**Okuma America Corporation**

**THINC-API**
**Release Notes For Machining Center**

**Document No.: S5015-003-15**

# Revision History

| Date | Version | Description | Author |
|---|---|---|---|
| 5/09/2007 | S5015-003-00 | Public release for Machining Center THINC-API Release 1.0.0.0 | LHuynh |
| 5/11/2007 | S5015-003-01 | Revise Public release for Machining Center THINC-API Release 1.0.0.0:<br><br>- Remove section 3.0 Compatible and put in Installation Manual document<br><br>- Remove section 4.0 Upgrades and put in THINC-API Help file.<br><br>- Revise section 6.1 and 6.2<br><br>- Use api@okuma.com email instead of p100issues@okuma.com | LHuynh |
| 5/21/2007 | S5015-003-02 | Revise General defect – Cannot support 0.1 Micron option. Revise 4.1 section | LHuynh |
| 06/04/2007 | S5015-003-03 | Public release for Machining Center THINC-API Release 1.1.0.0 | LHuynh |
| 10/19/2007 | S5015-003-04 | Public release for Machining Center THINC-API Release 1.3.0.0 | LHuynh |
| 2/22/2008 | S5015-003-05 | Public release for Machining Center THINC-API Release 1.6.0.0 | LHuynh |
| 04/11/2008 | S5015-003-06 | Public release for Machining Center THINC-API Release 1.6.0.0 | LHuynh |
| 06/27/2008 | S5015-003-07 | Public release for Machining Center THINC-API Release 1.6.3.0 | LHuynh |
| 07/25/2008 | S5015-003-08 | Public release for Machining Center THINC-API Release 1.6.4.0 | LHuynh |
| 10/27/2008 | S5015-003-09 | Public release for Machining Center THINC-API Release 1.7.00 | LHuynh |
| 12/18/2008 | S5015-003-010 | Public release for Machining Center THINC-API Release 1.8.0.0 | LHuynh |
| 04/30/2009 | S5015-003-011 | Public release for Machining Center THINC-API Release 1.9.1.0 | LHuynh |
| 10/12/2009 | S5015-003-012 | Public release for Machining Center THINC-API Release 1.10.0.0 | LHuynh |
| 4/28/2010 | S5015-003-013 | Public release for Machining Center THINC-API Release 1.11.0.0 | LHuynh |
| 09/15/2010 | S5015-003-014 | Public release for Machining Center THINC-API Release 1.11.1.0 | LHuynh |

| 12/15/2010 | S5015-003-015 | Public release for Machining Center THINC-API Release 1.12.0.0 | LHuynh |
|---|---|---|---|

# Table of Contents

# Release Notes For Machining Center

## 1. Introduction

### 1.1 Disclaimer of Warranty

Okuma America Corporation makes no representations or warranties, either expressed or implied, by or with respect to anything in this document, and shall not be liable for any implied warranties of merchantability or fitness for a particular purpose or for any indirect, special or consequential damages.

**Copyright © 2011, Okuma America Corporation.**
**All rights reserved.**

GOVERNMENT RIGHTS LEGEND: Use, duplication or disclosure by the U.S. Government is subject to restrictions set forth in the applicable Okuma America Corporation license agreement and as provided in DFARS 227.7202-1(a) and 227.7202-3(a) (1995), DFARS 252.227-7013(c)(1)(ii) (Oct 1988), FAR 12.212(a) (1995), FAR 52.227-19, or FAR 52.227-14, as applicable.

"Okuma America Corporation" and Okuma America Corporation's products are trademarks of Okuma America Corporation. References to other companies and their products use trademarks owned by the respective companies and are for reference purpose only.

### 1.2 Purpose

The purpose of the *Release Notes* document is to communicate major new features and changes in this release of the THINC-API for Machining Center libraries. It also documents known problems and workarounds.

### 1.3 Scope

This document describes Release 1.12.0.0 of THINC-API.

