

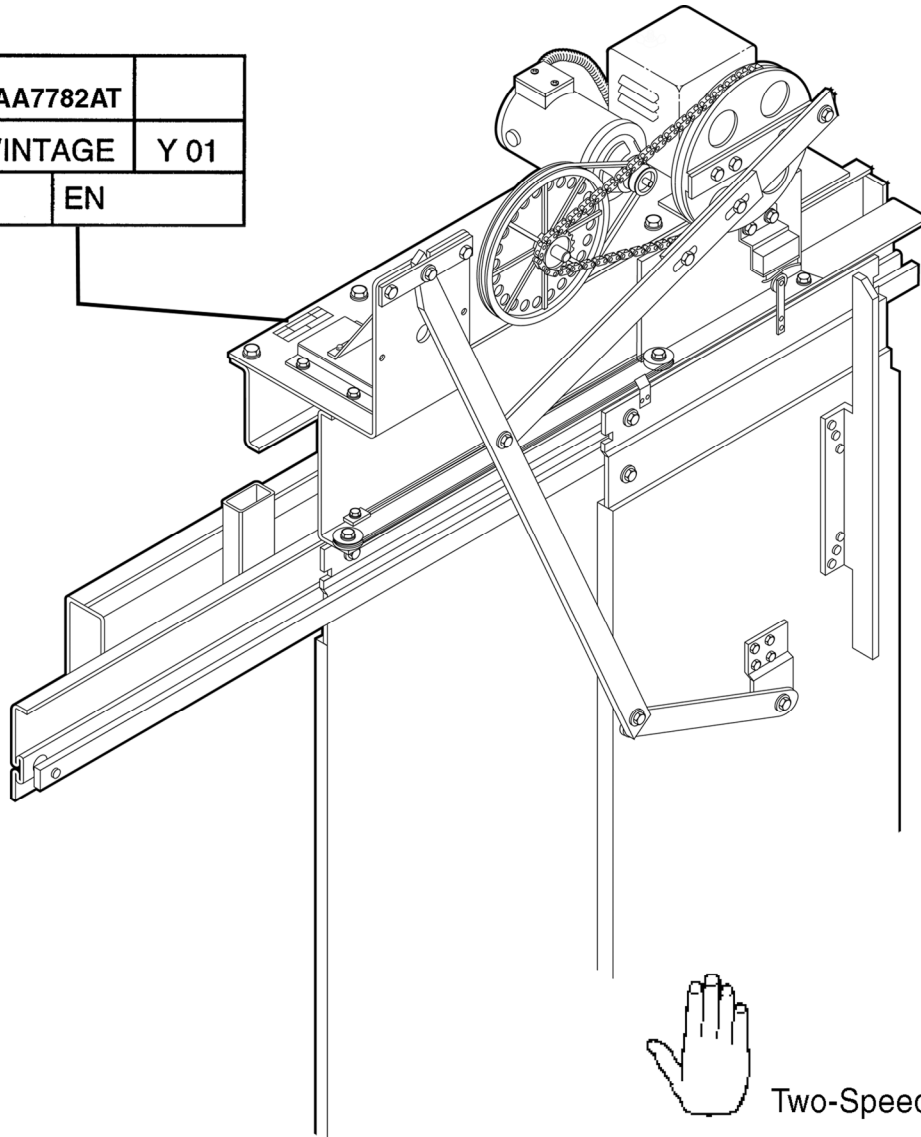
Harmonic Drive QL Operator

Spare Parts Leaflet

23-AAA7782AT

November 25, 2020 / Page 1 of 18

23	AAA7782AT	
Y	VINTAGE	Y 01
REV	EN	



OTIS

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Unpublished Work—© Otis Elevator Co.; 2020

Leaflet Description

This leaflet describes the harmonic drive QL door operator. It details the operator engine assemblies, door operator motor, cam packs, and linkages. Each door type—center-opening, single-slide, two-speed—is broken out. Service replacement parts are illustrated and listed for the track and header and the door operator assemblies.

