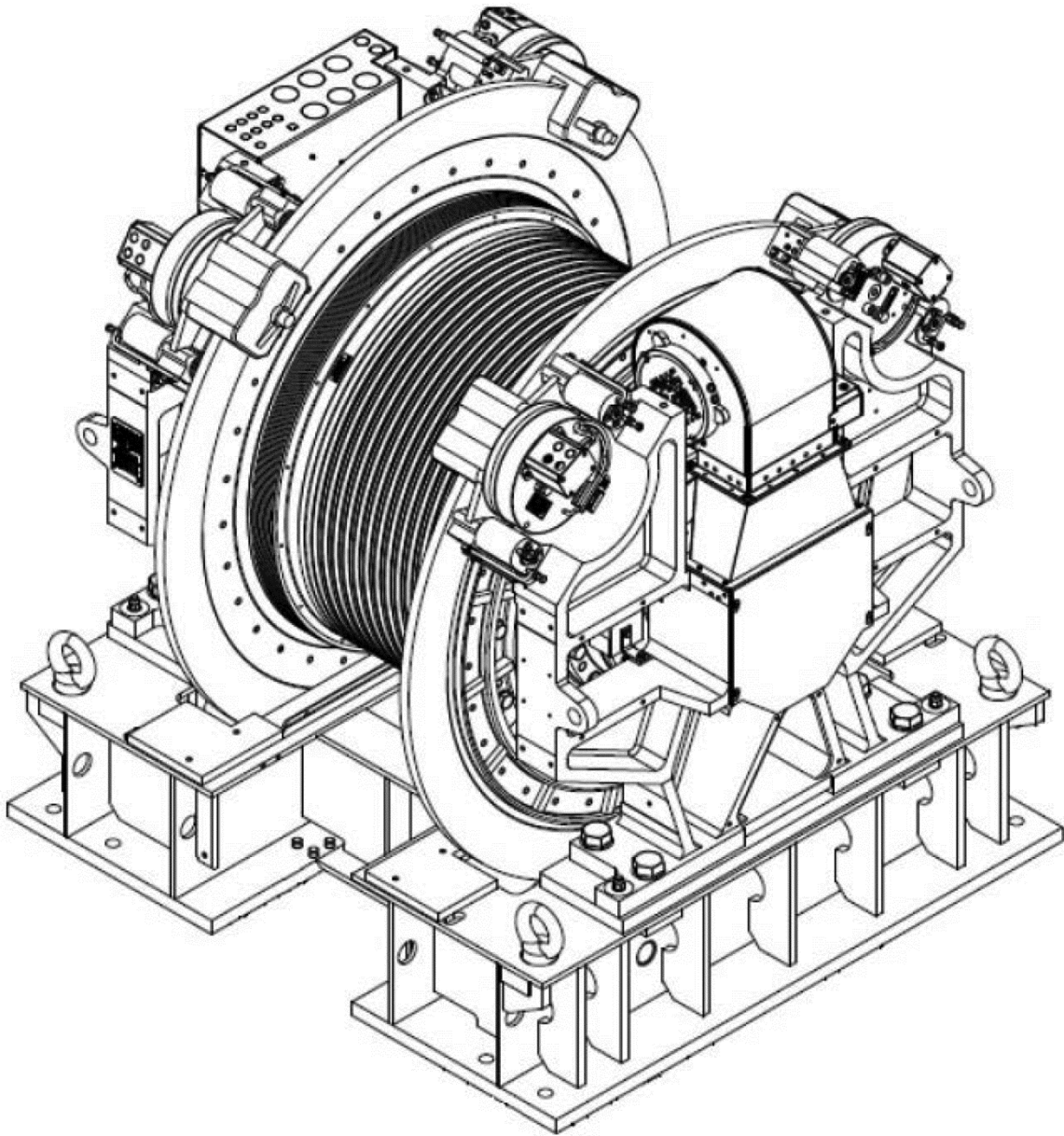


**Elevator Machine
SkyMotion® 400 (41T)**

**Spare Parts Leaflet
06-AAA20220CH**

June 1, 2022 / Page 1 of 18



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 leaflet provides spare parts information for the PM gearless machine, type AAA20220CH (also known as SkyMotion 400 or 41T machine). AAA20220CH covers duty loads up to 5000 kg (11,000 lb) and elevator speeds up to 15.0 m/s (3000 FPM).

Leaflet Revisions

Date Revised	Subject Matter Expert	Reason for Revision
June 18, 2014	James Hubbard	Original document
September 20, 2017	James Hubbard and Gary Mendrala	Additional parts added including guarding, traction sheave, and DWT secondary sheave assembly
February 21, 2018	Gary Mendrala	Added manual brake release tool information on new p. 15
June 27, 2018	Cole Murphy	Updated filter p/n to AAA737AD10
Sept. 27, 2019	James Hubbard	Added traction sheave liners, p. 14
Sept 17, 2021	James Hubbard	Brake – Added brake switch lever Encoder – Added new support holder Deflector sheave – Revised assembly Terminal box assembly – Added revised assembly Traction sheave – Added new liner PN
June 1, 2022	James Hubbard	Traction sheave – Removed cast iron traction sheaves with undercut grooves which are obsolete.

Related Drawings

Drawing No.	Title	Drawing No.	Title
AAA20220CH	Machine Assembly	AAA20236Z	Brake
AAA20257A	Motors	AAA20700V	Deflector Sheave Assembly
AAA20850C	Isolation Arr.	AAA29509W	Guarding

Related Documents

Document ID	Title
DO-O309CY	Order Data Sheet for SkyMotion 400 Machine
AAA20220CH_BD	Basic Data for SkyMotion 400 Machine

Subject Matter Expert

Name	Department

Gary Mendrala	OSC Service Engineering
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About Spare Parts Leaflets...

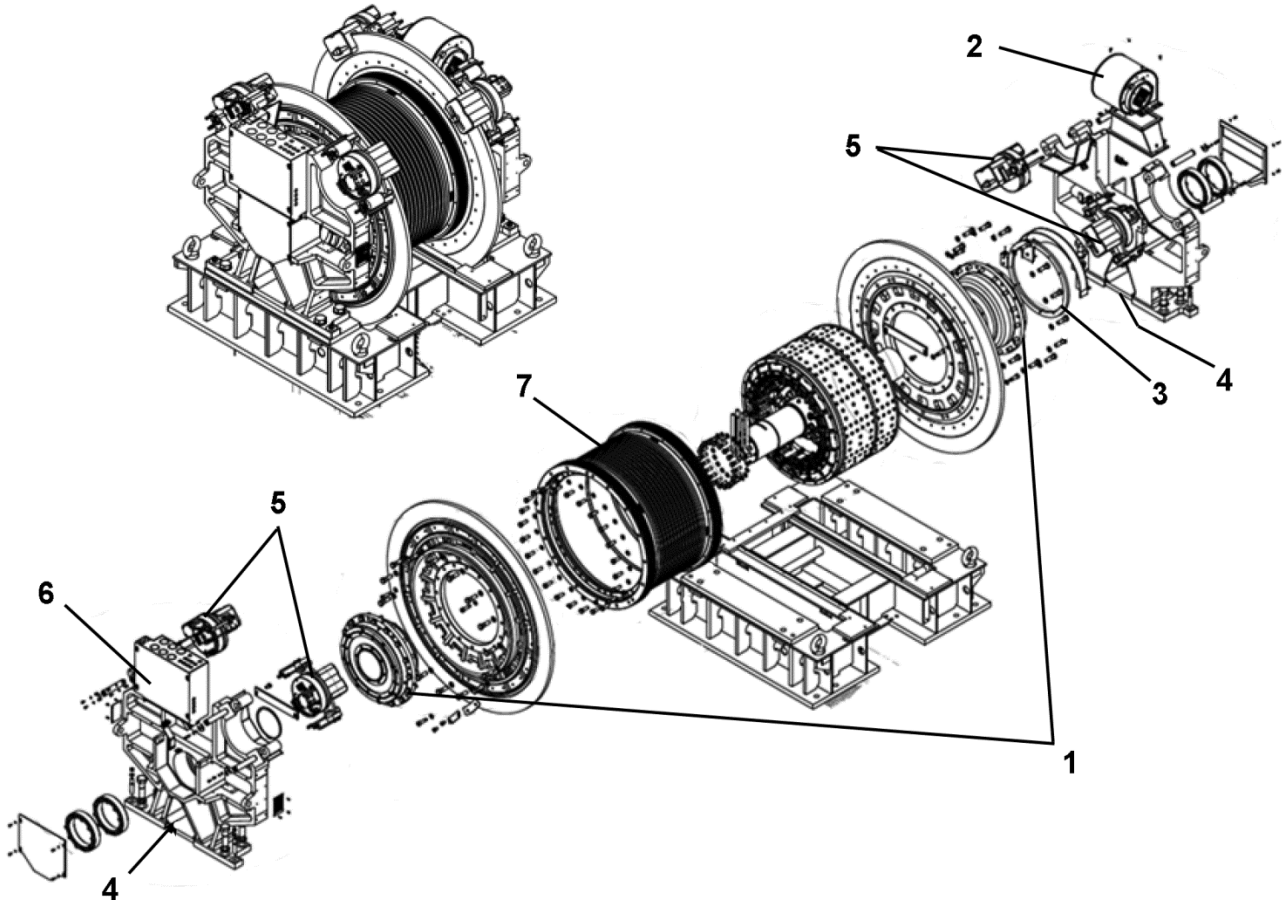
This document lists the lowest replaceable units (LRUs) for the standard version of the product. The LRUs are chosen by a team of Otis associates representing engineering and manufacturing.


