

# AC Gearless Machine 2.5T

## Spare Parts Leaflet

**06-AAA20220AK**

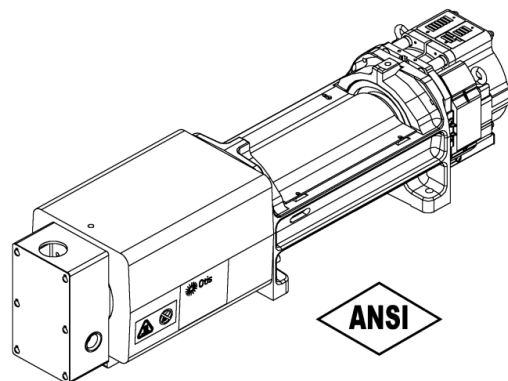
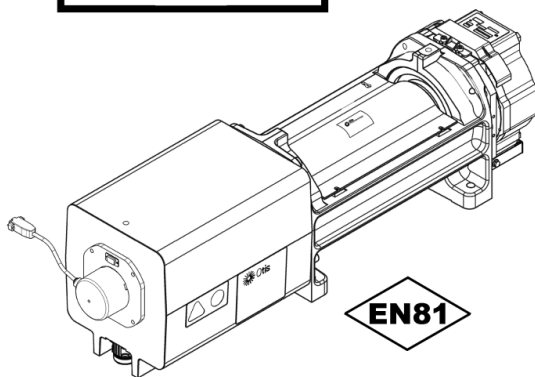
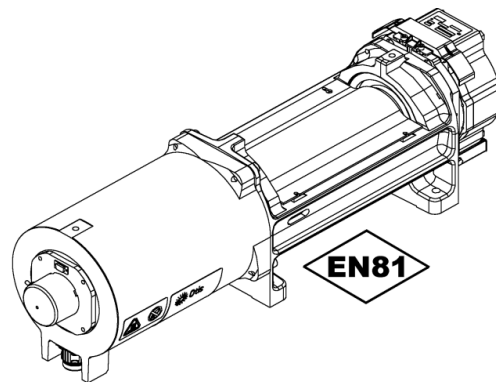
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# OBSOLESCENCE NOTICE

The product covered in this SPL has been designated as obsolete and is no longer supported. See TIP 32.2-1, *Obsolete Components*, for potential upgrade. Replacement lower level parts listed within and unique to this design are not being restocked when depleted. Some of these parts, depending on availability and other factors, may be quoted through Customer Service, but most will have extended lead times and increased cost due to low volume production.

06	AAA20220	AK
06	ABA20220	AK

		UNITED TECHNOLOGIES	
GEARLESS ELEVATOR TRACTION MACHINE WITH VARIABLE FREQUENCY AND PWM VARIABLE VOLTAGE CONTROL			
06	AAA20220	CONTRACT NO.	
AC 3Ø	TIME RATIO 90%	Hz	kW OUTPUT
VOLTS	STARTS/HOUR	AMPS	RPM
CLASS F	°C AMBIENT		
ED			
CAUTION: USE SUPPLY WIRES SUITABLE FOR 90°C INCLUDING PHC, NON-VENTILATED NO REPLICATION REQUIRED			
SERIAL NUMBER:			
MANUFACTURED BY: HOLLANDER			
MACHINE MADE IN: CHINA			
FILE 20064 TOTAL MACHINE WEIGHT: <input type="checkbox"/> NO (IMP)			



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

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

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**Leaflet Description**

This leaflet provides spare parts information for the AC gearless machine, type AAA20220AK. These AC gearless machines were designed specifically for the Gen2® machine roomless elevator system and they allow very quiet and efficient operation.

**Leaflet Revisions**

<b>Date Revised</b>	<b>Subject Matter Expert</b>	<b>Reason for Revision</b>
April 1, 2003	Amer Aziz	New SPL
September 18, 2003	Wendy Smerk	Part changes pp. 4 and 6
April 30, 2004	James Draper	Updated SPL number in references 1 and 2, on page 5
December 15, 2004	Ben Watson	Added NOTE to Pages 3 and 4
January 15, 2007	Scott Boulanger	Added rationalized encoder.
August 17, 2011	Val Sheynkman	Added new p. 11
August 3, 2016	Kyle Pereira	Updated p. 10, added new p. 11
Sept 7, 2021	Arianisis Mangual Camilo Cardona	Updated p. 10, added Applications and Max Load to brakes section
September 14, 2022	Juan Murillo	Updated to include OBSOLESCENCE note on cover
March 22, 2023	Juan Murillo	Updated OBSOLESCENCE notice on cover

**Related Drawings**

<b>Drawing No.</b>	<b>Title</b>	<b>Drawing No.</b>	<b>Title</b>
AAA20220AK	A.C. Gearless Machine	TBA20222BC	Brake
ABA20220AK	A.C. Gearless Machine	TBA20222BD	Brake
AAA633Z	Encoder (2-channel)	AAA27076CJ	Rescue Sensor Encoder Replacement Kit
AAA633AE	Encoder (3-channel)	---	---

