

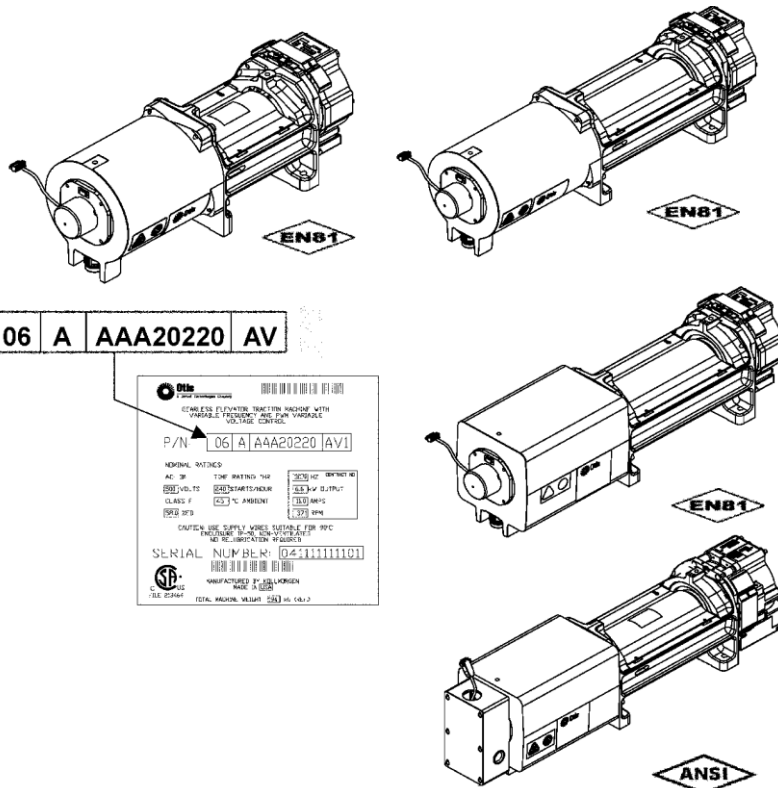
**AC Gearless Machine,  
1.5 T & 2.5 T  
(Regenerative)**

**Spare Parts Leaflet  
06-AAA20220AV**

**February 12, 2025 / Page 1 of 12**

# OBSOLESCENCE NOTICE

The product listed in this SPL is obsolete. Some components may still be available, but Otis recommends an upgrade (see TIP 32.2-1 for potential upgrade.)



This document does not contain any technical data subject to EAR or ITAR

**SERVICE ENGINEERING**  
**Otis Elevator Company**  
**Bloomfield, Connecticut USA**

Unpublished Work—© Otis Elevator Co.; 2025

**Leaflet Description**

This leaflet provides spare parts information for the AC gearless machine, type AAA20220AV. These AC gearless machines were designed specifically for the Gen2® machine roomless elevator system, and they will allow very quiet and efficient operation.

**Leaflet Revisions**

<b>Date Revised</b>	<b>Subject Matter Expert</b>	<b>Reason for Revision</b>										
March 10, 2005	Ben Watson	New SPL										
January 15, 2007	Scott Boulanger	Updated parts listing throughout the document.										
January 23, 2008	Scott Boulanger	Updated Voltage Information in Ref. 1 on p. 8										
September 22, 2010	Michael Lang	p. 9 updated brake information										
October 13, 2010	Michael Lang	p. 9 update brake parts numbers										
January 21, 2015	Kyle Pereira	Corrected p/n in ref. 4 on p. 11										
August 3, 2016	Kyle Pereira	Updated p. 11; added new p. 12										
October 6, 2021	Arianisis Mangual Camilo Cardona	Updated replacement brakes as follows: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"><b>Legacy Brake Part No.</b></th> <th style="width: 50%;"><b>New Brake Part</b></th> </tr> </thead> <tbody> <tr> <td>TBA20222BC5</td> <td rowspan="3" style="text-align: center;">TAA20236AC1 (EN Only)</td> </tr> <tr> <td>TBA20222BC6</td> </tr> <tr> <td>TBA20222BC7</td> </tr> <tr> <td>TCA20222BF5</td> <td rowspan="3" style="text-align: center;">TAA20236AD1 (EN Only)</td> </tr> <tr> <td>TCA20222BF6</td> </tr> <tr> <td>TCA20222BF7</td> </tr> </tbody> </table> Added application numbers: AAA20220AV202, 204, 401, 402, 403, 404, 405, 406, 407, 408, 409	<b>Legacy Brake Part No.</b>	<b>New Brake Part</b>	TBA20222BC5	TAA20236AC1 (EN Only)	TBA20222BC6	TBA20222BC7	TCA20222BF5	TAA20236AD1 (EN Only)	TCA20222BF6	TCA20222BF7
<b>Legacy Brake Part No.</b>	<b>New Brake Part</b>											
TBA20222BC5	TAA20236AC1 (EN Only)											
TBA20222BC6												
TBA20222BC7												
TCA20222BF5	TAA20236AD1 (EN Only)											
TCA20222BF6												
TCA20222BF7												
September 14, 2022	Juan Murillo	Updated to include OBSOLESCENCE note on cover										
February 1, 2023	Juan Murillo	Updated OBSOLESCENCE note on cover										
February 12, 2025	Juan Murillo	Updated OBSOLESCENCE note on cover										

**Related Drawings**

<b>Drawing No.</b>	<b>Title</b>	<b>Drawing No.</b>	<b>Title</b>
AAA20220AV	A.C. Gearless Machine	AAA633AE	Encoder (3-channel)
TBA20220BD	Brake	AAA27076CJ	Rescue Sensor Encoder Replacement Kit

