing parameters.	
3348a	3D Primitives Basics	7:19 min
Modified: 10/18/2005	Primitive Types. Surface / Solids Option. Creating a Cylinder Primitive. Selecting a Base Point. Radius, Height, Sweep. Orient about an Axis, 2 Points, or a Line. Edit Attribute Control Fields.	
3348b	Creating Primitive Shapes	9:35 min
Modified: 10/21/2005	More Primitive Types, Solids/Surfaces Option. Block, Cone, Sphere and Torus Shapes. Selecting a Base Point, Entering and Editing Attribute Fields.	
3348c	Solid Primitives Project	13:06 min
Modified: 11/3/2005	Solid Project Using Only Primitive Solid Shapes.	
3348d	Surface/Solids Shading	7:34 min
Modified: 12/6/2005	Covers shortcut key access (alt-s), changing colors of shaded models, Mouse Dynamic mode, translucent models, ambient light, chordal height settings, Radial Display Curve Angle.	
3348e	Solid Extrude Function - part 1	2:03 min
Modified: 11/28/2005	Chaining Direction vs. Extrude Direction. Editing and Regenerating Solids. Distance and Draft Options. Direction Options.	
3348f	Solid Extrude Function - part 2	3:28 min
Modified: 11/28/2005	Re-Select Function. Re-Select Ribbon Bar Options. Vector, Translucent Shading, and Shortcut Keys.	
3348g	Solid Extrude Thin Wall Option	6:39 min
Modified: 12/13/2005	Extrude Boss and Cut Using The Thin Wall Option. Thicken amount and direction options. Combine Operations.	
3348h	Solid Revolve	4:18 min
Modified: 12/13/2005	Create Solids Using the Revolve Function.	
3348i	Solid Revolve Cut	2:20 min
Modified: 12/13/2005	Cut Solids Using the Revolve Function	
3348j	Solid Sweep	3:31 min
Modified: 1/9/2006	Solid Sweep. Geometry required for the operation.	
3348k	Solid Draft Faces	6:47 min
Modified: 1/9/2006	Draft Solid Faces. Face, Plane, Edge, or Extrude Selection. Draft Angle. Draft Direction. Reference Face / "Hinge Point" Relation. Edit Solid Operations / Regenerate. Propagate Along Tangencies.	
3359p3512a	Ten Step Project 1 - part 1	12:56 min
	Basic 10 Step Approach to Programming in Mastercam X, Part 1.	
3359p3512b	Ten Step Project 1 - part 2	11:55 min
	Basic 10 Step Approach to Programming in Mastercam X, Part 2	

Block 4

3401	Operations Manager Overview	12:23 min
Modified: 8/2/2005	Toolpath Manager. Object definition (icons). Properties. Editing and Regenerating Operations. Re-Number Tools. Edit Common Parameters.	
3407	Common Toolpath Parameters - Part 1	6:39 min

