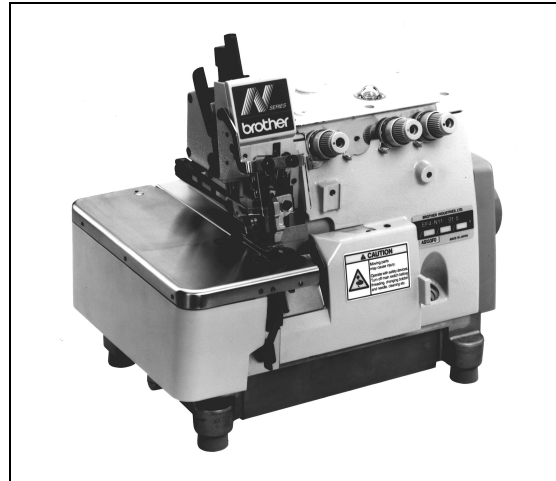


Overlock Sewing Machine N series

EF4-N11

High Speed Single Needle
Overlock Sewing Machine



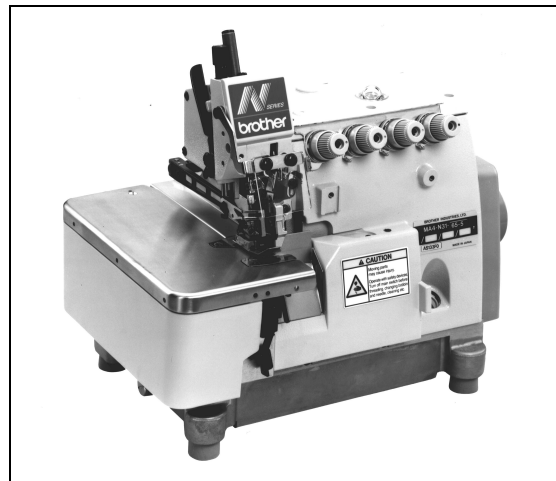
EF4-N21

High Speed Twin Needle
Overlock Sewing Machine



MA4-N31

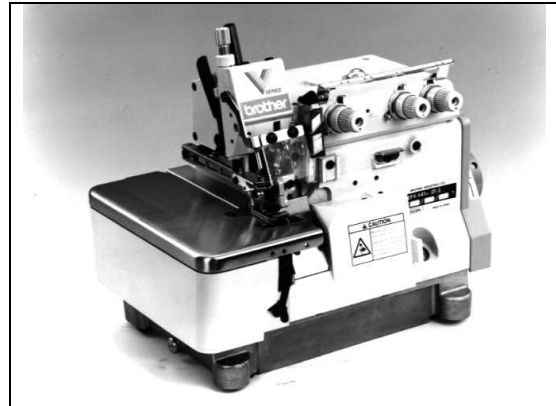
High Speed Safety Stitch
Sewing Machine



Overlock Sewing Machine V series

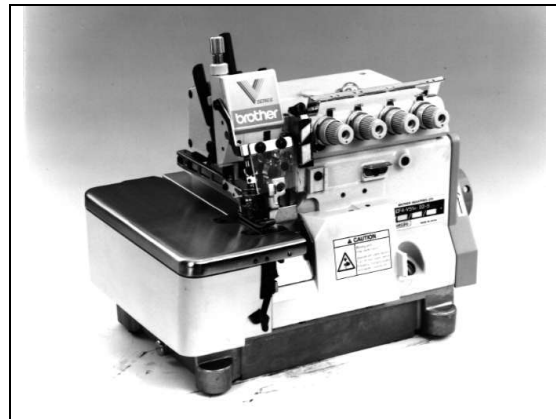
EF4-V41A

Ultra high Speed Single Needle
Overlock Sewing Machine



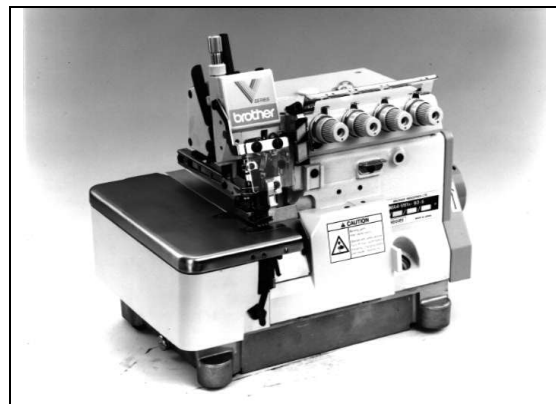
EF4-V51A

Ultra high Speed Twin Needle
Overlock Sewing Machine



MA4-V61A

Ultra high Speed Safety Stitch
Sewing Machine



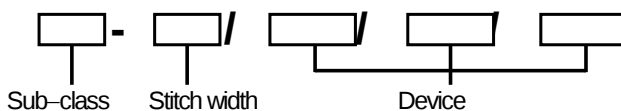
Option parts

[Models EF4-N11, N21, MA4-N31, V41A, V51A, V61A]

Device		Model	N11 V41A	N21 V51A	N31 V61A
Automatic tape cutter	Stitch number control	ATC1	○	○	○
	Air suction + Thread release + Stitch number control	ATC3	○	○	○
	Air suction + Stitch number control	ATC5	○	○	○
Automatic tape feeder	Horizontal (Installed on the table)	TFH	○	○	○
	Vertical (Installed on the table)	TFV	○	○	○
Semi-auto backtack device	For single needle	SBL1	○	-	-
	For twin needle	SBL2	-	○	-
Vertical chain cutter	Pneumatic type back suction	CV1	○	○	-
	Pneumatic type front suction	CV3	○	○	-
	Vacuum type back suction	CV4	○	○	-
	Vacuum type front suction	CV6	○	○	-
	Chain cutter only back suction	CV7	○	○	-
	Chain cutter only front suction	CV9	○	○	-
Horizontal chain cutter	Pneumatic type	CH1	○	○	○
	Vacuum type	CH2	○	○	○
	Chain cutter only	CH3	○	○	○
Tape cutter	Knee SW pneumatic	TC1	○	○	○
	Knee SW solenoid	TC3	○	○	○
	Manual SW solenoid	TC5	○	○	○
Pneumatic foot lifter		PL1	○	○	○
Folded edge controlling and hemming		BH	○	-	-
Pneumatic air cleaner set		CL1	○	○	○
Semi-automatic backlatch device		SBL	○	○	-

Specifications

EF4-N11 -



Sub-class	Applications	Stitch type	No. of needles	No. of threads	(mm) Needle gauge	(mm) Stitch width	(mm) Max. stitch length	Differential ratio
01 -3 -4 -5 -6 -7			1	3	-	3 4 5 6 7	0.9–3.8	0.7–2.0
02 -5 -6 -7	Bulky knit		1	3	-	5 6 7	0.4–2.4	1.1–3.8
03 -3 -4 -5	Blind-hemming		1	3	-	3 4 5	0.9–3.8	0.7–2.0
04 -3 -4 -5	Blind-hemming		1	2	-	3 4 5	0.9–3.8	0.7–2.0
05 -4 -5	Serging		1	2	-	4 5	1.4–5.9	0.7–1.3
06 -4 -5	Serging		1	3	-	4 5	1.4–5.9	0.7–1.3
07 -2 -3	 Curing		1	3	-	2 3	0.9–3.8	0.7–2.0
08 -5	Ruffling		1	3	-	5	0.8–3.2	0.8–2.8
09 -5	Ruffling with piping		1	3	-	5	0.8–3.2	0.8–2.8
10 -4 -5 -6	Taping		1	3	-	4 5 6	0.9–3.8	0.7–2.0
11 -5 -6 -7	Taping bulky knit		1	3	-	5 6 7	0.4–2.4	1.1–3.8
12 -3 -4 -5	 Back-tacking		1	3	-	3 4 5	0.9–3.8	0.7–2.0
17 -3 -4 -5	 Soft chain stitching		1	3	-	3 4 5	0.9–3.8	0.7–2.0