**Related Documents**

<b>Document ID</b>	<b>Title</b>
SPL 07-TBA20222BC	CR Brake for Gen2 System
SPL 07-TBA20222BD	2.5T NAA/ANSI Brake 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>
Camilo Cardona	LDC-F Machines

**About Spare Parts Leaflets...**

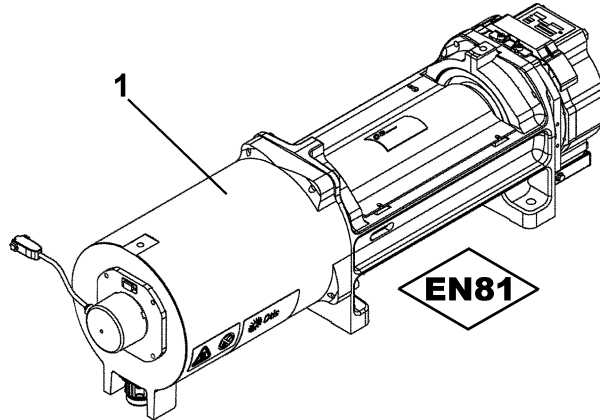
This document lists the lowest replaceable units (LRUs) for the standard version of the product. The LRUs are chosen by a team of Otis associates representing engineering and manufacturing.

While goal of this document is to make parts identification as easy as possible, the document cannot be all-inclusive. Elevator and escalator contracts classified as "special" or "custom" are not addressed here. For such contracts, please refer to specified information, the contract folder, TIPs, Field Education Articles, Construction Letters, etc. for further information.

If you have any suggestions about this document, please contact the subject matter expert listed on this page.

# 2.5T Machine (EN81)

**06-AAA20220AK**

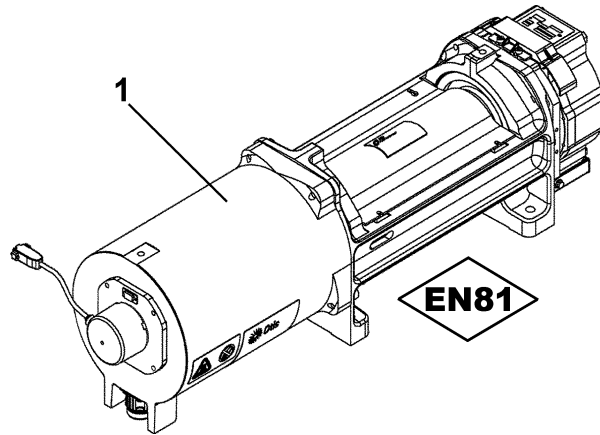


**AAA20220AK  
ABA20220AK**

REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION
1	AAA20220AK11 AAA20220AK1 ABA20220AK11 ABA20220AK1	EN	700–840	1.6	Assembly, AC Gearless Machine, 24 V Brake and Incremental Encoder; Motor Voltage = 340 (minimum)
	AAA20220AK12 AAA20220AK2 ABA20220AK12 ABA20220AK2		900–1050		
	AAA20220AK13 AAA20220AK3 ABA20220AK13 ABA20220AK3		700–840	1.0	
	AAA20220AK14 AAA20220AK4 ABA20220AK14 ABA20220AK4		900–1050		
	ABA20220AK44	Korea	770	1.6	
	ABA20220AK42		1150		
	ABA20220AK43		770	1.0	
	ABA20220AK41		1150		

**NOTE:** Data plates on some machines have been imprinted with part no. that indicates motor w/o brake (e.g., AAA20220AK11). The field replacement assembly should be the complete motor with brake (e.g., AAA20220AK1), shown as a substitution for each of these identities / applications.

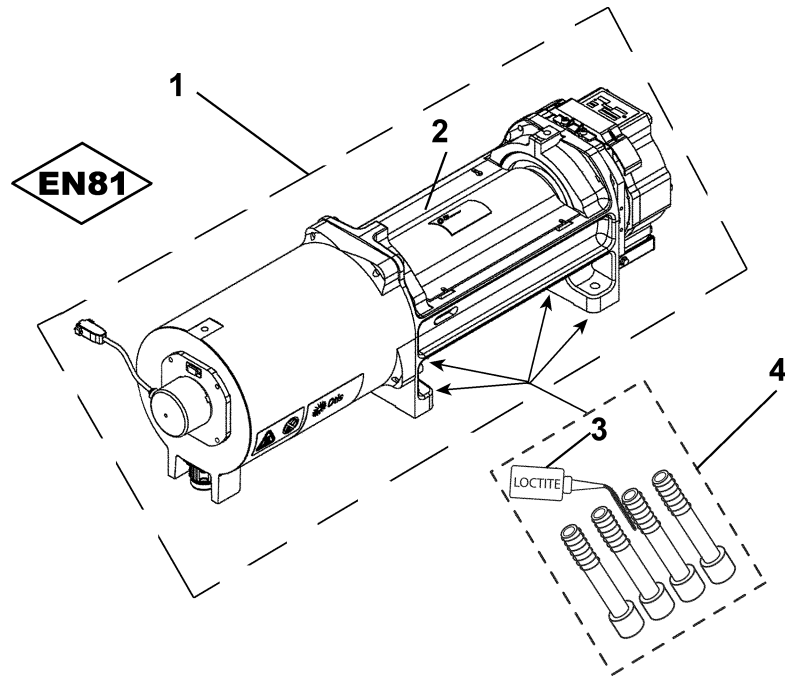
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**AAA20220AK**  
**ABA20220AK**

REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION
1	ABA20220AK168	Swift	630	1.6	Assembly, AC Gearless Machine, 48 V Brake and 5 V Incremental Encoder; Motor Voltage = 340 (minimum)
	ABA20220AK165		840		
	ABA20220AK162		1050		
	ABA20220AK167		630	1.0	
	ABA20220AK164		840		
	ABA20220AK161		1050		
	ABA20220AK55	OTI	750		Assembly, AC Gearless Machine, 24 V Brake and Incremental Encoder; Motor Voltage = 170
	ABA20220AK45		850		
	AAA20220AK17				
	AAA20220AK7				
	ABA20220AK17				
	ABA20220AK7				

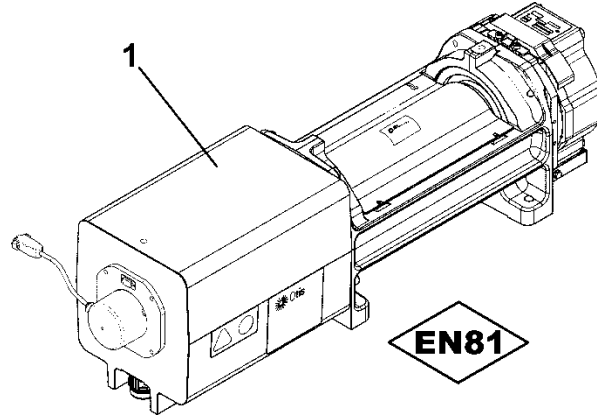
**NOTE:** Data plates on some machines have been imprinted with part no. that indicates motor w/o brake (e.g., AAA20220AK55). The field replacement assembly should be the complete motor with brake (e.g., AAA20220AK45), shown as a substitution for each of these identities / applications.



REF. No.	PART No.	DESCRIPTION
	<b>AAA20220AK</b> <b>ABA20220AK</b>	
1	AAA20220AK19 AAA20220AK9 ABA20220AK19 ABA20220AK9 ABA20220AK161	Assembly, AC Gearless Machine, 48 V Brake and 5 V Incremental Encoder; Motor Voltage = 340 (minimum); Application = Gen2 Underslung; Duty Load = 900–1050 kg; Speed = 1.0 m/s
2	AAA384AHT1	Cover (Guard)
3	AAA180JB1	Glue, Loctite®243, Threadlocker, 10 ml Bottle
4	AAA27076AJ1	Kit, Consists of: (4) Hex Socket Head Screws, M16 x 120 mm and (1) Ref. 3

**NOTE:** Data plates on some machines have been imprinted with part no. that indicates motor w/o brake (e.g., AAA20220AK19). The field replacement assembly should be the complete motor with brake (e.g., AAA20220AK9), shown as a substitution for each of these identities / applications.

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**AAA20220AK  
ABA20220AK**

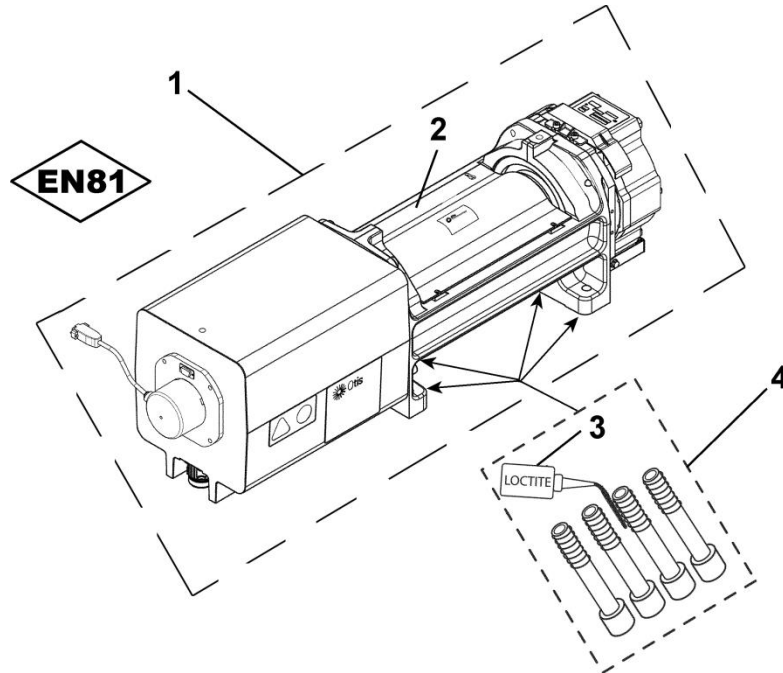
REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION
1	AAA20220AK15 AAA20220AK5 ABA20220AK15 ABA20220AK5	EN	700–840	1.75	Assembly, AC Gearless Machine, 24 V Brake and Incremental Encoder; Motor Voltage = 372 (minimum)
	AAA20220AK16 AAA20220AK6 ABA20220AK16 ABA20220AK6		900–1050		
	ABA20220AK169	Swift	630		Assembly, AC Gearless Machine, 48 V Brake and 5 V Incremental Encoder; Motor Voltage = 372 (minimum)
	ABA20220AK166		840		
	ABA20220AK163		1050		
	ABA20220AK56 ABA20220AK46	OTI	750		Assembly, AC Gearless Machine, 24 V Brake and Incremental Encoder; Motor Voltage = 170
	AAA20220AK18 AAA20220AK8 ABA20220AK18 ABA20220AK8		850		

