

# Gen2™ 5T AC Permanent Magnet Gearless Machine: EN81-Compliant

(Extended Duty & Next Generation High Rise)

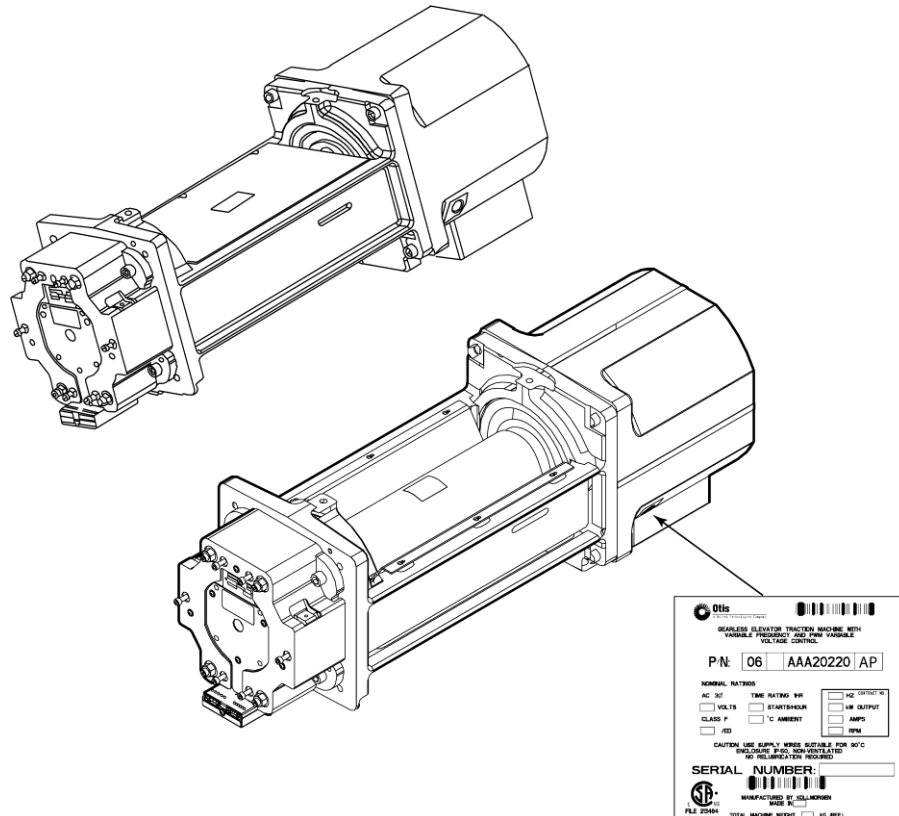
Spare Parts Leaflet

06-AAA20220AP

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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.



# OTIS

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 SPL details spare parts for the Gen2® R2 five-ton (5T) sheave shaft load, extended duty, permanent magnet (PM) AC three-phase motor gearless machine for European (EN81) and Asian markets.

**Leaflet Revisions**

<b>Date Revised</b>	<b>Subject Matter Expert</b>	<b>Reason for Revision</b>
March 17, 2003	Amer Aziz	New SPL
April 30, 2004	James Draper	Updated SPL number in reference 2, on page 4
March 10, 2005	Ben Watson	Changed parts list on page 3-5; updated illustrations.
March 25, 2006	Ben Watson	Updated parts list on pages 3-4.
April 10, 2007	Scott Boulanger	Update views to show new sheave guard and p. 5 p/n
November 20, 2008	David Torlai	Update p. 6 cover guards
February 1, 2023	Juan Murillo	Added Obsolescence note on cover

**Related Drawings**

<b>Drawing No.</b>	<b>Title</b>	<b>Drawing No.</b>	<b>Title</b>
AAA20220AP	AC Gearless Machine (PM) 3 Phase Motor (5.0T EN81)	ABA20220AP	AC Gearless Machine (PM) 3 Phase Motor (5.0T EN81)
AAA633Z	Encoder (2-channel)	---	---

**Related Documents**

<b>Document ID</b>	<b>Title</b>
Otis Doc. 54694	Functional Requirements for GeN2 R2 (extended duties) PM AC Gearless Machine
Otis Doc. 55763	GeN2—5T Machine Basic Data
SPL 07-TBA20236H	5T EN Brake for Gen2 System

**Subject Matter Expert**

<b>Name</b>	<b>Department</b>
David Torlai	Otis Engineering Center, Farmington (OECF)