**Related Documents**

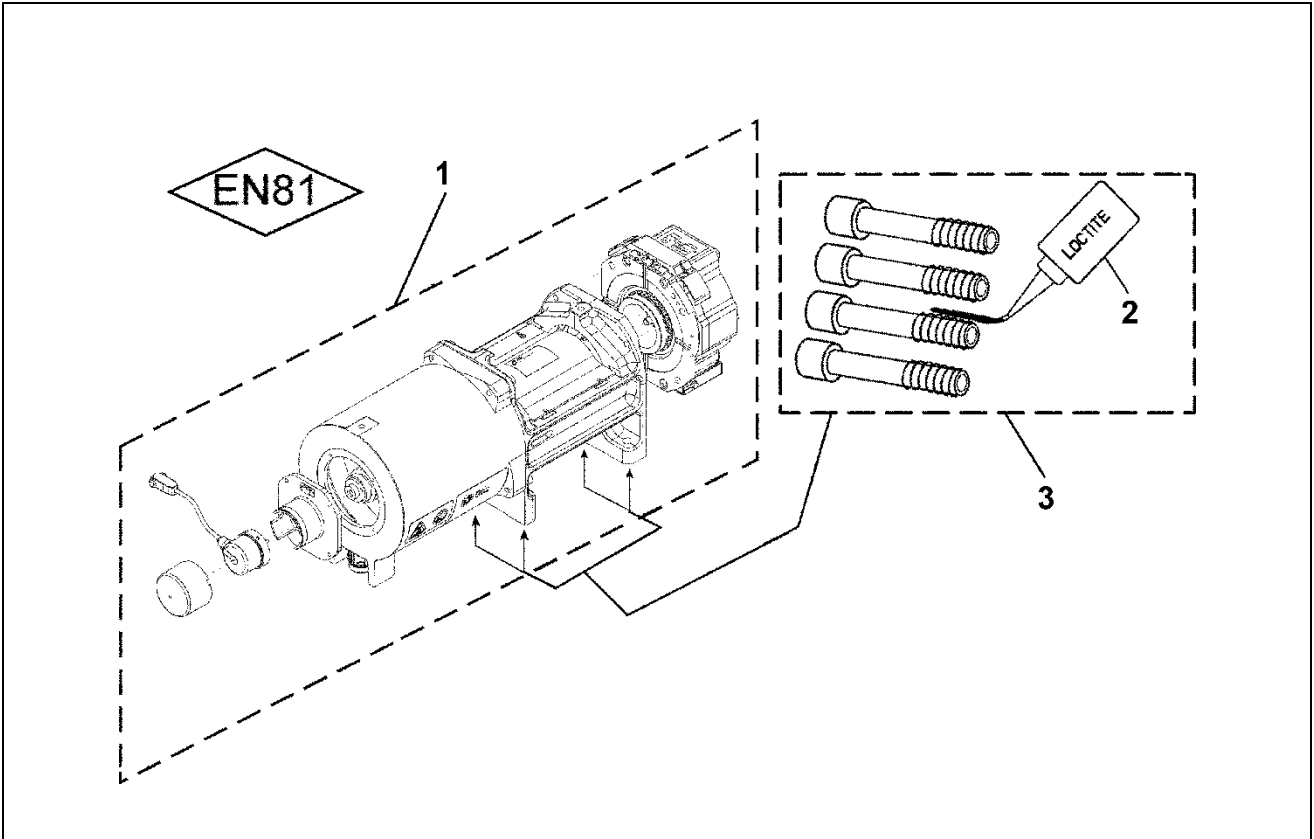
<b>Document ID</b>	<b>Title</b>
SPL 07-TBA20222BC	CR Brake for Gen2 System
SPL 07-TBA20222BG	2.5T ANSI Brake 48V for Gen2 System
SPL 07-TAA20222BF	EN 81 Brake (48V) for Gen2 System
TIP 6.1.11-15	Gen2® Main and Rescue Encoder Retrofit