### 1.4 Definitions, Acronyms, and Abbreviations

GAC – Global Assembly Cache Windows folder located in 'C:\WINDOWS\assembly'

### 1.5 References

None

## 2. About This Release

Public Release 1.12.0.0 of the THINC-API library for Machining Center supports the following:

From this release, THINC API libraries will check dependency libraries during installation and at run-time. THINC API will fail to install or load if version of dependency libraries cannot support current version of THINC API.

Version of Okuma.CMDATAPI.dll in Public Release 1.12.0.0 is 2.0.0.0

Version of Okuma.CMCMDAPI.dll in Public Release 1.12.0.0 is 2.0.0.0

Version of APINotifierService.exe in Public Release 1.12.0.0 is 1.12.0.0

Version of Okuma.Flexnet.dll in Public Release 1.12.0.0 is 1.3.0.0

Version of Okuma.Apilog.dll in Public Release 1.12.0.0 is 1.3.0.0

**The following functions of Okuma.CMDATAPI.dll library will be only available based on the version of NC control software:**

| Class | Interfaces |
|---|---|
| CTools2 | Int32 GetMaxTools() |
| CTools2 | Int32 GetToolNo(Int32 intPotNo) |
| CTools2 | Int32 GetMaxPots() |
| CTools2 | String* GetGroupNo(Int32 intPotNo) |
| CTools2 | Int32 GetSerialNo(Int32 intPotNo) |
| CTools2 | String* GetToolName(Int32 intPotNo) |
| CTools2 | String* GetToolKind(Int32 intPotNo) |
| CTools2 | Boolean IsToolInUse(Int32 intPotNo)<br>void SetToolInUse(Int32 intPotNo, Boolean blnValue) |
| CTools2 | Boolean IsStandardTool(Int32 intPotNo)<br>void SetStandardTool(Int32 intPotNo, Boolean blnValue) |
| CTools2 | Boolean IsAdjustmentTool(Int32 intPotNo)<br>void SetAdjustmentTool(Int32 intPotNo, Boolean blnValue) |
| CTools2 | CarrierStatusEnum GetCarrierStatus(Int32 intPotNo) ; |
| CTools2 | ToolLifeModeEnum  GetMode(Int32 intPotNo)<br>void  SetMode(Int32 intPotNo, ToolLifeModeEnum enValue) |
| CTools2 | ToolLifeStatusEnum  GetStatus(Int32 intPotNo) |
| CTools2 | Int32 GetToolLife(Int32 intPotNo)<br>void SetToolLife(Int32 intPotNo, Int32 intValue) |
| CTools2 | Int32 GetToolLifeRemaining(Int32 intPotNo)<br>void SetToolLifeRemaining(Int32 intPotNo, Int32 intValue) |
| CTools2 | Int32 GetToolLifeRemainingTimeSecond(Int32 intPotNo) |
| CTools2 | Double GetToolLengthOffset1(Int32 intPotNo)<br>ArrayList* GetToolLengthOffset1(Int32 intFromPotIndex, Int32 intToPotIndex)<br>void SetToolLengthOffset1(Int32 intPotNo, Double dblValue)<br>void AddToolLengthOffset1(Int32 intPotNo, Double dblValue)<br>void CalToolLengthOffset1(Int32 intPotNo, Double dblValue) |
| CTools2 | Double GetToolLengthOffset2(Int32 intPotNo)<br>ArrayList* GetToolLengthOffset(Int32 intFromPotIndex, Int32 intToPotIndex)<br>void SetToolLengthOffset2(Int32 intPotNo, Double dblValue)<br>void AddToolLengthOffset2(Int32 intPotNo, Double dblValue)<br>void CalToolLengthOffset2(Int32 intPotNo, Double dblValue) |
| CTools2 | Double GetToolLengthOffset3(Int32 intPotNo)<br>ArrayList* GetToolLengthOffset3(Int32 intFromPotIndex, Int32 intToPotIndex)<br>void SetToolLengthOffset3(Int32 intPotNo, Double dblValue)<br>void AddToolLengthOffset3(Int32 intPotNo, Double dblValue)<br>void CalToolLengthOffset3(Int32 intPotNo, Double dblValue) |

