

# LBH-1790

Computer-controlled, High-speed, Lockstitch Buttonholing Machine



LBH-1790S (Table stand is optionally available.)

# LBH-1790

The thread tension and main drive mechanisms are electronically controlled.

# LBH-1790

The machine offers increased flexibility.  
It achieves the highest productivity and seam quality.

The machine is provided as standard with as many as 30 stitch patterns for buttonholing.

It is able to store 99 different patterns in its memory, which can be selected as desired from the operation panel.

① Square	② Round	③ Radial square	④ Radial	⑤ Radial straight bartacking	⑥ Radial taper bartacking	⑦ Eyelet square	⑧ Eyelet radial	⑨ Eyelet straight bartacking	⑩ Eyelet taper bartacking
⑪ Semilunar	⑫ Round square	⑬ Semilunar square	⑭ Semilunar straight bartacking	⑮ Semilunar taper bartacking	⑯ Eyelet semilunar	⑰ Eyelet round	⑱ Square radial	⑲ Square semilunar	⑳ Square round
㉑ Square straight bartacking	㉒ Square taper bartacking	㉓ Radial semilunar	㉔ Radial round	㉕ Semilunar radial	㉖ Semilunar round	㉗ Bartacking	㉘ Bartacking, right cut	㉙ Bartacking, left cut	㉚ Bartacking, center cut

## OPERATION PANEL (You can choose operation panel.)

### STANDARD PANEL

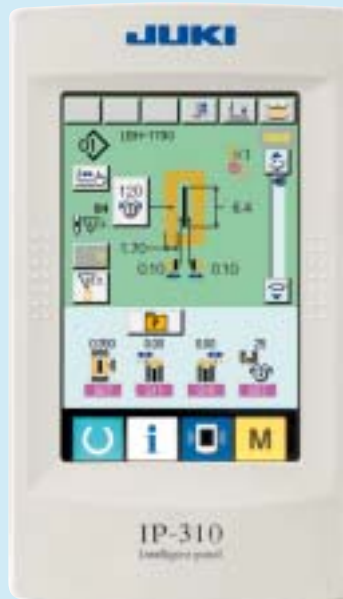
All kinds of data can be entered on or selected from the operation panel.

Various data, such as pattern numbers and stitch shapes are indicated on the LCD section with easy-to-understand pictographs.



### IP-310A

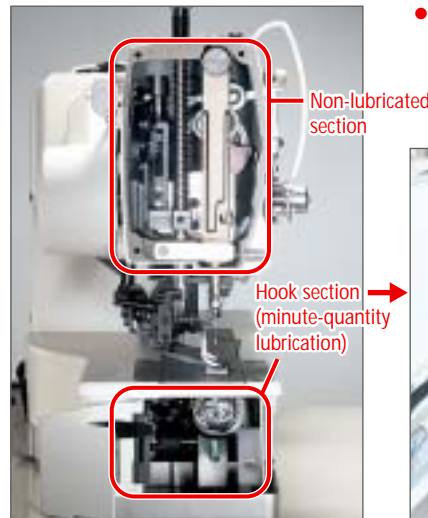
- A large color LCD touch panel has been adopted for the display. It gives clear displays that allow the operator to understand operating procedures.
- The IP-310A panel can be connected to a personal computer and can store data on CompactFlash™. This allows data to be exchanged or shared among sewing machines installed in a factory or among remote factories.
- The IP-310A panel has been provided with a process improvement supporting feature through the indication of the operational state of the sewing machine, and a maintenance and management feature for indicating the needle changing timing and cleaning timing.



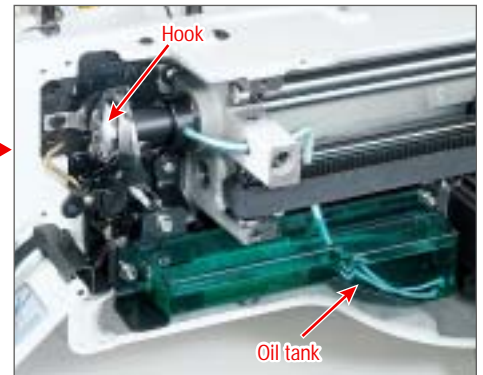
CompactFlash™

## The machine eliminates oil stains on the sewing product.

- Thanks to our advanced dry-head technology, no lubrication is required except for the hook section. This eliminates oil stains on the sewing product.
- The machine can be completely changed into a dry-head machine by replacing the hook with an optional non-lubricated hook. (In this case, the maximum sewing speed will be 3,300rpm.)