**Subject Matter Expert**

<b>Name</b>	<b>Department</b>
Gary Mendrala	OSC Service Engineering

# 1.5 T Machines (EN81)

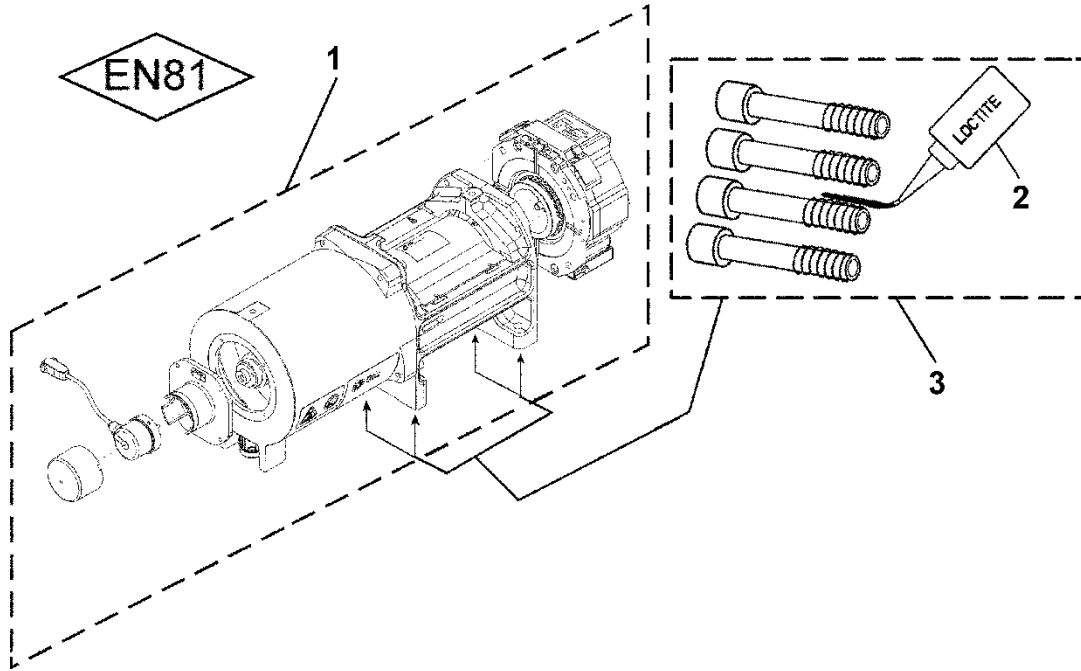
**06-AAA20220AV**



AAA20220AV							
REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION		
1	AAA20220AV112	EN	550–680	1.0	Assembly, AC Gearless Machine, w/EN81 Certified Brake and Incremental Encoder; Motor Voltage = 513 V		
	AAA20220AV102			1.6			
	AAA20220AV144			Korea		630	1.0
	AAA20220AV104					1.6	
	AAA20220AV121	Japan	420–490	1.0			
	AAA20220AV122			1.75			
	AAA20220AV254			600		1.0	
	AAA20220AV241					1.75	
	AAA20220AV253		1.0				
	AAA20220AV243		1.75				
	AAA20220AV252		600	1.0			
	AAA20220AV242			1.75			
AAA20220AV254	1.0						
AAA20220AV244	1.75						

**NOTE:** Data plates on some machines have been imprinted with part no. that indicates motor w/o brake (e.g., AAA20220AV112). The field replacement assembly should be the complete motor with brake (e.g., AAA20220AV102), shown as a substitution for each of these identities / applications.

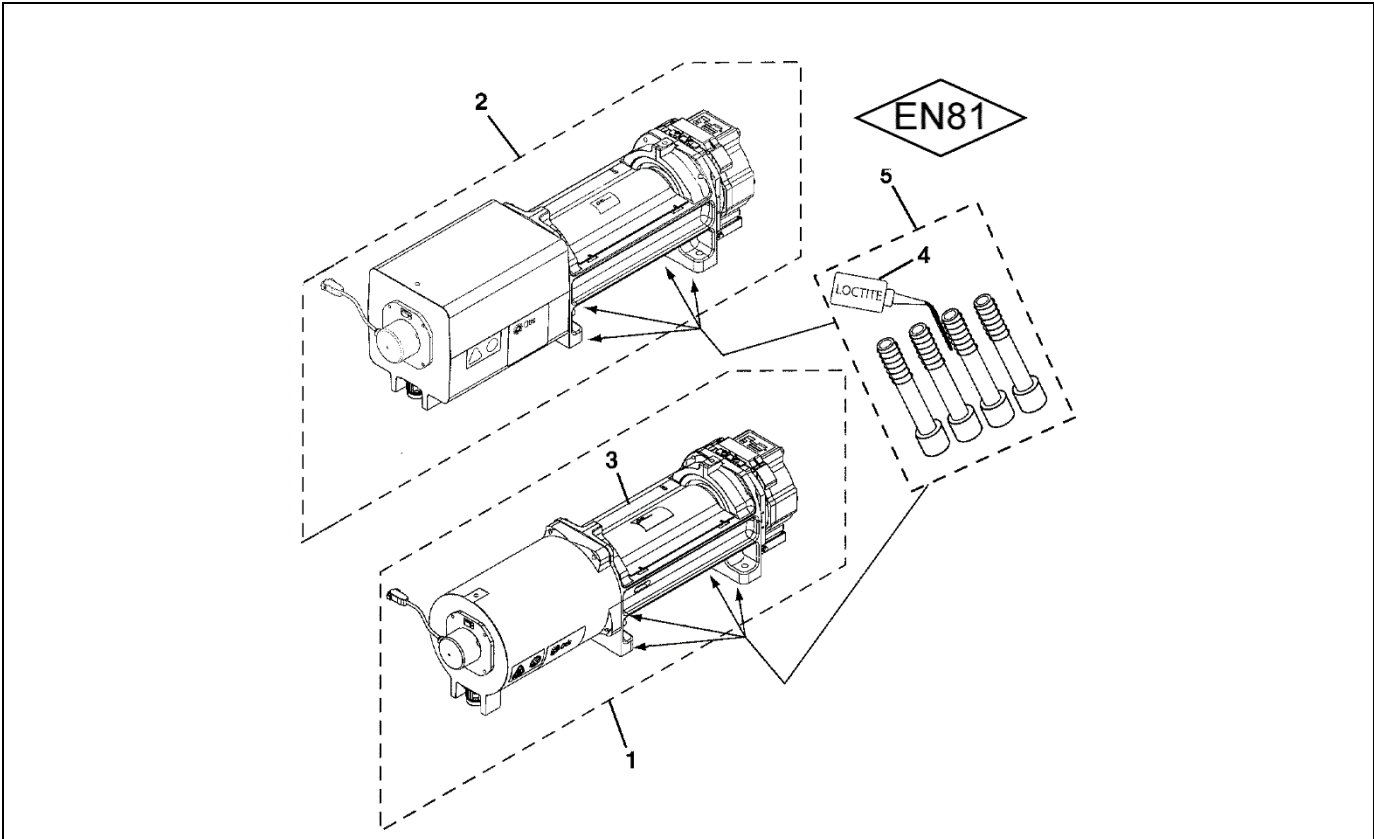
(Continued on next page)



AAA20220AV					
REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION
1	AAA20220AV202	EN	550–680	1.0	Assembly, AC Gearless Machine, w/48 V Brake and Rationalized 5 V Encoder, 2 Channel; Motor Voltage = 513 V
	AAA20220AV204			1.6	
	AAA20220AV246	Japan	750	1.0	
	AAA20220AV247			1.0	
	AAA20220AV248			1.75	
	AAA20220AV249			1.75	
2	AAA180JB1	Glue, Loctite® 243 Threadlocker, 10 ml Bottle			
3	AAA27076AJ1	Kit, Hardware, Including (4) Hexhead Bolt M16 x 120 mm, and (1) Ref. 2			