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.

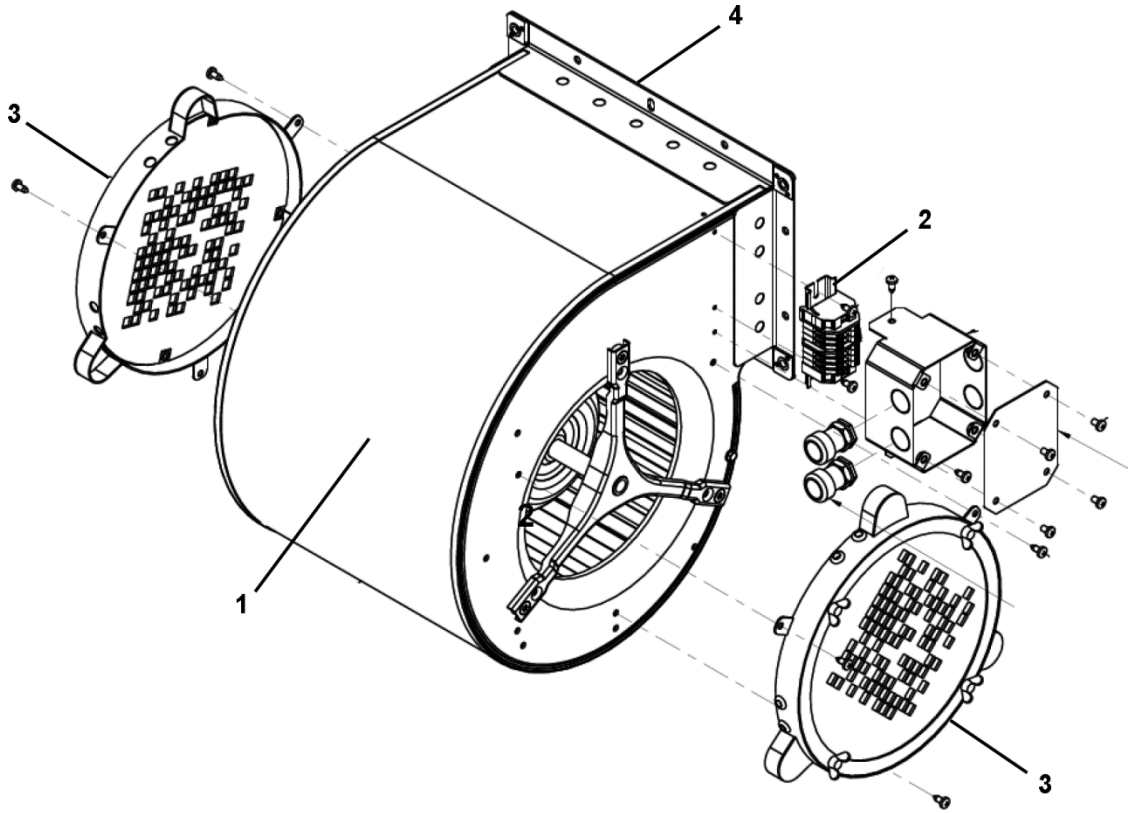
If you have any suggestions about this document, please contact the subject matter expert listed on this page.

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2	5	Blower Assembly
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5	8	Brake Assembly
6	9	Terminal Box Assembly
7	16	Traction Sheave Assembly