... Light-weight materials



... Heavy-Weight materials



... Medium-weight materials



... Extra heavy-weight materials

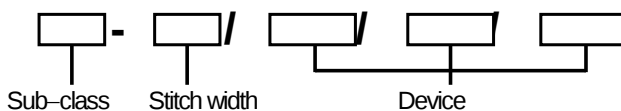
EF4-V41A -

 (mm) Height of presser foot	 (mm) Pitch of feed dog	 Type of feed dog (standard)	 (DC x 27) Needle size	 (rpm) Max. speed		Looper locus	Attachment
				V41A	N11		
5	1.6	3 - Row	11	8,500 8,500 8,500 8,000 8,000	7,000 7,000 7,000 6,700 6,700	S S S H H	
6	2.5	3 - Row	14	8,000	6,500	H	Angle knife
5	1.6	2 - Row	9	8,500	7,000	S	Blind hemming ruler
5	1.6	2 - Row	9	8,500	7,000	S	Blind hemming ruler
5	1.6	2 - Row	14	8,500	7,000	S	Serging ruler
5	1.6	2 - Row	14	8,500	7,000	S	Serging ruler
5	1.6	2 - Row	11	8,500	7,000	S	
5	1.6	3 - Row	11	7,500	6,500	S	Ruffler
5	1.6	3 - Row	11	7,500	6,500	S	Piping ruffler
5	1.6	3 - Row	11	8,500 8,500 8,000	7,000 7,000 6,700	S S H	Tape guide
6	2.5	3 - Row	14	8,000	6,500	H	Tape guide Angle knife
5	1.6	2 - Row	11	8,500	7,000	S	Back-tack
5	1.6	3 - Row	11	8,500	7,000	S	

Over-looper locus
 S ... Standard lift
 H ... High lift
 E ... Extra high lift

Specifications

EF4-N21 -



Sub-class	Applications	Stitch type	No. of needles	No. of threads	(mm) Needle gauge	(mm) Stitch width	(mm) Max. stitch length	Differential ratio
22	-4 -5 -6 -7	 	2	4	2.2	4 5 6 7	0.9–3.8	0.7–2.0
23	-4 -5 -6 -7	 Mock safety stitch 	2	4	2.2	4 5 6 7	0.9–3.8	0.7–2.0
24	-5 -6 -7	 	2	4	3	5 6 7	0.9–3.8	0.7–2.0
25	-5 -6 -7	 Mock safety Stitch 	2	4	3	5 6 7	0.9–3.8	0.7–2.0
27	-5 -6 -7	Bulky knit 	2	4	2.2	5 6 7	0.4–2.4	1.1–3.8
28	-5 -6 -7	Bulky knit Mock safety stitch 	2	4	2.2	5 6 7	0.4–2.4	1.1–3.8
31	-6 -7	 	2	4	3	6 7	1.2–5.0	0.7–1.4
32	-6 -7	 Mock safety stitch 	2	4	3	6 7	1.2–5.0	0.7–1.4
33	-5 -6	Ruffling 	2	4	2.2	5 6	0.8–3.2	0.8–2.8
34	-5 -6	Ruffling Mock safety stitch 	2	4	2.2	5 6	0.8–3.2	0.8–2.8



... Light-weight materials



... Heavy-Weight materials



... Medium-weight materials



... Extra heavy-weight materials

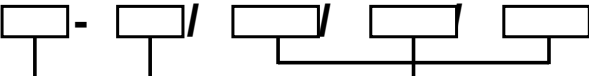
EF4-V51A -

Sub-class Stitch width Device

 (mm) Height of presser foot	 (mm) Pitch of feed dog	 Type of feed dog (standard)	 (DC x 27) Needle size	 (rpm) Max. speed		Looper locus	Attachment
				V51A	N21		
5.5	1.6	3 - Row	11	8,000	6,700	H	
5.5	1.6	3 - Row	11	7,000	6,700	H	
5.5	1.6	3 - Row	11	8,000	6,700	H	
5.5	1.6	3 - Row	11	7,000	6,700	H	
5.5	2.5	3 - Row	14	8,000	6,500	H	Angle knife
5.5	2.5	3 - Row	14	7,000	6,500	H	Angle knife
6	2.5	3 - Row	18	6,500	6,000	E	Angle knife
6	2.5	3 - Row	18	5,500	5,500	E	Angle knife
5.5	1.6	3 - Row	11	7,500	6,500	H	Ruffler
5.5	1.6	3 - Row	11	7,500	6,500	H	Ruffler

Over-looper locus
 S ... Standard lift
 H ... High lift
 E ... Extra high lift

Specifications

EF4-N21 - 
 Sub-class Stitch width Device

Sub-class	Applications	Stitch type	No. of needles	No. of threads	(mm) Needle gauge	(mm) Stitch width	(mm) Max. stitch length	Differential ratio
37	-5 Ruffling -6 with piping		2	4	2.2	5 6	0.8–3.2	0.8–2.8
38	-5 Ruffling -6 with piping		2	4	2.2	5 6	0.8–3.2	0.8–2.8
41	-5  -6 Taping		2	4	2.2	5 6	0.9–3.8	0.7–2.0
42	-5  -6 Taping Mock safety stitch		2	4	2.2	5 6	0.9–3.8	0.7–2.0
45	-5 Taping -6 Bulky knit -7		2	4	2.2	5 6 7	0.4–2.4	1.1–3.8
46	-5 Taping -6 Bulky knit -7 Mock safety stitch		2	4	2.2	5 6 7	0.4–2.4	1.1–3.8
49	-5  -6 Back-tacking		2	4	2.2	5 6	0.9–3.8	0.7–2.0
57	-6 Bulky knit -7		2	4	2.5	6 7	0.4–2.4	1.1–3.8
58	-6 Bulky knit Back-tack		2	4	2.5	6	0.4–2.4	1.1–3.8

 ... Light-weight materials  ... Heavy-Weight materials
 ... Medium-weight materials  ... Extra heavy-weight materials