Leaflet Revisions

Date Revised	Subject Matter Expert	Reason for Revision
July 1, 2000	Duane Stupienski	Spare parts information, new leaflet
June 22, 2007	Diem Tran	Added A7782AA500 QL Operator Rebuild Kit Information
November 2, 2011	Brian Regan	Added AAA332BM3, 477FK1 and -2, AAA617L101, AAA6940B21, and AAA6940B22; updated illustrations.
November 20, 2019	Peter Kelley	Revised history page
November 25, 2020	Peter Kelley	Added NOTES for p/n COMMBMT-100

Related Drawings

Drawing No.			
AAA7782AT	ABA7782AV	AAA7782AX	AAA7782BC
ABA7782AT	AAA7782AW	ABA7782BA	
AAA7782AV	ABA7782AW	AAA7782BB	

Related Documents

Document ID	Title
23-7782AA	Harmonic Drive QL Operator
19-6178CA	Integral Hanger Car Door Systems, Center-Opening, Single-Slide, Two-Speed
19-6178CH	Applied Hanger Car Door Systems, Center-Opening, Single-Slide, Two-Speed
TIP 22.10-9	QL Door Operator Bracket
TIP 22.10-11	Drive Chain Retrofit for QL Door Operator
TIP 22.10-12	QL Operator Motor Replacement
TIP 22.10-13	QL Rebuild Kit
SWP 22.0-A	Door Operators and Car Doors

Subject Matter Expert

Name	Department
Peter Kelley	OSC Service Engineering

About Spare Parts Leaflets...

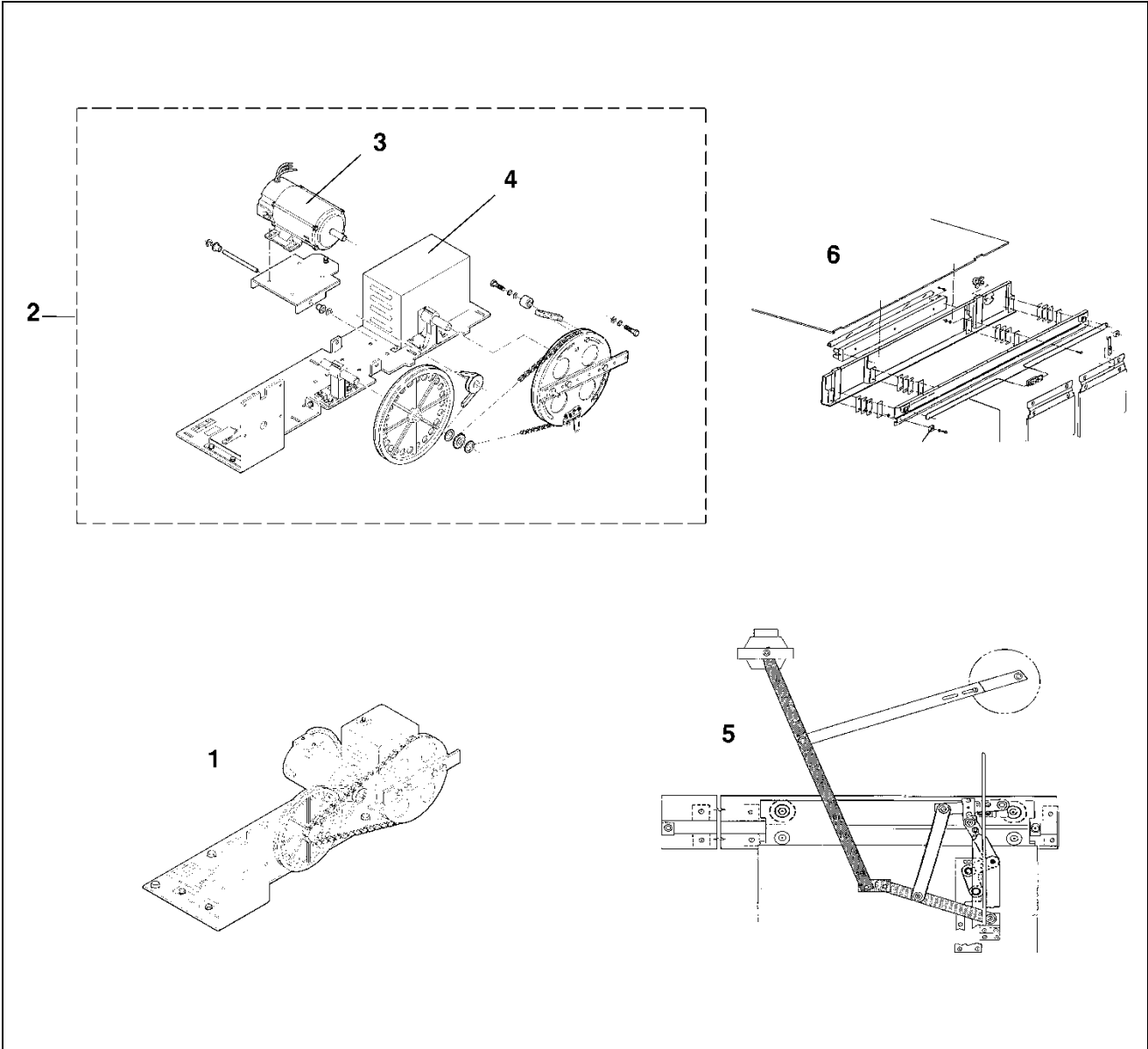
This document lists the lowest replaceable units (LRUs) for the standard version of the product. The LRUs are chosen by a team of Otis associates representing engineering and manufacturing.









