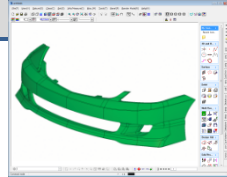




Space-E Modeler

Providing flexible modeling environment together with surface and solid functions.

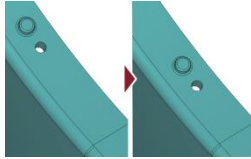


Solid Functions
Surface Functions
Other Functions

SOLID

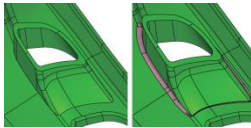
Move Feature

Hole and convex shape can be moved in solid model which translate from STEP and IGES.



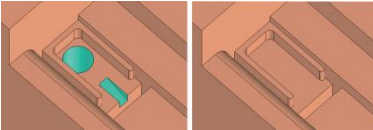
Bury Fillet

Fillet surface can be embedded in a solid. If you can not create a fillet by solid function.



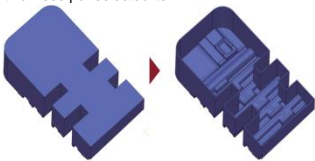
Remove Face

As if operation of removing surface, this command can edit shape by selecting part of items that have been composed of a solid.



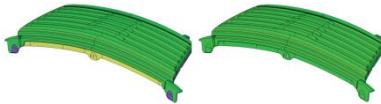
Add Thickness

This command create a shell body. And can set individual shell thickness per selected item.



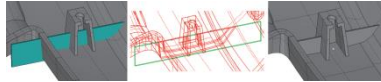
Auto Healing

Create solid body automatically from complex surfaces.



Complex Boolean Calculation

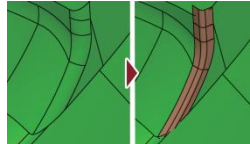
In addition to a general boolean function (unite, difference, intersect), this command can calculate two intersecting place by selecting place of "unite" and "difference".



SURFACE

Modify Fillet Radius

Create a fillet different from the original radius value by selecting the fillet in surface model.



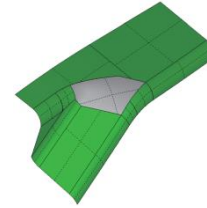
Create Extract Fillet Edge

Create a edge of fillet before addition by selecting the fillet in surface model.



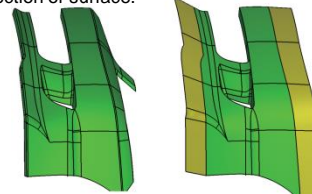
Blending Surface

Create a blending surface with variation using Space-E/Global Deformation.



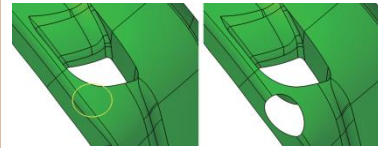
Sweep Surface

Create sweep surface in normal and tangent direction of surface.



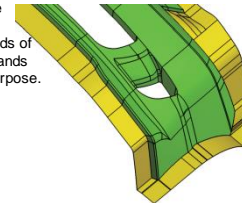
Trim By Area

Composite curves or edges can trim complex surface or solid model.



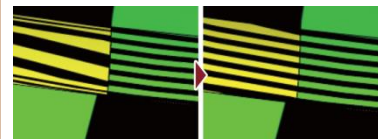
Create Parting Face

Create parting face automatically. There are three kinds of parting face commands according to the purpose.



Surface Matching

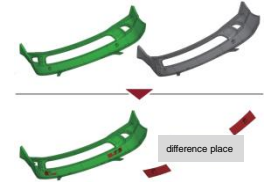
Matching neighbor surfaces considered normal vector, tangent vector and curvature.



OTHER

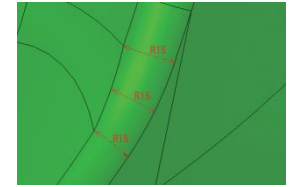
Detect Model Differences

You can find the difference place by comparing the model before and after the change.



Measure Curvature Radius

You can display the fillet radius by specifying the fillet of model.



Detect Undercut

Space-E displays highlight view after detecting the undercut portion of the product model. You can also create boundary lines around the undercut.



