

# AMS-210EN1510-X90015

Computer Controlled Cycle Machine With 3-Fold Capacity Hook

# JUKI®



**JUKI Smart Solutions**

Innovation with our Best Global Support



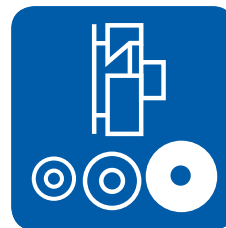


## OVERVIEW

### AMS-210EN1510-X90015

#### Programmable Pattern Sewing Machine

The sewing machine is best-suited to the sewing of heavy-duty belts in the automotive and cargo sectors. The larger hook means that even with thicker thread the machine is capable of longer cycle times without the hook needing to be changed. The AMS series is versatile enough for many different types of production and specific changes to this subclass means it meets all the requirements for heavy duty applications. With its simple operation we hope to promote production that does not require sewing-machine operators to



#### FULL-ROTARY 3-FOLD-CAPACITY HOOK

The AMS-210EN1510-X90015 has been designed for thick threads and is particularly suited to the sewing of safety belts and harnesses.

The machine is equipped as standard with a full-rotary 3-fold capacity hook. The hook reduces the frequency of the bobbin thread replacement, enhancing efficiency while sewing thick thread and also helps achieve high quality seams.

**The AMS-210EN1510-X90015 is Juki's world famous computer controlled cycle machine reimagined for the production of automotive seat-belts and cargo-belts.**

#### Productivity

The sewing machine achieves the highest sewing speed, 2,200sti/min, in the industrial sewing machine industry.

#### Heavy Duty

The AMS-210EN1510-X90015 is designed for extra heavy weight materials and thick thread. It is perfectly suit to seat belt and cargobelt production.

#### Quality

The feed accuracy is substantially improved due to the adoption of the encoder control system.



## PRODUCTIVITY

With a sewing speed of 2,200 sti/min the AMS-210EN series is one of the fastest cycle machines available in the market currently. A combination of various functions have contributed to increased productivity.

### CYCLE TIME IS SHORTENED

The sewing machine has achieved the industry's highest sewing speed of 2,200sti/min. The maximum sewing speed is reached by the 2nd stitch from the beginning of sewing. Since the sewing machine maintains its highest sewing speed immediately before the end of sewing and instantaneously decreases its speed, cycle time can be substantially decreased.

JUKI's unique stepping-motor controlled thread trimming mechanism is adopted to enable speedy and consistent thread trimming performance.

The machine demonstrates enhanced responsiveness due to the adoption of a main-shaft direct-drive system.

### HIGH SEWING SPEED

Sewing at the maximum sewing speed of 2,200sti/min is possible up to stitching pitch of 4mm for the AMS-210EN1510-X90015. Even for the larger pitches, the sewing speed allows for reduced cycle times and higher productivity.

For the production of automotive seat belts the 2,200sti/min is mandatory for any business that wants to glean an edge over its competition.

\*The sewing speed is automatically controlled according to the stitching pitch.



#### MAX. SEWING SPEED

The machine achieves the highest sewing speed of 2,200sti/min for a computer-controlled cycle machine.



#### INSTANTANEOUS DECELERATION

The machine remains at the maximum sewing speed until just before the end of sewing and decelerates instantaneously.



#### INSTANTANEOUS ACCELERATION

The maximum sewing speed is reached by the 2nd stitch from the beginning of sewing.



#### THREAD TRIMMING

A stepping-motor controlled thread trimming mechanism is employed to perform high-speed thread trimming without fail.

## Applications



## ENERGY SAVING

A remarkable degree of energy conservation is achieved through the use of the direct-drive system. The sewing machine has been designed with additional consideration for the environment.

### POWER CONSUMPTION IS DECREASED

The AMS-210EN is an economically-efficient model which has been designed to reduce power consumption. The sewing machine has adopted a direct-drive system by means of a compact AC servomotor that is excellent in energy transmission to drive the main shaft, and has adopted an encoder-control system which drives the stepping motor with a minimum of power in accordance with the material thickness and stitch length to control the X-Y drive mechanism.

**The AMS-210EN1510-X90015 is an environmentally-friendly product which meets JUKI ECO PRODUCTS certification criteria.**

- This sewing machine reduces power consumption by 30% as compared with the conventional models.
- The sewing machine satisfies the requirements stipulated in the “JUKI Group Green Procurement Guidelines\*.” And it certainly complies with the RoHS Directive\*.
- As compared with the conventional model, the AMS-210EN reduces noise by 3dB and vibration by 1dB.

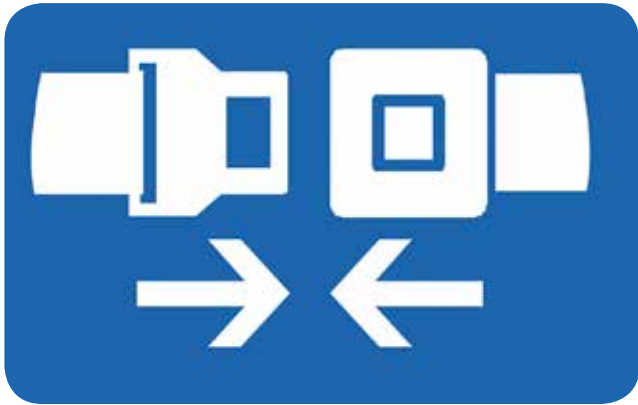


## QUALITY

In order to produce beautiful seams, new functions have been added.