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.

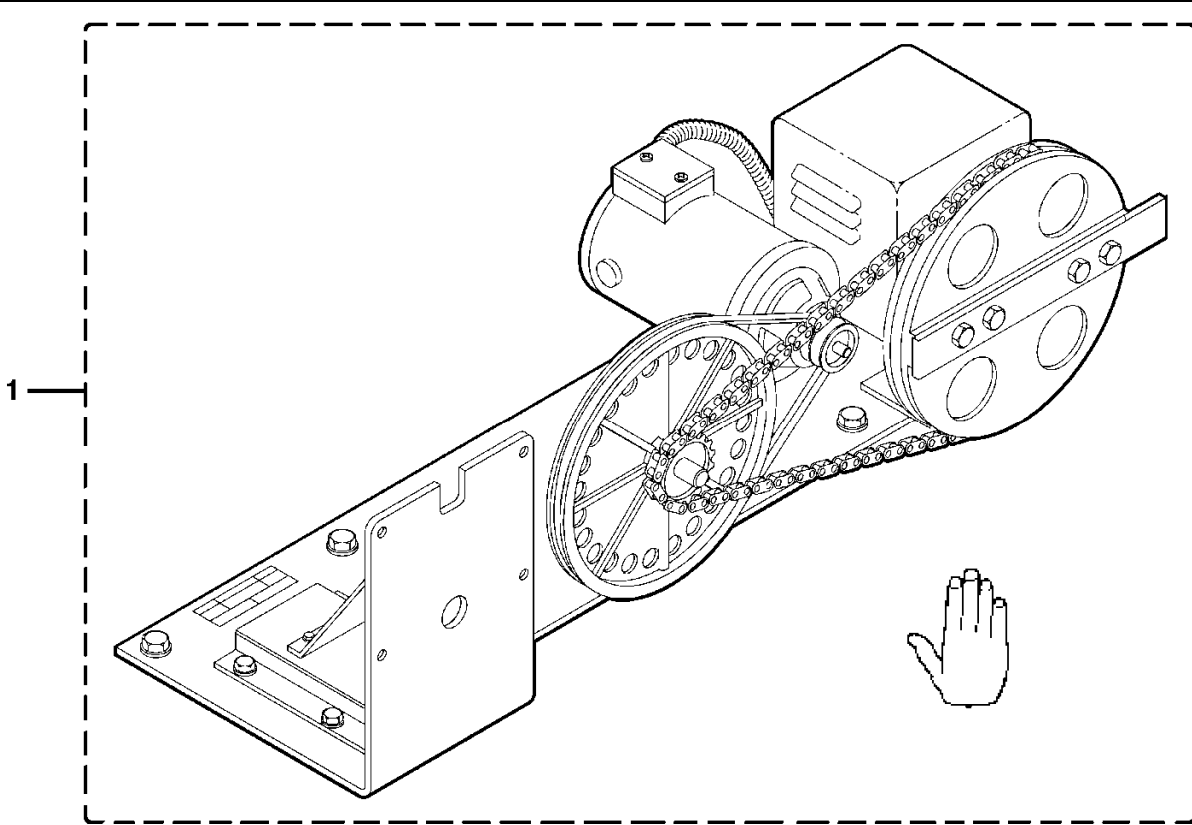
Table of Contents






23-AAA7782AT



VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	 p. 4, 5	Type ABA7782AT Operator Engine Assembly
2	 p. 6, 7	Type ABA7782AT Engine Components
3	 p. 8	Type 6333DP Door Operator Motor
4	 p. 9, 10, 11	Type AAA7782AY Cam Pack
5	 p. 12, 13	Linkage: Center-Opening Doors
	 p. 14, 15	Linkage: Single-Slide Doors
	 p. 16, 17	Linkage: Two-Speed Doors
6	 p. 18	Gate Switch and Related Components

Type ABA7782AT Operator Engine Assembly



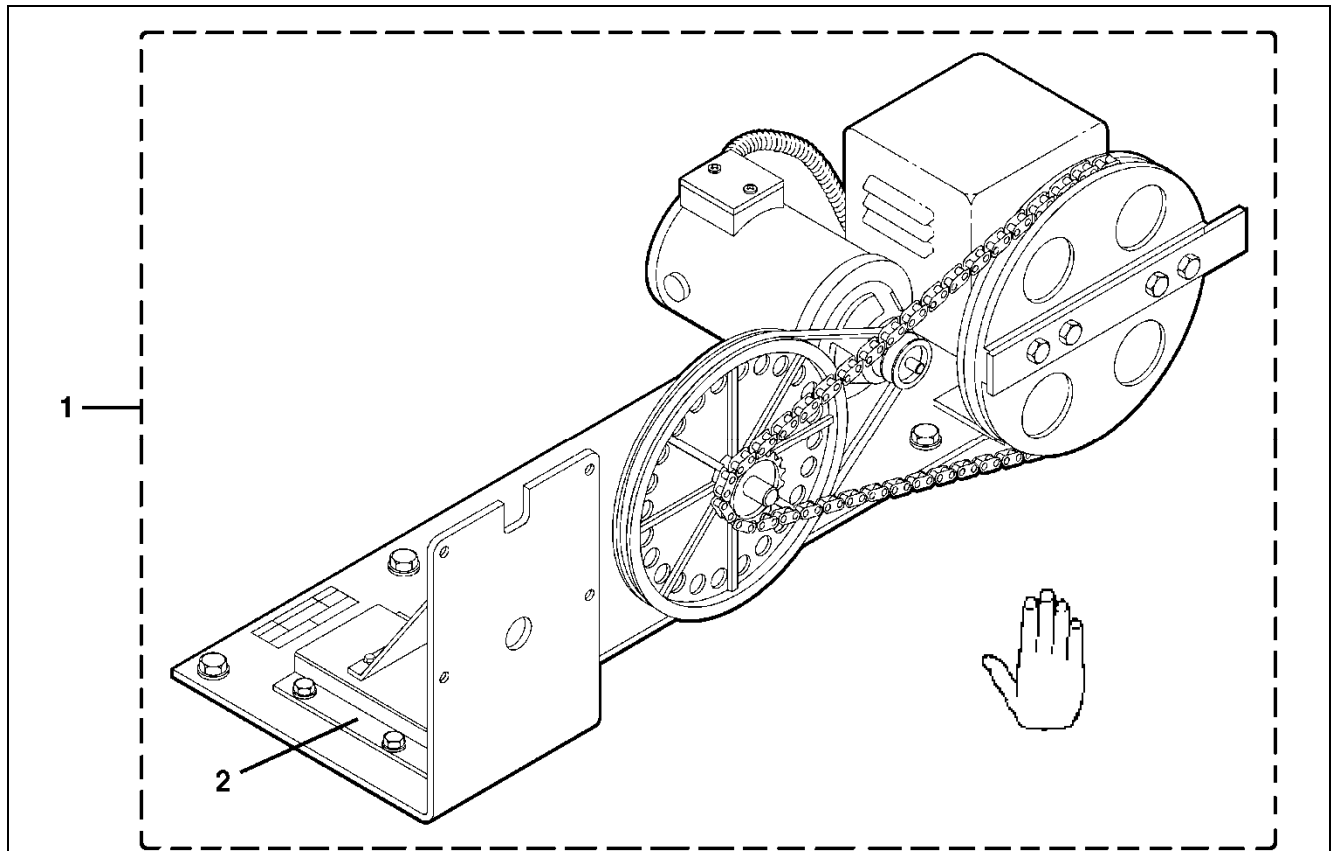
ABA7782AT		
REF. No.	PART No.	DESCRIPTION
1	ABA7782AT1	Assembly, Operator Engine, for 32 in. through 42 in. Single-Slide,  , and 36 in. through 55 in. Two-Speed Doors, w/o DCSS
	ABA7782AT2	Assembly, Operator Engine, for 32 in. through 42 in. Single-Slide,  , and 36 in. through 55 in. Two-Speed Doors, w/o DCSS
	ABA7782AT3	Assembly, Operator Engine, for 36 in. through 60 in. Center-Opening Doors, w/o DCSS
	ABA7782AT4	Assembly, Operator Engine, for 32 in. through 42 in. Single-Slide,  , and 36 in. through 55 in. Two-Speed Doors, w/ DCSS
	ABA7782AT5	Assembly, Operator Engine, for 32 in. through 42 in. Single-Slide,  , and 36 in. through 55 in. Two-Speed Doors, w/ DCSS
---	A7782AA500	QL Operator Rebuild Kit,  TIP 22.10-13