| CTools2 | Double GetCutterRCompOffset1(Int32 intPotNo)<br>void SetCutterRCompOffset1(Int32 intPotNo, Double dblValue)<br>void AddCutterRCompOffset1(Int32 intPotNo, Double dblValue)<br>ArrayList* GetCutterRCompOffset1(Int32 intFromPotIndex, Int32 intToPotIndex) |
| --- | --- |
| CTools2 | Double GetCutterRCompOffset2(Int32 intPotNo)<br>void SetCutterRCompOffset2(Int32 intPotNo, Double dblValue)<br>void AddCutterRCompOffset2(Int32 intPotNo, Double dblValue)<br>ArrayList* GetCutterRCompOffset2(Int32 intFromPotIndex, Int32 intToPotIndex) |
| CTools2 | Double GetCutterRCompOffset3(Int32 intPotNo)<br>void SetCutterRCompOffset4(Int32 intPotNo, Double dblValue)<br>void AddCutterRCompOffset3(Int32 intPotNo, Double dblValue)<br>ArrayList* GetCutterRCompOffset3(Int32 intFromPotIndex, Int32 intToPotIndex) |
| CTools2 | Double GetToolLengthWearOffset(Int32 intPotNo)<br>void SetToolLengthWearOffset(Int32 intPotNo, Double dblValue)<br>void AddToolLengthWearOffset(Int32 intPotNo, Double dblValue)<br>ArrayList* GetToolLengthWearOffset(Int32 intFromPotIndex, Int32 intToPotIndex) |
| CTools2 | Double GetCutterRCompWearOffset(Int32 intPotNo)<br>void SetCutterRCompWearOffset(Int32 intPotNo, Double dblValue)<br>void AddCutterRCompWearOffset(Int32 intPotNo, Double dblValue)<br>ArrayList* GetCutterRCompWearOffset(Int32 intFromPotIndex, Int32 intToPotIndex) |
| CTools2 | ToolTypeEnum GetToolType(Int32 intPotNo)<br>void SetToolType(Int32 intPotNo, ToolTypeEnum enValue)<br>ArrayList* GetToolType(Int32 intFromPotIndex, Int32 intToPotIndex) |
| CTools2 | Double GetToolAngle(Int32 intPotNo)<br>void SetToolAngle(Int32 intPotNo, Double dblValue)<br>void AddToolAngle(Int32 intPotNo, Double dblValue)<br>ArrayList* GetToolAngle(Int32 intFromPotIndex, Int32 intToPotIndex) |
| CTools2 | Double GetToolDiameter(Int32 intPotNo)<br>void SetToolDiameter(Int32 intPotNo, Double dblValue)<br>void AddToolDiameter(Int32 intPotNo, Double dblValue)<br>ArrayList* GetToolDiameter(Int32 intFromPotIndex, Int32 intToPotIndex) |
| CTools2 | Double GetToolNoseDiameter(Int32 intPotNo)<br>void SetToolNoseDiameter(Int32 intPotNo, Double dblValue)<br>void AddToolNoseDiameter(Int32 intPotNo, Double dblValue)<br>ArrayList* GetToolNoseDiameter(Int32 intFromPotIndex, Int32 intToPotIndex) |