**NOTE:** Data plates on some machines have been imprinted with part no. that indicates motor w/o brake (e.g., AAA20220AK15). The field replacement assembly should be the complete motor with brake (e.g., AAA20220AK5), shown as a substitution for each of these identities / applications.

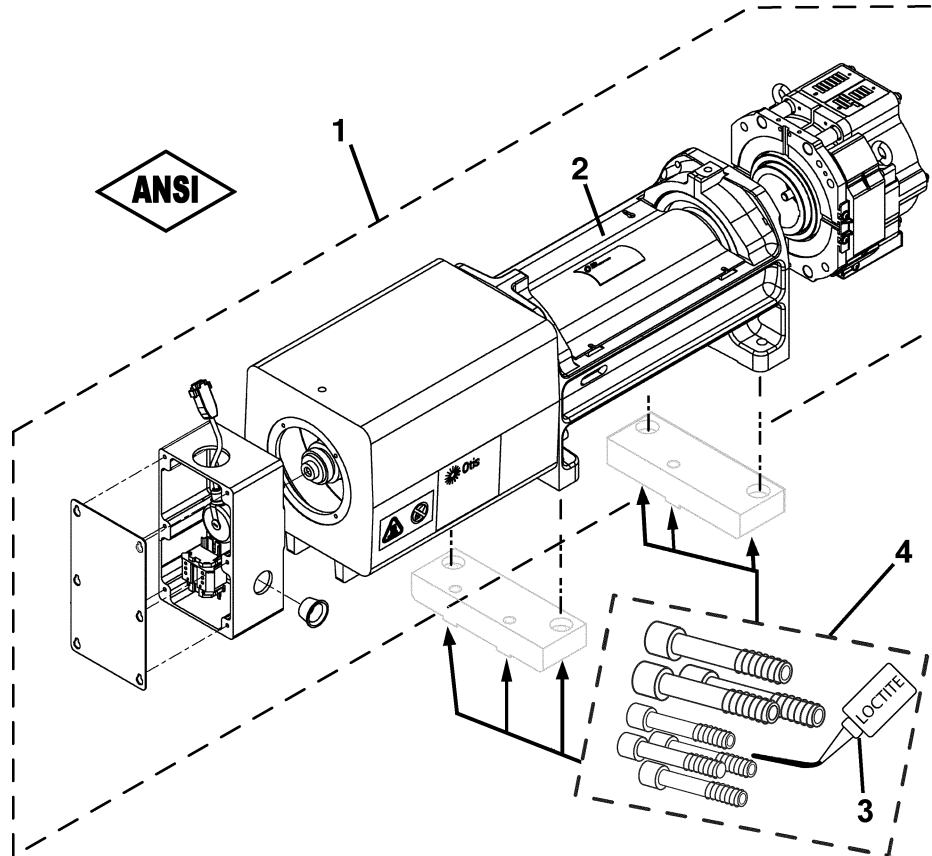
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# 2.5T Machine (EN81) Components

**06-AAA20220AK**



REF. No.	PART No.	APPLICATION	DUTY LOAD (kg)	SPEED (m/s)	DESCRIPTION
	<b>AAA20220AK</b> <b>ABA20220AK</b>				
1	ABA20220AK102	EN (Korea)	900–1050 (770)	1.5–1.6	Assembly, AC Gearless Machine, 48 V Brake and Rationalized 5 V Encoder; Motor Voltage = 372 (minimum)
	ABA20220AK101	EN	700–840		
	ABA20220AK103		1.0		
	ABA20220AK104			900–1050	
	ABA20220AK105		700–840	1.75	
	ABA20220AK106		900–1050		
	ABA20220AK111		700–840	1.5–1.6	
	ABA20220AK112		900–1050		
	ABA20220AK113		700–840	1.0	
	ABA20220AK114		900–1050		
	ABA20220AK115		700–840	1.75	
	ABA20220AK116		900–1050		
2	AAA384AHT1	Cover (Guard)			
3	AAA180JB1	Glue, Loctite®243, Threadlocker, 10 ml Bottle			
4	AAA27076AJ1	Kit, Consists of: (4) Hex Socket Head Screws, M16 x 120 mm and (1) Ref. 3			