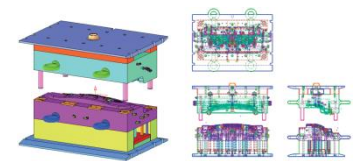
Split Cavity & Core

Divide a product features into cavity and core sides. This command can apply to surface and solid model.



Drawing

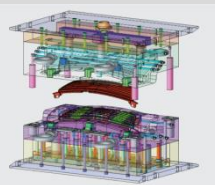
You can easily create 2D drawings from the model that was created in 3D, finish the drawing using fulfilling drafting function.





Space-E | Mold

Space-E also improved customization and substantial functions to assist designers from conceptual design to detailed design of mold. Total mold design system that support the CAM using design data.



Mold design function

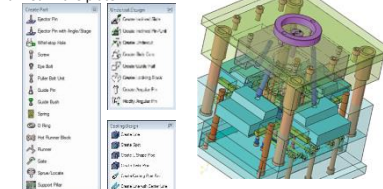
DESIGN

Futaba Standard Mold Base

Support Futaba standard mold base, S series (some of them not supported), D and E series, F and G series, H series. Customer can define own size other than maker's standard.

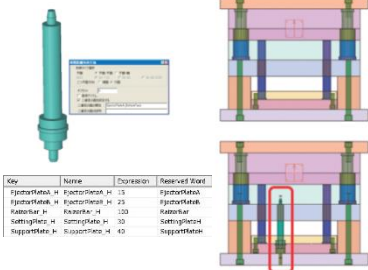
Arrange mold parts function

There are many commands to automatically place mold parts (puller bolt, guide pin, ejector pin, etc.), you can change dimensions of parts and mounting location easily after deployment. Also be changed in conjunction with a hole drilled in the plate.



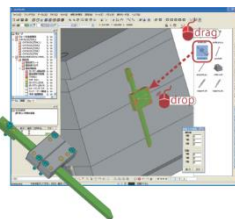
User parts registration

By setting a reserved word in parameters of the user parts, this command create the link to the parameter automatically when you arrange. Additional constraints face can be set to a reserved word. You can reduce the number of steps by these functions.



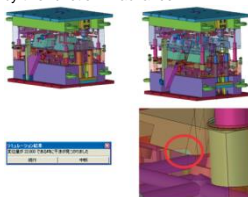
User Parts

User can define own parts as user parts.



Check Interference Dynamically

You can check dynamic interference by definition of constraint. When interference is occurred, operation is stopped and interference place is highlighted. Reduction of design mistakes and confirmation of mold feasibility by this function in advance.



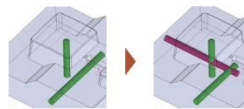
"Kiri" Hole Auto Optimization

Length and position are automatically adjusted to keep the clearance in cooling.

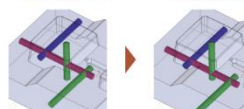


Cooling Channel (Trim intersection)

Easy to place a new cooling channel which intersect existing pipes.

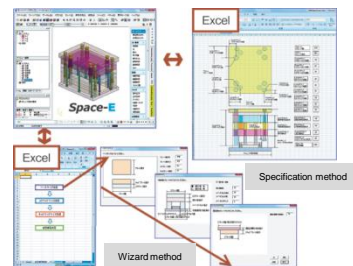


If move a cooling channel, intersecting channel will move together.



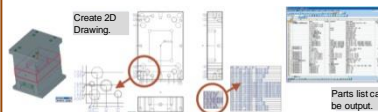
Integration with Customization / Excel VBA

You can customize to suit your design style by combining the Excel VBA and FDLI (Space-E customize language).



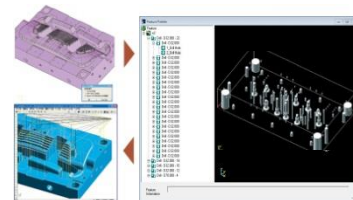
Drawing and Report

Automatically create parts list and dimension line of hole position inside the hole table list. Changing the hole diameter and hole position in the model, the drawing is updated in conjunction automatically.