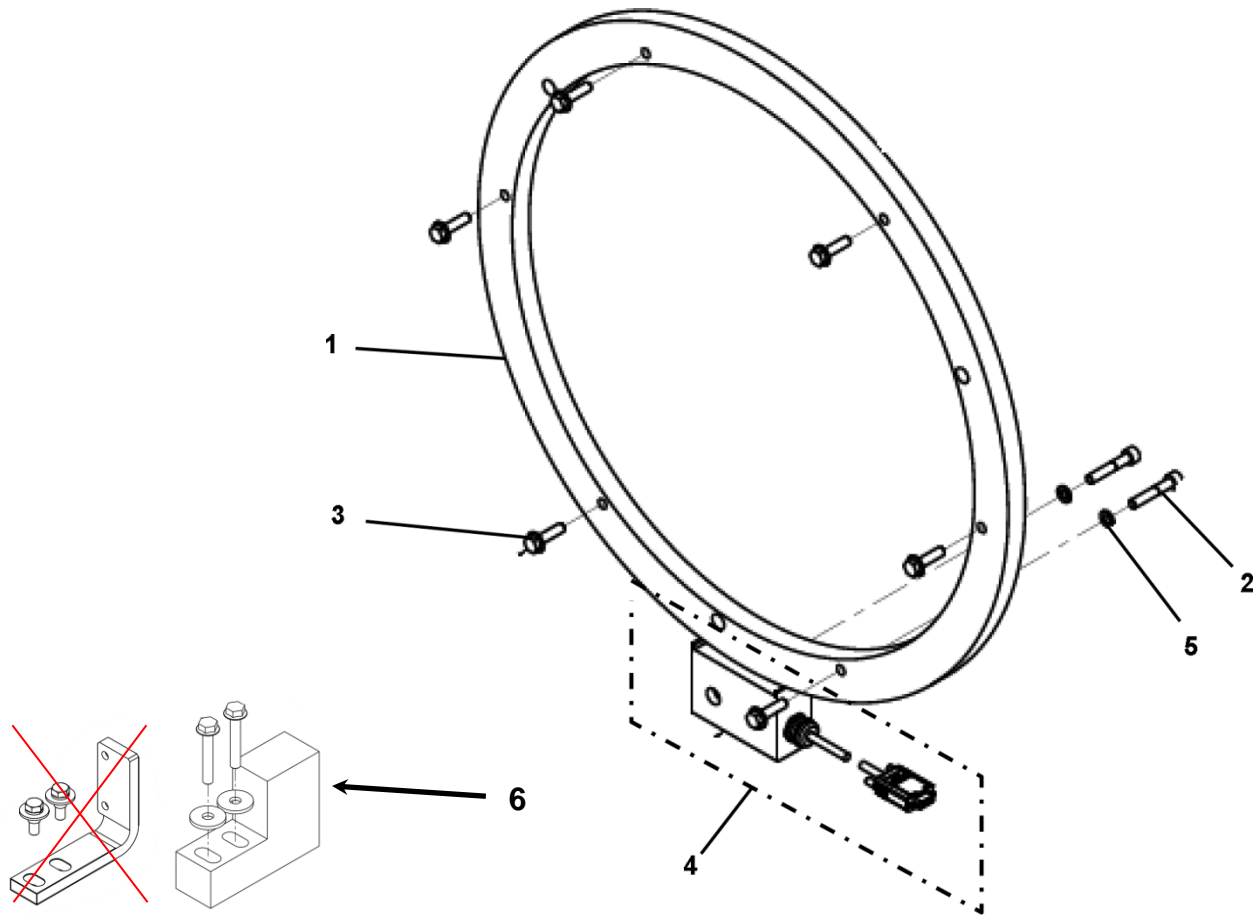


Blower Ass'y				
REF. No.	PART No.	DESCRIPTION	QTY.	W→
1	AAA29509X10	Assembly, Blower, see NOTE	1	AAA29509X1
2	AAA21303EC5	Assembly, Terminal Block, Blower	1	
3	AAA737AD10	Filter, Blower	2	
4	AAA376HV1	Gasket, Blower	1	

NOTE: When replacing the blower (p/n AAA29509X10), replace the gasket also (p/n AAA376HV1).

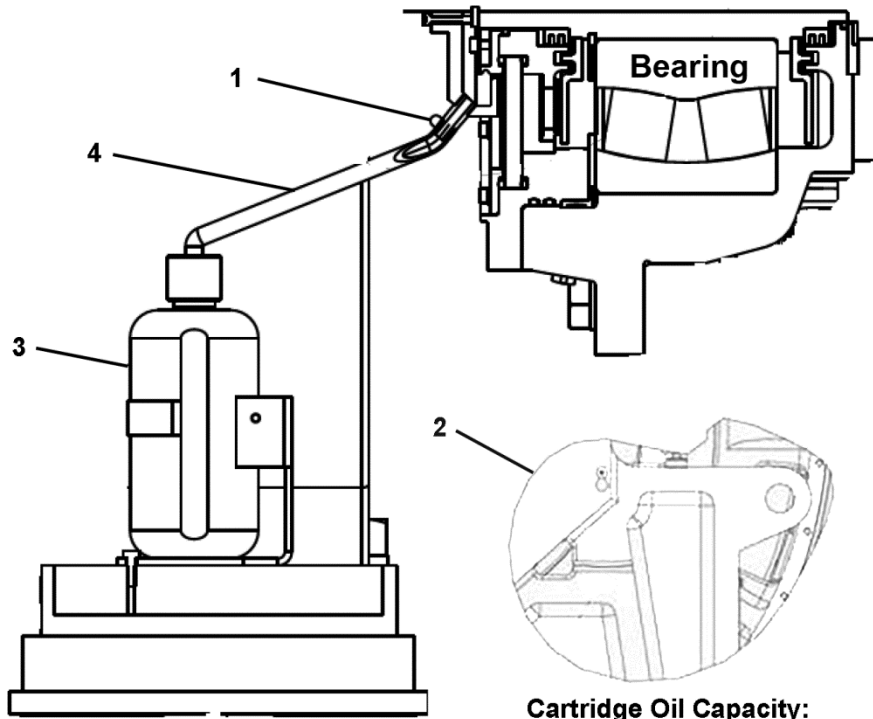
Encoder Assembly

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Encoder Ass'y				
REF. No.	PART No.	DESCRIPTION	QTY.	W →
1	AAA633AK2	Assembly, Encoder Wheel, (NOTE 1)	1	AAA633AK1
2	ISO4762M8X40-8.8Z	Screw, Cap, M8 x 40	2	
3	NON1241M8X30-8.8Z	Screw, M8	6	
4	AAA633AK3	Sensor, Encoder Head	1	
5	DIN128A-M8-430HV-Z	Washer, Lock, M8	2	
6	AAA283BTL1 AAA180KP1	HOLDER, ENCODER SUPPORT (NOTE 2)	1	AAA20220CH1

- NOTE:**
1. The encoder wheel should not need replacing unless there is obvious visible damage to the outer diameter surface.
 2. The original steel bracket was replaced to address issues with isolation and electrical noise

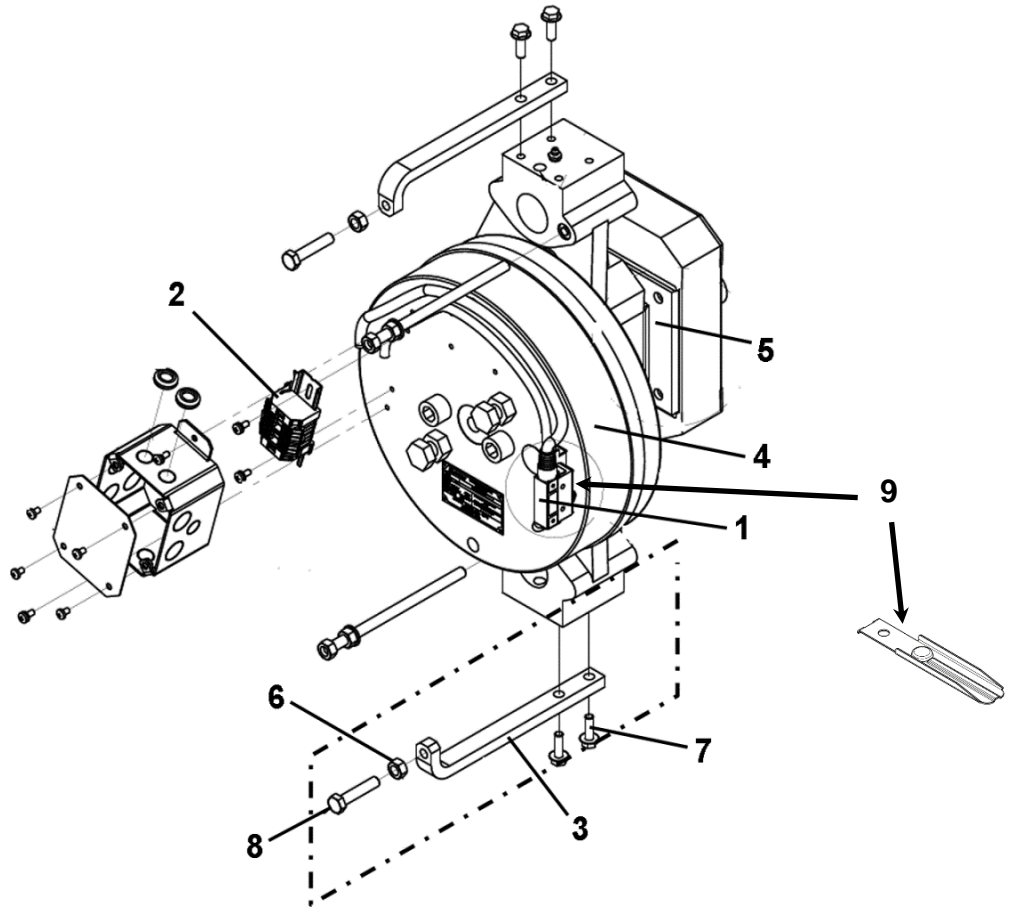


**Cartridge Oil Capacity:
1.4L per cartridge,
2.8L per machine**

Oil Reservoir Ass'y		
REF. No.	PART No.	DESCRIPTION
1	AAA333SE1	Clamp
2	AAA518BB3	Mobil SHC Oil, 1 qt. Container
3	AAA148AW1	Tank, Oil Overflow
4	AAA137BY2	Tube

