

October 15, 2020

**JUKI has newly added the S type series (for medium-weight materials) with a large hook to the LH-4500C, semi-dry head, 2-needle, needle feed, lockstitch sewing system.**



JUKI has launched new LH-4500C Series, 2-needle lockstitch sewing system including the new S type model (for medium-weight materials). This new LH-4500C Series comes with digitalized sewing-adjustment functions to improve the seam quality and to reduce the setup time. In addition, it also enables production management by linking the sewing machine to the JUKI special app.

The S type model (for medium-weight materials) newly added to the LH-4500C Series product line, is used for sewing front plackets of men's shirts, sewing pockets to casual wear and workwear, etc. In the case of 2-needle sewing machines, customers require improved seam quality since the machines are used for sewing decorative stitches and top stitches that are visible on the right side of garments.

The newly added S type model comes with a "large hook" that has conventionally been difficult to use for sewing medium-weight materials. When using a large hook, the amount of thread wound on a bobbin can be approximately doubled. This means the large hook has an effect of decreasing the high frequency of replacement of bobbin thread by half every working day. Conventionally, the large hook has mainly been adopted by the sewing machines that are used for sewing heavy-weight material. In the case of sewing machines for medium-weight materials, the adoption of a large hook has been deferred since sewing medium-weight materials with a large hook is likely to cause stitching failures such as "irregular stitches" and "thread breakage".

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JUKI is promoting the sales of “LH-4500C Series” that not only achieves improved seam quality and reduced setup time but also performs production management through the linkage between the sewing machine and JUKI special app. JUKI also has been and will be further pursuing the possibility of leading-edge solutions that utilize the IoT (Internet of Things) to help our customers to smartify their factories.

## ◆Features

### 1. Incorporation of a large hook (1.8-fold capacity hook) in the sewing machine for sewing medium-weight materials

The S type model comes with a large hook that has been conventionally used for the sewing machines for sewing jeans and heavy-weight materials. This is the world's first sewing machine for sewing medium-weight materials that uses a large hook. The large hook decreases the replacement frequency of bobbin thread by approximately 45 %, thereby reducing down-time and helping reduce the operator's fatigue. In addition, the large hook contributes to stabilizing the seam quality in combination with the bobbin-thread remaining amount correction function that can only be enabled by the digitalized sewing machine.

### 2. Improvement of seam quality by digitalization

#### ① Thread tension control mechanism (active tension) is adopted

- Right and left independent needle thread tension control mechanisms, i.e., active tension, are adopted. The needle thread tension that has conventionally been likely to vary due to sewing speed and remaining bobbin thread amount is automatically corrected to achieve stabilization of thread tension.
- The presser foot pressure is digitally controlled. Under the automatic mode, the multi-layered part detection function allows the sewing machine to automatically increase/decrease the presser foot pressure. Under the manual mode, the presser foot pressure can be controlled by assigning the active tension function to the hand switch. (Active presser foot pressure control mechanism)
- When only a small amount of bobbin thread remains on the bobbin, the machine gives a replacement signal to warn the operator. (Bobbin thread remaining amount correction function)

#### ② Multi-layered part detection device is installed

The sewing machine is provided with the multi-layered part detection device. With this device, sewing data can be respectively set for the flat part and multi-layered part of the material. Sewing problems that are likely to occur when sewing multi-layered parts of material such as stitch gathering and poorly-tensed seam can be, therefore, prevented.

#### ③ Corner stitching capability has been improved (only for the LH-4588C)

Semi-automatic changeover of sewing direction at corner stitching is achieved. This function is controlled by the lever, as with the conventional models to maintain ease of operation. Semi-automatic control is achieved by entering information on the needle gauge and sewing angle through the operation panel in prior. The operator is then able to change over the sewing direction only by operating the lever. As a result, even an inexperienced

operator is able to achieve increased productivity and consistent seam quality.

In addition, the problem that the seam inside the corner stitching floats can be solved by the active – tension correction function.

### **3. Full-color operation panel**

#### **① Control of sewing and management of sewing machine utilizing IoT**

Sewing adjustment data can be sent/received between the sewing machine and the commercially-available Android device through non-contact bidirectional communication. This enables easy and uniform setting of sewing machines installed on the sewing line. The operation panel is provided as standard with the USB port to enable easy data management between devices and software updating.

#### **② Various information can be sent/acknowledged by means of JUKI Smart APP**

The JUKI Smart APP is provided with data items such as the management setting (registration of devices), sewing machine data (sewing data) and the problem solution charts. On the problem solution chart, output chart, operation rate chart, etc. are created using the data acquired from the respective sewing machines on the production line. They can be utilized for checking the current-state of sewing machines and analysis.

### **4. Improvement of the working environment**

#### **① Reduction in time required to change the needle gauge and adjust the hook timing**

The hook base mechanism has been totally reviewed to reduce the number of parts that need adjustment with a screw. As a result, the time required for hook-timing adjustment, etc. that is necessary every time the needle gauge is changed is dramatically reduced. In addition, the screw-on hook needle guard has been newly adopted to facilitate fine adjustment work. Hook timing adjustment can be carried out with ease by using the hook-timing adjustment mode on the operation panel.

#### **② Reduction of noise and vibration**

For the new LH4500-C sewing machine, the operating noise is reduced by 35 % and the vibration is reduced by 40 % as compared with the conventional models by the adoption of the 1/2 opener system, etc. The sewing machine achieves the working environment that helps reduce stress of the operator.

#### **③ LED light**

The LED light is provided at the undersurface of the arm jaw. In addition to the conventional dimming, color shade can be changed (as white ⇔ intermediate color (initial value) ⇔ incandescent-lamp color). The brightness of the LED light is, therefore, adjustable to allow the operator to operate the sewing machine comfortably, helping reduce the eye fatigue of the operator and improve operating efficiency.

\* Please refer to the JUKI homepage for this machine.

[https://www.juki.co.jp/industrial\\_e/products\\_e/apparel\\_e/2needle\\_e/lh4500c.html](https://www.juki.co.jp/industrial_e/products_e/apparel_e/2needle_e/lh4500c.html)