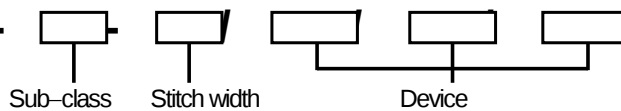
EF4-V51A -

 (mm) Height of presser foot	 (mm) Pitch of feed dog	 Type of feed dog (standard)	 (DC x 27) Needle size	 (rpm) Max. speed		Looper locus	Attachment
				V51A	N21		
5	1.6	3 - Row	11	7,500	6,500	H	Piping ruffler
5	1.6	3 - Row	11	7,000	6,500	H	Piping ruffler
5.5	1.6	3 - Row	11	8,000	6,700	H	Tape guide
5.5	1.6	3 - Row	11	7,500	6,700	H	Tape guide
5.5	1.6	3 - Row	14	8,000	6,500	H	Tape guide Angle knife
5.5	1.6	3 - Row	14	7,000	6,500	H	Tape guide Angle knife
5.5	1.6	3 - Row	11	8,000	6,700	H	Back-tack
7	2.5	3 - Row	14	6,500	6,000	E	Angle knife
7	2.5	3 - Row	14	6,500	6,000	E	Angle knife

Over-looper locus
 S ... Standard lift
 H ... High lift
 E ... Extra high lift

Specifications

MA4-N31 -



Sub-class	Applications	Stitch type	No. of needles	No. of threads	(mm) Needle gauge	(mm) Stitch width	(mm) Max. stitch length	Differential ratio
61	-2 -3 -4 -5		2	5	2	2 3 4 5	0.9–3.8	0.7–2.0
62	-2 -3 -4 -5		2	4	2	2 3 4 5	0.9–3.8	0.7–2.0
63	-3 -4 -5 -6 -7		2	5	3	3 4 5 6 7	0.9–3.8	0.7–2.0
64	-3 -4 -5 -6 -7		2	4	3	3 4 5 6 7	0.9–3.8	0.7–2.0
65	-4 -5 -6 -7		2	5	5	4 5 6 7	0.9–3.8	0.7–2.0
66	-4 -5 -6 -7		2	4	5	4 5 6 7	0.9–3.8	0.7–2.0
67	-4 -5 Ruffling		2	5	2	4 5	0.8–3.2	0.8–2.8
68	-4 -5 Ruffling		2	4	2	4 5	0.8–3.2	0.8–2.8
69	-4 -5 Ruffling		2	5	3	4 5	0.8–3.2	0.8–2.8
70	-4 -5 Ruffling		2	4	3	4 5	0.8–3.2	0.8–2.8
71	-5 -6 Ruffling		2	5	5	5 6	0.8–3.2	0.8–2.8
72	-5 -6 Ruffling		2	4	5	5 6	0.8–3.2	0.8–2.8

... Light-weight materials ... Heavy-Weight materials
 ... Medium-weight materials ... Extra heavy-weight materials

MA4-V61A- - / / /

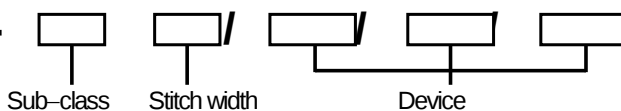
Sub-class Stitch width Device

 (mm) Height of presser foot	 (mm) Pitch of feed dog	 Type of feed dog (standard)	 (DC x 27) Needle size	 (rpm) Max. speed		Looper locus	Attachment
				V61A	N31		
5	1.6	3 - Row	14	7,500	6,500	S	Ruffler
5	1.6	3 - Row	14	7,500	6,500	S	Ruffler
5	1.6	2 - Row	11	7,500	6,500	S S S H H	
5	1.6	2 - Row	11	7,500	6,500	S S S H H	
5	1.6	3 - Row	14	7,500	6,500	S S H H	
5	1.6	3 - Row	14	7,500	6,500	S S H H	
5	1.6	3 - Row	16	7,000	6,500	S	
5	1.6	3 - Row	16	7,000	6,500	S	
5	1.6	3 - Row	14	7,000	6,500	S	Ruffler
5	1.6	3 - Row	14	7,000	6,500	S	Ruffler
5	1.6	3 - Row	14	7,000	6,500	S H	Ruffler
5	1.6	3 - Row	14	7,000	6,500	S H	Ruffler

Over-looper locus
 S ... Standard lift
 H ... High lift
 E ... Extra high lift

Specifications

MA4-N31 -



Sub-class	Applications	Stitch type	No. of needles	No. of threads	(mm) Needle gauge	(mm) Stitch width	(mm) Max. stitch length	Differential ratio
75	 -5 Ruffling with piping		2	5	3	5	0.8–3.2	0.8–2.8
76	 -5 Ruffling with piping		2	4	3	5	0.8–3.2	0.8–2.8
77	 -5 -6 Ruffling with piping		2	5	5	5 6	0.8–3.2	0.8–2.8
78	 -5 -6 Ruffling with piping		2	4	5	5 6	0.8–3.2	0.8–2.8
81	 -4 -5 Taping		2	5	3	4 5	0.9–3.8	0.7–2.0
82	 -4 -5 Taping		2	4	3	4 5	0.9–3.8	0.7–2.0
83	 -4 -5 -6 Taping		2	5	5	4 5 6	0.9–3.8	0.7–2.0
84	 -4 -5 -6 Taping		2	4	5	4 5 6	0.9–3.8	0.7–2.0
85	 -3 -5		2	5	3	3 5	1.2–5.0	0.7–1.4
86	 -5		2	4	3	5	1.2–5.0	0.7–1.4
89	 -4 -5 Binding		2	5	3	4 5	0.9–3.8	0.7–2.0

... Light-weight materials

... Heavy-Weight materials

... Medium-weight materials

... Extra heavy-weight materials

MA4-V61A- - / / /

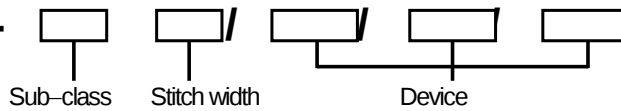
Sub-class Stitch width Device

 (mm) Height of presser foot	 (mm) Pitch of feed dog	 Type of feed dog (standard)	 (DC x 27) Needle size	 (rpm) Max. speed		Looper locus	Attachment
				V61A	N31		
5	1.6	3 - Row	14	7,000	6,500	S	Piping ruffler
5	1.6	3 - Row	14	7,000	6,500	S	Ruffler
5	1.6	3 - Row	14	7,000	6,500	S H	Piping ruffler
5	1.6	3 - Row	14	7,000	6,500	S H	Piping ruffler
5	1.6	3 - Row	14	7,500	6,500	S	Tape guide
5	1.6	3 - Row	14	7,500	6,500	S	Tape guide
5	1.6	3 - Row	16	7,500	6,500	S S H	Tape guide
5	1.6	3 - Row	16	7,500	6,500	S S H	Tape guide
3.5	2.5	2 - Row	18	6,500	6,000	E	Tractor foot Angle knife
3.5	2.5	2 - Row	18	6,500	6,000	E	Tractor foot Angle knife
5	1.6	2 - Row	14	6,500	6,500	S	Binding tape guide

Over-looper locus
 S ... Standard lift
 H ... High lift
 E ... Extra high lift

Specifications

MA4-N31 -



Sub-class	Applications	Stitch type	No. of needles	No. of threads	(mm) Needle gauge	(mm) Stitch width	(mm) Max. stitch length	Differential ratio
90	-4 -5 Binding		2	4	3	4 5	0.9–3.8	0.7–2.0
92	-5 -6 -7 		2	5	5	5 6 7	1.2–5.0	0.7–1.4
93	-5 -6 -7 		2	4	5	5 6 7	1.2–5.0	0.7–1.4
95	-5 		3	6	5 × 2.2	5	0.9–3.8	0.7–2.0
99	-5 Ruffling		3	6	5 × 2.2	5	0.8–3.2	0.8–2.8