NOTE: Assemblies are not recommended. The AT 400 (see SPL 23-AAA24350BK) or i-Motion II (see SPL 23-AAA24350BH) or new door operator designs, would be used as full operator replacements.

(Continued on Next Page)

Type ABA7782AT Operator Engine Assembly

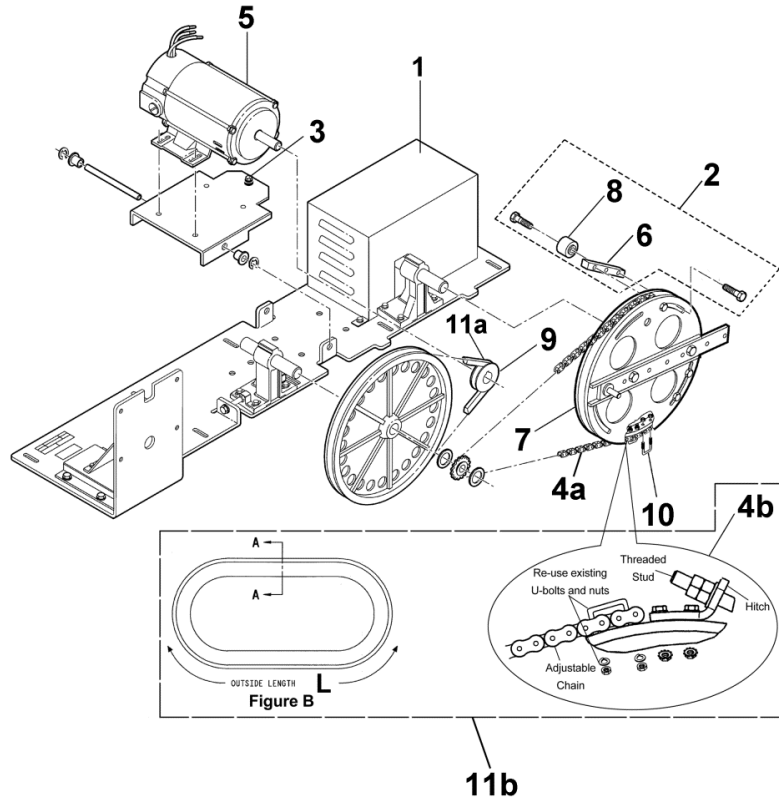
23-AAA7782AT



REF. No.	PART No.	DESCRIPTION
	ABA7782AT	
1	ABA7782AT6	Assembly, Operator Engine, for 36 in. through 60 in. Center-Opening Doors, w/ DCSS
	ABA7782AT7	Assembly, Service Version Operator Engine, for 32 in. through 42 in. Single-Slide,  , and 36 in. through 55 in. Two-Speed Doors, w/o DCSS
	ABA7782AT8	Assembly, Service Version Operator Engine, for 32 in. through 42 in. Single-Slide,  , and 36 in. through 55 in. Two-Speed Doors, w/o DCSS
	ABA7782AT9	Assembly, Service Version Operator Engine, for 36 in. through 60 in. Center-Opening Doors, w/o DCSS
2	AAA316FXR1	Bracket, Support,  TIP 22.10-9
---	A7782AA500	Kit, QL Operator Rebuild,  TIP 22.10-13

NOTE: Assemblies are not recommended. The AT 400 (see SPL 23-AAA24350BK) or i-Motion II (see SPL 23-AAA24350BH) or new door operator designs, would be used as full operator replacements.