Brake Assembly

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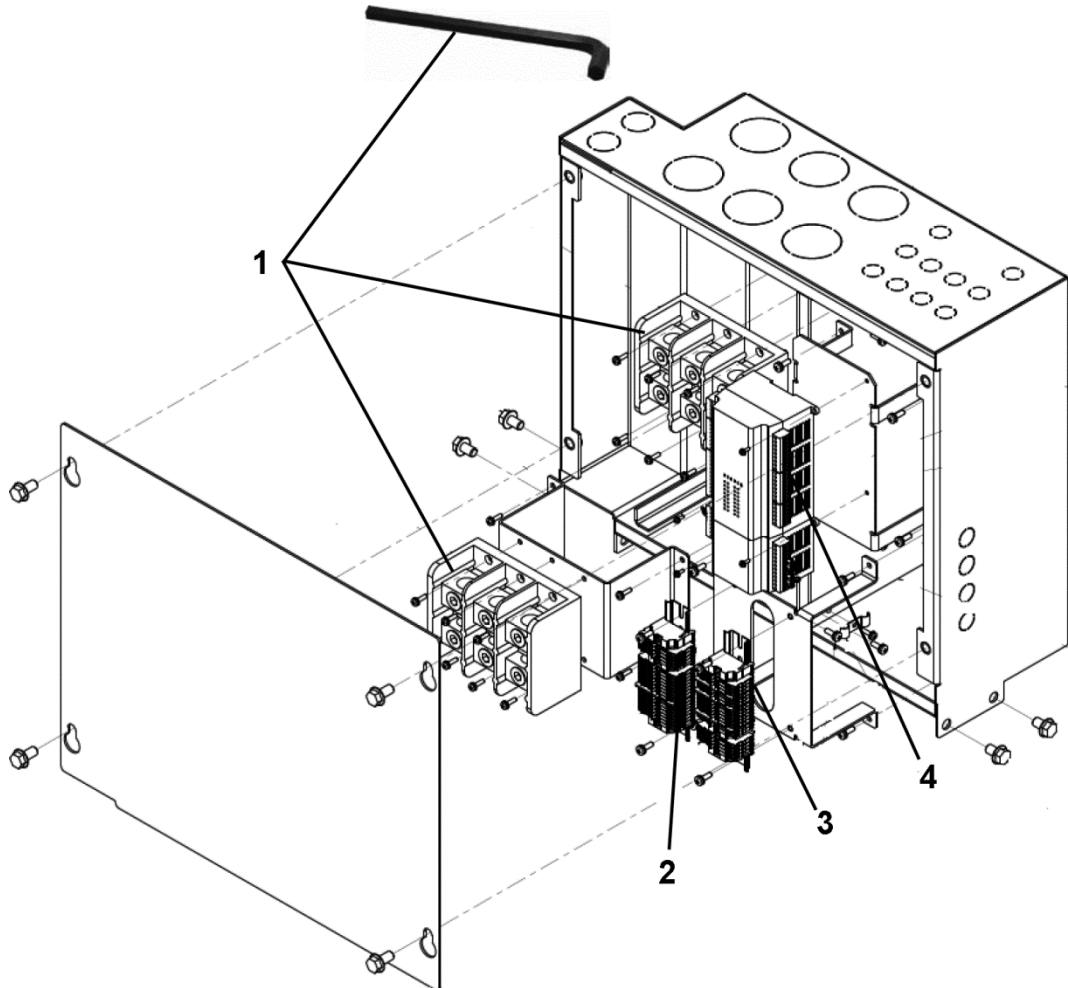
REF. No.	Brake Ass'y PART No.	DESCRIPTION	QTY.	W →
1	AAA177EX1	Assembly, Switch	1	AAA20236Z1 AAA20236Z2
2	AAA21303EW3	Assembly, Terminal Block	1	
3	AAA316HYB1	Bracket (See NOTE 2)	1	
4	AAA20236Z10	Caliper, Brake, High Torque	1	AAA20220CH __ 1 AAA20220CH __ 2 AAA20220CH __ 5 AAA20220CH __ 6
	AAA20236Z11	Caliper, Brake, Low Torque	1	AAA20220CH __ 3 AAA20220CH __ 4
5	AAA415AV1	Kit, Pad (2 Pads)	1	AAA20236Z1 AAA20236Z2
* See NOTE 1	AAA102AYM1	Label, Emergency Brake (ASME)	1	AAA20220CH
	AAA102AYN1	Label, Brake (ASME)	1	
	DAA102WF1	Label, Brake (GB)	1	
6	ISO8673M10X1-8-Z	Nut	1	AAA20236Z1 AAA20236Z2
7	NON1241M8X25-8.8Z	Screw, M8 X 25 Hex HD	2	
8	AAA124JR1	Screw, Adjustment	1	
9	AAA287DL1	Lever, Brake Switch	1	

NOTES:

1. In case of brake caliper replacement, the “Emergency Brake” label, which include contract specific information, must be transferred to the new brake caliper.
2. The bracket should be replaced as an assembly.

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Terminal Block Assembly (Before Nov. 2016)