Interface to CAM Drilling System

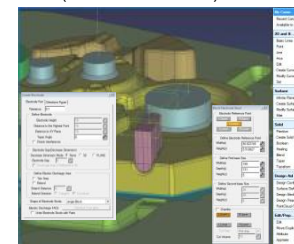
Hole information can be transferred to Space-E/CAM in order to create drilling NC data.



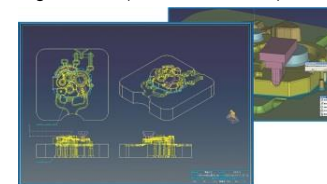
ELECTRODE

Creating electrode considering the orbit pattern. Electrode is recognized as an electrode object. Connect with 2D drawing and cutting in Space-E/CAM. Moreover, electrode can be setting orbit pattern in Space-E/CAM. Electrode that made by Space-E/Modeler is recognized as an electrode object, too.

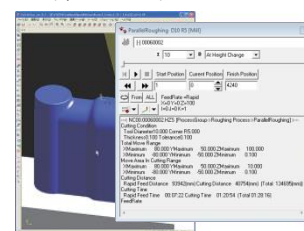
Electrode (Standard function)



Drawing for EDM (Standard function)



Link CAM (Space-E/CAM)



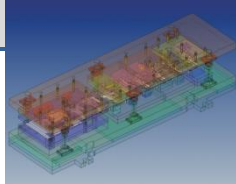
Output EPX(Optional)





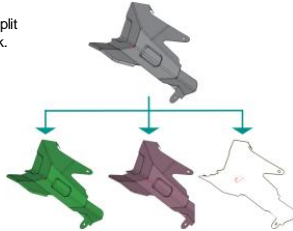
Space-E | Press+

Gather the technology cultivated by Space-E series, it is a CAD/CAM/CAE system in 3D that realize drawing of press die.



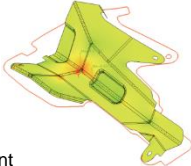
Split Front Back

Model with thickness is split into front back.



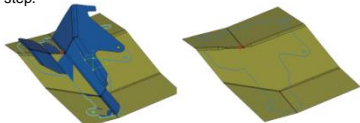
BLANK Development

Create an expanded outline of either the front and back in X-Y plane.



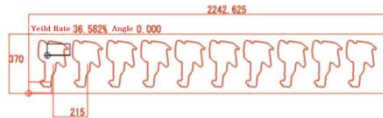
TRIM Development

Expand the outline of products in die face of the previous step.



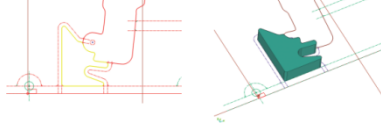
Yield Rate

Display yield rate that refer to the blank shape by setting item number and border clearance.



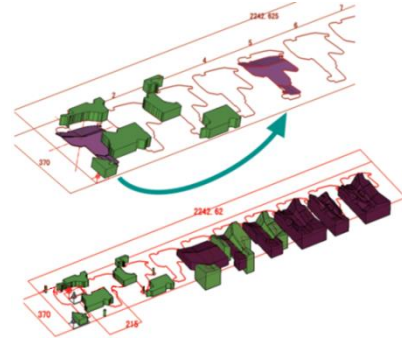
Cutting Punch

Create the cutting punch easily by selecting the blank shape and guide line.



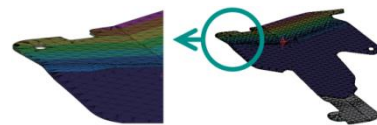
Process layout

Process layout can be made by movement, replacing, deletion and addition of stage.



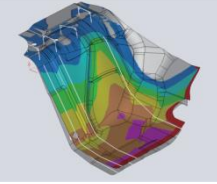
Springback Analysis

Analyze spring back of the products.



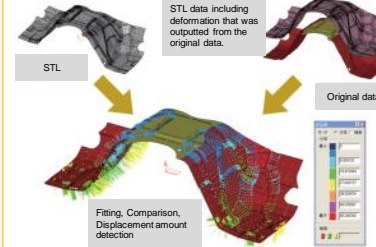
Space-E | Global Deformation PLUS

Import the Springback simulation results that calculated by the external program (CAE), deform the data in Modeler. Corresponds to forward/back deform that expect the results of simulation to opposite side.