# 2.5 T Machines (EN81)

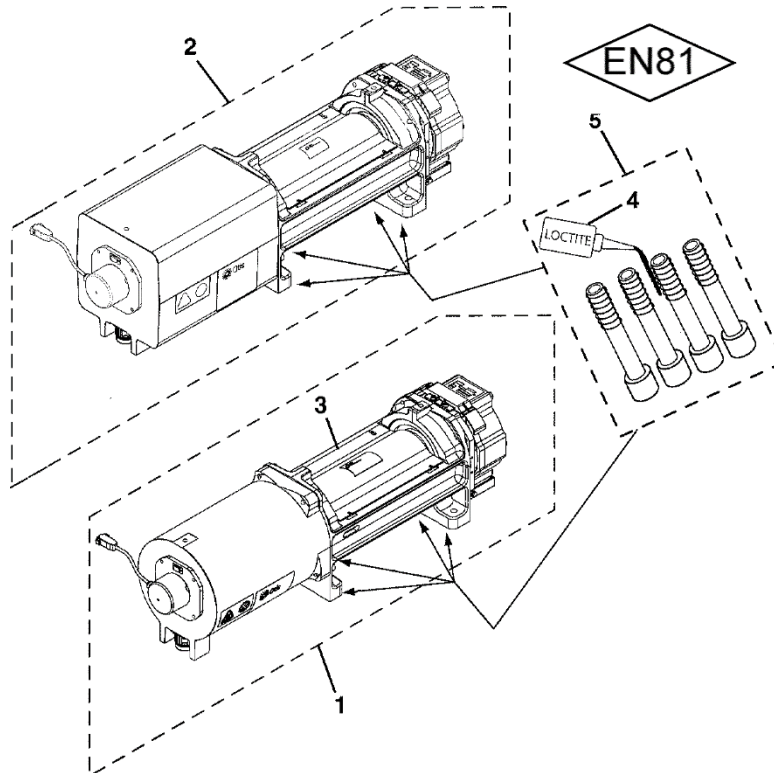
**06-AAA20220AV**



AAA20220AV						
REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION	
1	AAA20220AV311 AAA20220AV301	EN	700–850	1.0	Assembly, AC Gearless Machine, w/24 V Brake and Incremental Encoder; Motor Voltage = 513 V	
	AAA20220AV313 AAA20220AV303			1.6		
	AAA20220AV312 AAA20220AV302	EN (Korea)	900–1050 (770 Korea)	1.0		
	AAA20220AV314 AAA20220AV304			1.6		
	AAA20220AV322	Korea	1150	1		
	AAA20220AV324			1.6		
	AAA20220AV451 AAA20220AV441	Japan	750	1.0		Assembly, AC Gearless Machine, w/48 V Brake and Incremental Encoder; Motor Voltage = 513 V
	AAA20220AV452 AAA20220AV442					

**NOTE:** Data plates on some machines have been imprinted with part no. that indicates motor w/o brake (e.g., AAA20220AV311). The field replacement assembly should be the complete motor with brake (e.g., AAA20220AV301), shown as a substitution for each of these identities / applications.

(Continued on next page)

