Benderlink IV Customer Application

Storing 16,000 KEINS or CHIYODA Parts on a Computer Network

Why More Tube Fabricators Than Ever Are Choosing To Use Benderlink IV Systems with Chiyoda and KEINS Benders

The **"Benderlink operator can import Pro/E files from… the network."**

The operator **"views and rotates the tube shape on the Benderlink screen to make sure that it is the part that he was expecting."**

This is a true story of an actual Benderlink IV installation.

The goals of this Benderlink installation were:

1. Import Pro/E Data over a computer network
2. Store and manage 16,000 parts on a Windows 98 system.
3. Allow backups of bender data over a computer network.

ABOUT THE TUBE FABRICATOR

As a fabricator of air conditioning components, this customer uses copper tube assemblies in its products. They design their own parts in Pro/E, a well-known 3-D solid modeling software package. Data was passed to the tube shop using a print plotted from Pro/E.

NEW CNC BENDER with NETWORK CONNECTION

The company's goal was to send tube shape data through a computer network from the engineering computer. They chose a KEINS CNC bender with a Benderlink Control Unit to receive and manage the data.

### BENDERLINK OFFLINE PROGRAMMER

Because of this customer's requirements, we designed the OFFLINE PROGRAMMER to allow the importation of the Pro/E data either remotely or at the Benderlink computer. With this program, the Benderlink operator can import Pro/E files from a remote location on the network. (To Benderlink, a remote location looks just like another drive letter.)

PART VIEW

Once that data is created, then the Benderlink operator imports the data into Benderlink and views and rotates the tube shape on the Benderlink screen to make sure that it is the same part that he was expecting. (This is accomplished with our TubeCalc software, which is included with every Benderlink.)

SEND NEW DATA TO THE BENDER

The next step is to send the data directly to the KEINS bender through a direct cable.
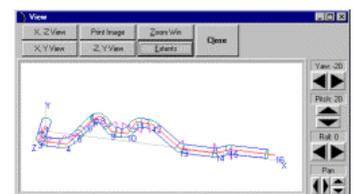
Benderlink must "automatically calculate the location of the carriage at the first bend."

AUTOMATIC ADJUSTMENT OF THE CARRIAGE

When data is sent to an empty KEINS channel (a channel is a place in memory where a single tube resides), the customer required that Benderlink automatically calculate the location of the carriage at the first bend. This would ensure that the tube stock is in its correct position before the first bend is placed in the tube.

Not only that, but they asked us to program Benderlink to insert an extra first row of FPB (bender) data when using GP (gripper) mode. This extra first FEED allows the operator to load the tube end so that it is flush with the end of the bend die, then move the carriage forward by the distance calculated by Benderlink before the actual bending begins.

SAVE DATA TO BENDERLINK

The operator then saves the bender setup in a Benderlink channel file for recall later. The requirement was that a complete set of bender setup data is saved to the disk. Benderlink saves all of the WORK SPECS, FPB, XYZ, and even OPTIONS data, so that the bender control setup is simply a matter of loading the Benderlink data from the previous bending session.

At the request of the customer, we "modified the FILE menus to allow better searching for parts thousands or rows in the parts list."

16,000 PARTS

Another requirement was that this system be designed so that it could efficiently handle up to 16000 parts, so we modified the FILE menus to allow better searching for parts thousands of rows into the parts list.

For example, the customer may want to find a part like **"AB12334"**. He can search for all the parts using **"AB"**, **"B1"**, or even **"334"**. All of these search parameters will find this part when pressing the **Find Next** button in the **Channel File Load** menu.

NETWORK BACKUP OF BENDER DATA

Since Benderlink has a built-in real backup feature (with full file compression), the customer is able to backup all of his current bender data to a backup location on the network. This data, in turn, is backed up to a remote main backup server at scheduled times to prevent any chance of bender data loss.

"Benderlink has a built-in real backup feature…"

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