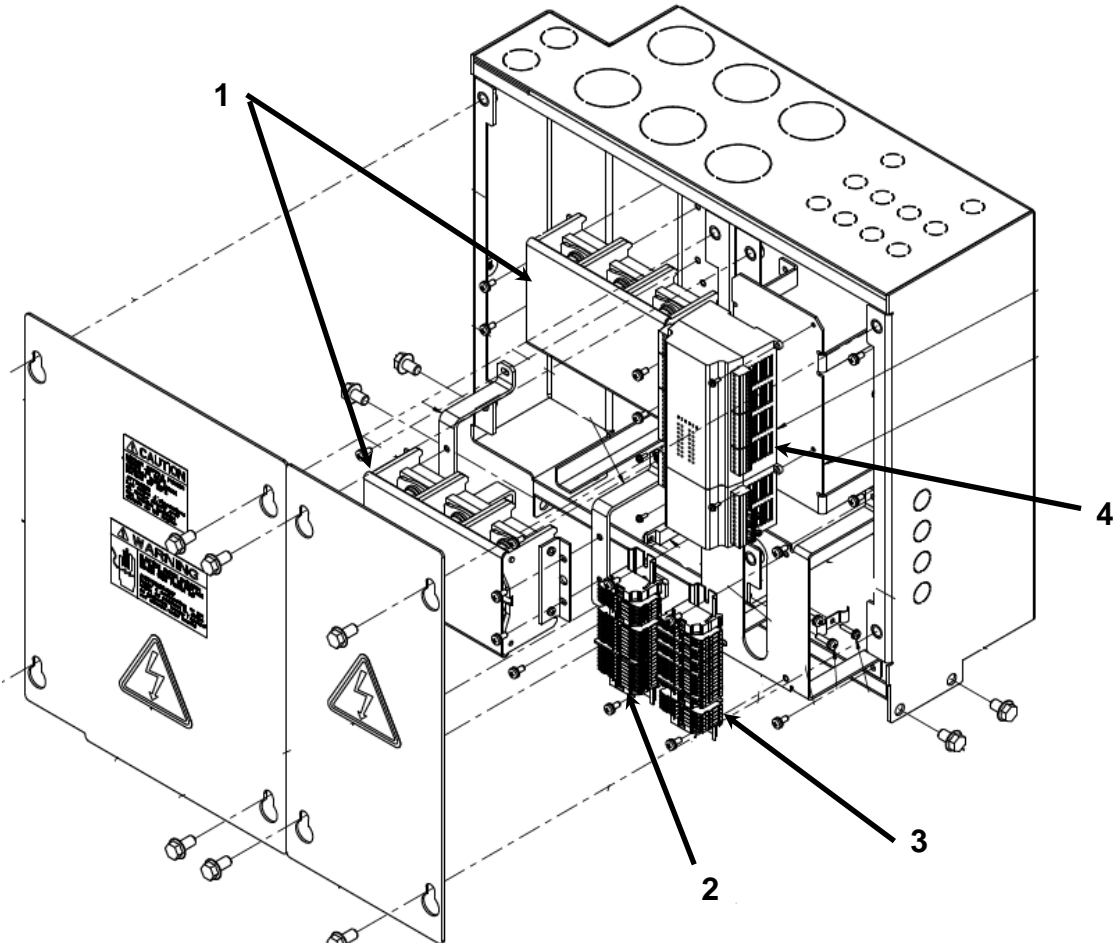


		Terminal Box Ass'y			
REF. No.	PART No.	DESCRIPTION	QTY.	W →	
1	AAA303GB1	Assembly, Motor, Terminal Block	1	AAA21305EC1 or 2	
	AAA124FD5	Screw, Sems, M4 X 16	6		
	MT-105050-15 Or MT-105044-11	L-Key, Hex ½ in. T-handle hex, ½ in	1		
2	AAA21303EW1	Assembly, Terminal Block, Brake and Blower	1		
	AAA124FD14	Screw, Sems, M5 X 16	2		
3	AAA21303EW2	Assembly, Terminal Block, Thermal Sensors	1		
	AAA124FD14	Screw, Sems, M5 X 16	2		
4	AAA816AV1	Module, Blower Controller	1		

	AAA124FD16	Screw, Sems, M3 X 10	4	
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Terminal Box Assembly (From Dec. 2016 to July 2020)

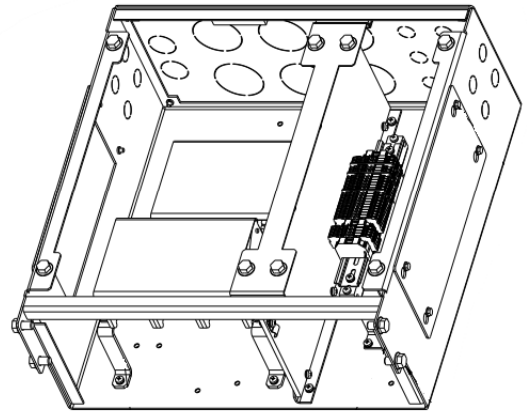
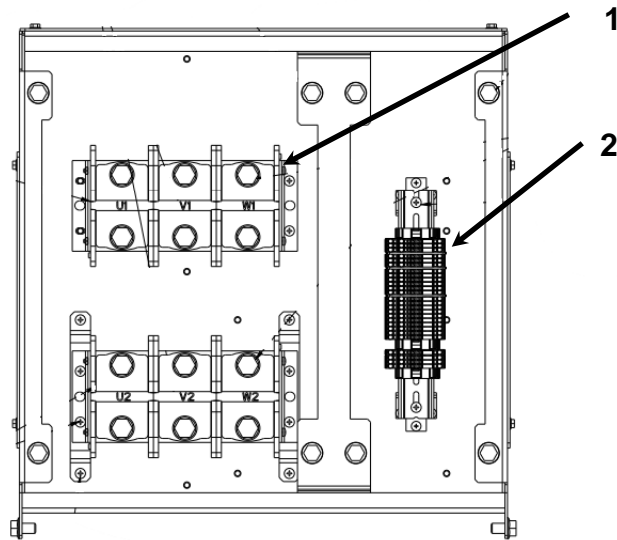


**Terminal Box
Ass'y**

REF. No.	PART No.	DESCRIPTION	QTY.	W →
1	AAA303GL1	Assembly, Motor, Terminal Block	1	AAA21305EC3 or 4
	AAA124FD8	Screw, Sems, M5 X 12	4	
2	AAA21303EW1	Assembly, Terminal Block, Brake and Blower	1	
	AAA124FD14	Screw, Sems, M5 X 16	2	
3	AAA21303EW2	Assembly, Terminal Block, Thermal Sensors	1	
	AAA124FD14	Screw, Sems, M5 X 16	2	
4	AAA816AV1	Module, Blower Controller	1	
	AAA124FD16	Screw, Sems, M3 X 10	4	

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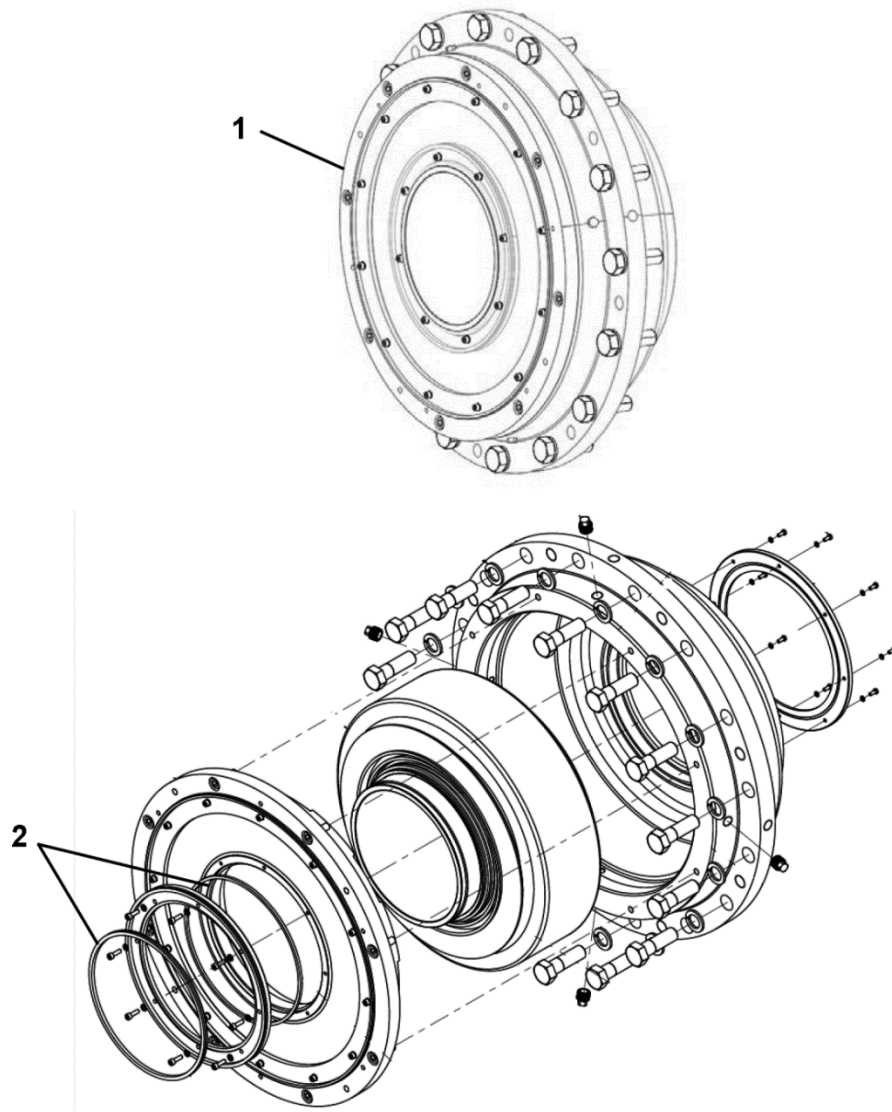
Terminal Box Assembly (After July 2020)



Terminal Box Ass'y				
REF. No.	PART No.	DESCRIPTION	QTY.	W →
1	AAA303GL1	Assembly, Motor, Terminal Block	1	AAA21305GD
	AAA124FD8	Screw, Sems, M5 X 12	4	
2	AAA21303EW9	Assembly, Terminal Block, Brake and Blower	1	
	AAA124FD8	Screw, Sems, M5 X 12	2	