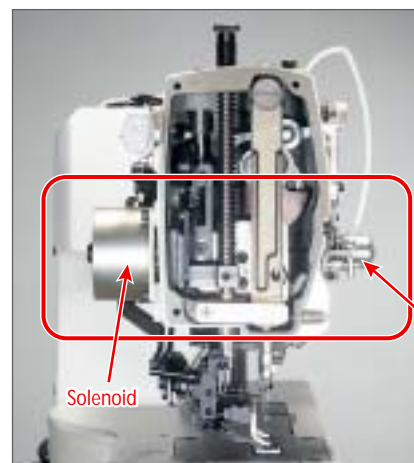


- Only a minute-quantity of clean oil is fed to the hook section from the oil tank.



## JUKI's unique active tension (Electronic thread tension control system).

- Needle thread tension for sewing parallel and bartacking sections of buttonholes can be separately controlled through the operation panel and stored in memory according to various sewing conditions (e.g., type of thread, type of material and sewing speed).
- The machine is able to change the needle thread tensions at the parallel and bartacking sections of the buttonhole, to produce a beautiful buttonhole shape. This capability helps greatly in preventing thread breakage.
- Needle thread tension is activated at the beginning and end of sewing. This prevents unthreading of the needle thread, and thread fraying that is likely to occur at the beginning of sewing.
- Thread tension for basting stitching can be specified separately.



## Frame shape offers improved operability.

- The hollowed type frame promises efficient sewing of vertical buttonholes. The machine can be operated with its head positioned horizontally.
- The distance from the machine arm to the needle has been lengthened and the left side section of the needle entry has been reduced by a large margin. This helps in the smooth placement of the sewing product on the machine, thereby ensuring improved workability.
- The sewing product can further be placed on the machine easily by installing the auxiliary table (standard accessory). In addition, the needle entry is located in the center of the bed, promising easier positioning of the sewing product.





## Basting stitch mechanism is effective for the production of beautiful buttonholes.

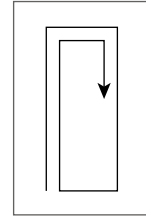
- The basting stitch is effective on elastic materials such as knits. Basting stitch: Since the needle thread is tucked in without fail, it will never jut out of the buttonhole seams. Basting stitch can be sewn by nine rounds.



Without basting stitch



With basting stitch

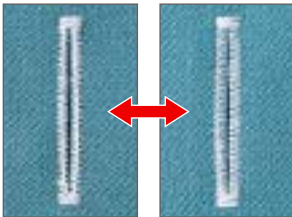


Basting stitch

(The state in which the material is stretched in the lengthwise direction after buttonholing)

## Sewing settings can be easily changed.

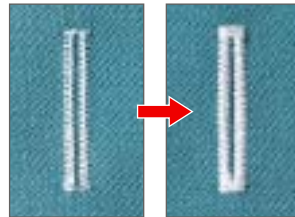
Purl stitching Whip stitching



Purl stitching Whip stitching

(For a changeover between purl stitch and whip stitch, threading of bobbin, as well as the bobbin thread tension need to be changed.)

Single stitching Double stitching



State of first-round stitch Finished state of double stitching

- For double stitching, the bartacking section is skipped and only the parallel sections are sewn twice. This prevents any excessively tight finishes in the bartacking section of the buttonhole.
- First- and second-round stitches can be sewn using different stitch widths.

## The machine is equipped with a multiple knife-dropping function.

- Thanks to the multiple knife-dropping function, it is no longer required that the knife be changed at the time the buttonhole size is changed. The number of knife dropping times can be automatically set according to the buttonholing size in cases where the buttonhole size is frequently changed for small-lot productions or during the cycle sewing of buttonholes that are different in size.
- The double-acting solenoid type knife mechanism is free from the faulty dropping/returning of the knife. In addition, the knife pressure can be changed according to the material to be sewn.
- The knife supports sewing lengths of 41mm at the maximum. In addition, knife mechanisms for 70mm and 120mm are optionally available. With this, slots such as the belt holes of child seat belts can be buttonholed.