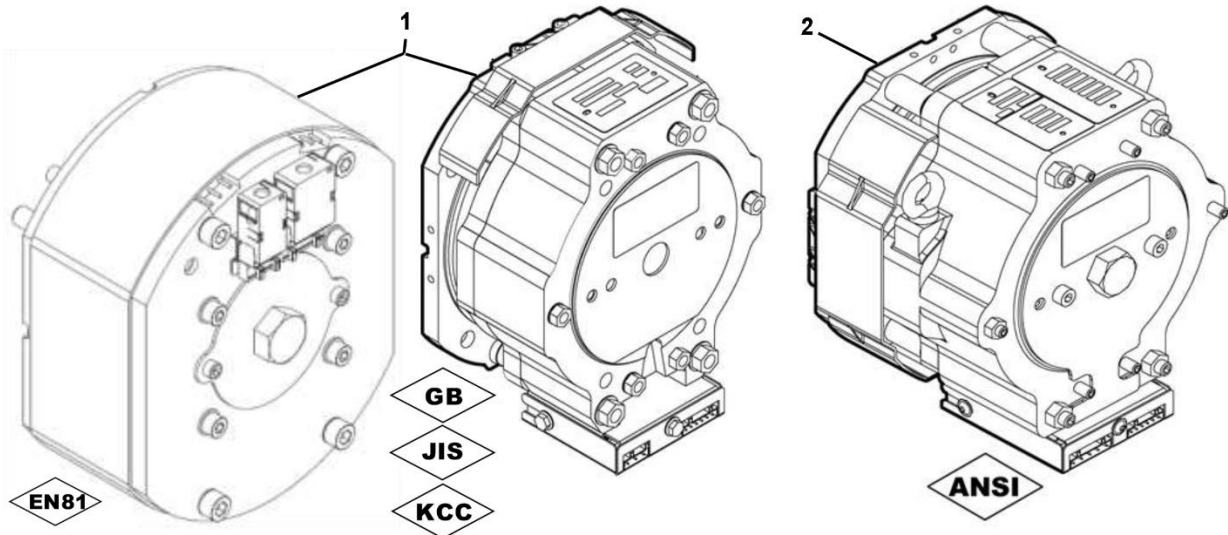


REF. No.	PART No.	DESCRIPTION
	<b>AAA20220AK ABA20220AK</b>	
1	AAA20220AK35 AAA20220AK36 ABA20220AK36	Assembly, AC Gearless Machine with 26 V Brake and Incremental Encoder; Motor Voltage = 372 (minimum); Application = ANSI; Duty Load = 2100–2500 lb. (955–1135 kg); Speed = 200–350 FPM (1.02–1.78 m/s)
2	AAA384AHT1	Guard, Sheave
3	AAA180JB1	Glue, Loctite®243, Threadlocker, 10 ml Bottle
4	AAA27076AJ2	Kit, including (4) Hex Socket Head Cap Screws, M16 x 50 mm, (3) Hex Head Screws, M16 x 55 mm, and (1) Ref. 3