... Light-weight materials

... Heavy-Weight materials

... Medium-weight materials

... Extra heavy-weight materials

MA4-V61A- - / / /

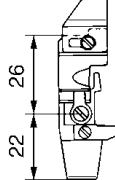
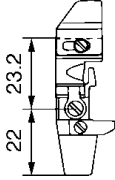
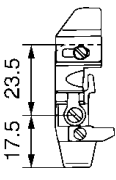
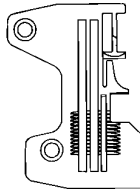
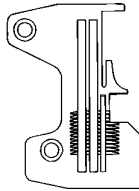
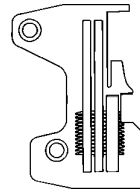
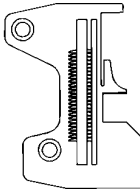
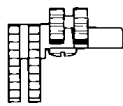
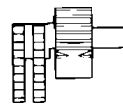
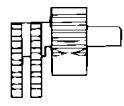
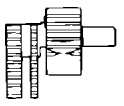
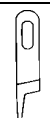
Sub-class Stitch width Device

 (mm) Height of presser foot	 (mm) Pitch of feed dog	 Type of feed dog (standard)	 (DC x 27) Needle size	 (rpm) Max. speed		Looper locus	Attachment
				V61A	N31		
5	1.6	2 - Row	14	6,500	6,500	S	Binding tape guide
3.5	2.5	3 - Row	18	6,500	6,000	E	Tractor foot Angle knife
3.5	2.5	3 - Row	18	6,500	6,000	E	Tractor foot Angle knife
6	1.6	3 - Row	16	7,000	6,500	H	
6	1.6	3 - Row	14	7,000	6,500	H	Ruffler

Over-looper locus
 S ... Standard lift
 H ... High lift
 E ... Extra high lift

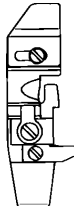
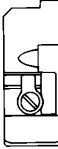
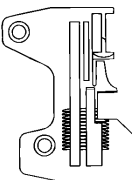
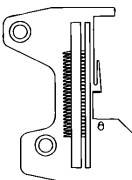
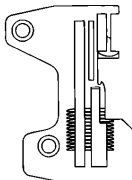
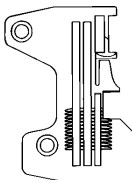
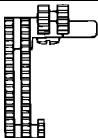
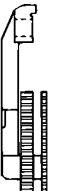
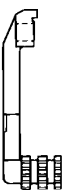
Gauge parts list

[Models EF4-N11, V41A]

Application	Thin · Medium			Bulky Knit	Blind hemming		
	With chain land	Without chain land	(For small type)				
Sub-class	01 -3 S -4 S -5 S -6 H -7 H	01 -3 (B) S -4 (B) S -5 (B) S -6 (B) H	01 -3 (C) S -4 (C) S -5 (C) S -6 (C) H	02 -5 H -6 H -7 H	03 -3 S -4 S -5 S	04 -3 S -4 S -5 S	
S=Standard H=High-lift							
1. Needle	151474-011			151474-014	151474-009		
2. Presser foot assy (Stitch tongue)	S19255-001 (3) (S19257-001) S19260-001 (4,5) (S19261-001) S25535-001 (6,7) (S19265-001)	S20879-001 (3) (S19257-001) S19262-001 (4,5) (S19261-001) S19264-001 (6) (S19265-001)	S29947-001 (3) (S19257-001) S29948-001(4,5) (S19261-001) S29949-001 (6) (S19265-001)	S30046-101 (5) (S19261-001) S30047-101 (6,7) (S19265-001)	S19266-001 (3,4,5) (S19268-001)		
							
3. Needle plate	S33023-001 (3) S19145-001 (4) S19146-001 (5) S25185-001 (6) S30081-001 (7)	S33024-001 (3) S19154-001 (4) S19155-001 (5) S19161-001 (6)		S19147-001 (5) S19148-001 (6) S25186-001 (7)	S25187-001 (3) S19149-001 (4) S19150-001 (5)		
							
4. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19199-001 (S19200-001) (S19201-001) A	S19212-001 (S19213-001) (S19204-001) B		S19202-001 (S19955-001) (S19204-001) B	S19205-001 (S19206-001) (S19204-001) B		
							
5. Differential feed dog	S33025-001 (3) S19236-001 (4,5,6,7)	S33027-001 (3) S19240-001 (4,5,6)		S19237-101	S19238-001		
							
6. Upper knife Angle knife	Upper knife 144074-350			Angle knife S20897-101	Upper knife 144074-350		
							
7. Lower knife 	S20899-001 (3) T = 1.0 S20582-000 (4,5,6,7) T = 1.5			S20899-001 (5) T = 1.0 S20582-001 (6,7) T = 1.5	S20582-001 T = 1.5		
8. Over looper 	S20422-001 (3,4,5) A S20426-001 (6,7) H			S20428-001 C	S20422-001 A	S20421-001 L	

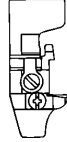
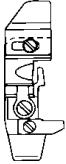
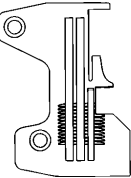
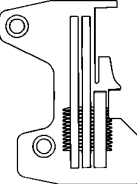
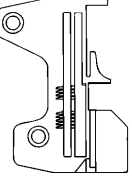
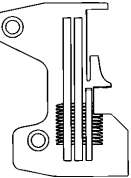
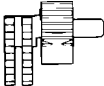
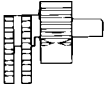
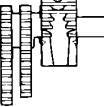
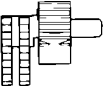
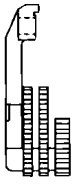
Gauge parts list

[Models EF4-N11, V41A]

Application	Serging		Curing		Ruffling	
	2 Threads	3Threads				W / Piping
Sub-class	05 -4 S -5 S	06 -4 S -5 S	07 -2 S	07 -3 S	08 -5 S	09 -5 S
S=Standard H=High-lift						
1. Needle	151474-014		151474-011			
2. Presser foot assy (Stitch tongue)	S19269-001 (S19261-001)		S19271-001 (S19272-001)	S25536-001 (S25537-001)	S19291-001	S25538-001
						
3. Needle plate	S19151-001 (4) S19152-001 (5)		S19153-001 (2)	S25188-001 (3)	S19146-001	
						
4. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19207-001 (S19208-001) (S19209-001) C		S19210-001 (S19206-001) (S19211-001) D	S25564-001 (S19208-001) (S19201-001) A	S19500-001 (S19218-001) (S19201-001) A	
						
5. Differential feed dog	S19239-001		S25574-001	S19239-001	S19243-001	
						
6. Upper knife	144074-350					
						
7. Lower knife 	S20582-001 T = 1.5					
8. Over looper 	S20423-001 M	S20424-001 B	S20422-001 A			

Gauge parts list

[Models EF4-N11, V41A]