Bearing Cartridge Assembly

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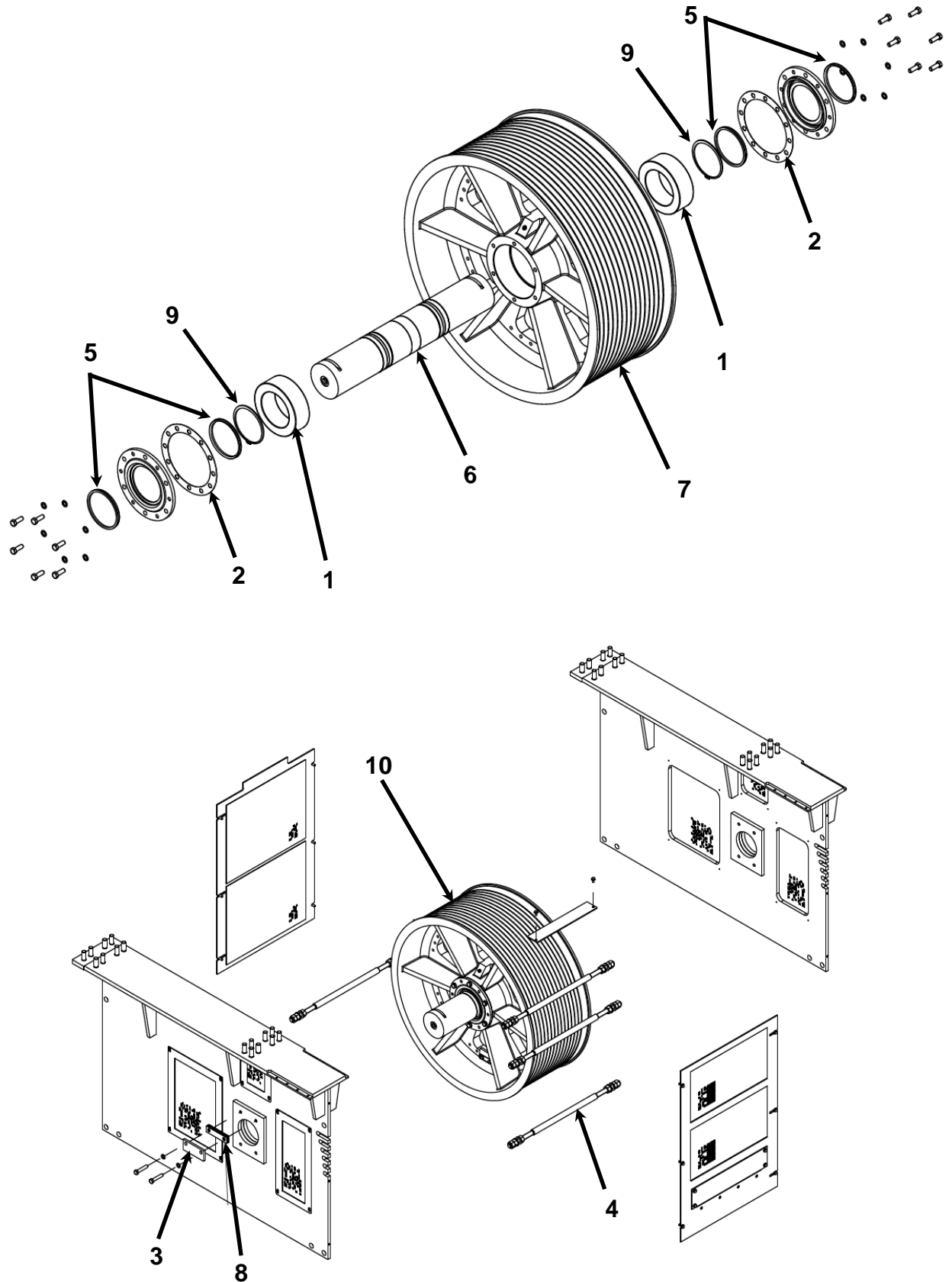
Bearing Ass'y

REF. No.	PART No.	DESCRIPTION	QTY.	W →
1	AAA20220CG1	Assembly, Bearing Cartridge	1	AAA20220CH__
2	AAA33BM1	Seal, Outer	2	AAA20220CG1

NOTES:

1. Lubricant used in bearing cartridge is Otis type AAA518BB (Mobile SHC 634)
2. In case of a defective bearing or leaking bearing, the entire bearing cartridge must be replaced. It is not possible to replace the bearings alone.
3. Replace the seal alone only in the unusual case of oil leaking with relatively new bearings.

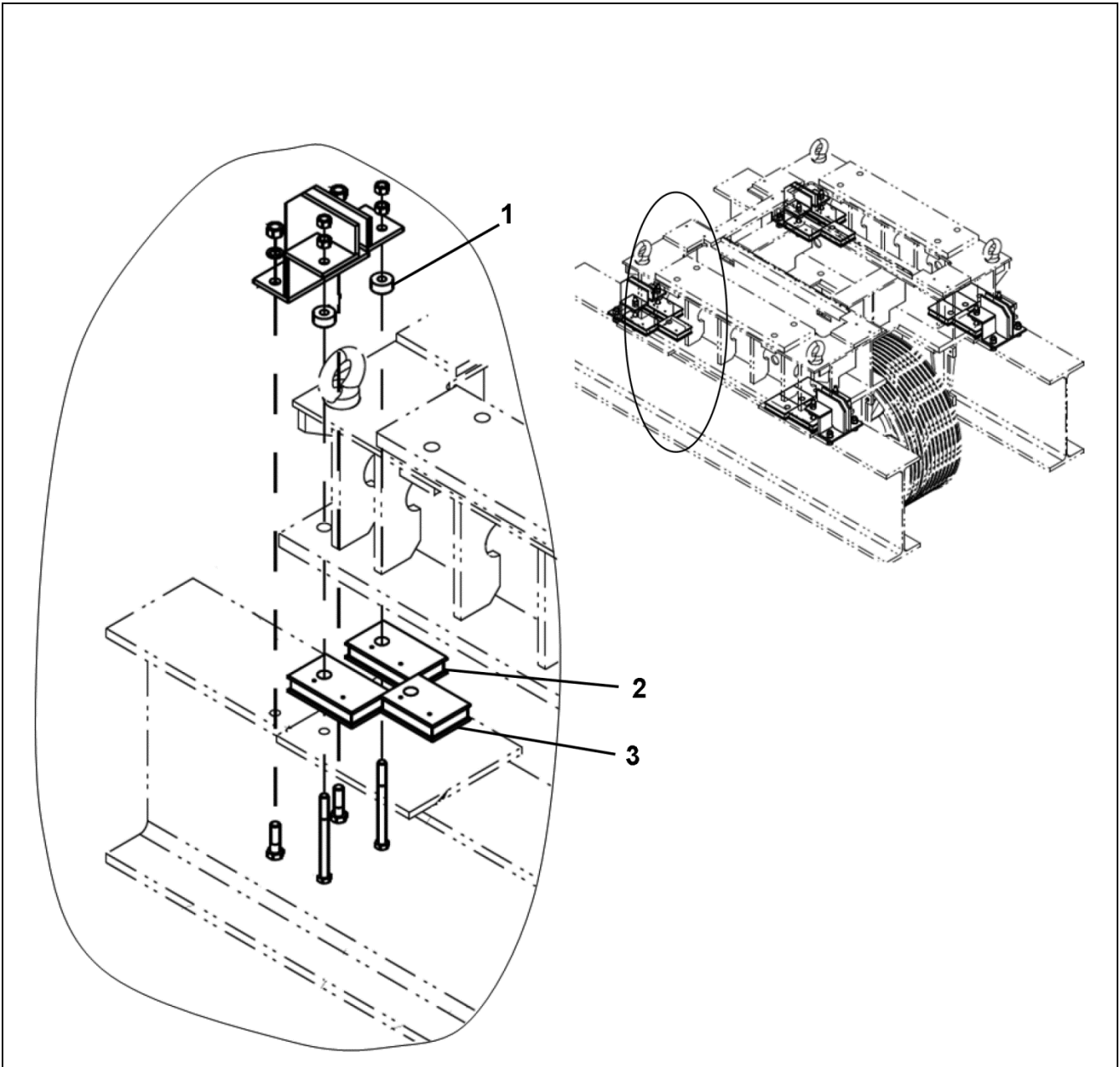
Secondary Sheave Assembly for SWT and DWT