**About Spare Parts Leaflets...**

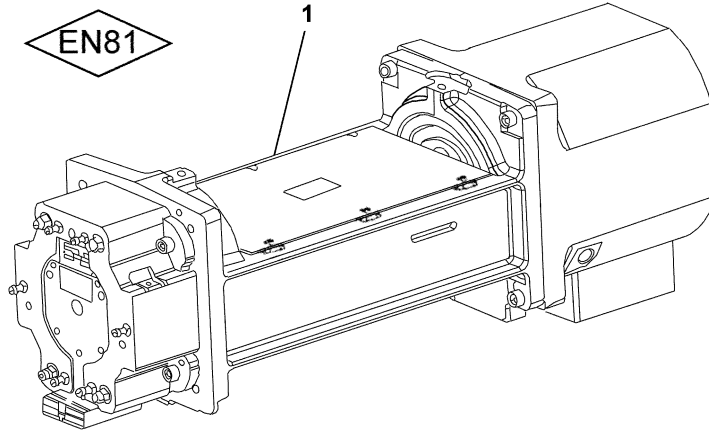
This document lists the lowest replaceable units (LRUs) for the standard version of the product. The LRUs are chosen by a team of Otis associates representing engineering and manufacturing.

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.

# EN81 Machine Assembly

**06-AAA20220AP**

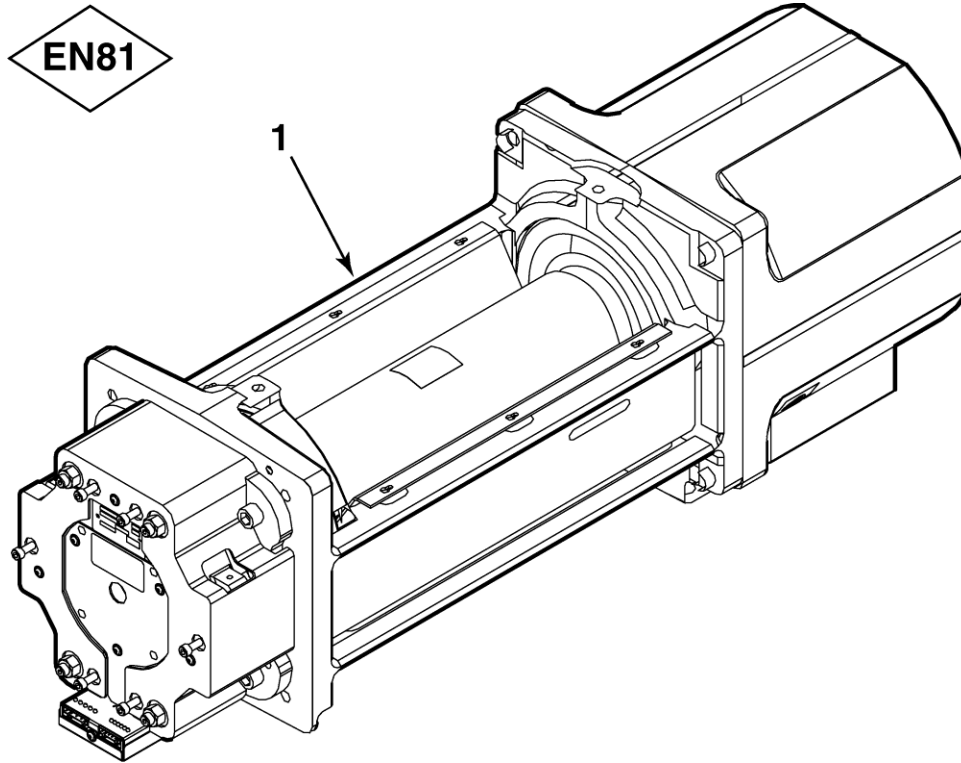


**Machine Assembly, Gen2 5T (EN81)**  
3-Phase, AC Permanent Magnet Gearless Machine with CEN EN81 Compliant Brake

**AAA20220AP**  
**ABA20220AP**

REF. NO.	PART NO.	DUTY (kg)	SPEED (m/s)	COUNTRY	APPLICATION	REMARKS
1	AAA20220AP2 AAA20220AP1 ABA20220AP2 ABA20220AP1	1150–1600	1.0–1.75	EN81	5TA, Gen2, ED (Non-REGEN)	10 V Two-Channel Incremental Encoder with 6.0 m Cable (A_A633Z1)
	AAA20220AP5 ABA20220AP4	1350–1600		Korea		10 V Two-Channel Incremental Encoder with 8.5 m Cable (A_A633Z3)
	ABA20220AP5	1150				
	AAA20220AP12 AAA20220AP14 ABA20220AP12 ABA20220AP11	1800–2000		EN81/ Asia Except Japan	5TB, Gen2, ED (Non-REGEN)	10 V Two-Channel Incremental Encoder with 6.0 m Cable (A_A633Z1)
	AAA20220AP24 ABA20220AP21	1275	2.0–2.75	EN81 (Gien CLC)	5TC, NGH, R1 (Non-REGEN)	Three-Channel Incremental Encoder with 0.3 m Cable (A_A633AE1)
	AAA20220AP25 AAA20220AP26 ABA20220AP25 ABA20220AP26					
	AAA20220AP44 ABA20220AP41					
	AAA20220AP46 AAA20220AP47 ABA20220AP46 ABA20220AP47	EN81 (Gien CLC)	Three-Channel Incremental Encoder with 0.3 m Cable (A_A633AE1)			
	ABA20220AP48	Korea	10 V Two-Channel Incremental Encoder with 6.0 m Cable (A_A633Z1)			

**NOTE:** Data plates on some machines have been imprinted with part no. that indicates motor w/o brake (e.g., AAA20220AP46). The field replacement assembly should be the complete motor with brake (e.g., AAA20220AP47), shown as a substitution for each of these identities / applications.