### IMPROVEMENT OF SEAM QUALITY

The position of the feed can be checked during sewing by means of the encoder-controlled X-Y drive stepping motor. This remarkably improves accuracy of the feed. As a result, deformation of a sewing pattern which is likely to occur when sewing at a high speed or sewing a heavy-weight material is significantly reduced.



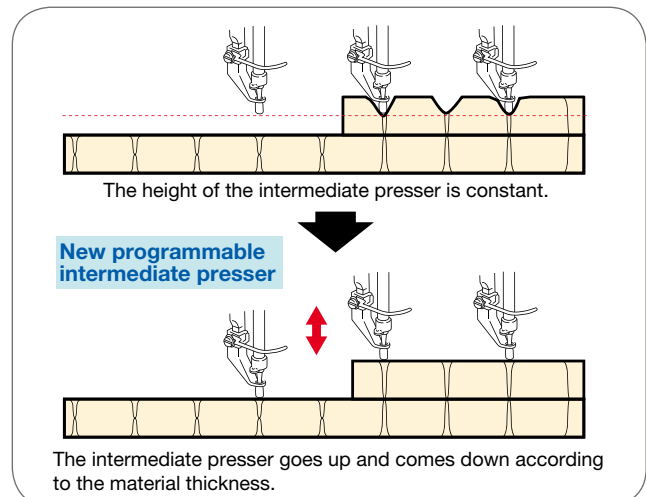
### PROGRAMMABLE INTERMEDIATE PRESSER

To support the sewing of multi-layered parts of materials, the lower dead point height of the intermediate presser can be changed steplessly during sewing (standard: 0~3.5mm; maximum: 0~7.0mm). The intermediate presser will now be able to clamp the material without fail, thereby preventing troubles in sewing, such as stitch skipping and thread breakage. Furthermore, flaws on the sewing product are prevented by maintaining the intermediate height as desired according to the material thickness. (The intermediate presser stroke is adjustable between 0 and 10mm.)

### ACTIVE TENSION

Market-proven active tension has been introduced to the needle thread tension controller. With the active tension, pinpoint changes in the needle thread tension during sewing are enabled.

The needle thread tension, therefore, can be set in conjunction with the material thickness and can be corrected according to the direction of sewing on a stitch-by-stitch basis through the operation panel. Since the needle thread tension is reproducible, supporting a broader range of sewing conditions, the time required for setup changing upon process changeover can be reduced.



## ECO TYPE

### AMS-210EN1510-X90023

#### Programmable Pattern Sewing Machine

The AMS-210EN1510X-90015 is available in an economical version – the AMS-210EN1510-X90023. This model contains the same 3-fold capacity hook and world class features you come to expect from the AMS Series but with a simpler construction and interface.



#### SIMPLE CONTROL PANEL



#### DIFFERENCES BETWEEN MODELS

Model Name	AMS-210EN1510-X90015	AMS-210EN1510-X90023
Thread retainers	✓	×
Wiper	✓	×
Change thread tension during operation	✓	×
Operation console	Programmable IP420	Basic Panel
Indicate stitch diagram	✓	Only files of 2kb or smaller
Enlargement/reduction	✓	×
Panel Lock	✓	×



## SPECIFICATION

Model Name	AMS-210EN1510-X90015	AMS-210EN1510-X90023
Sewing area	X: 130mm × Y: 60mm	
Max. Sewing Speed	2,200sti/min	
Hook	Full-rotary 3-fold Capacity Hook	
Stitch Length	0.1 to 12.7mm (in increments of 0.5mm)	
Needle	DP × 17 #26	
Control Panel	IP-420	Basic Panel
Sewing Size	150mm (W) × 100mm (L)	
Air Pressure/ Air Consumption	1.8dm <sup>3</sup> (ANR)/min	
Weight	69kg (head only)	

## OPTIONAL ACCESSORIES FOR AMS-210EN SERIES



### AUTOMATIC BOBBIN CHANGER

Automated detection and exchange of empty to full bobbins and bobbin-cases during production process when used in combination with the detector. Minimal production downtime and drastic production increases. Available in different sizes; depending on the technical requirements.



### REMAINING THREAD SENSOR

The sensor detects the remaining thread in the bobbin, highlighting when the bobbin is nearly empty and informing the operator through the control panel. It also monitors the direction the bobbin is rotating and warns the operator if incorrect (ensuring accurate thread tension).



### THREAD HOT CUTTER

This device burns the end of the thread to keep it in place avoiding it slipping from the needle and also avoids the thread becoming undone at the end of sewing. Users can switch between different material thicknesses without adjustment.



### COLOUR THREAD MONITORING SYSTEM

This attachment is capable of monitoring broken threads and stopped bobbins (avoiding false seam). If it is used in combination with the automatic bobbin changer vastly improves productivity.