## Shorter length of bobbin thread remaining on the material.

- The new model of the bobbin thread trimming mechanism cuts the bobbin thread so that it leaves a shorter length of thread on the material. Furthermore, the machine produces bartacks at the end of sewing, thereby preventing finished seams from coming undone.
- With the soft-start function, the number of stitches, as well as the sewing speed at the start of sewing can be specified, thereby preventing the needle thread from slipping off from the needle eyelet. (From the first to the fifth stitches, the sewing speed can be specified on a stitch-by-stitch basis.)

## Cycle sewing and continuous sewing.

### Cycle sewing

- Twenty different programs can be registered, and as many as 15 different patterns can be stored in one program.

### Continuous sewing

- The machine is able to continuously sew two or more different patterns without requiring the work clamp foot to be lifted. As many as 20 programs can be registered, and six different patterns can be stored in one program. (Related parts need to be exchanged for optional ones.)

## Easy threading.

- The needle bar can be shifted to the rightmost end position with the work clamp foot lowered. This facilitates threading of the machine head.



Position of the needle bar during sewing



The needle bar can be shifted to the right at the time of threading

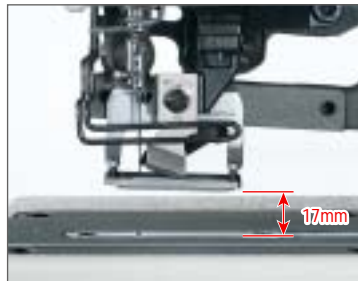
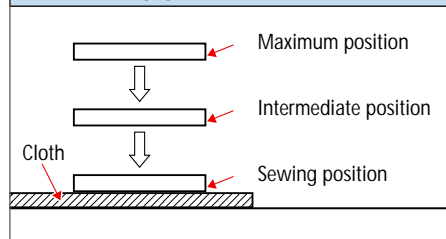
## Many functions of the pedal.

- The machine is provided as standard with a newly-developed auto-lifter driven by a stepping motor. This helps reduce the operator's fatigue. This helps reduce operator fatigue. As for the pedal, one-pedal and two-pedal models can both be changed over and the intermediate stop, which facilitates positioning of the sewing product, can be specified.
- The work clamp foot lift can be set as desired. The reverse-rotation needle-up function offers a maximum work clamp foot lift of 17mm.

### ● Explanation of pedal motion

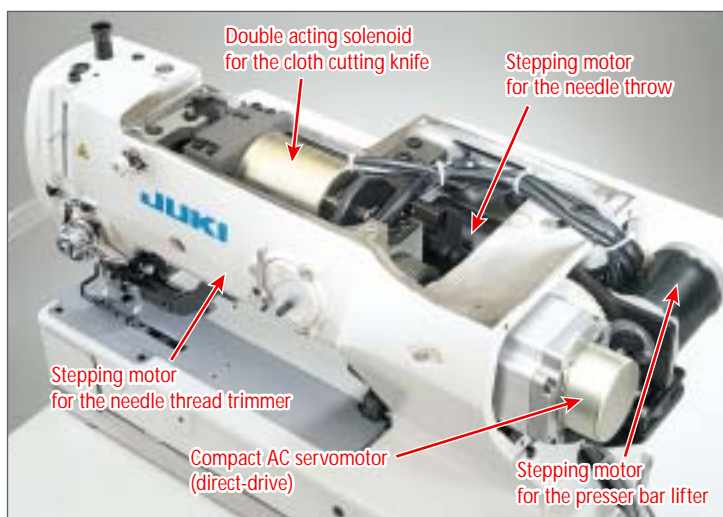
Pedal motion	Pedal type		
	2-pedal	1-pedal (without intermediate position)	1-pedal (with intermediate position)
Initial position	Intermediate position	Maximum position	Maximum position
Setting of sewing product	Presser goes up as high as the pedal toe down amount of the left side pedal. Presser comes down when the left side pedal is depressed. Sewing position	The first step of the right side pedal Sewing position	The first step of the right side pedal Intermediate position The second step of the right side pedal Sewing position
Start of sewing	The right side pedal is depressed.	The second step of the right side pedal	The third step of the right side pedal
End of sewing	Presser automatically goes up to intermediate position.	Presser automatically goes up to maximum position.	Presser automatically goes up to maximum position.