**The following functions of Okuma.CMCMDAPI.dll library will be only available based on the version of NC control software:**

| Class | Interfaces |
|---|---|
| CATC2 | Sub UnRegisterToolPot(ByVal intPotNo As Integer, Optional ByVal intToolNo As Integer = 0, Optional ByVal blnRandomATC As Boolean = False) |
| CATC2 | RegisterToolPot(ByVal intToolNo As Integer, ByVal intPotNo As Integer, ByVal intGroupNo As Integer, ByVal intSerialNo As Integer, Optional ByVal blnDummyTool As Boolean = False, Optional ByVal strToolName As String = "") |
| CATC2 | RegisterToolPot(ByVal intPotNo As Integer, ByVal intGroupNo As Integer, ByVal intSerialNo As Integer, Optional ByVal blnDummyTool As Boolean = False, Optional ByVal strToolName As String = "") |
| CATC2 | SetToolCarrierStatus(ByVal intPotNo As Integer, ByVal enCarrierStatus As CarrierStatusEnum) |
| CATC2 | SetToolKind(ByVal intPotNo As Integer, ByVal enToolKind As ToolKindEnum) |
| CATC2 | SetToolLifeStatus(ByVal intPotNo As Integer, ByVal enToolLifeStatus As ToolLifeStatusEnum) |

**The following functions of Okuma.CMDATAPI.dll library will be only available in OSP-P200 control machines:**

| Classes | Interfaces |
|---|---|
| CIO | OnOffStateEnum GetUserTaskIOVariable(IOTypeEnum enIO, Int32 intIndex) ; |
| CIO | void SetUserTaskOutputVariable(Int32 intIndex, OnOffStateEnum enValue) ; |
| CIO | OnOffStateEnum GetProtectedUserTaskOutputVariable(Int32 intIndex) ; |
| CIO | void SetProtectedUserTaskOutputVariable(Int32 intIndex, OnOffStateEnum enValue) ; |

For questions about these functions, please consult with your Okuma representatives.

## 3. New Features

### 3.1.1 DATA-API

| Classes | Interfaces |
|---|---|
| CIO | OnOffStateEnum GetUserTaskIOVariable(IOTypeEnum enIO, Int32 intIndex) ; |
| CIO | void SetUserTaskOutputVariable(Int32 intIndex, OnOffStateEnum enValue) ; |
| CIO | OnOffStateEnum GetProtectedUserTaskOutputVariable(Int32 intIndex) ; |
| CIO | void SetProtectedUserTaskOutputVariable(Int32 intIndex, OnOffStateEnum enValue) ; |

### 3.1.2 Command API
None.

**3.2 Change**

*3.2.1 DATA-API*

*3.2.2 Command API*

## 4. Known Bugs and Limitations

This section identifies known and existing problems in Release 1.12.0.0 and describes any work-arounds.

**4.1 Defect**

**4.2 General Defect**

DATA-API library, Okuma.CMDATAPI.dll, cannot create directly under VS2003 ASP.NET web application.

Solution/Work-arounds: Create and initialize DATA-API in a separate thread. All function calls must be called from objects created inside separated thread mentioned above.

DATA-API library can only support applications designed with single-threaded apartment of COM threading model.

Solution/Work-arounds: None

*4.2.1 Data-API*

4.2.1.1 CAxis class

Function: AxisTypeEnum  GetAxisType (AxisIndexEnum enValue)
  Symptom: Failed to access machine data for YS axis. YS axis is available in NC-HMI.

  Solution/Work around: None.

  All functions having YS axis as input parameter are affected by GetAxisType function and fail to get/set NC data.

Function: String*  GetAxisName (AxisIndexEnum enValue)
  Symptom: Failed to access machine data for YS axis. YS axis is available in NC-HMI.

  Solution/Work around: None.

4.2.1.2 CMOPTool class

Function: GetToolDataNumber(ByVal *intToolNo* As Integer, ByVal *intClassNo* As Integer) As Integer
  Symptom: This function cannot get tool data number given tool number greater than 300.
  Solution/Work around:  None.

4.2.1.3 CSpindle class

Function: Double SpindleStateEnum GetSpindleState()
  Symptom: Function return incorrect state - When machine is in Manual mode, the spindle is set to ORIENTATION mode. NC-HMI and THINC-API library returns the same state.  Then, machine mode is changed to either AUTO or MDI, NC_HMI still report the same state as before, but THINC-API library reports spindle in stop mode.

Solution/Work around: None

## 4.3 Defects Fixed in this Release

None.