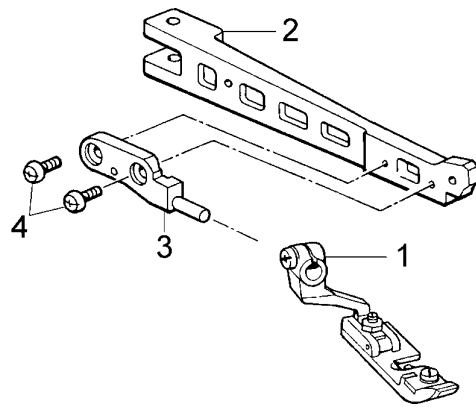
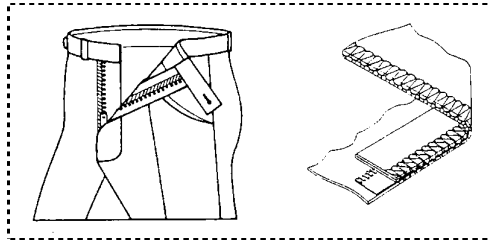
Application	Taping	Bulky Knit (Taping)	Back-tacking	Soft chain
Sub-class	10 -4 S -5 S	11 -5 H -6 H	12 -3 S -4 S -5 S	17 -3 S -4 S -5 S
S=Standard H=High-lift				
1. Needle	151474-011	151474-014	151474-011	
2. Presser foot assy (Stitch tongue)	S19273-001 (S19275-001)		S25540-001 (3) (S25541-001) S19276-001 (4,5) (S19278-001)	S20879-001 (3,4) (S19257-001) S19262-001 (5) (S19261-001)
				
3. Needle plate	S19154-001 (4) S19155-001 (5)	S19147-001 (5) S19148-001 (6)	S25189-001 (3) S19156-001 (4) S19157-001 (5)	S33024-001 (3) S19154-001 (4) S19155-001 (5)
				
4. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19212-001 (S19213-001) (S19204-001) B	S19202-001 (S19955-001) (S19204-001) B	S19214-001 (S19215-001) (S19216-001) E	S19212-001 (S19213-001) (S19204-001) B
				
5. Differential feed dog	S19240-001	S19237-101	S19241-001	S33027-001 (3) S19240-001 (4,5)
				
6. Upper knife Angle knife	Upper knife 144074-350	Angle knife S20897-101	Upper knife 144074-350	
				
7. Lower knife 	S20582-000 T = 1.5	S20899-001 (5) T = 1.0 S20582-001 (6) T = 1.5	S20582-001 T = 1.5	S20899-001 (3) T = 1.0 S20582-001 (4,5) T = 1.5
8. Over looper 	S20422-001 A	S20428-001 C	S20422-001 A	

Gauge parts list

For zipper

[Models EF4-N11, V41A]

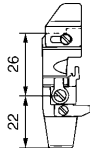
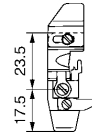
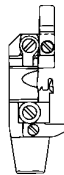
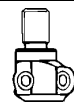
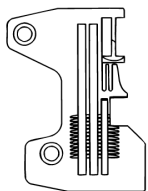
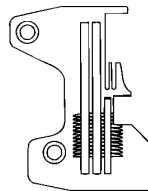
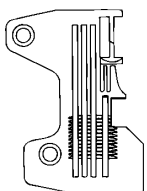
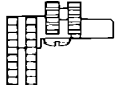
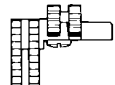
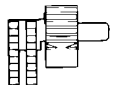
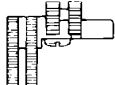
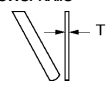
Stitch width 5 – 6 mm



Ref. No.	Part name	Part code	Q'ty
1	Presser foot assy	S34824-101	1
2	Main presser arm	S46908-001	1
3	Presser arm	S20298-001	1
4	Screw, pan M3.5 x 6	062350-616	2

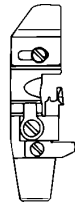
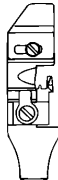
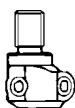
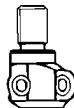
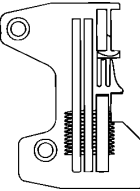
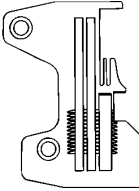
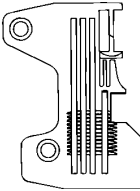
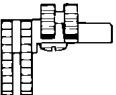
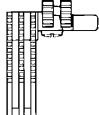
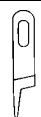
Gauge parts list

[Models EF4-N21, V51A]

Application	Thin・Medium			Thin・Medium (For small type)		New synthetic fiber
	With chain land	(Mock-safety)	Without chain land		(Mock-safety)	
Sub-class	22 -4 H -5 H -6 H -7 H	23 -4 H -5 H -6 H -7 H	22 -4 (B) H -5 (B) H -6 (B) H -7 (B) H	22 -4 (C) H -5 (C) H -6 (C) H -7 (C) H	23 -5 (B) H -6 (B) H -7 (B) H	22 -5 (D) H
H=High-lift E=Extra high-lift						
(mm)	2.2					
Needle gauge						
1. Needle	151474-011					151474-039
2. Presser foot assy (Stitch tongue)	S25543-001 (4) (S25544-001) S19280-001 (5) (S19976-001) S19282-001 (6, 7) (S19283-001) 			S29952-001 (4) (S25544-001) S29950-001 (5) (S19976-001) S29951-001 (6, 7) (S19283-001) 		S36867-001 (S19976-001) 
3. Needle clamp assy	S20398-001 					
4. Needle plate	S25190-001 (4) S19162-001 (5) S19163-001 (6) S25191-001 (7) 		S25527-001 (4) S19169-001 (5) S19170-001 (6) S25193-001 (7) 			S36866-001 
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19217-001 (S19213-001) (S19201-001) A 	S19199-001 (S19200-001) (S19201-001) A 	S19212-001 (S19213-001) (S19204-001) B 		S36738-001 (S36739-001) (S19201-001) A 	
6. Differential feed dog	S19240-001 	S19236-001 	S19240-001 		S36740-001 	
7. Upper knife	144074-350 					
8. Lower knife 	S20582-001 T = 15					
9. Over looper 	S20424-001 B	S20436-001 (4,5,7) F S20424-001 (6) B	S20424-001 B		S20436-001 (5,7) F S20424-001 (6) B	S20424-001 B

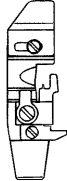
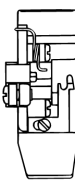
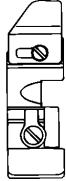
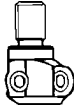
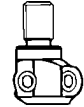
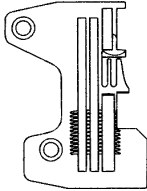
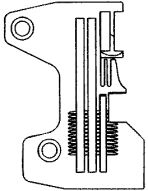
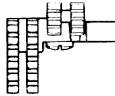
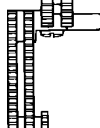
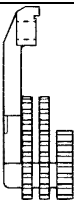
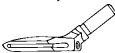
Gauge parts list

[Models EF4-N21, V51A]