### Work clamp position



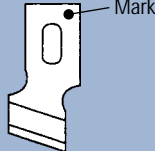
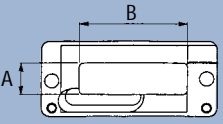
## Major drive mechanism is electronically controlled.

- An electronic control feature has been adopted for the material feed mechanism, needle rocking mechanism, needle thread trimming mechanism, bobbin thread trimming mechanism, cloth cutting knife mechanism and presser bar lifting mechanism. In addition, mechanisms such as V-belts, stop-motion mechanisms and cams have been substantially reduced to ensure operation with lower vibration and noise.
- A direct-driven system that directly connects the compact AC servomotor to the main shaft has been adopted.
- All adjustment values are entered as data. They can be set or stored in the memory on the operation panel.



## Options

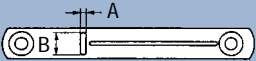
### ● Cloth cutting knife, Work clamp

Knife size	Cloth cutting knife		Work clamp		Work clamp foot
					
	Part No.		Part No.		
			For stitch width 5mm	For stitch width 6mm	
			Standard (S)	Standard (S)	
	Part No.	Mark	Part No. (Length of cloth cutting knife) <Type> ( A×B )	Part No. (Length of cloth cutting knife) <Type> ( A×B )	Part No. <Type>
6.4mm (1/4")	B2702-047-F00	F	B1552-781-000-A (6.4 ~ 19.1mm) <1> (4×25mm)	145-24409 (6.4 ~ 31.8mm) <3> (6×41mm)	D1511-771-KA0-A <1>
9.5mm (3/8")	B2702-047-K00-A	K			
11.1mm (7/16")	B2702-047-I00	I			
12.7mm (1/2")	B2702-047-L00-A	L			
14.3mm (9/16")	B2702-047-V00	V			
15.9mm (5/8")	B2702-047-M00-A	M			
17.5mm (11/16")	B2702-047-A00	A			
19.1mm (3/4")	B2702-047-N00	N			
22.2mm (7/8")	B2702-047-P00	P	B1552-782-000 (6.4 ~ 25.4mm) <2> (5×35mm)		D1511-772-KA0 <2>
25.4mm (1")	B2702-047-Q00-A	Q			
31.8mm (1-1/4")	B2702-047-S00-A	S	B1552-783-000 (6.4 ~ 31.8mm) <3> (5×41mm)		D1511-773-KA0 <3> SS-6060210-SP (2 pcs.)

Factory installed on machine

Supplied as an accessory (For LBH-1790S)

### ● Throat plate

For needle throwing width		Part No. (Marking: A×B)
5mm		400-04350 (S5: 1.4×6.2mm)
6mm		400-04351 (S6: 1.4×7.4mm)

Factory installed on machine

Designation	Part No.	Description	Feature	
Non-lubricated hook	400-06345	RP hook (asm.)	By the installation of non-lubricated hook, the machine is changed to be a fully dry-head machine. (In this case, the maximum sewing speed will be 3,300rpm.)	
	400-06349	RP bobbin case		
	137-29603	Hook sleeve (asm.)		
	SS-8660612-TP (4 pcs.)	Screws		
Work clamp (For sewing length of 70 mm, 120mm)	400-06340	Work clamp arm spacer	Exclusive to 70mm	
	SM-6040450-TP (3 pcs.)	Screws		
	145-23252	Work clamp foot 70 (asm.)		Selectable
	145-23401	Work clamp 70		
	145-23708	Urethane work clamp 70		
	145-24102	Flat work clamp 70		
	400-08646	Work clamp foot 120 (asm.)	Exclusive to 120mm	
	400-08658	Work clamp 120	Common to 70 mm and 120 mm	
	400-06335	Work clamp arm 120		
	400-06339	Cloth feeding plate 120		
	400-06341	Close cam 120		
	400-06342	Lifting plate 120		
	SM-6050800-SP (2 pcs.)	Screws		
SS-6060210-SP (2 pcs.)	Screws			
Electric bobbin winder	G5001-198-0A0-A	Electric bobbin winder (asm.)	It is a device for winding bobbin separately.	
	400-05405	Power cord (asm.)		
	B3221-771-0A0	Tension controller (asm.)		
	SK-3452000-SC (4 pcs.)	Wood screws		
2-pedal unit for standing work	GPK-510010B0	Pedal switch (asm.)	-	
	400-03493	Junction cable (asm.)		

