information release

JUKI CORPORATION

December 21, 2009

The computer-controlled cycle machine with an input function "AMS-221EN Series" is launched with the industry's highest sewing speed and incorporating a newly-adopted feed control system that promises energy saving and higher seam quality.

JUKI launches the computer-controlled cycle machine with an input function "AMS-221EN Series" on the 21st of December.

The AMS-221EN is a partly-changed model of the AMS-221E Series which has been on the market since July 2006. The AMS-221EN has been improved with respect to productivity, energy conservation, seam quality, operability and main-body memory capacity as compared with the AMS-221E Series.

As with the computer-controlled cycle machine with an input function "AMS-210EN Series" which was put on the market on the 1st of December (announced in the Information Release of November 27), the AMS-221EN Series automatically carries out sewing and thread trimming according to given sewing data once the operator places the material on the sewing machine and starts the machine. JUKI offers three different types under the computer-controlled cycle machine series, i.e., "small-size type," "medium-size type" and "large-size type" according to the size of the sewing area. The AMS-210EN Series is intended for a "small-sized sewing area" and the AMS-221EN Series is intended for a "medium-sized sewing area", which is approximately a 7.7-fold sized sewing area of the former (* Note).

JUKI hopes to expand sales of computer-controlled cycle machines with the AMS-221EN Series, which has broad applications such as the sewing of labels, sewing of parts for sneakers, etc, as well as the tacking of jean pockets, in conjunction with the already-launched AMS-210EN Series (with a small-sized sewing area)

* Note) When comparing the AMS-221EN-HS3020 (sewing area: 300 mm (width) x 200 mm (length)) with the AMS-210ENSS-1306 (sewing area: 130 mm (width) x 60 mm (length)

◆Features

●Productivity

- The sewing machine achieves a sewing speed of 2,800 sti/min, which is the highest sewing speed in the sewing machine manufacturing industry (for a stitch length of 3.5 mm or less).
- The newly-adopted main-shaft direct-drive system enables instantaneous acceleration at the beginning of sewing and instantaneous deceleration at the end of sewing, offering excellent responsiveness of the motor. The maximum sewing speed is reached at the 2nd stitch from the beginning of sewing and is maintained until immediately before thread trimming.
- The thread trimming mechanism controlled by a stepping motor has been adopted for improved thread trimming. This thread trimming mechanism enables high-speed thread trimming without fail.
- Due to the newly adopted feed mechanism which contributes to increased sewing speed and the increase in speed of operating section of the sewing machine, the cycle time is reduced by approximately 8 % as compared with that of the conventional model.
  (For the stitch length of 3.5 mm)

●Energy saving

- A direct-drive mechanism by means of a compact AC servomotor which achieves excellent energy transfer has been adopted to control the main shaft of the sewing machine. The encoder-control system adopted for the X-Y drive of the feed mechanism, which feeds the material, drives the stepping motor with a minimum power supply according to the material weight and stitch length. With these new control systems, the AMS-221EN Series reduces power consumption by approximately 45 % as compared with JUKI's conventional model.

●Seam quality

- A newly-developed encoder-controlled stepping motor system has been adopted for the X-Y feed mechanism.
  With this new system, the feeding frame position can be observed during sewing. As a result, the accuracy of the feed is remarkably improved to produce higher quality seams with increased accuracy while preventing deformations of the sewing shape
- With JUKI's unique active tension, which has been well received in the market, and the programmable intermediate presser height control, the sewing machine flexibly responds to various materials to provide higher seam quality, and ultimately promising higher seam quality.

●Active tension

- The needle thread tension is adjustable on a stitch-by-stitch basis during sewing. As a result, setting of the needle thread tension corresponding to the material thickness and correction of thread tension, which differs in accordance with the direction of sewing, can be easily carried out by inputting data on the operation panel. Since the needle thread tension is reproducible under a broad range of sewing conditions, the time required for setup changing at the time of process changeovers can be reduced.

●Programmable intermediate presser

- The lowest dead point height of the intermediate presser can be changed steplessly (Standard: 0 to 3.5 mm; Max.: 0 to 7 mm) during sewing. As a result, the intermediate presser securely holds even that material which has multi-layered sections to prevent the material from flopping, thereby preventing sewing troubles such as stitch skipping and thread breakage.
  In addition, damage to the sewing material is prevented by keeping the appropriate intermediate presser height according to the material thickness.
  (The stroke of the intermediate presser is adjustable in the range from 0 mm to 10 mm.)

●Semi-dry head

- The frame (needle bar and thread take-up lever section) is lubricated with grease and the hook is lubricated with a minute quantity of oil from the oil reservoir. This lubricating system reduces oil stains on apparel products. With our advanced dry-head technology, which has already been adopted for many JUKI sewing machine models, the AMS-221EN Series protects customer products against oil stains.

●Operation panel with input functions

- The sewing machine is provided as standard with a large color LCD touch sensitive operation panel which has been developed pursuing ease of use. The operator is able to carry out the inputting and editing of sewing data while visually checking the needle entry points, thereby dramatically increasing efficiency.
- The operation panel supports 14 different languages for display.
- The memory storage capacity of the sewing machine has been substantially increased. The memory storage capacity of the main body of the sewing machine is 500,000 stitches and 999 patterns at the maximum (max. 50,000 stitches/pattern).
- In addition to the CompactFlash card slot which has been provided as standard for the conventional operation panel, the new operation panel is provided as standard with a USB connector. Sewing data can be input from various media. The memory storage capacity of each medium is 50,000,000 stitches and 999 patterns at the maximum.
- The key-lock customization function enables setting of the key-lock status as desired. When the key-lock function is utilized, malfunctions of the sewing machine caused when the operator presses a wrong key on the operation panel during daily work are eliminated. In addition, it is also possible to hide items in part.

●Expandability

- Sewing pattern data programming software: The PM-1 (separately available) can be connected to the main body of the sewing machine by means of a commercially available USB cable.
- Simplified sequence functions can be programmed easily by means of our exclusive PC software. The sequence can be modified to a customized operation.

- Sewing pattern setting errors can be prevented by installing a barcode reader (optional) to the sewing machine. When several cassette holders are used, the barcode reader reads barcodes adhered to the cassette holders to enable the sewing machine to automatically changeover sewing patterns.

For more information on this Release, please contact:
Mr. Shigeru Tobita, Industrial Sewing Machine Division Telephone: +81-42-357-2254