(Continued on Next Page)



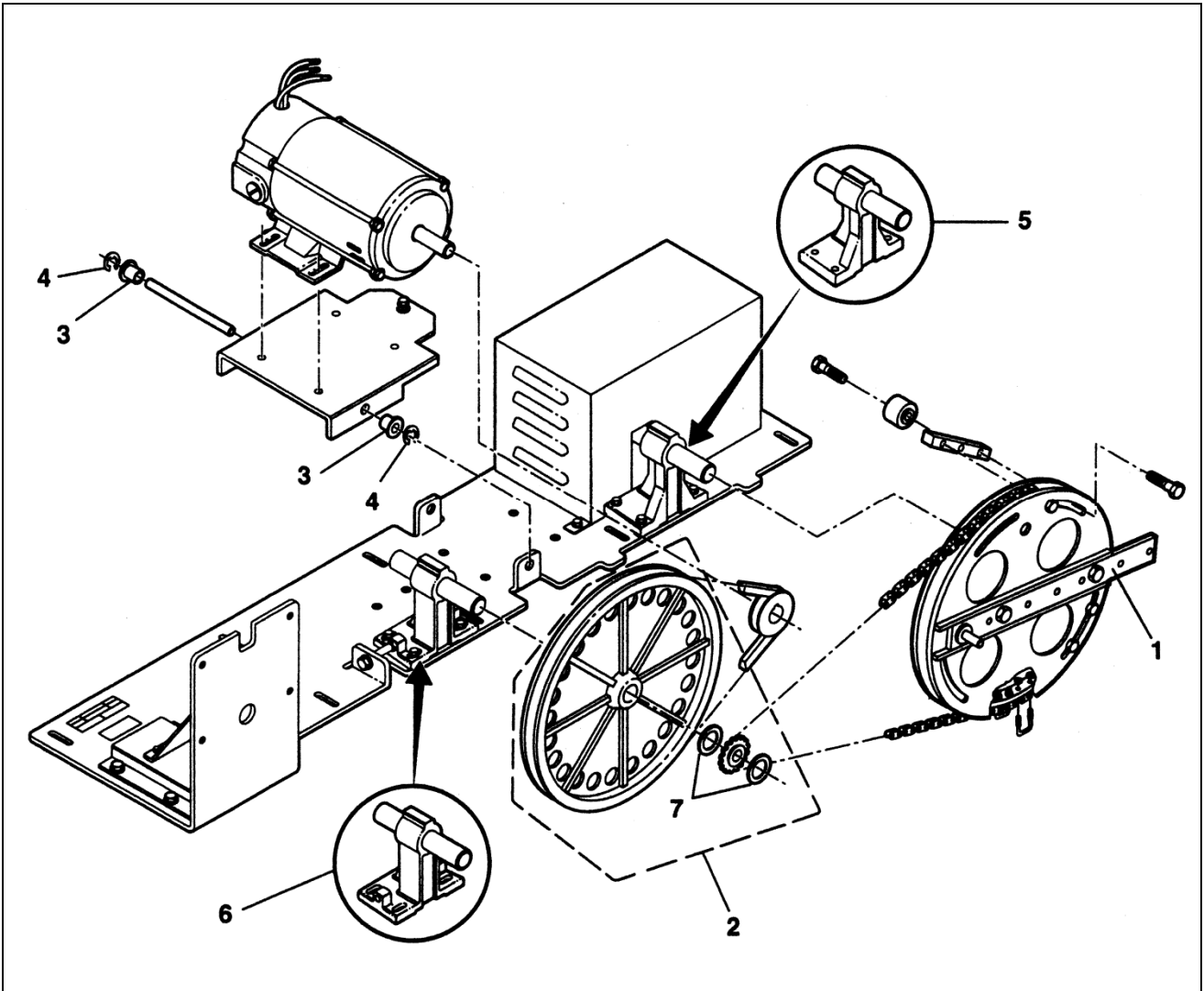
REF. No.	PART No.	DESCRIPTION
1	---	Assembly, Cam Pack, Type AAA7782AY p. 9, 10, 11
2	477FK2	Assembly, Stop Roller and Bracket
3	321FD1	Bushing, Rubber
4	a 332AW28 AAA332BM3	Chain, #35
	b AAA332BM3	Kit, Adjustable Drive Chain TIP 22.10-11
5	---	Motor, 120 VDC, 1/6 HP, 1140 RPM, p. 8
6	477FK1	Mount, Stop Roller
7	B198AJ1	Pulley, Drive
8	456EY1	Roller, Stop
9	265BX1	Sheave, V-Belt
10	65FG1	U-Bolt (Chain Hold Down)
11	a AAA717J1	V-Belt, L = 44 in., Figure B NOTE: Replace current belt marked 4L440.
	a 717B4 AAA717J2	V-Belt, L = 45 in. Figure B NOTE: Replace current belt marked 717B1 and 4L450.
	b AAA332BM500*	Kit, Adjustable Drive Chain Retrofit w/V-Belt, TIP 22.10-11