#### Non-lubricated hook



Bobbin case

Hook (asm.)

Hook sleeve

## When you place orders

Please note when placing orders, that the model name should be written as follows:

### [Machine head]

## LBH1790S

Model		Type	Code
Knife width	Code	Standard	S
6.4 ~ 31.8mm	0		

### [Control box]

## MC601

Power supply			Code	Operation panel		Code
3-phase	200 ~ 240V		E	Standard		SS
Single-phase	200 ~ 240V		K	IP panel for LBH-1790 (CompactFlash)		IP310A
	CE 230V (not provided with power switch)		N			

● To order, please contact your nearest JUKI distributor.



**LBH-1790S** (Table stand is optionally available.)

## Specifications

Sewing speed	Max. 4,200rpm, Normal 3,600rpm When the non-lubricated hook (optional) is used: 3,300rpm
Needle bar stroke	34.6mm
Size of cloth cutting knife	6.4 ~ 31.8mm (1/4" ~ 1-1/4")
Bartacking width	Max. 5.0mm (with special-specification part: Max. 10mm*)
Buttonhole length	Max. 41mm (optional: 70mm, 120mm)
Precision of needle throwing mechanism	0.05mm
Needle thread tension	Active tension (electronic thread tension control system)
Number of stitches	Automatically computed from the size of the buttonhole and stitch pitch
Needle (at the time of delivery)	DP×5 (#11J) #11J ~ #14J
Hook	DP type, full-rotary hook
	Non-lubricated hook (optional)
Lift of the work clamp	14mm (17mm when the reverse-rotation needle-up function is used)
Auto-lifter	Provided as standard (stepping motor type)
Needle throwing system	Stepping motor
Cloth feeding system	Intermittent feed by stepping motor
Cloth cutting knife system	By double-acting solenoid
Number of standard patterns	30 patterns
Number of patterns that can be input	Max. 99 patterns
Bobbin thread winder	Built-in the machine head
Machine head drive system	Compact AC servomotor (direct-drive system)
Power requirement / Power consumption	Single-phase 220V, 230V, 240V · 3-phase 200 ~ 240V/600VA
Lubrication	Only the hook section needs a minute-quantity lubrication. * No lubrication is required when the non-lubricated hook (optional) is used.
Lubricating oil	Hook: JUKI New Defrix Oil No.1 (equivalent to ISO VG7)
Total weight	112kg

\* The special-specification part is available on a special order. Contact our branch or office in your area.

\* CompactFlash™ or CFA specification compatible media.

\* "CompactFlash™" is a registered trademark of SanDisk Corporation, U.S.A.



#### JUKI CORPORATION HEAD OFFICE

Juki Corporation operates an environmental management system to promote and conduct the following as the company engages in the research, development, design, sales, distribution, and maintenance of industrial sewing machines, household sewing machines, industrial robots, etc., and in the provision of sales and maintenance services for data entry systems:

- ①The development of products and engineering processes that are safe to the environment
- ②Green procurement and green purchasing
- ③Energy conservation (reduction in carbon-dioxide emissions)
- ④Resource saving (reduction of papers purchased, etc.)
- ⑤Reduction and recycling of waste
- ⑥Improvement of logistics efficiency (modal shift and improvement of packaging, packing, etc.)

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\* Specifications and appearance are subject to change without prior notice for improvement.

\* Read the instruction manual before putting the machine into service to ensure safety.

\* This catalogue prints with environment-friendly soy ink on recycle paper.