# Brake Assemblies

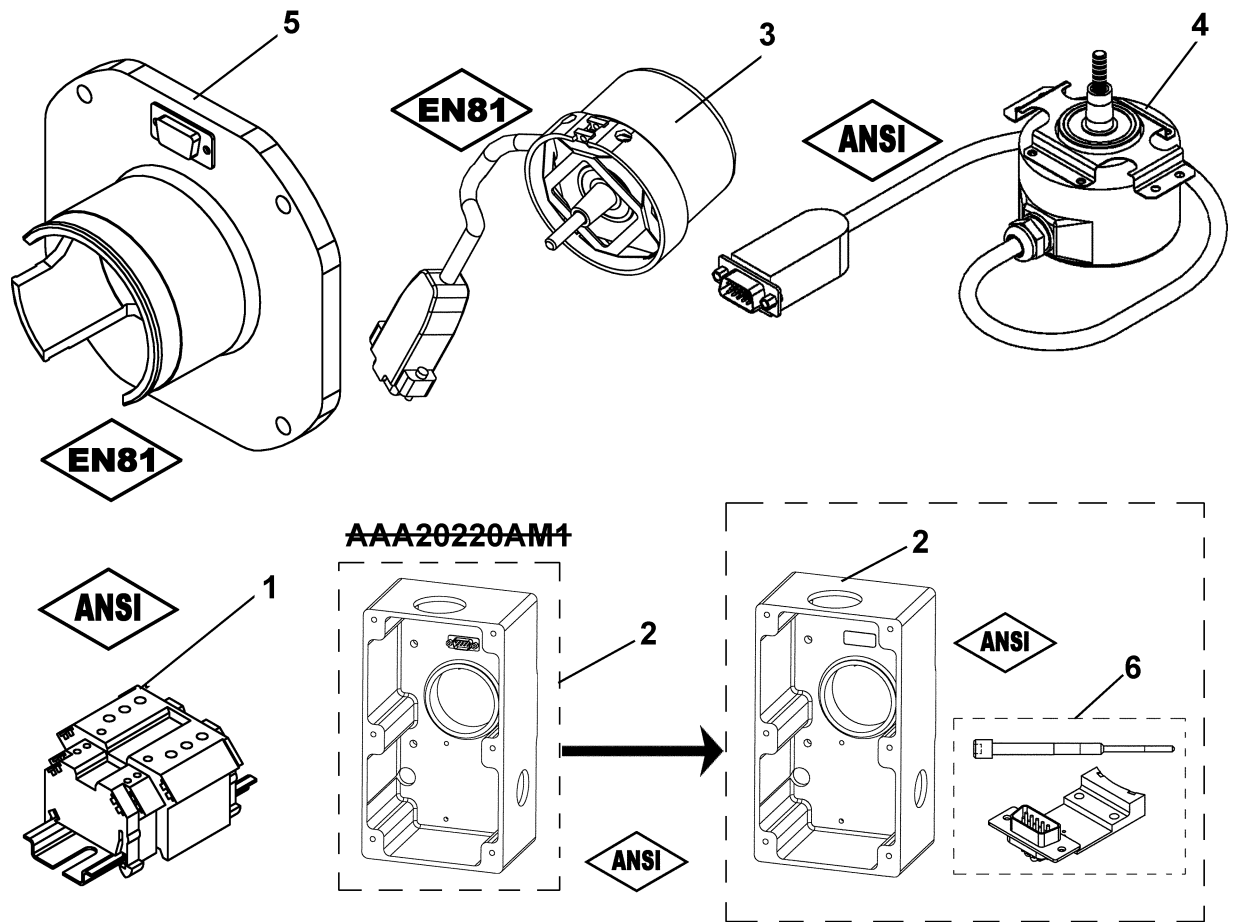
**06-AAA20220AK**




**AAA20220AK**  
**ABA20220AK**

REF. No.	PART No.	APPLICATION	MAX LOAD (kg)	DESCRIPTION
1	TAB20222BC5 TBA20222BC5 TBA20222BC6 TAA20236AC1*	Used w/ ABA20220AK1, 2(EN Only), 3, 4(EN Only), 5, 6(EN Only), 43, 44, 45, 91(EN Only), 92(EN Only), 93(EN Only), 94(EN Only), 95(EN Only), 96(EN Only),	1150	EN81-Certified 24 V Brake,  SPL 07-TBA20222BC
	TAA20222BF5 TBA20222BF5 TAA20222BF6 TBA20222BF6 TAA20222BF7 TBA20222BF7 TAA20236AD1*	Used w/ ABA20220AK101 (EN only), 102(EN only), 103(EN only), 104(EN only), 105(EN only), 106(EN only), 161 (EN only),162 (EN only),163 (EN only),164 (EN only),165 (EN only), 166 (EN only), 167 (EN only), 168 (EN only),169 (EN only)	1150	EN81-Certified 48 V Brake,  SPL 07-TBA20222BF
	TBA20222BC5	Used w/ ABA20220AK2(KCC), 4(KCC), 6(KCC), 7, 92(GB), 94(GB), 96(GB)	1050	Certified 24 V Brake,  SPL 07-TBA20222BC for Details
	TAB20222BC5	Used w/ ABA20220AK8	850	
	TAB20222BC55	Used w/ ABA20220AK7, 8	1050	
	TBA20222BC56	Used w/ ABA20220AK46	750	
	TBA20222BC6	Used w/ ABA20220AK91(GB), 93(GB), 95(GB)	1050	
	TBA20222BC109	Used w/ ABA20220AK41, 42	1150	
	TAA20222BF1	Used w/ ABA20220AK9	1050	Certified 48 V Brake,  SPL 07-TAA20222BF
	TAA20222BF5	Used w/ ABA20220AK102,104, 106, 161, 162, 163	1050	
	TAA20222BF6	Used w/ ABA20220AK101,103, 105, 164, 165, 166	840	
	TAA20222BF7	Used w/ ABA20220AK167, 168, 169,	680	
	TAA20222BF55	Used w/ ABA20220AK107, 108	1000	
	TAA20222BF56	Used w/ ABA20220AK145, 146	750	
	TAA20222BF105	Used w/ ABA20220AK9	1050	
2	TBA20222BD102	Used w/ ABA20220AK36	1135	ANSI-Certified Dual Solenoid 26 V Brake,  SPL 07-TBA20222BD