	Tool display Window, Access the tool library, Tool Selection and Filter, Tool Definition / Parameters, Accessing the Tool Manager, Accessing the Speed / Feed Calculator, General description of options available, Force Tool Change Option.	
Modified: 8/15/2005		
3408	Common Toolpath Parameters - Part 2	6:47 min
	Contour Parameters Page, General description of options available, Tool Height definitions, Cutter Comp Options, Tip Comp, Roll Cutter around Corners, Infinite look ahead, Leave Stock.	
3408a	Absolute vs. Incremental Depths	7:26 min
Modified: 10/4/2005	Setting the final Cutting Depth from either Z "0" or setting the final depth to the "Distance in Z from the Geometry"	
3408b	Backplot	6:05 min
	Access Backplot. Select Operations. Toolpath Display. Backplot Options. The Player Bar. Information Display.	
3408c	Verify	9:00 min
	Access Verify. Select Operations. Tool Display Options. Verify Options. Machining Controls. Verbose Mode. Measure Option. Translucent Stock. Color Options.	
3408d	Cutter Compensation	11:08 min
	Using Cutter Comp in Mastercam, Cutter Compensation in Computer, Cutter Compensation in Control, Cutter Compensation Wear, Cutter Compensation Reverse Wear, Cutter Compensation Off, Lead In / Out, Cutter Comp with Pocket Operations, Tool Diameter Values i	
3409	Facing Function	12:24 min
	Create a Facing Toolpath w/Wire Geometry, Create toolpath w/ Stock setup definition, Access Tool Library, C-Plane Chaining, Cutting Methods, Options within the Facing Parameters Page.	
3409p3514	Facing Project 1	12:42 min
	Create a Facing Toolpath w/Wire Geometry, Create Toolpath w/Stock Setup Definition, Access Tool Library, C-Plane Chaining, Cutting Methods and Options Within the Facing Parameters Page.	
3411a	Pocket Basics	6:35 min
	Pocket basics, Geometry selection, Pocket final depth, Depth Cuts, Cutting Method, Machine Finish Pass Final / All Depths.	
3411b	Pocket Incremental Depths	5:13 min
	Pocket Incr. Depths, Geometry selection, Analyze Entity, C-plane Chaining, Edit a Cutting Tool, Incremental vs Absolute Depths.	
3411c	Pocket Finish Passes	4:08 min
	Pocket Finish Passes, Depth Cuts By Pocket, Depth Cuts By Depth, Machine Finish Pass only at Final Depth, Machine Finish Pass after Roughing all Pockets.	
3411d	Pocket Basic Entry Parameters	6:46 min
	Basic Entry Parameters, Ramp Entry, Helix Entry, Follow Boundary.	
3411e	Pocket Plunge Entry in a Hole	3:02 min
	Pocket Plunge Entry in a Hole, Chain Geometry for Pocketing, Including Points with the pocket chains.	
3411f	Pocket Additional Finish Operation	4:36 min
	Pocket Additional Finish Operation, Chain Geometry for Pocketing, Including Points with the pocket chains, Create a Pocket Toolpath, Creating a separate finish operation, Lead In / Out Parameters, Access Verify Configure Page, Use Cylinder shaped stock, C	
3411g	Pocket Face Toolpath	10:55 min
	Pocket Face toolpath, Geometry required for Pocket Facing, Setting toolpath Depth, Entrance / Exit Parameters, Overlap Percentage, Finish outer Boundary, Inside Out / Outside In.	
3411h	Pocket Island Face Toolpath	4:17 min
	Pocket Island Face toolpath, Geometry required for Pocket Island Facing, Approach / Exit Distance, Overlap Percentage, Stock Above Island, Depth Cuts.	
3411i	Pocket Re-Machining	6:46 min
	Pocket Re-Machining, Generating a Pocket Re-Machine Toolpath, Copying an existing toolpath, Setting Re-Machine Parameters, Clearance Values, How the toolpath is computed, Cut where needed vs. complete finish pass.	
3411p3516	Toolpath Combo Project 1	13:26 min