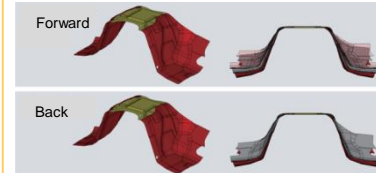


Re-Fit

By inputting the prediction of deformation that has been expected by designers and quantified by CAE and CAT, this command deform the mold shape that has been early study into an optimal mold shape that has been expected distortion of the molded article generated during molding.

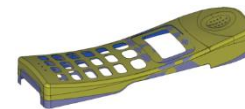


Fitting the 3D model on the simulation results of Spring Forward analysis (STL format). Space-E calculate forward point automatically and fitting the shape refer to the results of the Springback analysis.



Scale Warp Deformation

Correspond to the shrinkage and deformation of plastic mold.



Bending

By setting the axis, you can deform the body and face in a specified angle.



Bow

By setting the base axis, you can deform the body and face along the arc of its end points.



Twist

By setting the rotation angle to the start and end points of the base axis, you can deform twisting the body and face.



Expect deformation

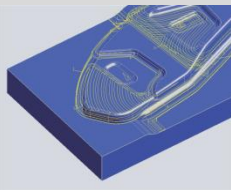
Automatically deform the model by inputting points and splines on the model before deformation and inputting points and splines after deformation corresponding to it.





Space-E/CAM

"Process Design Technology" has a mechanism to make customer's standard such as various pallets and templates which contains customer's know - how. Easy to operate will enable beginner to create NC data quickly.



Create Path
Edit Path
Other Functions

CREATION

Countour Roughing

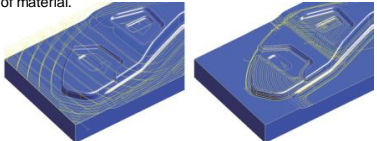
Create tool path in rest parts when setting the value bigger than the tool radius in XY pitch of flat tool and radius tool.



Big Pitch Treats : ON

Big Pitch Treats : OFF

Roughing consider the stock model cut by previous process. It enables to create more efficient cutting path to cut the rest of material.

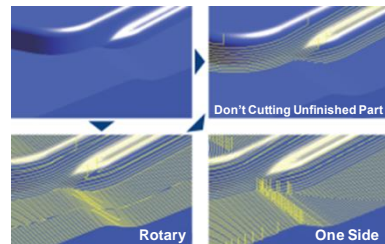


1st Roughing

2nd Roughing

Contour Finishing

Create path automatically to unfinished area such as gentle slope area.



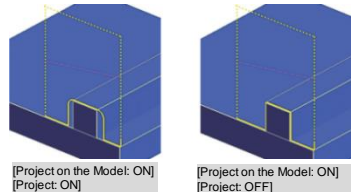
Don't Cutting Unfinished Part

Rotary

One Side

Free Shape

Because this command can change any wire frame to tool path, can create a tool path for grooving.



[Project on the Model: ON]
[Project: ON]

[Project on the Model: ON]
[Project: OFF]

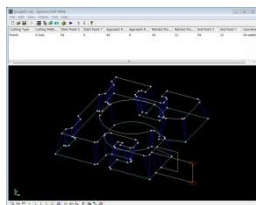
3.5D to 5 Axis Conversion

Create 2.5-Axis and 3-Axis data easily if you specify the cutting direction on the Modeler. Dividing angle is calculated from the coordinate systems and create cutting data from multiple directions in a single cutting process.



WIRE EDM

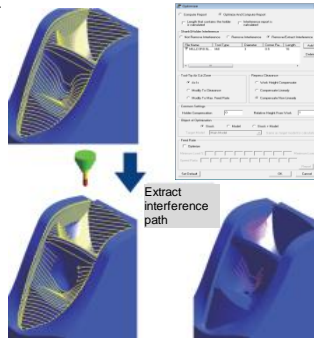
Easy to create wire EDM data by 3D viewer.



EDIT

Path Optimization

Divide tool path at shank and holder interference. Remove or extract shank and holder interference. It enables to cut a part as much as possible by current tool.