Application	Thin Medium		Bulky knit									
		(Mock-safety)		(Mock-safety)		(Mock-safety)						
Sub-class	24	-5 H -6 H -7 H	25	-5 H -6 H -7 H	27	-5 H -6 H -7 H	28	-5 H -6 H -7 H	27	-5 (B) H -6 (B) H -7 (B) H	28	-5 (B) H -6 (B) H -7 (B) H
H=High-lift E=Extra high-lift												
(mm)	3		2.2									
Needle gauge												
1. Needle	151474-011		151474-014									
2. Presser foot assy (Stitch tongue)	S19284-001 (5) (S19976-001) S19285-001 (6) (S19286-001) S19289-001 (7) (S19975-001) 		S19287-201 (5) S19288-201 (6, 7) 									
3. Needle clamp assy	S20402-001		S20398-001									
												
4. Needle plate	S19164-001 (5) S19165-001 (6) S19168-001 (7) 		S19166-001 (5) S19167-001 (6) S25192-001 (7) 		S25528-001 (5) S19188-001 (6) S25529-001 (7) 							
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19199-001 (S19200-001) (S19201-001) A 		S19202-001 (S19955-001) (S19204-001) B 		S24680-001 (S24681-001) (S19201-001) A 							
6. Differential feed dog	S19242-001 		S19237-101 		S30894-101 							
7. Upper knife Angle knife	Upper knife 144074-350 		Angle knife S20897-101 									
8. Lower knife 	S20899-001 (5) T = 1.0 S20582-001 (6,7) T = 1.5											
9. Over looper 	S20432-001 J	S20434-001 E	S20430-001 D	S20434-001 E	S20430-001 D	S20434-001 E						

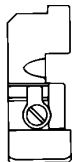
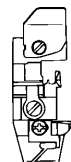
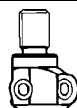
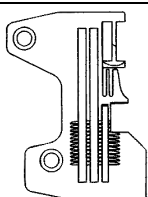
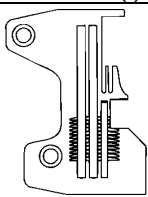
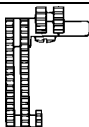
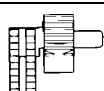
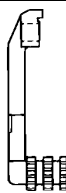
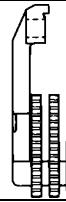
Gauge parts list

[Models EF4-N21, V51A]

Application	Heavy materials			Ruffing	Ruffing (mock-safety)
		Mock-safety	(Tractor type)		
Sub-class H=High-lift E=Extra high-lift (mm)	31 -6 E -7 E	32 -6 E -7 E	31 -6 (B) E -7 (B) E	33 -5 H	34 -5 H
Needle gauge	3			2.2	
1. Needle	151474-018			151474-011	
2. Presser foot assy (Stitch tongue)	S29871-001(6) (S19286-001) S29869-001(7) (S19975-001) 	S30898-001 (S30900-001) 	S19291-001 		
3. Needle clamp assy	S20402-001 			S20398-001 	
4. Needle plate	S24663-001 (6) S24664-001 (7) 			S19162-001 	
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S21392-001 (S21393-001) (S21394-001) J 			S19500-001 (S19218-001) (S19201-001) A 	
6. Differential feed dog	S21395-001 			S19243-001 	
7. Upper knife Angle knife	Angle knife S20898-101 			Upper knife 144074-350 	
8. Lower knife 	S20583-001 			S20582-001 T = 1.5	
9. Overlooper 	S20438-001 G	S20442-001 R	S20438-101 G	S20424-001 B	S20436-001 F

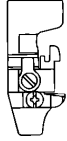
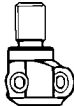
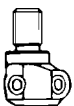
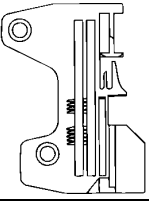
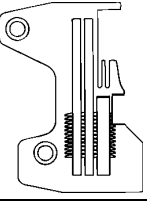
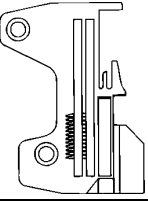
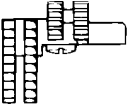
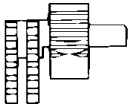
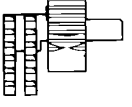
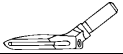
Gauge parts list

[Models EF4-N21, V51A]

Application	Ruffling w/ piping		Taping		Bulky knit (Taping)	
		(Mock-safety)		(Mock-safety)		(Mock-safety)
Sub-class	37 -5 H -6 H	38 -5 H -6 H	41 -5 H -6 H	42 -5 H -6 H	45 -5 H -6 H -7 H	46 -5 H -6 H -7 H
H=High-lift E=Extra high-lift (mm)	2.2					
Needle gauge						
1. Needle	151474-011				151474-014	
2. Presser foot assy (Stitch tongue)	S25538-001 	S19293-001 (5) (S19974-001) S25546-001 (6) (S25547-001) 	S19297-001 (5) (S19976-001) S19301-001 (6, 7) (S19283-001) 			
3. Needle clamp assy	S20398-001 					
4. Needle plate	S19162-001 (5) S19163-001 (6) 	S19169-001 (5) S19170-001 (6) S25193-001 (7) 				
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19500-001 (S19218-001) (S19201-001) A 	S19212-001 (S19213-001) (S19204-001) B 	S19219-001 (S19220-001) (S19204-001) B 			
6. Differential feed dog	S19243-001 	S19240-001 	S19244-101 			
7. Upper knife Angle knife	Upper knife 144074-350 				Angle knife S20897-101 7.8 	
8. Lower knife 	S20582-001 T = 1.5					
9. Over looper 	S20424-001 B	S20436-001 F	S20424-001 B	S20436-001 F	S20430-001 D	S20434-001 E

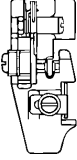
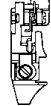
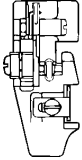
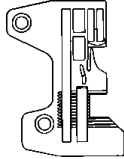
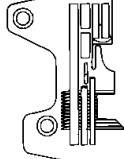
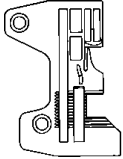
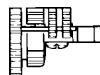
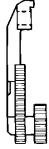
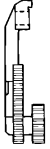
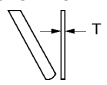
Gauge parts list

[Models EF4-N21, V51A]

Application	Back-tacking	Bulky knit	
Sub-class	49-5 H -6 H	57-6 E -7 E	58-6 E
H=High-lift E=Extra high-lift			
(mm)	2.2	2.5	
Needle gauge			
1. Needle	151474-011	151474-014	
2. Presser foot assy (Stitch tongue)	S19302-001 (5, 6) (S19977-001) 	S19303-201 (6) (S19286-001) S20881-201 (7) (S19975-001) 	S19303-201 (S19286-001) 
3. Needle clamp assy	S20398-001 	S20400-001 	
4. Needle plate	S19981-001 (5) S19982-001 (6) 	S19173-001 (6) S20880-001 (7) 	S33529-001 
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S25007-001 (S25008-001) (S25009-001) K 	S19202-001 (S19955-001) (S19204-001) B 	S33530-001 (S33531-001) (S19204-001) B 
6. Differential feed dog	S25010-001 	S19237-101 	S33536-001 
7. Upper knife Angle knife	Upper knife 144074-350 	Angle knife S20897-101 7.8 	
8. Lower knife 	S20582-001 T = 15		
9. Over loop 	S20424-001 B	S20440-101 K	

