ARTISAN® Model ACF-680, ACF-624 and ACF-622

Thank you for investing in the new 12th and 13th generation ARTISAN® ACF-xxx digital electronic brushless servo sewing machine motors. You will find these new generation electronic motors a pleasure to use and wonderful tools designed to help you control operating speeds of your industrial sewing machine.

New Artisan ACF-624 and ACF-680 series motors are highly efficient and energy saving as well. Artisan motors operate at up to ambient temperatures and are much quieter and easier to use than all, now obsolete, old style sewing machine clutch motors. With the ACF series servo motor, operators can preset the top end sewing speeds to match the sewing conditions. One can sew very slowly from stitch to stitch and control the RPM of the motor variable from 0 (stopped) up to any desired maximum speed (full speed) of the sewing machine or operators ability.

New Artisan ACF-624 and ACF-680 motors are warranted against manufacturing defects for a period of three years from the date the motor is first put into service. Artisan will repair or replace any motor, at our option, found to be defective. If you require warranty service, please contact Artisan directly or any of our many authorized retailers or repair centers. We continue to improve and occasionally we introduce new motor models. In the future, If this model is replace by a new generation motor, at our option we may replace your motor instead of repairing the defective unit. We offer a 20% discount to existing registered customers needling to replace an existing servo motor after the warranty period up to 60 months.

Important Safety Information:

A. Please turn off the electric power to the motor at the on/off switch or disconnect the power supply cord from the wall receptacle before servicing any part of your sewing machine.

B. When powering up the motor, please do not rest or place any foot pressure on the sewing machine treadle, (speed controlling pedal). The internal circuit breaker will engage and the motor will not run if the treadle is depressed while the on/off switch is turned on. If this occurs, Turn the motor switch off for 30 seconds, then turn the power on again.

C. Never leave the motor turned on when the sewing machine is unattended.

ARTISAN Model ACF-680, ACF-624 and ACF- 622

ADJUSTMENT INSTRUCTIONS

A. SPEED SETTINGS (Your speed setting is correctly pre set by our technicians to match your sewing machine.)
1. Press the down arrow ▼ until the LED display shows "S.0"
2. Then press the up arrow ▲ 3 times until the LED display shows "S.3"
3. Immediately press the down arrow ▼ to your desired speed. (Example 28 = 2800 RPM) This setting adjusts the highest motor speeds from 400 RPM to 4000 RPM by 100 RPM adjustments.
4. Pressing the up arrow ▲ raises the motor speed, pushing the down arrow ▼ lowers the speed.
5. The new speed setting will automatically be set after 5 seconds.

B. DIRECTION OF ROTATION
1. Press the down arrow ▼ until the LED display shows "S.0"
2. Push the up ▲ 2 times until the LED shows "S.2" then press the down ▼ until "r.E" or "r.P" shows.
3. Press ▲/▼ to toggle between "r.E" for counter clockwise or "r.P" for a clockwise rotation.
4. The new setting will automatically be saved after 5 seconds.

C. SLOW STARTING (Factory adjusted for your machine)
1. Press the down arrow ▼ until the LED display shows "S.0"
2. Push the up ▲ once until the LED shows "S.1" then press the down ▼. The LED shows "L.x".
3. Press ▲/▼ to toggle between 0 and 9. 9 is slow starting and 0 fastest starting.
4. The new setting will automatically be saved after 5 seconds.

D. ERROR MESSAGES
1. E3 Circuit Breaker Tripped. Turn off power switch for 30 seconds, then power on again.
2. E4 Circuit Board Failure. Replace PC board.
3. E5 Display LED or controller communication error. Reseat wiring plugs.
4. E6 Treadle position sensor error. Turn off power switch, take your foot off the treadle, restart motor.

ARTISAN® model ACF-625 Digital Electronic Servo Motor for Sewing Machinery
Operator and User Manual

I. Front Panel

	Name	Description
88	Display area	Display parameter or operating mode
∧	Up(+)	Parameter select or set
∨	Down(—)	Parameter select or set

II. Display Mode of Front Panel

➤ After power on, two rotation cursors will be displayed. When accessed parameter mode, it display parameter index or value. After setting parameter, it will back to show rotation cursors automatically.

➤ If parameter N.4 set to ON, "P" will be displayed on left bar, and display of right bar remains.

➤ If a warning appears, the bar will display EX.(X means the error code)

III. How to Set Parameter

Steps	Description
1	Press "—" until display N.0
2	Press "+" to increase index, then select the parameter to be modified
3	Press "—" to show the value
4	Use "+" or "—" to change the value, then wait to return
5	After the change, waiting for return

Note: N6 to NY parameter settings, please contact ARTISAN®

IV. Parameter Table

Index	Range	Default	Description
N.1	30~90	35	Startup speed. Speed = value x 10 (rpm)
N.2	05~45	30	Max speed. Speed = value x 100 (rpm)
N.3	0~1	0	Needle stop position. 0: down; 1:up
N.4	OF~ON	OF	Synchronizer function. OF: close, ON: open
N.5	OF~ON	OF	Motor reverse rotation function. OF: close, ON: open
N.6	10-60	30	Increase time from 0 to 4500 (rpm). A value bigger means acceleration is quicker.
N.7	10-60	30	Decrease time from 4500 (rpm) to 0. A value bigger means deceleration is quicker.
N.A	1~24	10	Down position adjustment, only effect when N.D is 1
N.B	OF~ON	OF	Speed-lock function. OF: close, ON: open
N.C	OF~ON	OF	When it is ON, the motor will move to up position and stop automatically as power on.
N.D	1~2	*	Synchronizer type. 1: single signal, 2: double signal
N.E	OF~ON	OF	Pedal backward function. OF: close, ON: open. When value is ON, if motor stop at down position, pedal anti-step will move motor to up position.
N.G	OF~ON	OF	When value is ON, turn on the power again, after twinkling of "IN" finished, all parameters will be restored
N.I	*	*	Software version
N.M	05~45	45	System speed limitation, motor speed never exceeds this parameter. Speed = value x 100 (rpm)
N.Y	10~90	60	Stop speed. Speed = value x 10 (rpm)

V. Error Code Table

Code	Cause	measurement
E1	When motor stop voltage is too high	Check the AC power.
E2	Voltage is too low	Check the AC power.
E3	Over current	Check motor connector, or replace control box
E4	Pedal fault	Check pedal connector
E5	Synchronizer fault	Check Synchronizer connector and position signal
E6	Hall fault	Check motor connector, or replace motor
E7	Lock rotor fault	Check motor connector, or machine head
EC	When motor run voltage is too high	Check the AC power.
EE	Power down fault	Check the power plug
EF	Data storage fault	Power off, restart motor
EG	Current loop fault	Power off, restart motor
EH	Overspeed fault	Power off, restart motor
EI	Motor reverse fault	Power off, restart motor
EL	Motor overload	Check whether the motor load is overweight or overload operation

VI. Check Function

Press "—" can enter the check function, use "—" to switch the index.

No.	Item	Method
A	Pedal	Press pedal, from back to front, it will be shown: B, S, L, 1~9.
B	Synchronizer	Turn the hand wheel, vertical bar of left and right shown signal.
C	Hall	Rotate motor to display hall value1-6