CNC Optimization... *The Next Step*

CNC-ASSIST

Introducing...

CNC-ASSIST

U.S. PATENT PENDING

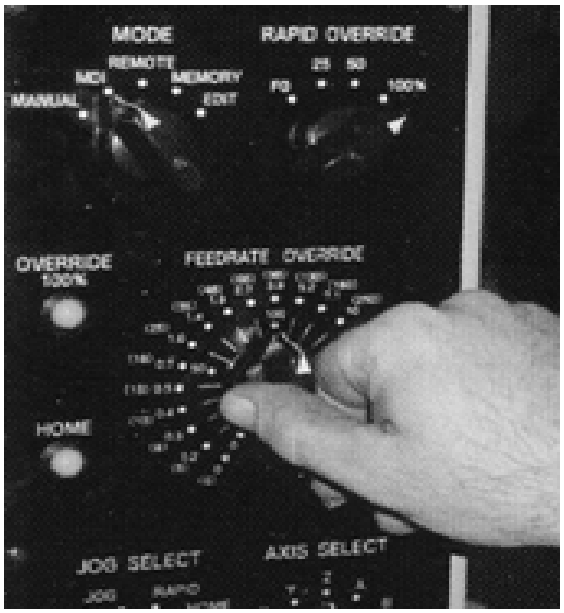
Energy Efficient

In today's highly competitive CNC Machining Industry, the importance of optimum productivity is more critical than ever. According to NIST, CNC machines are regularly operated at sub-optimal levels resulting in substantial productivity loss.

MANUFACTURING SCIENCE TECHNOLOGIES has developed an innovative technology that brings new capabilities to CNC equipment.

Through password verification, CNC-ASSIST captures overrides and other activity made by your authorized expert and then integrates his improvements into the production process... Efficiently, Accurately, Immediately!

The Advantage?... Far greater efficiency and productivity… achieved in minimal time, with minimal manpower and minimal cost.



CNC-ASSIST with Dynamic Feed Control *can improve productivity by an amazing 20%-50%*

CNC-ASSIST frees up N/C Programmers from tedious optimization chores and provides your factory with optimum productivity.

The Power of DFC

CNC-ASSIST *is compatible with most controls*

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CNC-ASSIST with **Dynamic Feed Control** has been proven to be the most effective method available for gaining maximum productivity at the machine. Feeds & Speeds are fine tuned while machining to guarantee the most efficient process possible.

"The ears, reflexes and fingertips of an experienced machinist make up the most effective system there is for feed rate optimization. ...parts machined using **DFC** *are machined significantly faster..."*

Peter Zelinski
Modern Machine Shop
Senior Editor

MFG Science TECHNOLOGIES

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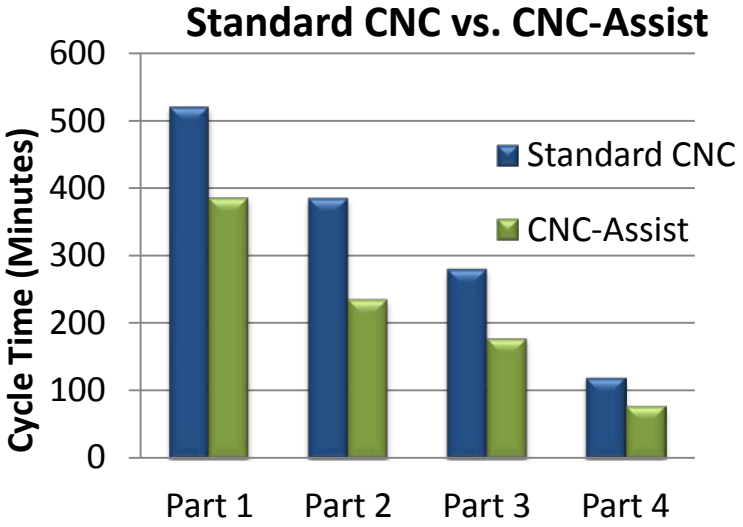
Test Results - CNC-Assist with Dynamic Feed Control

Aircraft	Part Number	Material	Part Size	Std. CNC Cycle Time (Minutes)	CNC-Assist Cycle Time (Minutes)	Savings
Boeing 767	145T2621	7175-T74	12 x 24 x 122	527	379	28%
Boeing 767	145T2203	7075-T37	10 x 12 x 110	360	248	31%
Gulfstream G5	1159WM57108	7075-T7451	5.5 x 9.5 x 43	271	173	36%
Boeing C17	76A304088	7075-T74511	2.0 x 7.5 x 26	128	69	46%

Standard CNC vs. CNC-Assist Test Parameters	
Machine	SNK FSP120V 5 Axis Vertical Mill
CNC Control	Fanuc 16M
Background	N/C programs were written by experienced Aerospace Contract Engineers using Catia V4 and NCL Software.
Test Description	Test consisted of base-lining the four (4) parts described in table (above) to determine true production cycle time. Each part was then optimized by an experienced CNC operator using CNC-Assist software. No changes or improvements to the N/C Programs or cutting tools were permitted.

The Gulfstream G5 Outboard Wing Rib (below right) was machined over 35% faster using CNC-ASSIST. A series of Boeing 767 "Side Fittings" (above right) were optimized using CNC-ASSIST and machine times were improved an average of 30% saving the shop and Boeing hundreds of dollars on each part.