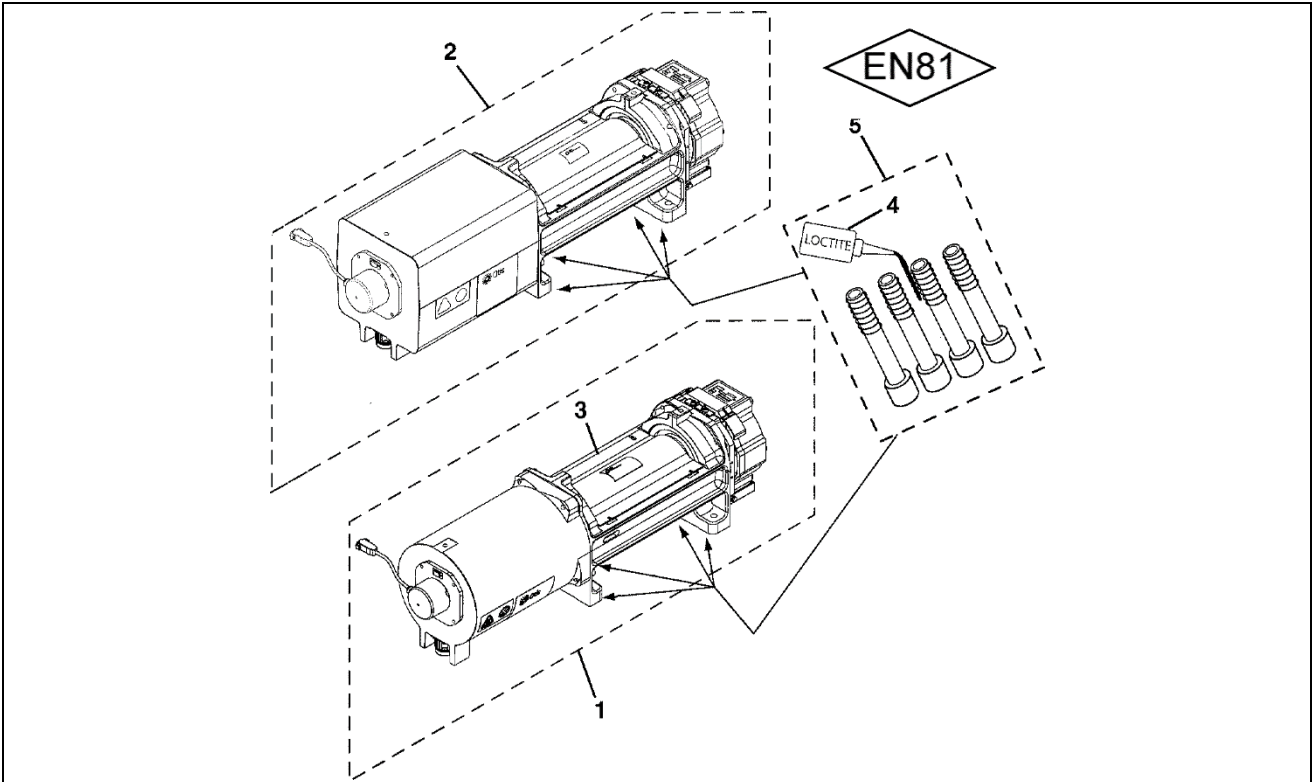


AAA20220AV					
REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION
2	AAA20220AV315 AAA20220AV305	EN	700–850	1.75	Assembly, AC Gearless Machine, w/24 V Brake and Incremental Encoder; Motor Voltage = 513 V
	AAA20220AV316 AAA20220AV306		900–1050		
	AAA20220AV453 AAA20220AV443	Japan	750		
	AAA20220AV454 AAA20220AV444		850		
	AAA20220AV401	EN (Korea)	700–850	1.0	Assembly, AC Gearless Machine, w/48 V Brake and Rationalized 5 V Encoder, 2 Channel; Motor Voltage = 513 V
	AAA20220AV402		900–1050 (770)	1.5–1.6	
	AAA20220AV403		700–850		
	AAA20220AV404		900–1050 (770)		

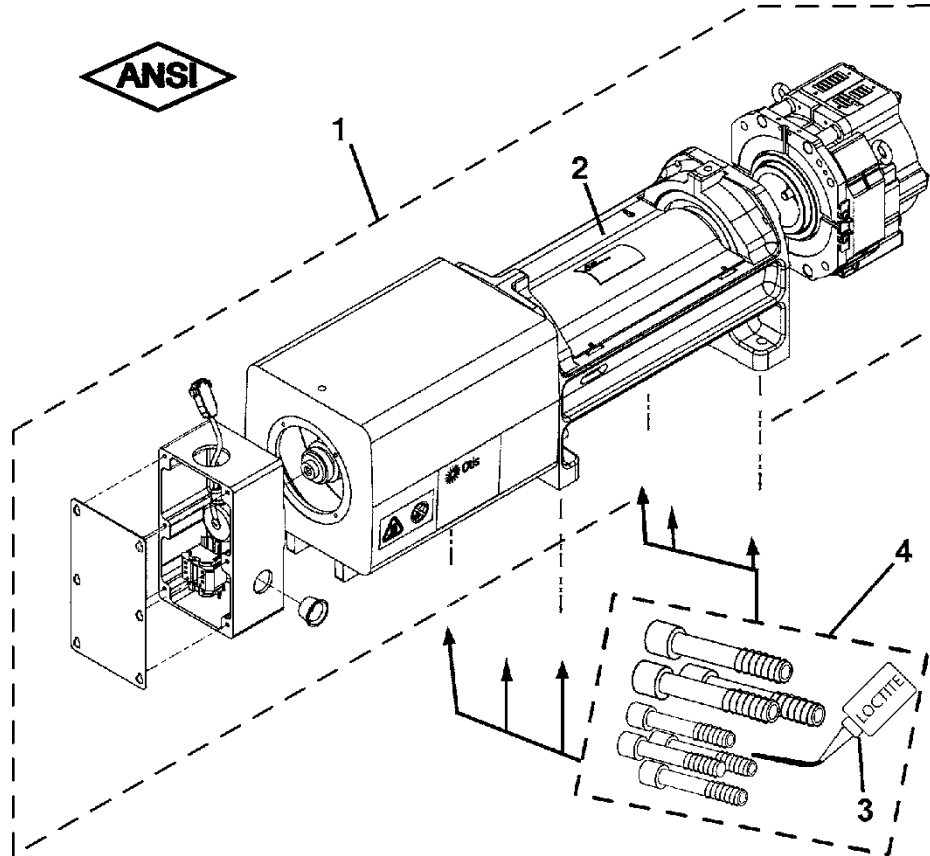
(Continued on next page)

# 2.5 T Machine (EN81)

**06-AAA20220AV**



AAA20220AV					
REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION
2	AAA20220AV405	EN	700–850	1.75	Assembly, AC Gearless Machine, w/48 V Brake and Rationalized 5 V Encoder, 2 Channel; Motor Voltage = 513 V
	AAA20220AV406		900–1050		
	AAA20220AV407		630	1.0	
	AAA20220AV408			1.5–1.6	
	AAA20220AV409	Korea	1150	1.75	
	AAA20220AV422			1.0	
	AAA20220AV424	Japan	850	1.6	
	AAA20220AV446			1.0	
	AAA20220AV447			850	
	AAA20220AV448			1.75	
AAA20220AV449	850				
3	AAA384AHT1	Cover (guard)			
4	AAA180JB1	Glue, Loctite® 243, Threadlocker, 10 ml Bottle			
5	AAA27076AJ1	Kit, Hardware, Including (4) Hex Head Bolt M16 x 120 mm and (1) Ref. 4			