		Secondary Sheave		
REF. No.	PART No.	DESCRIPTION	QTY.	W →
1	AAA212AD2	Bearing, Spherical	2	AAA20700V
2	AAA376JN2	Gasket	2	
3	AAA192AT1	Key	1	
4	AAA98QB1	Rod	1	
5	AAA33BG1	Seal	1	
6	AAA495FP2	Shaft	1	
7	AAA265HB1	Sheave (SWT), 12 Grooves x 22.4 mm Rope Dia.	1	
	AAA265HB2	Sheave (DWT), 14 Grooves x 22.4 mm Rope Dia.	1	
8	AAA255NW1	Shim	1	
9	DIN471N-160-440HV-B	Ø160 RETAINING RING (SHAFT)	2	
10 (NOTE 1)	AAA20700V599	SHEAVE / SHAFT / BEARING ASS'Y (SWT 22.4mm ROPE, 12 GROOVES)	1	
	AAA20700V598	SHEAVE / SHAFT / BEARING ASS'Y (DWT 22.4mm ROPE, 14 GROOVES)	1	

NOTES:

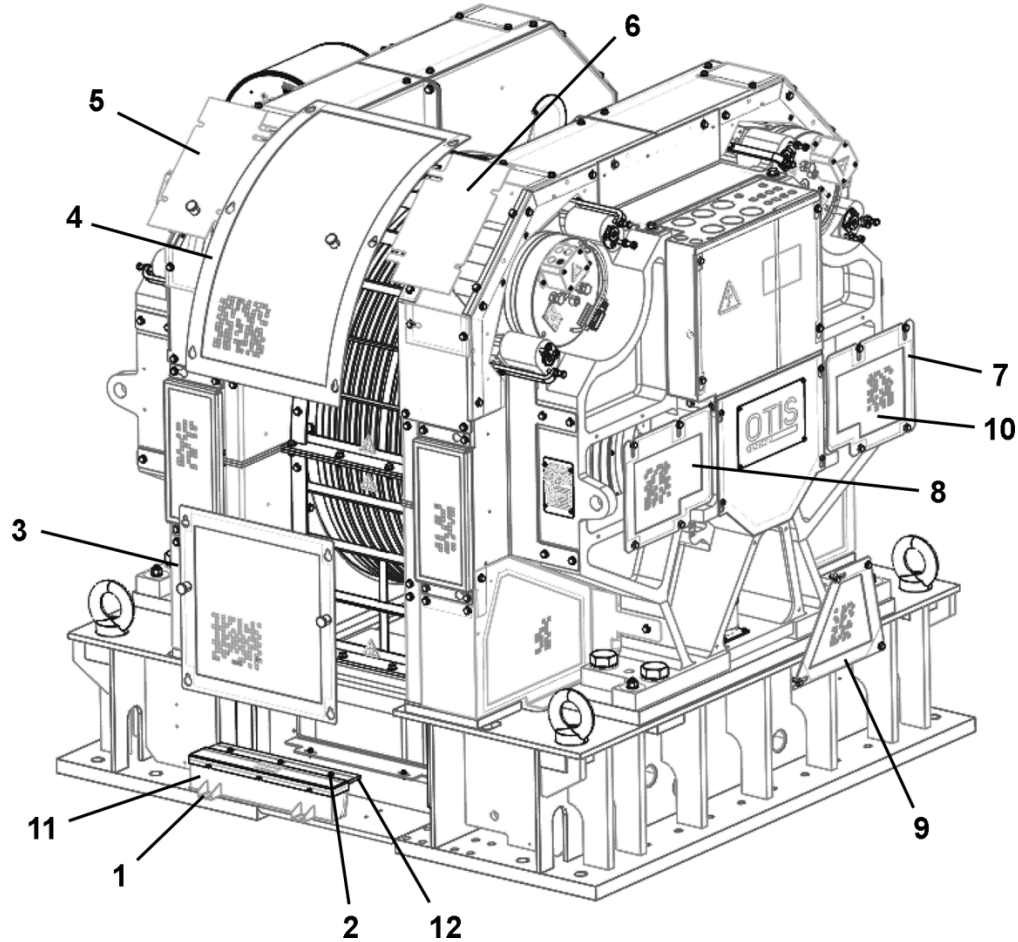
- SECONDARY / DEFLECTOR SHEAVE ASSEMBLIES PRODUCED BEFORE MARCH 2020: THE COMPLETE SHEAVE / SHAFT / BEARING ASSEMBLY MUST BE REPLACED IN CASE OF ISSUES WITH THE SHEAVE OR BEARINGS.**



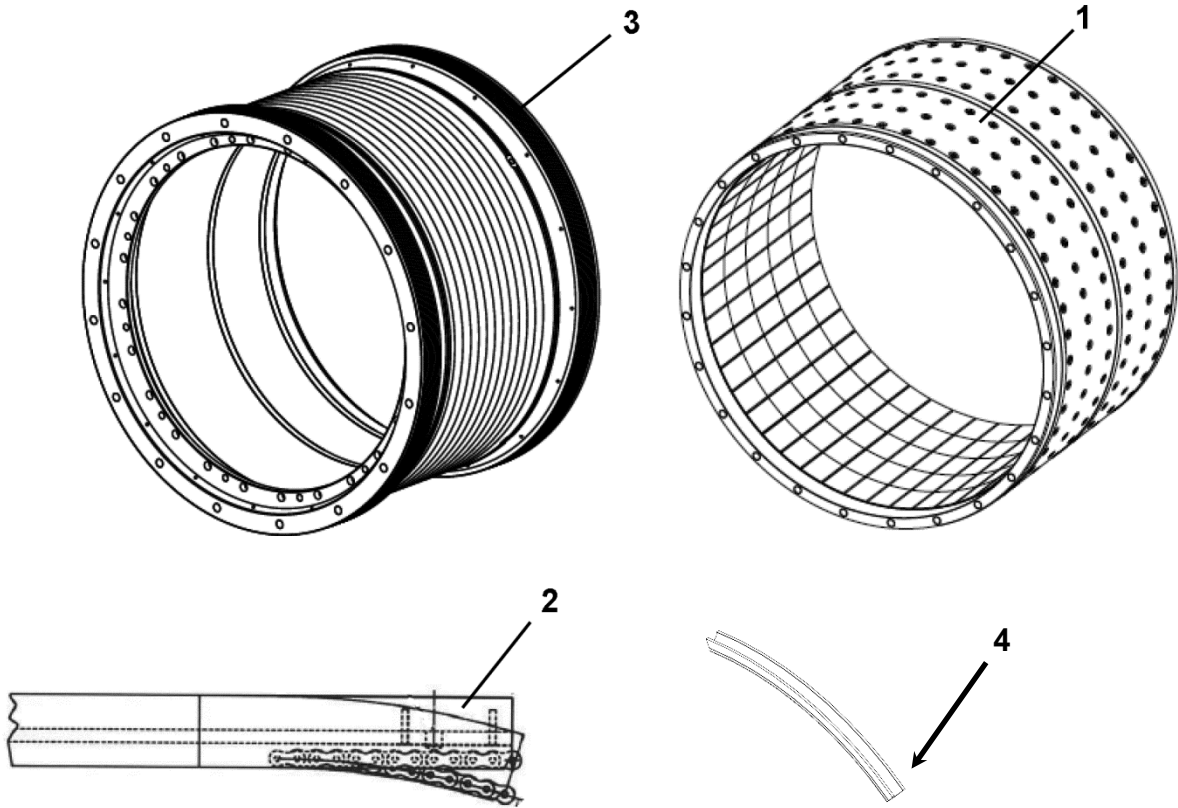
Isolation Ass'y				
REF. No.	PART No.	DESCRIPTION	QTY.	W →
1	JAA321AET1	Bushing, Isolation, Rubber	1	AAA20850C
2	JAA310BGB1	Pad, Isolation, Rubber (220 mm X 130 mm)	1	
3	JAA310BGB2	Pad, Isolation, Rubber (170 mm X 130 mm)	1	