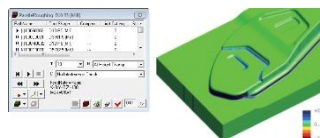


Cutting path without interference by current tool.

Path with interference by current tool.

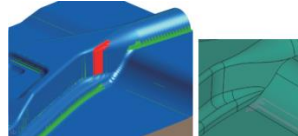
Cutting Simulation

Cutting simulation can be started from middle of process. Rest parts are displayed by the color map.



Cutting simulation/Check holder Interference (Batch).

Interference of the tool can be checked at once. Confirm the tool path of interference by Modeler.



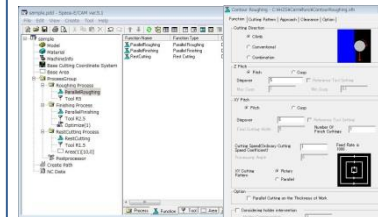
CAM function list

Special Pencil	Contour Finishing	Side Rest Cutting
Cast Roughing	Contour Roughing	Thrust Roughing
Along Surface	Parallel Roughing	3D Profile Cutting
Side Finishing	Contour Rest Cutting	Free Shape Path
Rest Cutting	Profile Rest Cutting	Bottom Finishing
Rib Cutting	Contour Area Cutting	Parallel Finishing
Pocketing	Special Corner Cutting	Flat Part Cutting
Trochoid	Contour Cutting(2.5D)	Profile Cutting
Import	Spiral Contour Roughing	Guide Curve
Drilling	Along Surface	Bottom Rest Cutting

OTHER

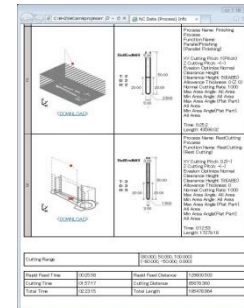
Cutting process design

Easy operation by cutting process.



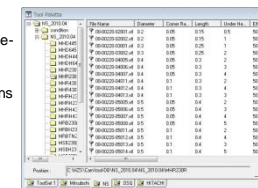
CAMWEB

Cutting Order Sheet is automatically created in HTML or Excel format. Customer can design own sheet format.



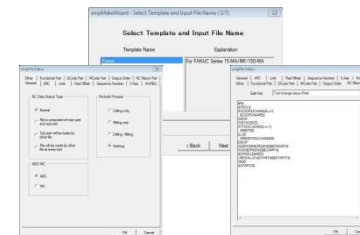
Tool Data Base

Provide data of tool maker as tool file of Space-E/CAM. Contain the cutting conditions (Feed, spindle, pitch) of tool maker.



Postprocessor

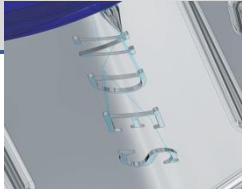
Create a post that complies with FANUC in simple operation by GUI. Output the required information for cutting in NC data.





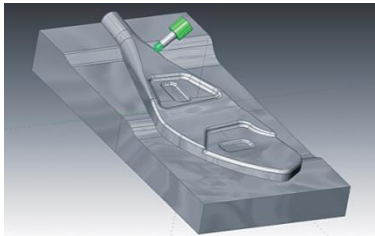
Space-E /5Axis

Support a variety tool axis control mode and improve the cutting accuracy and make effective cutting in 3.5D to 5 Axis Conversion. Substantial support functions for NC data such as Post and Machine Simulation.



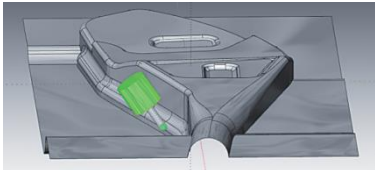
5axis finishing

Create 5-axis following model shape and undercut areas consideration.



Convert 3axis to 5axis

This command converts a 3-axis tool path to 5-axis. You can easily create 5-axis tool path in the procedure to create 3-axis tool paths. And it create a tool path to cut by the tool position with good cutting condition to avoid the cutting of the tool tip



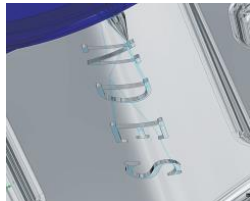
Post wizard

Create a post in simple operation by GUI.