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

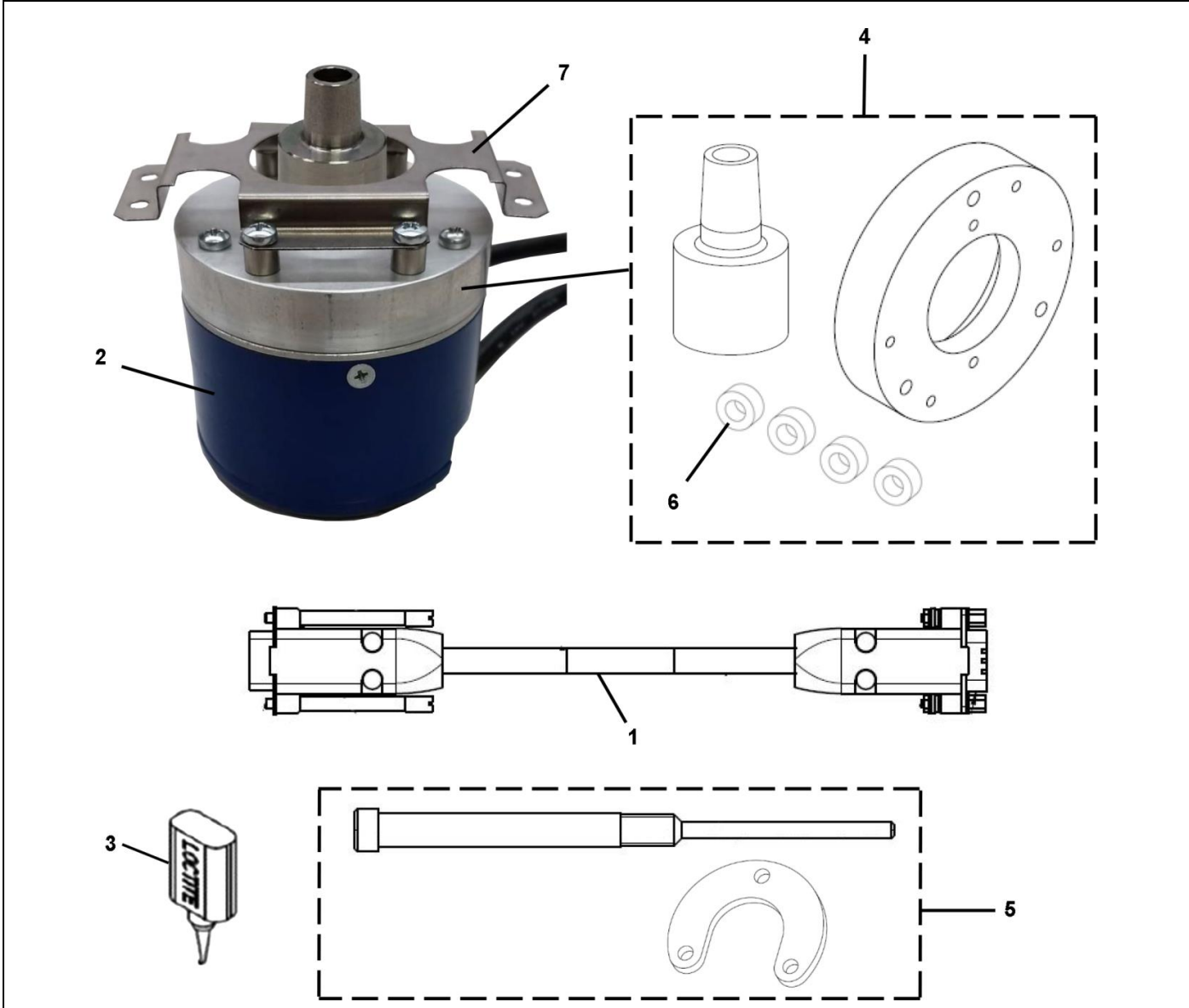


**AAA20220AK  
ABA20220AK**


REF. No.	PART No.	DESCRIPTION	W→ AAA20220AK ARRANGEMENT	W→ ABA20220AK ARRANGEMENT	REMARKS
1	AAA21303CU1	Block, Terminal	35, 36	36	ANSI
2	AAA20220AM1	Box, Terminal			ANSI
	AAA20220AM2				
3	AAA633Z1	Encoder, Main, 10 V Incremental, 2-Channel with Mounting Hardware and Allen Wrenches	1-8	1-8, 11-18, 41-56, 101-156	EN81
	AAA633Z5	Encoder, Main, 5 V Incremental, 2-Channel with Mounting Hardware and Allen Wrenches	9	9, 19, 161-169	EN81
4	AAA633AE1	Encoder, Main, Incremental, 3-Channel with Mounting Hardware and Allen Wrenches	35, 36	36	ANSI
5	AAA20220R3	Kit, Rescue Sensor Encoder Replacement, Hall Effect	1-9	1-18, 41-169	EN81
6	AAA27076CJ4	Kit, Rescue Sensor Encoder Replacement,  p. 11	35, 36	36	ANSI