**Machine Assembly, Gen2 5T (EN81)**  
 3-Phase, AC Permanent Magnet Gearless Machine with CEN EN81 Compliant Brake

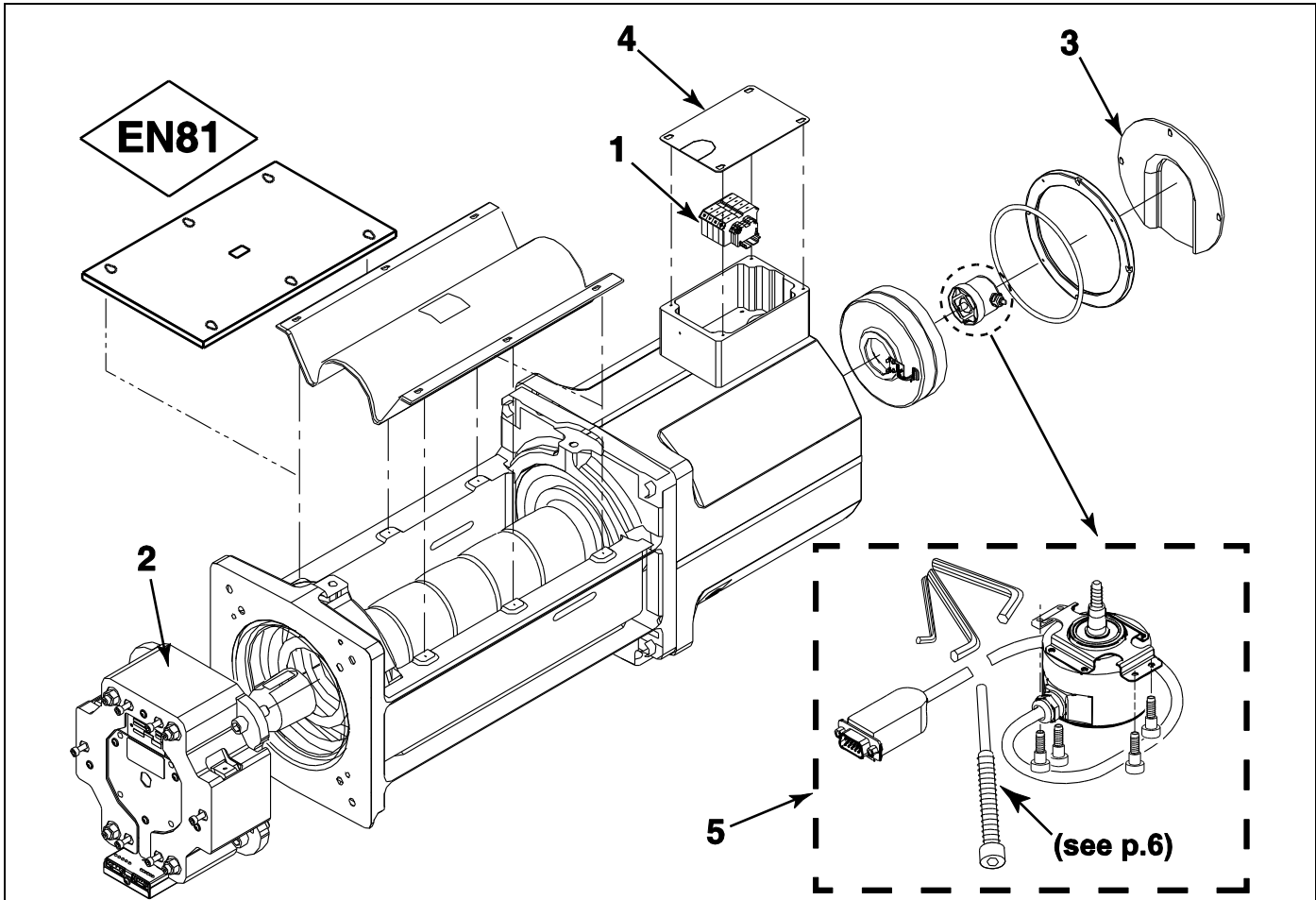
**AAA20220AP**  
**ABA20220AP**

REF. NO.	PART NO.	DUTY (kg)	SPEED (m/s)	COUNTRY	APPLICATION	REMARKS
1	AAA20220AP22 ABA20220AP22	1275	2.0–2.5	Japan	5TC, NGH, R1 (Non-REGEN)	10 V Two-Channel Incremental Encoder with 6.0 m Cable (A_A633Z1)
	ABA20220AP27	600 (1:1 roping)		Japan	5TC, NGH, R1 (Non-REGEN)	with 6.0 m Cable (A_A633Z1)
	AAA20220AP42 ABA20220AP42		Japan	5TD NGH R1 (Non-REGEN)		
	AAA20220AP43 ABA20220AP43	850 (1:1 roping)	2.0–2.5			

**NOTE:** Data plates on some machines have been imprinted with part no. that indicates motor w/o brake (e.g., AAA20220AP46). The field replacement assembly should be the complete motor with brake (e.g., AAA20220AP47), shown as a substitution for each of these identities / applications.