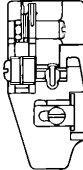
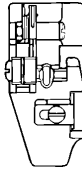
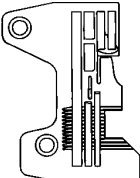
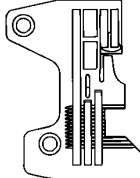
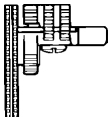
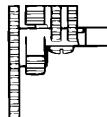
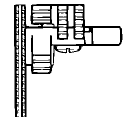
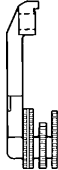
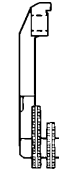
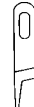
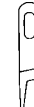
Gauge parts list

[Models MA4-N31, V61A]

Application	Thin			Thin • Medium		
	5 Threads	4 Threads	(For small type)	5 Threads	4 Threads	(For small type)
Sub-class S=Standard H=High-lift E=Extra high-lift	61 -2 S -3 S -4 S -5 S	62 -2 S -3 S -4 S -5 S	61 -3 (B) -4 (B) -5 (B)	63 -3 S -4 S -5 S -6 H -7 H	64 -3 S -4 S -5 S -6 H -7 H	63 -3 (C) -4 (C) -5 (C)
(mm) Needle gauge	2			3		
1. Needle (Qty)	151474-011 (2)			151474-014 (2)		
2. Presser foot assy (Presser foot .F)	S19304-101 (S19312-001) 	S30586-001 (3,4) Stitch tongue S30588-001 S30592-001 (5) Stitch tongue S30593-001 		S19313-201 (S30971-001) 	S30594-001 (3,4) Stitch tongue S30588-001 S30597-001 (5) Stitch tongue S30593-001 	
3. Needle clamp assy	S29146-001 			S20404-001 		
4. Needle plate	S25194-001 (2) S25195-001 (3) S19174-001 (4) S19175-001 (5) 			S20234-001 (3) S20235-001 (4) S20236-001 (5) S35651-001 (6) S25196-001 (7) 	S19176-001 (3) S19177-001 (4) S19178-001 (5) 	
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19221-201 (S19222-201) (S33172-001) L 			S20241-101 (S20242-101) (S20243-101) H 	S19221-201 (S19222-201) (S33172-001) L 	
6. Differential feed dog	S19245-001 			S20245-001 	S19245-001 	
7. Upper knife	144074-350 					
8. Lower knife 	S20899-001 (2) T=1.0 S20582-001 (3,4,5) T=1.5			S20899-001 (3) S20582-001 (4,5,6,7) T=1.5	S20899-001 (2) T=1.0 S20582-001 (3,4,5) T=1.5	
9. Over looper 	S20422-001 A	S20421-001 L	S20422-001 A	S20424-001 (3,4,5) B S20428-001 (6,7) C	S20423-001 (3,4,5) M S20421-001 (6,7) L	S20424-001 B

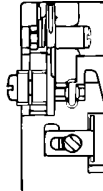
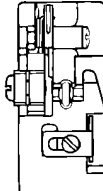
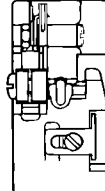
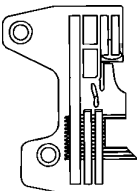
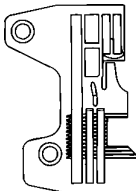
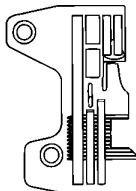
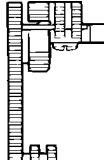
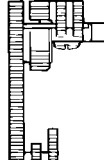
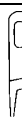
Gauge parts list

[Models MA4-N31, V61A]

Application	New synthetic fiber	Medium thick		
		5 Threads	4 Threads	5 Threads
Sub-class S=Standard H=High-lift E=Extra high-lift	63-5 (B) S	65 -4 S -5 S -6 H -7 H	66 -4 S -5 S -6 H -7 H	65 -4 (B) H -5 (B) H -6 (B) H -7 (B) H
(mm) Needle gauge	3	5		
1. Needle (Qty)	151474-039 (2)	151474-016 (2)		
2. Presser foot assy (Presser foot .F)	S36875-101 (S19312-001)	S19317-101 (S19312-001)		
				
3. Needle clamp assy	S20404-001	S20406-001	S21104-001	
				
4. Needle plate	S36874-001	S20231-001 (4) S20232-001 (5) S20233-001 (6) S25197-001 (7)		
				
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S36871-001 (S36872-001) (S20243-101) H	S20239-101 (S20240-101) (S19223-101) F	S35840-001 (S35991-001) (S19223-101) F	
				
6. Differential feed dog	S36873-001	S20244-001	S35992-001	
				
7. Upper knife Angle knife	Upper knife 144074-350	Upper knife 144074-350	Angle knife S20896-101	
				
8. Lower knife	 S20582-001 T = 1.5			
9. Over looper	S20424-001 B	S20424-001 (4,5) B S20428-001 (6,7) C	S20423-001 (4,5) M S20421-001 (6,7) L	S20428-001 C

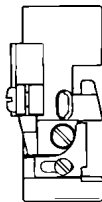
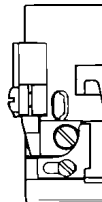
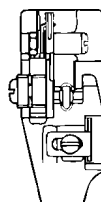
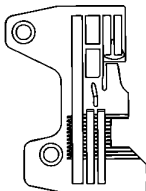
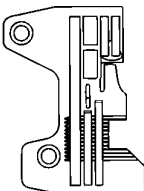
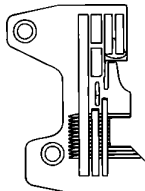
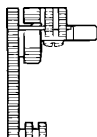
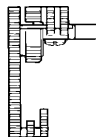
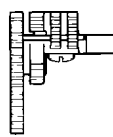
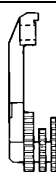
Gauge parts list

[Models MA4-N31, V61A]

Application	Ruffling															
	5 Threads		4 Threads		5 Threads		4 Threads									
Sub-class S=Standard H=High-lift E=Extra high-lift (mm) Needle gauge	67 -4 S -5 S		68 -5 S		69 -4 S -5 S		70 -5 S		71 -5 S -6 H		72 -5 S					
	2				3				5							
1. Needle (Qty)	151474-014 (2)															
2. Presser foot assy (Presser foot .F)	S25548-101 (S19325-001)				S19321-101 (S19325-001)				S19326-101 (S19325-001)							
																
3. Needle clamp assy	S29146-001				S20404-001				S20406-001							
																
4. Needle plate	S25198-001 (4) S25199-001 (5)				S19497-001 (4) S19182-001 (5)				S19183-001 (5) S19184-001 (6)							
																
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19224-201 (S19225-201) (S33172-001) L								S19226-101 (5) (S19227-101) (S19223-101) F S19224-201 (6) (S19225-201) (S33172-101) L							
6. Differential feed dog	S19246-001															
																
7. Upper knife Angle knife	144074-350															
																
8. Lower knife 	S20582-001 T = 1.5															
9. Over looper 	S20424-001 B		S20423-001 M		S20424-001 B		S20423-001 M		S20424-001 (5) B S20428-001 (6) C		S20423-001 M					