Modified: 2/22/2006	Creating a new View / Work "0". Define Stock. Toolpaths Created: Face, Contour Standard and Ramp, Pocket Circle Mill, Drill, Spot-Drill, and Tap. Copy a Toolpath and Re-Chain Geometry. Verify Toolpaths.	
3413a	2D Contour Function	12:23 min
	Select default machine type, Load 2D Toolpath Toolbar, Define Stock, Creating a Contour Toolpath, Chaining Geometry, Access Tool Library / tool selection, Setting Contour Parameter Values, Cutter Comp Selection, Break Thru, Basic Lead in / out, Back Plot.	
3413b	2D Contour - Lead In / Out	5:28 min
	Overview of Lead In / Out options, Line / Arc options, Start at Midpoint, Overlap, Adjust Start / End of Contour, Enter / Exit on 1st / Last depth cut only, Override feed rate, Use Entry / Exit Point.	
3413c	2D Contour - Depthcuts / Multipass	11:35 min
	Overview of Depthcuts / Multipass options, Maximum Rough Step, Number of Finish Cuts, Finish Step, By Contour / By Depth, Rough Pass Number / Spacing, Finish Pass Number / Spacing, Machine Finish Pass Final / All Depths.	
3413d	2D Contour - 2D Chamfer	5:25 min
	Chain Selection / Direction, Tool Selection, Tool Library Filter, Depth Value, Accessing 2D Chamfer Contour Type, Setting Chamfer Width / Tip Offset, Verify Round Stock Display.	
3413e	2D Contour - Chamfer Supplement	3:41 min
	Chamfer Supplement, Toolpath Models Designed with Chamfers, Profile Chain Selection, Depth Value Selection.	
3415p3518	Contour Project 2D	4:34 min
Modified: 9/26/2005	Creating a Contour toolpath, Chaining Geometry, Lead In/Out, Multi-Pass, Shorten/Extend Contours, Break Function, Leave Stock.	
3417a	Drill Function - Drill Parameters	5:50 min
	Basic Drill Parameters, Entity Selection Methods, Selecting Arc Centers, Using the "Entities" select option, Drill Cycle Types, Tip Compensation.	
3417b	Drill Function - Entity Selection Methods 1	2:37 min
	Basic Drill Parameters, Entity Selection Methods, Mask on Arc, Sorting Option.	
3417c	Drill Function - Entity Selection Methods 2	2:18 min
	Basic Drill Parameters, Entity Selection Methods, Automatic Point Selection, Review of Drill Toolpath Basics.	
3419	Circmill	5:32 min
	Circmill Basics, Circmill Parameters, Roughing Parameters, Entity Selection Methods, Points vs. Circles, Changing Arc Sweep values for cutter comp.	
3421	Threadmill	12:43 min
	Threadmill toolpath, Generating a Threadmill Toolpath, Tool Geometry on a Custom Level, Selecting Geometry, Threadmill Parameters, Using an STL file for Verify Stock, Select and Copy Toolpaths, Number of Active Teeth.	
3425	Slot Mill	4:41 min
	Slot Mill Basics, Slot mill Parameters, Ramp Parameters, Entity Selection Methods, Geometry Requirements, Changing Arc Sweep values for cutter comp.	
3425b	Export Operations	2:08 min
Modified: 3/17/2006	Export Operations with Geometry, Select a Directory, Name the Operation File.	
3425c	Import Operations 1	3:45 min
Modified: 3/17/2006	Importing Operations with Geometry, Sort Operations by Tool Number.	
3426	2 Vise Set-up Project - Part 1	10:15 min
Modified: 1/9/2006	Creating Named Views. Assigning New Origins to Work Offsets. Relationship Between Toolpaths and Views. Changing Views. Creating a Facing Toolpath. Tool Library Filter. Calculating Feeds and Speeds. Creating Contour Toolpaths. Depth Cuts and Multi-pass. Cu	
3427	2 Vise Set-up Project - Part 2	8:06 min
Modified: 1/9/2006	Switching Between Views. Creating Drill Toolpaths. Setting Depths using Drill Calculator. Copying a Toolpath. Creating a Pocket Toolpath. Tool Entry in a Drilled Hole. Circle Toolpath.	
3428	2 Vise Set-up Project - Part 3	5:41 min

Modified: Review of the Process. Using an STL File in Verify. Edit Common Parameters. "Force Tool Change."
1/9/2006 Posting the Code. Reviewing the Code in the Program Editor. Why Use Multiple Work Offsets.
3432 [Transform Toolpaths](#) 7:44 min