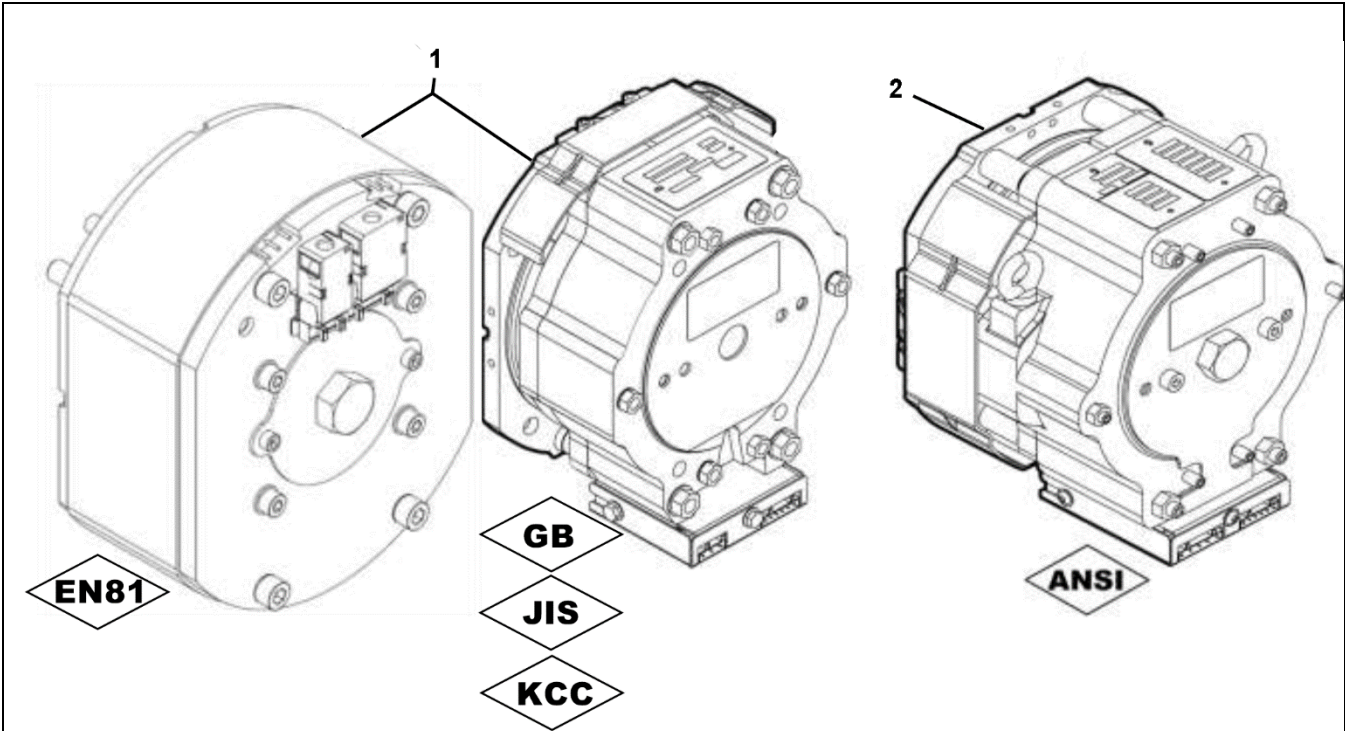


AAA20220AV				
REF. No.	PART No.	DUTY LOAD (kg)	SPEED	DESCRIPTION
1	AAA20220AV372	2500 lb. (1135 kg)	200 FPM (1.02 m/s)	Assembly, AC Gearless Machine, w/48 V Brake and Incremental Encoder; Motor Voltage = 513 V
	AAA20220AV374		350 FPM (1.78 m/s)	
2	AAA384AHT1	Cover (guard)		
3	AAA180JB1	Glue, Loctite® 243 Threadlocker, 10 ml Bottle		
4	AAA27076AJ2	Kit, Hardware, Including (3) Hexhead Bolt M16 x 55 mm, (4) Hex Socket Head Screws M16 x 120 mm, and (1) Ref. 3		