Guarding

06-AAA20220CH



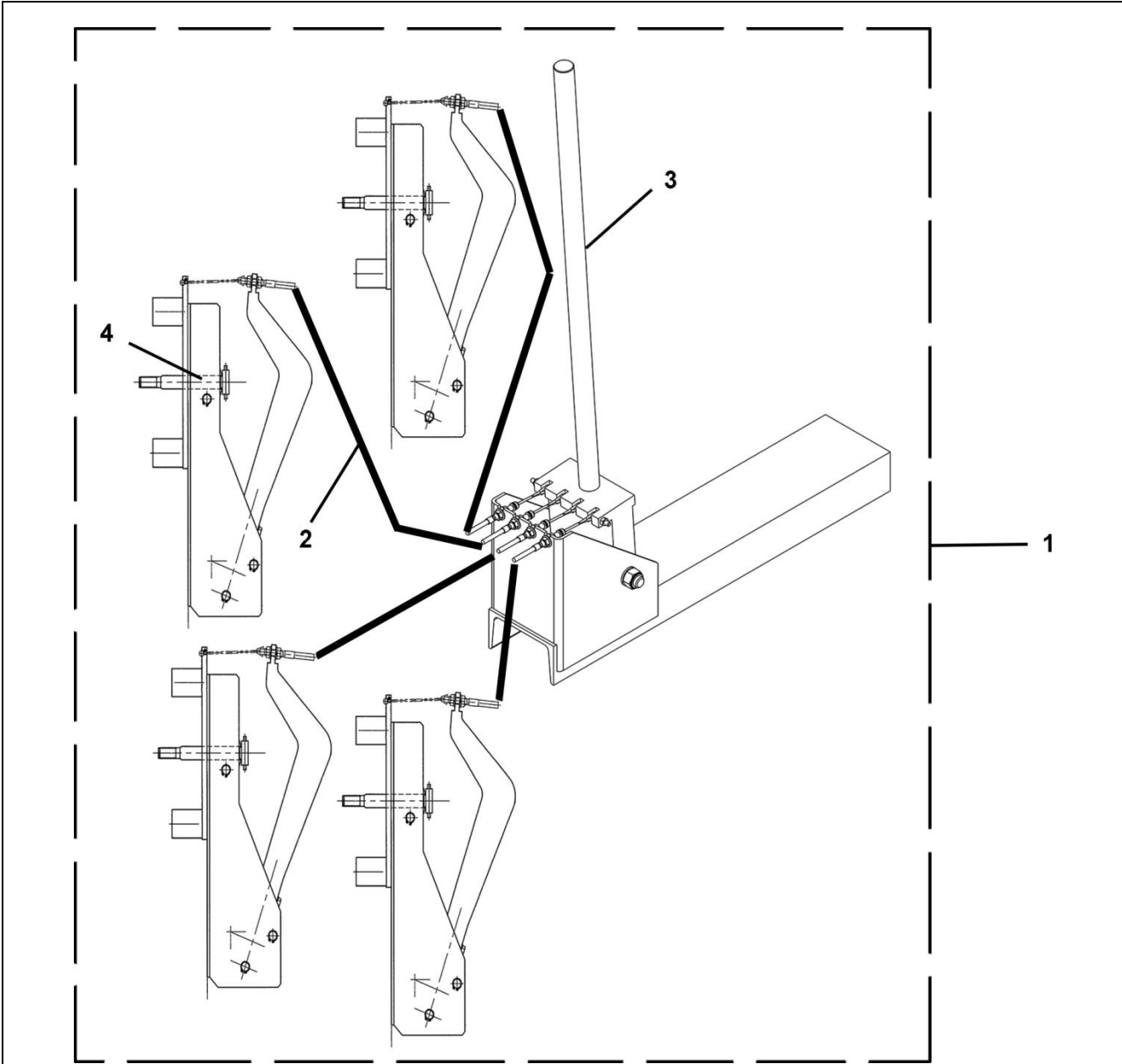
Guarding Ass'y				
REF. No.	PART No.	DESCRIPTION	QTY.	W →
1	DIN6921M6X16-8.8Z	Bolt, Hex Flange, M6 X 16	2	AAA508AS1
2	DIN6921M6X30-8.8Z	Bolt, Hex Flange, M6 X 30	3	
3	AAA346BLC1	Cover (Rope Inspection)	1	AAA20220CH_ AAA29509W
4	AAA346BLD1	Cover (Rope Inspection)	1	
5	AAA384AZS15	Cover (Brake Inspection)	2	
6	AAA384AZS21	Cover (Brake Inspection)	2	
7	AAA346BKZ3	Cover, Stand (Bearing Lubrication Access)	1	
8	AAA346BKZ1	Cover, Stand (Bearing Lubrication Access)	2	
9	AAA346BKX1	Cover, Stand (Bearing Lubrication Access)	2	
10	AAA346BKZ2	Cover, Stand (Adjacent To Encoder Connector)	1	
11	JAA508AAP6	Lubricator, Rope	1	AAA508AS1
12	JAA488AAD6	Wick, Rope Lubricator	1	



REF. No.	PART No.	DESCRIPTION	GROOVES			
			NO.	PITCH	PITCH \varnothing	
1	AAA421AX1	Assembly, Rotor, Magnet (See NOTE 2)	---	---	---	
2	AAA251EX1	Liner, Polyurethane, Chained, $\varnothing 22$ Rope (See NOTE 1)	---	---	---	
3	AAA265GE1	Sheave, 30° Undercut, SWT	22.4 mm Rope Dia.	12	35	1110
	AAA265GE2	Sheave, 45° Undercut, SWT		12	35	1110
	AAA265GE3	Sheave, 60° Undercut, SWT		12	35	1110
	AAA265GE4	Sheave, Round Seat, DWT		14	26.5	1110
	AAA261AL1	Sheave, Liner, 22 mm Rope Dia.	12	35	1115	
4	AAA251FC400	Liner (Insert), Traction Sheave, $\varnothing 22$ Rope (See NOTE 3)	---	---	---	

NOTES:

1. Liner used for special contracts only.
2. The replacement traction sheave (Item 3) must be ordered with the motor rotor (Item 1) pre-assembled in the traction sheave.
3. Standard traction sheave liner insert. AAA251FC400 includes (8) liner segments for one full groove. The quantity required for one full machine equals the number of hoist ropes. It is recommended to order 1 extra liner set (AAA251FC400) per bank of machines in case of damage during installation.



Brake Manual Release Ass'y

REF. No.	PART No.	DESCRIPTION
1	AAA29515G1	Assembly, Brake Release Tool, Complete, 2-Caliper
	AAA29515G2	Assembly, Brake Release Tool, Complete, 4-Caliper
2	AAA29515G30	Cable
3	AAA29515G20	Lever, Hand
4	AAA29515G10	Lever, Caliper