Modified:
9/18/2006 Transform toolpaths

Updates

3601	SP1: Service Pack 1 Changes	6:25 min
Modified: 12/2/2005	Large Font Support. New Options in the Toolpath Manager Display. New Solid Import Options. New Help Menu Index. New Program Number Options. Version Checker.	
3602	SP2 & MR1: Interface Changes - part 1	3:42 min
Modified: 12/22/2005	Change to Window Selection, Version 7 Color Layout C-Hook, Levels Manager Contrasting Rows, Mastercam Editor Enhancements.	
3603	SP2 & MR1: Interface Changes - part 2	4:42 min
Modified: 12/22/2005	Change to "About Mastercam" Info, Create Bolt Hole Circle, Isometric View / C-Plane Update, Restrict Drawing Option in Backplot.	
3604	SP2 & MR1: Interface Changes - part 3	3:44 min
Modified: 12/22/2005	Extrude Solid Reverse Direction, Hot Keys for Toolpath Geometry Selection, Solid Loops for Toolpaths.	
3605	SP2 & MR1: Interface Changes - part 4	2:35 min
Modified: 12/22/2005	Graphics Update, Create Circle Edge Point Default, Create Arc Tangent Function.	
3607	SP2 & MR1: Toolpath Editor	3:48 min
Modified: 12/22/2005	Overview of the new Toolpath Editor, Step to a Tool Position to be Edited, Select the Tool Position to be Edited. Delete a "Section" from a toolpath, Edit at a Point of a toolpath, Change Z height and Feed Rate.	
3608	SP2 & MR1: Silhouette Boundary	2:16 min
Modified: 12/22/2005	Overview of the Silhouette Boundary C-Hook.	
3631	MR1: Multi-Pass Threadmilling	1:49 min
Modified: 12/22/2005	Demonstrates the new Multi-Pass feature within the Threadmill Toolpath.	
3632	MR1: Intro to the new HST Machining	1:53 min
Modified: 1/3/2006	Introduction to the new High Speed Toolpaths in MR-1.	
3633	MR1: Overview of HST Machining	7:09 min
Modified: 1/3/2006	How to Create High Speed Toolpaths. Selecting Solids for Machining. New Interface. Basic Parameters. Quick View Settings Window. Copy a Toolpath. Change Toolpath Type and Style. Loop Transitions between Passes.	
3634	MR1: Core Roughing	4:08 min
Modified: 1/4/2006	This new roughing motion ensures climb cutting almost all the time and plunges off of the part to the next depth whenever possible. Additional cuts can be added based on a maximum profile stepover set by the user. Features covered: Setting Cut Parameters.	
3635	MR1: Area Clearance	2:44 min
Modified: 1/4/2006	Better suited for roughing cavities and has similar entry/exit intelligence to Core roughing.	
3636	MR1: Restmill	6:13 min
Modified: 1/25/2006	Using the Restmill Option in a Roughing Op. Save Verify Results as an STL File. Use an STL File as Stock for Verify. Enter a ? for "Data Entry" Shortcut Keys. Limiting "Z" Depths.	
3637	MR1: Adaptive Stepdown	4:59 min
Modified: 1/25/2006	Applying the Adaptive Stepdown Method. Which Toolpaths are Constant Z Cutting. Accessing the Add-Cuts Option. Min. Stepdown vs. Max. Profile Values.	
3638	MR1: Horizontal	5:26 min
Modified:	Automatically calculates and machines only the flat surfaces. The user also has control over the range	

1/25/2006	of depths to be machined.	
3639	MR1: Waterline	7:12 min
Modified:	This is a “constant Z” toolpath with smooth intelligent motion. Fewer retract moves keeps the cutter in contact with the part more often.	
1/25/2006		
3640	MR1: Pencil Cutting	7:25 min
Modified:	Machines just the “creases” of the part or the entire part with a unique and natural cutting motion. Applying the Pencil Finish Toolpath. Limit Number of Offsets. Steep / Shallow Angle Parameters.	
2/8/2006	Analyze Dynamic. Step-over Parameter. Overthickness Parameter.	
3641	MR1: Scallop	8:09 min
Modified:	Similar to the existing scallop toolpath, but with better transition motion. Applying the Scallop Finish Toolpath. Stepover / Scallop Height Up Milling / Down Milling / Zig Zag. Steep / Shallow Angle Parameters. Approximate Starting Point. Save Verify Results as an STL File. Using Scallop Rest	
2/22/2006	Passes. Evaluating the Results of the Toolpath.	
3642	MR1: Raster	8:46 min
Modified:	Similar to the current finish parallel toolpath, now with improved entry/exit motion. Applying the Raster Finish Toolpath. Steep / Shallow Angle Parameters. Linking Parameters. Step-over Values. Cut	
2/28/2006	Parameters / Machining Angle. Using a Containment Boundary. Adding a Pencil Finishing Toolpath. Evaluating the Results of the Toolpath.	
3643	MR1: Arc Filter	9:04 min
Modified:	Accessing Filter Parameters. Filter Ratio. Filter Tolerance. Cut Tolerance. Total Tolerance. Arc Planes	
4/7/2006	G17, G18, G19. How Filtering Effects NC Code Size. How Filtering Effects Cut Accuracy.	
3644	MR1: HST Combo Project Part 1	9:11 min
Modified:	Create New View / Origin. Stock Setup. HST Core Rough. Arc Filtering. Backplot Settings. HST	
4/13/2006	Restmill. Verify with STL Stock Model.	
3645	MR1: HST Combo Project Part 2	7:19 min
Modified:	HST Horizontal Finish. Modify Parameters. HST Waterline Finish. HST Scallop Finish. Save Verify	
4/11/2006	Results as an STL Model.	
3646	MR1: HST Combo Project Part 3	5:27 min
Modified:	HST Pencil Finish. Modify Parameters. Verify With STL Compare: Save an STL File of Design Model.	
4/11/2006	Compare Verify Results to STL File. Interpret STL Compare “Color Code.”	
3647a	MR1: HST Project 2 Roughing Part 1	7:07 min
Modified:	Create New View / Origin. Stock Setup. Face Toolpath. HST Area Clearance. Selecting a Containment	
5/31/2006	Boundary. Backplot and Verify Toolpaths. Save Verify Results as an STL File.	
3647b	MR1: HST Project 2 Roughing Part 2	7:12 min
Modified:	Rough Rest Passes Option. Create Rest Passes using progressively smaller diameter tools to further	
5/31/2006	rough out the model. Save Verify Results as an STL File. Verify using STL Stock Model	
3648a	MR1: HST Project 2 Finishing Part 1	8:01 min
Modified:	Create New Toolpath Group. Horizontal Area Finishing Toolpath. Waterline Finishing Toolpath. Save	
5/31/2006	Verify Results as an STL File. Verify using STL Stock Model.	
3648b	MR1: HST Project 2 Finishing Part 2	3:45 min
Modified:	Pencil Finishing Toolpath. Save Verify Results as an STL File. Verify using STL Stock Model. Verify	
5/31/2006	With STL Compare: Save an STL File of Design Model. Compare Verify Results to STL File. Interpret	
3648c	MR1: HST Project 2 Finishing Part 3	3:45 min
Modified:	Pencil Finishing Toolpath. Save Verify Results as an STL File. Verify using STL Stock Model. Verify	
5/31/2006	With STL Compare: Save an STL File of Design Model. Compare Verify Results to STL File. Interpret	
3650a	MR2: Fastpoint	2:11 min
Modified:		
5/18/2006	Setting the default to FastPoint Mode	
3650b	MR2: Power Keys	2:21 min
Modified:		
5/18/2006	AutoCursor overrides available via single keystrokes	
3650c	MR2: AutoCursor Lock / Overrides	1:41 min
Modified:		