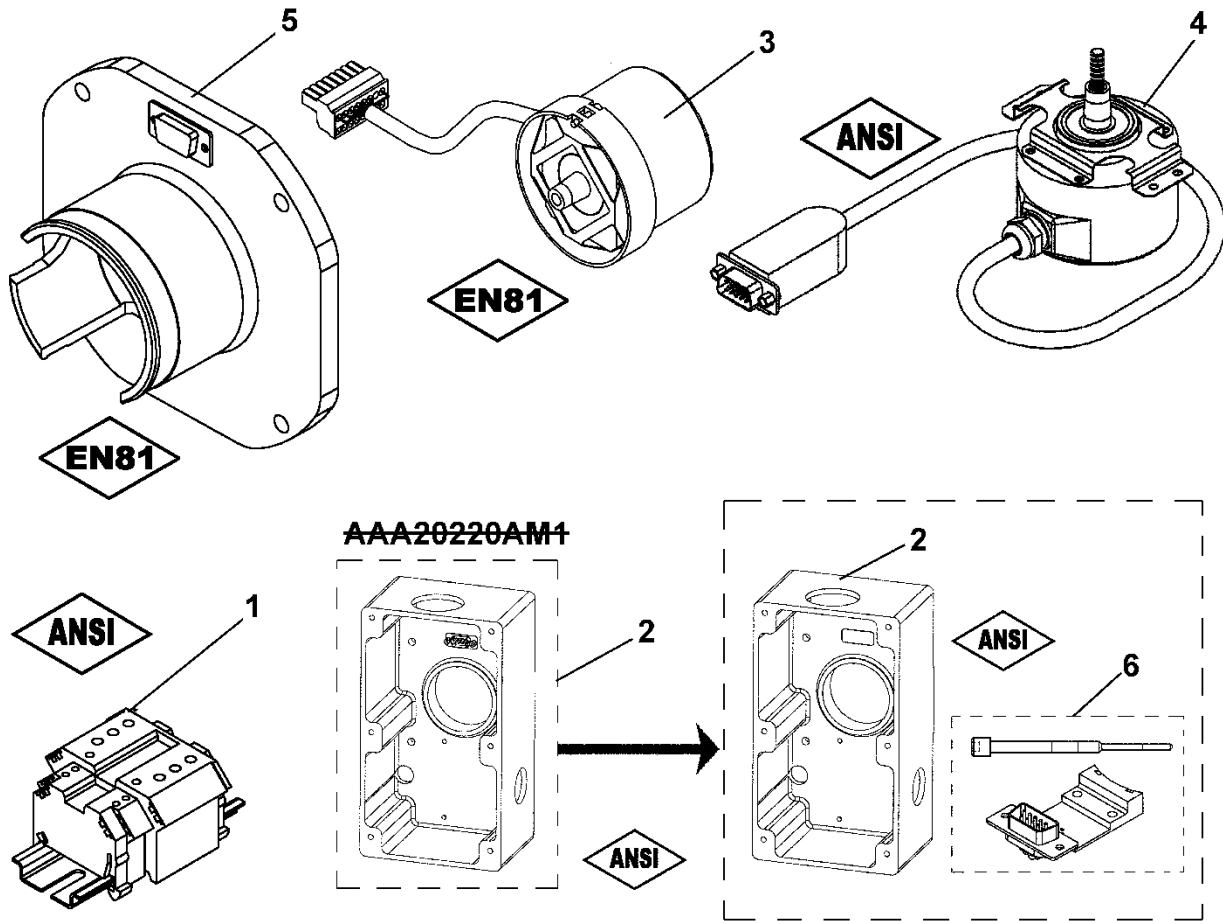
# Brake Assemblies

**06-AAA20220AV**



AAA20220AV				
REF. No.	PART No.	APPLICATION	MAX LOAD (kg)	DESCRIPTION
1	TCA20222BC5 TCA20222BC6 TCA20222BC7 TAA20236AC1*	Used w/ AAA20220AV102, 104, 442, 444, 121, 122, 301, 302(EN Only), 303, 304(EN Only), 305, 306	1150	EN81-Certified 24 V Brake; Brake Assembly,  SPL 07-TBA20222BC for Details
	TCA20222BF5 TCA20222BF6 TCA20222BF7 TAA20236AD1*	Used w/ AAA20220AV202, 204, 341, 343, 401, 402, 403, 404, 405, 406, 407, 408, 409, 453	1150	EN81-Certified 48 V Brake; Brake Assembly,  SPL 07-TBA20222BF for Details
	TCA20222BC5	Used w/ AAA20220AV302(GB/KCC), 304(GB/KCC)	1050	EN81-Certified 24 V Brake; Brake Assembly,  SPL 07-TBA20222BC for Details
	TCA20222BC109	Used w/ AAA20220AV322, 324	1150	
	TAA20222BF55	Used w/ AAA20220AV442, 444, 447, 449	1050	EN81-Certified 48 V Brake; Brake Assembly,  SPL 07-TBA20222BF for Details
	TAA20222BF56	Used w/ AAA20220AV242, 244, 247, 249, 441, 443, 446, 448, 454	850	
	TAA20222BF57	Used w/ AAA20220AV241, 243, 246, 248	630	
	TBA20222BF109	Used w/ AAA20220AV422, 424	1150	
2	TBA20222BG102	Used w/ AAA20220AV372, 374	1135	EN81-Certified 48 V Brake; Brake Assembly,  SPL 07-TAA20222BG for Details

\* Only available for countries in EN81 Jurisdiction (this brake is currently not certified for Korea/KCC, Japan/JIS and China/GB).

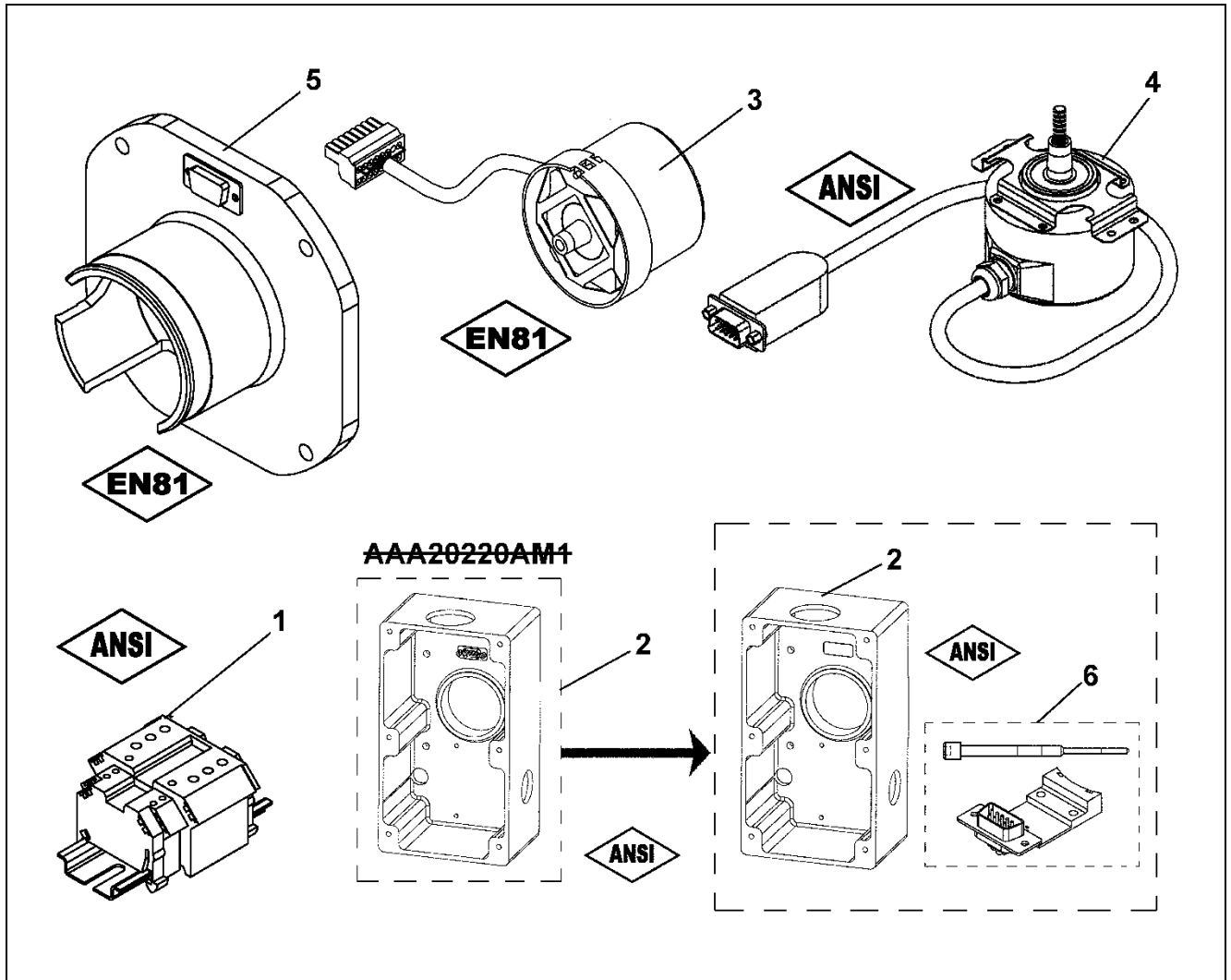



AAA20220AV				
REF. No.	PART No.	DESCRIPTION	W → AAA20220AV ARRANGEMENT	REMARKS
1	AAA21303CU1	Block, Terminal	372, 374	ANSI
2	AAA20220AM4	Box, Terminal		ANSI
	AAA20220AM2			ANSI plus Ref. 6
3	AAA633Z4	Encoder, Main, 5 V Incremental, 2-Channel with Mounting Hardware and Allen Wrenches	101-154, 212-244, 251-354, 401-444, 451-454	EN81