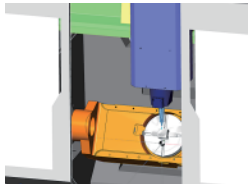
5axis Free Shape

Create 5-axis path following guide curve.



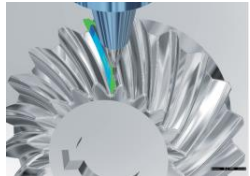
Machine Simulation

Display movement of CNC machine and check the interference and over-limit.



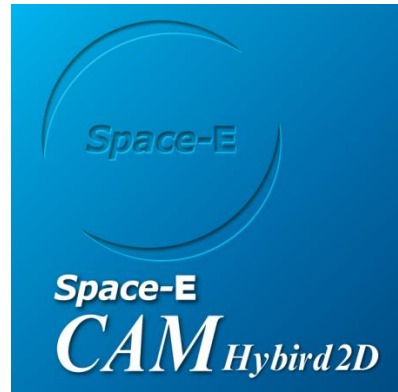
Corresponding to the various CNC machine such as Table-Table, Head-Table and Head-Table.

Check the one block length and angle inversion place.



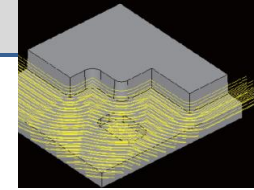
5 Axis function list

5 Axis Finish Cutting	5 Axis Impeller Cutting
5Axis Guide-Curve Cutting	5 Axis Swarf Cutting
5Axis Along Surface	5 Axis drilling
5 Axis free shape path	5 Axis Conversion
3.5D to 5 Axis Conversion	5-axis Postprocessor
Machine Simulation	



Space-E /CAM Hybrid2D

Extract Countour function, 2D cutting function (drilling, wire cutting), Post, and Path editor from Space-E/CAM.

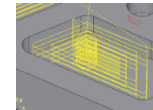


2D/2.5D
3D

2D/2.5D

Pocketing

Automatically calculate the remaining place before cutting and create effective tool path.

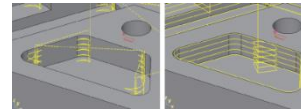


Profile Rest Cutting

Automatically calculate the remaining place before cutting and create effective tool path.

Profile Cutting

Create profile path for finishing refer to the setting area. Create high accuracy and high quality tool path, such as Final Step over and Compensated path.

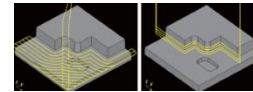


Bottom Finishing

Creating a tool path that consider interference by specifying the bottom face. There is no need to make fill surface because tool path ignore holes in the product.

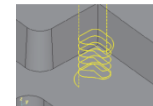
Side Finishing

Realized a high-quality finishing on the side face. Create a variety of path involved in the side finishing such as prevent the occurrence of sagged corners and compensated path.



Side Rest Cutting

Specify the corner and create finishing partially on the corner. Creating no waste tool path in unfinished area by setting the previous tool.



3D

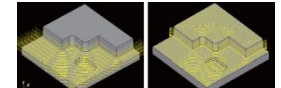
Contour Roughing

Create contour roughing easily by specifying model and material.

Contour Finishing

Contour finishing that prevent the occurrence of sagged corners and realized less polish.

Tool path can be created in inclined surface by contour finishing.

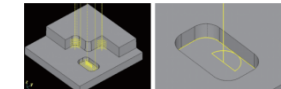


Contour Rest Cutting

"Contour rest cutting" create tool path in unfinished area by previous tool. Create the tool path that reduce the cutting load depending on the thickness of the unfinished area.

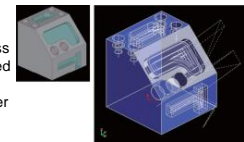
Free Shape Path

"Free Shape Path" change to cutting data from spline in CAD. Profile Cutting, Grooving and Rib Cutting versatile tool path can be created.



Feature CAM

Extract cutting place from the 3D model, create cutting process automatically. Inputted attributes in Space-E/Mold are takes over automatically.



Drilling

Create the tool path using fixed cycle easily.

STEP Translator

STEP (AP203, AP214) direct translator is standard function.