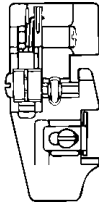
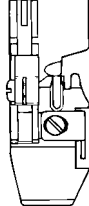
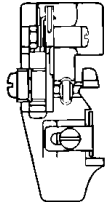
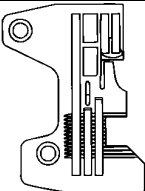
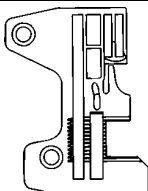
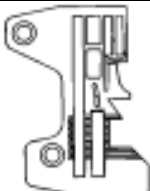
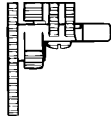
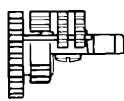
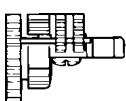
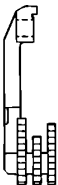
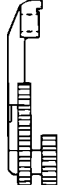
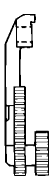
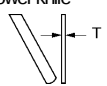
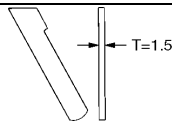
Gauge parts list

[Models MA4-N31, V61A]

Application	Ruffling w/ piping				Taping	
	5 Threads	4 Threads	5 Threads	4 Threads	5 Threads	4 Threads
Sub-class S=Standard H=High-lift E=Extra high-lift (mm) Needle gauge	75 -5 S	76 -5 S	77 -5 S -6 H	78 -5 S	81 -4 S -5 S	82 -5 S
1. Needle (Qty)	2		5		3	
2. Presser foot assy (Presser foot .F)	S25550-001 (S25553-001) 		151474-014 (2) S25555-001 (S25553-001) 		S19330-201 (S30971-001) 	
3. Needle clamp assy	S20404-001 		S20406-001 		S20404-001 	
4. Needle plate	S19182-001 (5) 		S19183-001 (5) S19184-001 (6) 		S20235-001 (4) S20236-001 (5) 	
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19224-201 (S19225-201) (S33172-001) L 	S19226-101 (5) (S19227-101) (S19223-101) F S19224-101 (6) (S19225-201) (S33172-001) L 	S20241-101 (S20242-101) (S20243-101) H 			
6. Differential feed dog	S19246-001 				S20245-001 	
7. Upper knife	144074-350 					
8. Lower knife 	S20582-001 T = 1.5					
9. Over looper 	S20424-001 B	S20423-001 M	S20424-001 (5) B S20428-001 (6) C	S20423-001 M	S20424-001 B	S20423-001 M

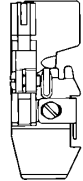
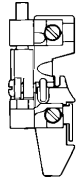
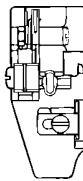
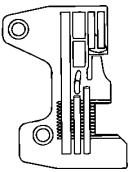
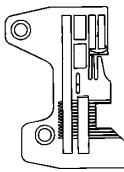
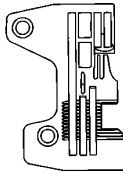
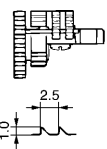
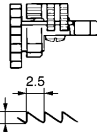
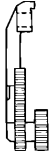
Gauge parts list

[Models MA4-N31, V61A]

Application	Taping		Extra heavy		Binding	
	5 Threads	4 Threads	5 Threads	4 Threads	5 Threads	4 Threads
Sub-class S=Standard H=High-lift E=Extra high-lift (mm) Needle gauge	83 -4 S -5 S -6 H	84 -4 S -5 S -6 H	85 -3 E -5 E	86 -5 E	89 -4 S -5 S	90 -4 S -5 S
1. Needle (Qty)	151474-016 (2)		151474-018 (2)		151474-014 (2)	
2. Presser foot assy (Presser foot .F)	S20882-201 (S30971-001)		S25557-001 (S19340-001)		S25560-101 (S19312-001)	
						
3. Needle clamp assy	S20406-001		S29631-001		S20404-001	
						
4. Needle plate	S20231-001 (4) S20233-001 (6) S20232-001 (5)		S25200-001 (3) S25201-001 (5)		S25202-001 (4) S25203-001 (5)	
						
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S20239-101 (S20240-101) (S19232-101) F		S19228-101 (S19229-001) (S19223-101) F		S19221-201 (S19222-201) (S33172-001) L	
						
6. Differential feed dog	S20244-001		S25566-001		S19245-001	
						
7. Upper knife Angle knife	Upper knife 144074-350		Angle knife S20898-101		Upper knife 144074-350	
						
8. Lower knife 	S20582-001 T=1.5		S20583-001 T=1.5		S20582-001 T=1.5	
						
9. Over looper 	S20424-001 (4,5) B S20428-001 (6) C		S20438-001 G		S20424-001 B	
	S20423-001 (4,5) M S20421-001 (6) L		S20429-001 Q		S20423-001 M	

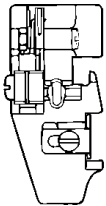
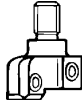
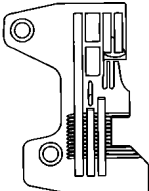
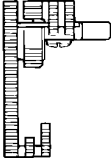
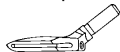
Gauge parts list

[Models MA4-N31, V61A]

Application	Extra heavy			3 needles thin medium	
	5 Threads	4 Threads	(For vertical pocket)		
Sub-class S=Standard H=High-lift E=Extra high-lift (mm) Needle gauge	92 -5 E -6 E -7 E	93 -5 E -6 E	92 -5 (B) E -6 (B) E -7 (B) E	95 -5 H	95 -5 (B) H
1. Needle (Qty)	151474-018 (2)			151474-016 (3)	
2. Presser foot assy (Presser foot .F)	S19334-001 (S19340-001)		S30525-001 (S30532-001)	S25562-101 (S19312-001)	
					
3. Needle clamp assy	S21104-001			S29148-001	
					
4. Needle plate	S19185-001 (5) S19186-001 (6) S19187-001 (7)			S25204-001	S31975-001
					
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19228-101 (S19229-001) (S19223-101) F		S38595-001 (S38596-001) (S19223-101) F	S19221-201 (S19222-201) (S33172-001) L	S20239-101 (S20240-101) (S19223-101) F
	S19247-001		 Option parts For wet suit S38597-001	S19245-001	S20244-001
6. Differential feed dog					
7. Upper knife Angle knife	Angle knife S20898-101			Upper knife 144074-350	
					
8. Lower knife 	S20583-001 T = 1.5			S20582-001 T = 1.5	
9. Over looper 	S20438-001 G	S20429-001 Q	S20438-001 G	S20430-001 D	

Gauge parts list

[Models MA4-N31, V61A]

Application	3 needles thin medium
Sub-class S=Standard H=High-lift E=Extra high-lift	99-5 H
(mm) Needle gauge	5, 2.2
1. Needle (Qty)	151474-016 (3)
2. Presser foot assy (Presser foot .F)	S31981-001 (S19325-001)
	
3. Needle clamp assy	S29148-001
	
4. Needle plate	S31979-001
	
5. Main feed dog assy (Main Feed dog) (Chain feed dog)	S19226-101 (S19227-101) (S19223-101) F 
6. Differential feed dog	S19246-001
	
7. Angle knife	S20896-101
	7.8 
8. Lower knife 	S20582-001 T = 1.5
9. Over looper 	S20430-001 D