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Features…

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CNC-ASSIST provides you with the ability to make meaningful improvements on the Shop Floor without costly changes to the N/C Program!

Unlike Adaptive Control technologies, CNC-ASSIST yields processes of fixed duration. This ensures that each part is machined with exactly the same feeds and speeds resulting in cycle times that never vary from part to part.

The system is extremely capable in optimizing machining operations that adaptive control systems just can't do.

- **Optimize extremely small cutters**
- **Improve trimming of difficult shapes**
- **Optimize light finish cuts**
- **Implement new cutting tools immediately**
- **Optimize composite machined parts**

Class	CNC-ASSIST
Optimization	▪ Dynamic Feed Control™
	▪ Dynamic Speed Control
Energy	▪ Lighting
	▪ Chip Evacuation
	▪ Auxiliary Fluids
Automation	▪ Hydraulic Clamping
	▪ Vacuum Accessories
	▪ Auxiliary Features

High Performance Optimization

When CNC-ASSIST detects user activity, like feed rate changes or the activation of certain accessories, the "event code" along with precise time related data is captured in the system.

Once optimization is complete, the captured data is then automatically saved and linked to the N/C Program in use ensuring that future production runs benefit from the process.

CNC-ASSIST's highly accurate algorithms ensure that future production parts run exactly as optimized… right down to the millisecond.

Implement New Cutting Tools - Immediately

Incorporating a new cutting tool into your process couldn't be easier. Just load the new cutter and adjust the feed and speed over rides. CNC-ASSIST saves the new speeds and feeds, incorporating them into the process right away. Just update your cutter list and forget about N/C Program changes.

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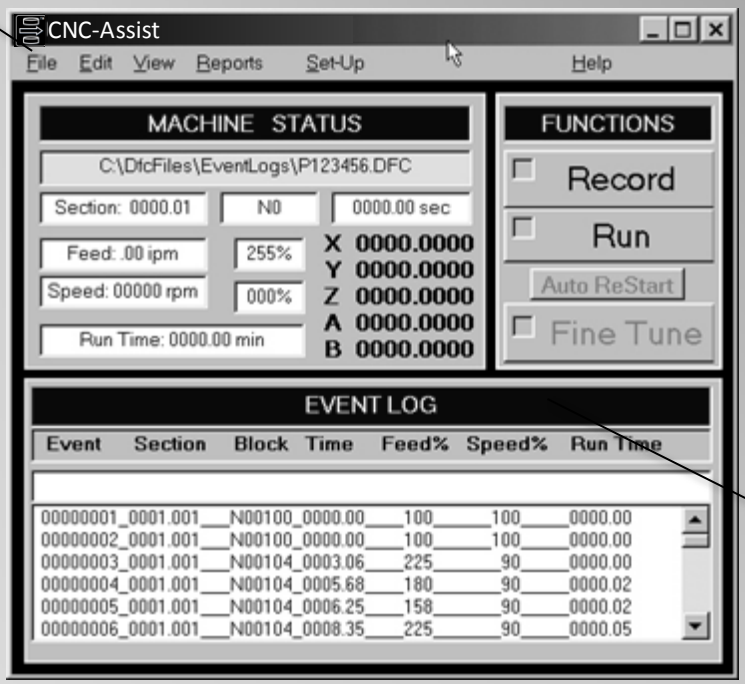
Easy to Install - Easy to Use

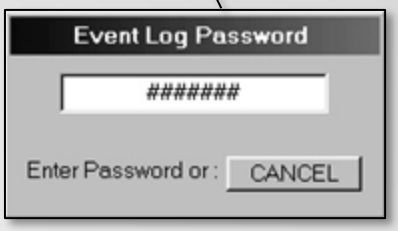
The straight forward and simple HMI displays only the necessary information and the command functions are clear and concise.

CNC-ASSIST uses familiar dropdown menus.

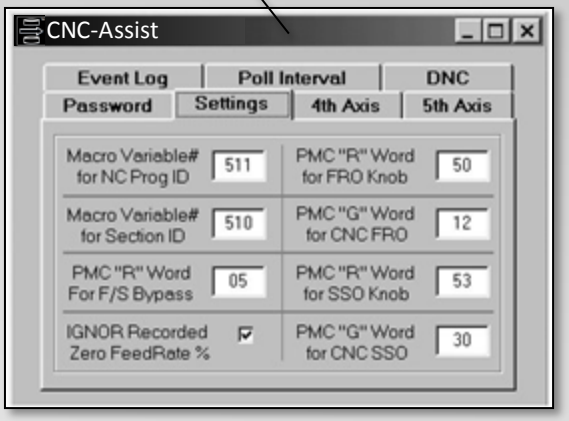


Recorded Events clearly shown.

Password protection prevents unauthorized use or changes.



Set-Up menu for easy configuration.



Integrate…

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Because most modern CNC controls are designed to easily use 3rd party software, CNC-ASSIST can be installed and used in just a few easy steps.

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CNC-ASSIST installs on most Fanuc, Siemens and Heidenhain Controls

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To watch a video of
CNC-ASSIST:
Click Here

For more information, contact:

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