5/18/2006	AutoCursor locked mode for multiple events. Locked mode limitations	
3650d	MR2: Un-Zoom Previous	1:24 min
Modified:		
5/18/2006	The "F2" Hotkey is now Un-Zoom Previous.	
3650e	MR2: Name NC Files	1:49 min
Modified:		
5/18/2006	Setting the default names for Machine Groups, Toolpath Groups, and the NC File Name.	
3650f	MR2: Backplot Tool Display	2:04 min
Modified:		
5/18/2006	Opacity settings added to Backplot settings dialog boxes.	
3650g	MR2: Toolpath Manager Display Enhancements	3:13 min
Modified:		
5/18/2006	Only display selected toolpaths, Only display associated geometry, or Both.	
3650h	MR2: User Defined Speeds / Feeds	4:15 min
Modified:		
5/18/2006	Manually set feeds and speeds.	
3650i	MR2: Chaining Default Options. and Level Descriptor	1:28 min
Modified:		
6/5/2006	New Options for setting User Defaults for Chaining. Display Level Descriptor on the screen	
3650j	MR2: MCX Backup Files	2:53 min
Modified:		
5/23/2006	Save backup files in a user-specified backup directory.	
3650l	MR2: Modify Spline function	1:31 min
Modified:		
6/5/2006	Modify the node points of parametric splines	
3650m	MR2: STL Compare	3:45 min
Modified:		
5/23/2006	Reset Tolerance and Stock to Leave.	
3650n	MR2: Browse for External Communications	0:41 min
Modified:		
5/23/2006	Starting with MR2, Mastercam will allow you to browse for an external communications package.	
3650p	MR2: HST Rest Roughing	1:53 min
Modified:		
5/18/2006	Rest Roughing toolpath has been added to the HST toolpaths. You can now select a previous operation, all. previous operations, a CAD file (including STL), or a roughing tool.	
3650q	MR2 HST Stock to Leave on Floors and Walls	1:13 min
Modified:		
5/18/2006	Now you can set different values for stock to leave on vertical and horizontal areas for all of the HST toolpaths	