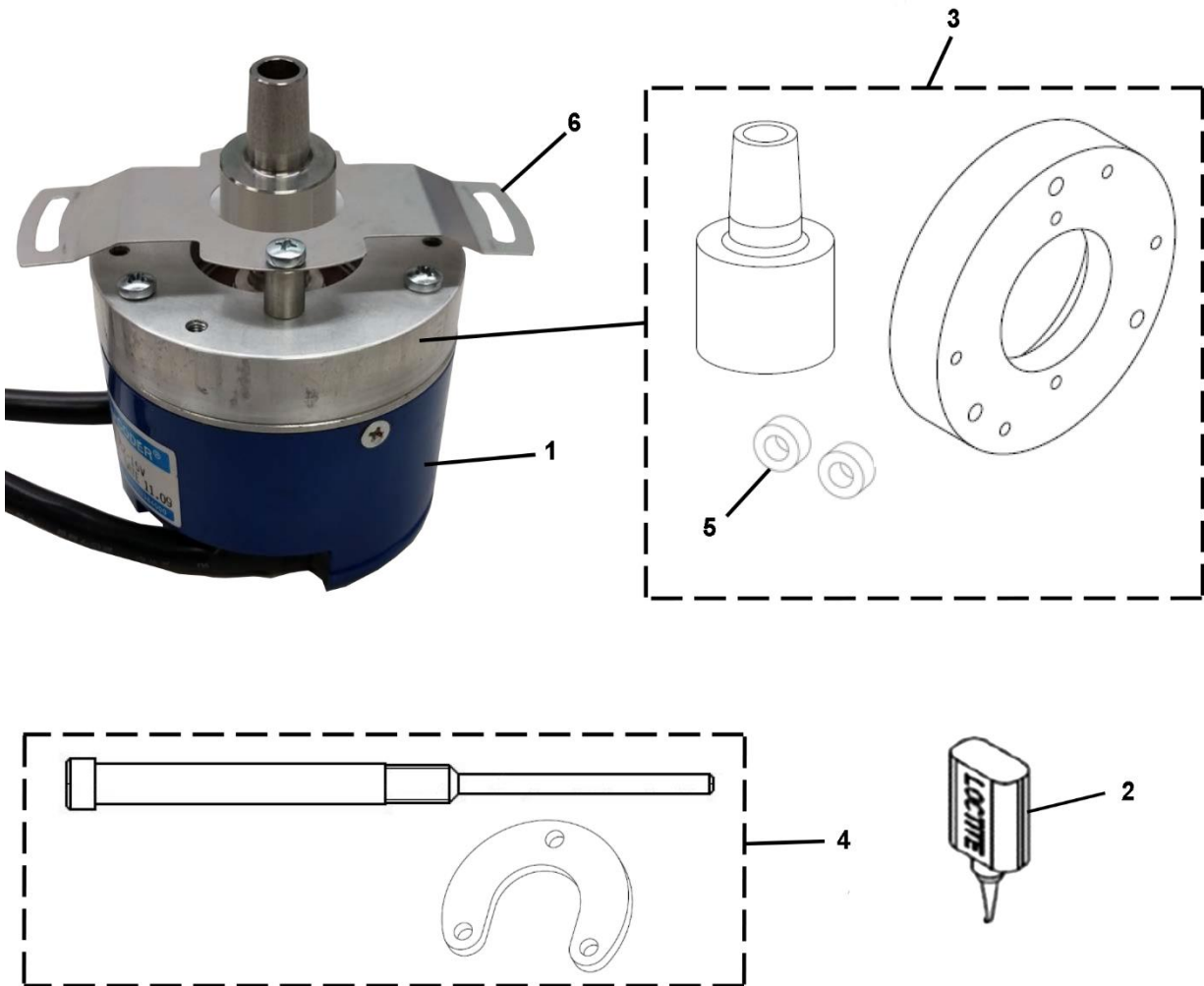
(Continued on next page)


# Encoders

**06-AAA20220AV**



AAA20220AV				
REF. No.	PART No.	DESCRIPTION	W- AAA20220AV ARRANGEMENT	REMARKS
4	AAA633AE2	Encoder, Main, 5 V Incremental, 3-Channel with Mounting Hardware and Allen Wrenches	372, 374	ANSI
	AAA633AG22	Encoder, Main, 5V Rationalized, 2-Channel with Mounting Hardware and Allen Wrenches	202, 204, 246–249, 446–449	EN81
5	AAA20220R3	Kit, Rescue Encoder Replacement, Hall Effect	101–370, 381–499	EN81
6	AAA27076CJ4	Kit, Rescue Sensor Encoder Replacement,  p. 12	372, 374	ANSI



AAA20220AV			
REF. No.	PART No.	DESCRIPTION	REMARKS
1	AAA633AJ402	Encoder	 TIP 6.1.11-15 for installation instructions and further details.
2	AAA180JB1	Glue, Loctite® 243 Threadlocker, 10 ml Bottle	
3	AAA27076HD400	Kit, Adaptors and Hardware	
4	AAA27076HD402	Kit, Encoder Removal and Hardware	
5	AAA462FD1	Spacer, 8 mm	
6	---	Spring, Attaching (reuse existing from AAA633AE2)	