# Gen2™ 5T Machine Components

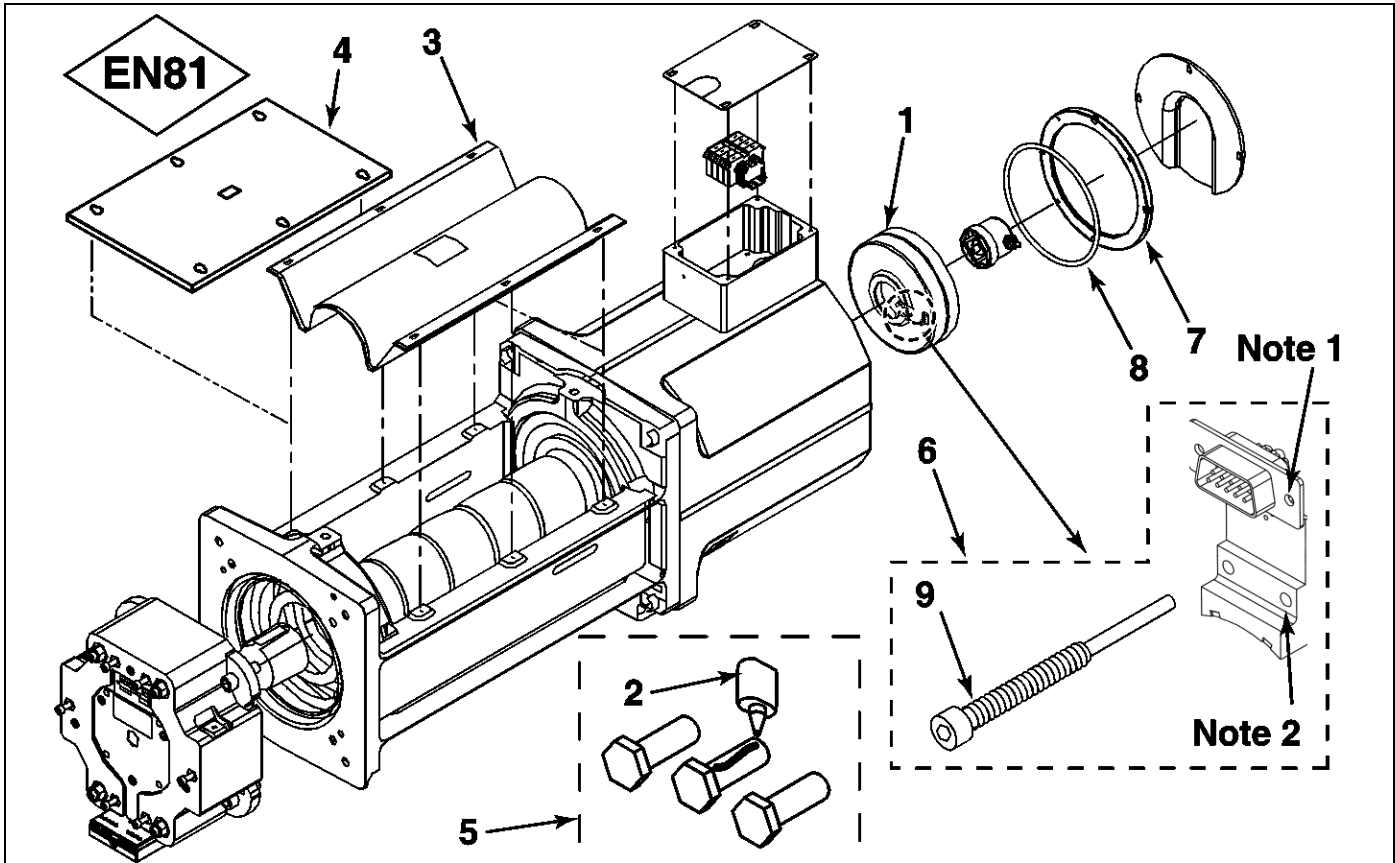
**06-AAA20220AP**



**AAA20220AP**  
**ABA20220AP**

REF. No.	PART No.	DESCRIPTION	REMARKS
1	AAA21303CW1	Assembly, Terminal Block	---
2	---	Brake, Single Coil (torque per EN81 requirements)	SPL 07-TBA20236H for Details
3	AAA346BBT1	Cover, End	5TA, B, C Machines
	AAA346BBT2		5TD Machine
4	AAA346BBS1	Cover, Terminal Block	EN81
5	AAA633Z1	Encoder, Main	10 V Two-Channel Incremental Encoder with 6.0 m Cable (Non-REGEN)
	AAA633Z3		10 V Two-Channel Incremental Encoder with 8.5 m Cable (Non-REGEN)
	AAA633AE1		10 V Three-Channel Incremental Encoder with (qty 1) M5 x 70 mm L and (qty 3) M3 x 8 Hex Head Cap Screws, (qty 1) Jack Bolt Tool, (qty 1 ea.) 2.5, 4.0, and 5.0 mm Allen Wrenches

(Continued on next page)



**AAA20220AP  
ABA20220AP**

REF. No.	PART No.	DESCRIPTION	REMARKS
1	AAA20220AQ1	Encoder w Rescue Sensors	See <b>NOTES 1</b> and <b>2</b>
	AAA20220AQ2	Encoder w/o Rescue Sensors	
2	AAA180JB1	Glue, Loctite® 242 Threadlocker, 10 ml Bottle	Glue Holder
3	AAA384AHX10	Guard, Sheave	with Label
4	AAA384AHX20	Guard, Sheave (seismic)	with Label
5	AAA27076AJ3	Kit, Hardware, Including (3) M20 x 55 Hex head Screws, (1) Ref. 7	See <b>NOTE 3</b> .
6	AAA27076CJ1	Kit, Rescue Sensors Replacement (includes jack screw tool, Ref. No. 9)	---
7	AAA182AZ1	Packing, O-Ring	---
8	AAA172UJ1	Ring, Clamp	---
9	AAA27DP1	Screw, Jack, M6, 97 mm L	---

**NOTES:**

- 1. Must** secure mounting screws (not shown) with Loctite 242 and torque to 0.41–0.51 Nm (58–72 in. oz.).
- 2. Must** secure mounting screws (not shown) with Loctite 242 and torque to 0.34–0.46 Nm (3–4 in. lb.).
- Torque to 120 Nm (90 ft.-lb.).