Fast Track

3501	2D Sketcher Project 1	11:19 min
	Create rectangle, create line polar, tangent, access fast point, create arc polar, create line horizontal, create fillets, trim, partial chain, select entities with window "Inside +", x-form mirror.	
3502	2D Sketcher Project 2	9:44 min
	Create Circles Center Point, Create Arcs Polar, Access the "Relative" Position Option, Create Arc Polar, Create Circles Tangent to 2 Entities, Trim 3 entity option, Create Fillets.	
3503	2D Sketcher Project 3	10:26 min
	Create Lines Polar, Create Arcs Polar Start/End Angle, Fast Point Access, Create Fillets with preview and trim, Select entities to Rotate, X-form Rotate, Trim 2 entities, Create Arcs Tangent to 3 entities, Create Circle at the Center of an Arc.	
3504	2D Sketcher Project 4	10:01 min
	Create Circles Center Point, Create Arcs Polar, Access the "Relative" Position Option, Create Arc Polar, Create Circles Tangent to 2 Entities, Trim 3 entity option, Create Fillets.	
3505	2D Sketcher Project 5- part 1	7:30 min

Create Line Polar, Create Line Horizontal, Create Line Vertical, Create Line Parallel, Create Circles Center point, Access "Relative" Location Option.

3506	2D Sketcher Project 5 - part 2	7:05 min
	Create Line Tangent at an Angle, Create Line Parallel, X-form Mirror, Create Arcs Polar, MRU toolbar, Create Circles Center point, Trim 3 entity option, Delete function, Create Arc Tangent to 3 entities, Create Circle Edge Points, Create Fillets.	
3506b	2D Sketcher Project 6	8:12 min
Modified: 8/17/2005	Create Circle Center Point. Create Arc Polar. Create Line Horizontal, Vertical, Polar, Parallel. Create Arc Polar Tangent. Create Arc 3 Points Tangent. Create Circle Edge Points Tangent. Fillet, Trim, and Delete Tools.	
3507	X-Form Translate Project 1	4:06 min
	X-Form Translate Application, Geometry Selection, Move, Copy, or Join, Distance and Direction, Use New Attributes, Clear Colors, Apply vs. OK.	
3512	Solid Primitives Project	13:06 min
	Solid Project Using Only Primitive Solid Shapes.	
3512a	Ten Step Project 1 - part 1	12:56 min
	Basic 10 Step Approach to Programming in Mastercam X, Part 1.	
3512b	Ten Step Project 1 - part 2	11:55 min
	Basic 10 Step Approach to Programming in Mastercam X, Part 2.	
3514	Facing Project 1	12:42 min
	Create a Facing Toolpath w/Wire Geometry, Create Toolpath w/Stock Setup Definition, Access Tool Library, C-Plane Chaining, Cutting Methods and Options Within the Facing Parameters Page.	
3516	Toolpath Combo Project 1	13:26 min
Modified: 2/22/2006	Creating a new View / Work "0". Define Stock. Toolpaths Created: Face, Contour Standard and Ramp, Pocket Circle Mill, Drill, Spot-Drill, and Tap. Copy a Toolpath and Re-Chain Geometry. Verify Toolpaths.	
3518	Contour Project 2D	4:34 min
Modified: 9/26/2005	Creating a Contour toolpath, Chaining Geometry, Lead In/Out, Multi-Pass, Shorten/Extend Contours, Break Function, Leave Stock.	
3523	2 Vise Set-up Project - Part 1	10:15 min
Modified: 1/12/2006	Creating Named Views. Assigning New Origins to Work Offsets. Relationship Between Toolpaths and Views. Changing Views. Creating a Facing Toolpath. Tool Library Filter. Calculating Feeds and Speeds. Creating Contour Toolpaths. Depth Cuts and Multi-pass. Cut	
3524	2 Vise Set-up Project - Part 2	8:06 min
Modified: 1/12/2006	Switching Between Views. Creating Drill Toolpaths. Setting Depths using Drill Calculator. Copying a Toolpath. Creating a Pocket Toolpath. Tool Entry in a Drilled Hole. Circle Toolpath.	
3525	2 Vise Set-up Project - Part 3	5:41 min
Modified: 1/12/2006	Review of the Process. Using an STL File in Verify. Edit Common Parameters. "Force Tool Change." Posting the Code. Reviewing the Code in the Program Editor. Why Use Multiple Work Offsets.	