

# INFOMATE

## Introduction

Welcome to the seventh issue of our newsletter. The newsletter is used to send product and information updates to our customers on a regular basis.

## MachineMate Retrofit Kit for Pratt & Whitney Teammate Controls



Mark Rice, one of our active integrators who is based in Bedford, Texas, was a service representative for Pratt & Whitney machines from 1978 to 1984. Many of these machines are still in production although their maintenance can become difficult with the 20-year old electronics and with the support for P&W controls changing after several mergers. Mark expected that an easy 'plug and go' control retrofit could help many of them return to production quickly and with the knowledge that future maintenance will be easier and less expensive. The operators will be much more comfortable with this modern control than the old.

Pratt & Whitney had standardized their connections on many of their controls. For MachineMate retrofits, Mark was most concerned with the Teammate control (with a slope top) and the Teammate II control (an upright control with a plasma display). Both used the TI 960 mini computer. Pratt & Whitney had also used several other vendor controls but this kit is for the Teammate controls. The Pratt & Whitney TriMac XV machine with its Teammate control is shown at the above left, before the control retrofit.



Retrofits of the known P&W machine configurations can be made very quickly. The complete procedure for the control retrofit and then checking the machine and control for their return to production could be completed in just a few days. All connections from the CNC to the machine tool were made via Cannon connectors (shown at the left).

Machines with customer options should require no special wiring but they will require the development of the additional PLC logic to interface the option to the control. All input and output signals will be available for the base machine and most options. Pratt & Whitney called their feedback devices 'quantizers' that were 12-15 volt single-ended feedback signals. Upgrading to encoders is recommended but an interface with the existing feedback devices is possible. Mark has developed a level shifting interface circuit that can convert these single-ended signals to the quadrature line driver signals compatible with the MachineMate encoder interface. There are two benefits to upgrading to encoders: the new encoder devices are more reliable and the MachineMate can detect a feedback failure with the new devices, which it will not be able to do with the old quantizers. The replacement of the encoders (with direct bolt-in replacements) will add a little more time and cost to the retrofit. Also, new encoders can be obtained with finer resolution than the original ones providing better positioning feedback and smoother machining.

At the right, the new MachineMate control in its new cabinet (with handheld MPG) is to the right of the original Pratt & Whitney Teammate control. The new Teammate control in 1977 cost approximately \$50,000. The new control cabinet with the options shown is \$23,000. In adjusted dollars, this is one-ninth the cost of the original control.



This is an easy ‘plug and go’ retrofit package, allowing the removal of the old control and its replacement by a new control cabinet, with the machine’s old connectors being reattached within the new cabinet. Please contact us if you need more information about the P&W retrofit kit.

## Trade Shows in early 2002

before

after

**MACHINEMATE**, INC has reserved exhibitor booths at a number of trade shows in 2002. We hope to see you at one (or both) of these spring shows.

- ◆ WESTEC 2002 Advanced Productivity Exposition in Los Angeles, California (March 18-21) (at booth 311, Los Angeles Convention Center).
- ◆ EASTEC 2002 Advanced Productivity Exposition in West Springfield, Massachusetts (May 21-23) (at booth 5220, Eastern States Exposition Grounds).

**MACHINEMATE**, INC still has a number of tickets available for the WESTEC show; we receive a number of them because we are an exhibitor. Anyone interested in a ticket for WESTEC could contact us. WESTEC also allows online registration (until March 1), via: <http://www.sme.org/cgi-bin/get-event.pl?--158-000007-007568--SME->



## Foreign Languages for a MachineMate

A **MACHINEMATE** comes with English and German as the standard languages, with English the default from the installation. If another foreign language is considered (especially for those machine builders or retrofitters selling products to foreign countries), please note that these other languages are available: French, Italian, Russian and Chinese. Since the language text files can be edited easily with a Unicode-compatible text editor like Microsoft Notepad, other foreign languages can be quickly supported with the help of a good translator.

## Conclusion

If you do not want to receive this newsletter, please tell us with a phone call or just respond with an e-mail with ‘unsubscribe’ in the subject line. If you received a printed issue and you wish to receive it via e-mail, please tell us that by an e-mail to us at [info@machinemate.com](mailto:info@machinemate.com) or call us at 920-907-0001.

Our web site [www.machinemate.com](http://www.machinemate.com) has lots of information about our products and applications, including several PowerPoint slide shows. A link can be provided to our customers for the complete manual set. A number of **MACHINEMATE** control retrofit articles are available. Please check the site periodically for news.

Thank you,

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