# Retrofit Encoder

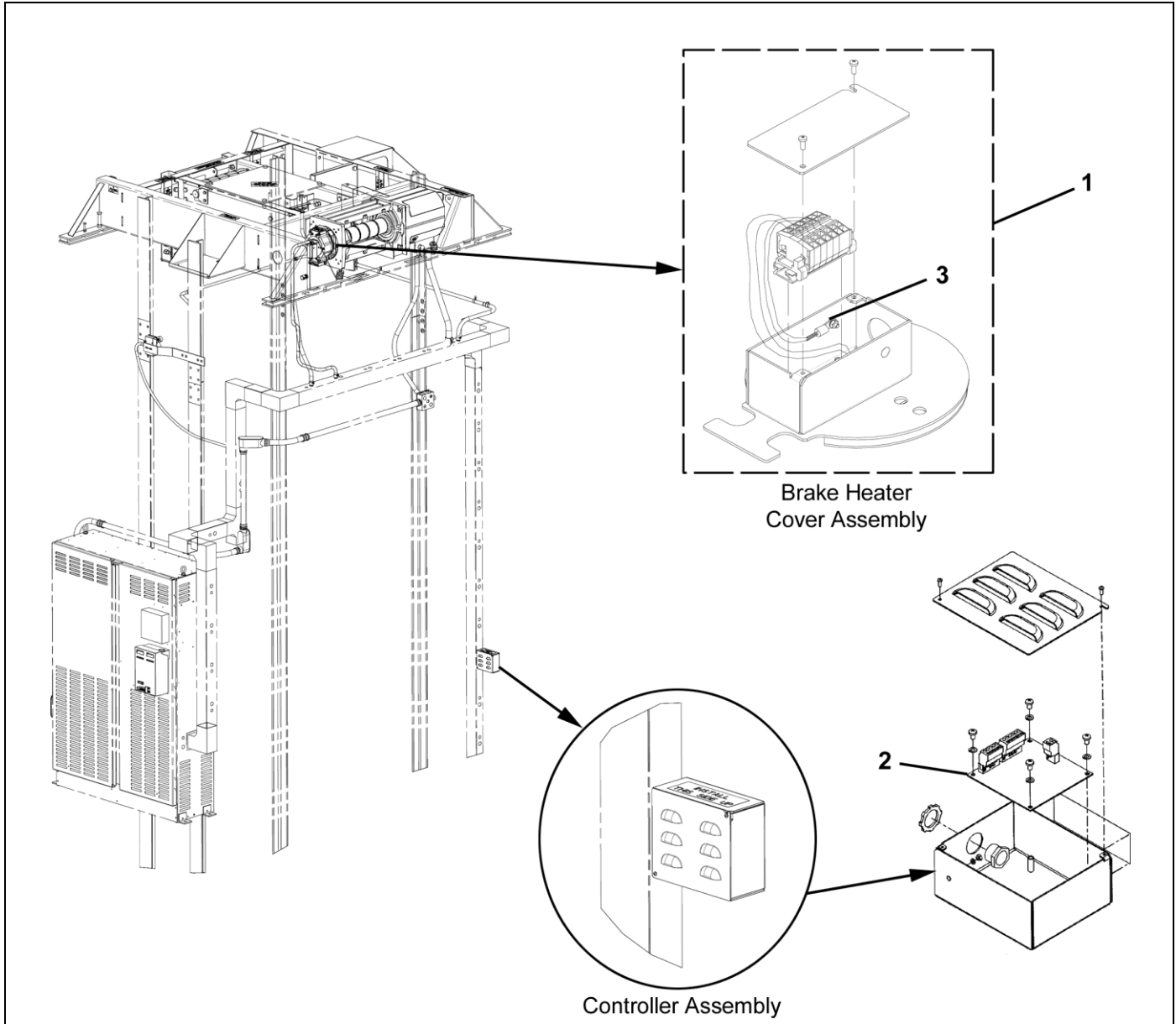
**06-AAA20220AK**



**AAA20220AK  
ABA20220AK**

REF. No.	PART No.	DESCRIPTION	REMARKS
1	AAA174BVG2	Cable, Adaptor, 9-pin to 15-pin, 8 ft.	 TIP 6.1.11-15 for installation instructions and further details.
2	AAA633AJ402	Encoder	
3	AAA180JB1	Glue, Loctite®243, Threadlocker, 10 ml Bottle	
4	AAA27076HD400	Kit, Adaptors and Hardware	
5	AAA27076HD402	Kit, Encoder Removal and Hardware	
6	AAA462FD2	Spacer, 5 mm	
7	---	Spring, Attaching (reuse existing from AAA633AE1)	

# Brake Heater Assembly



<b>AAA20220AK ABA20220AK</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>REMARKS</b>
1	AAA24430T1	Assembly, Brake Heater Cover	For ANSI machine brakes with data tag prefix "TAB"
	AAA24430T2		For ANSI machine brakes with data tag prefix "TBA"
2	ABA26800ANC1	Assembly, Controller PCB	ANSI / CSA
3	AAA660A16	Thermistor	

**NOTE:** For details, see SWP N-1.1.18.0-3.