* Parts are part of QL operator retrofit kit p/n A7782AA500 (see TIP 22.10-11).

(Continued on Next Page)

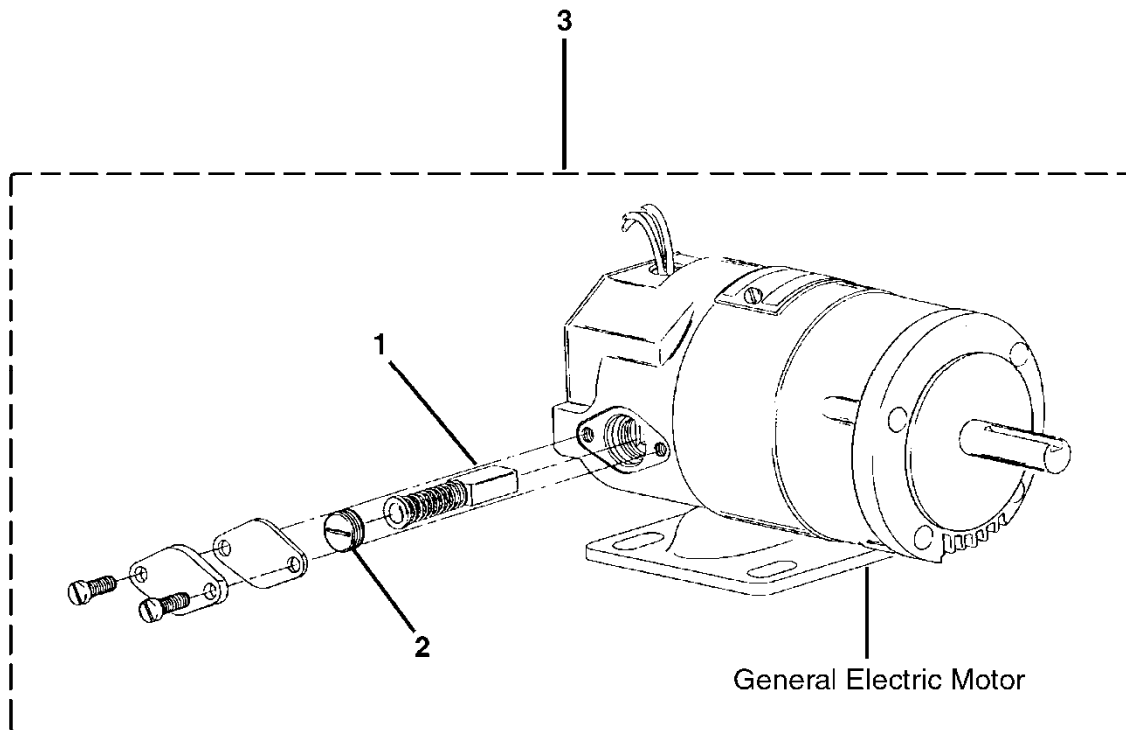
Type AAA7782AT Engine Components


23-AAA7782AT



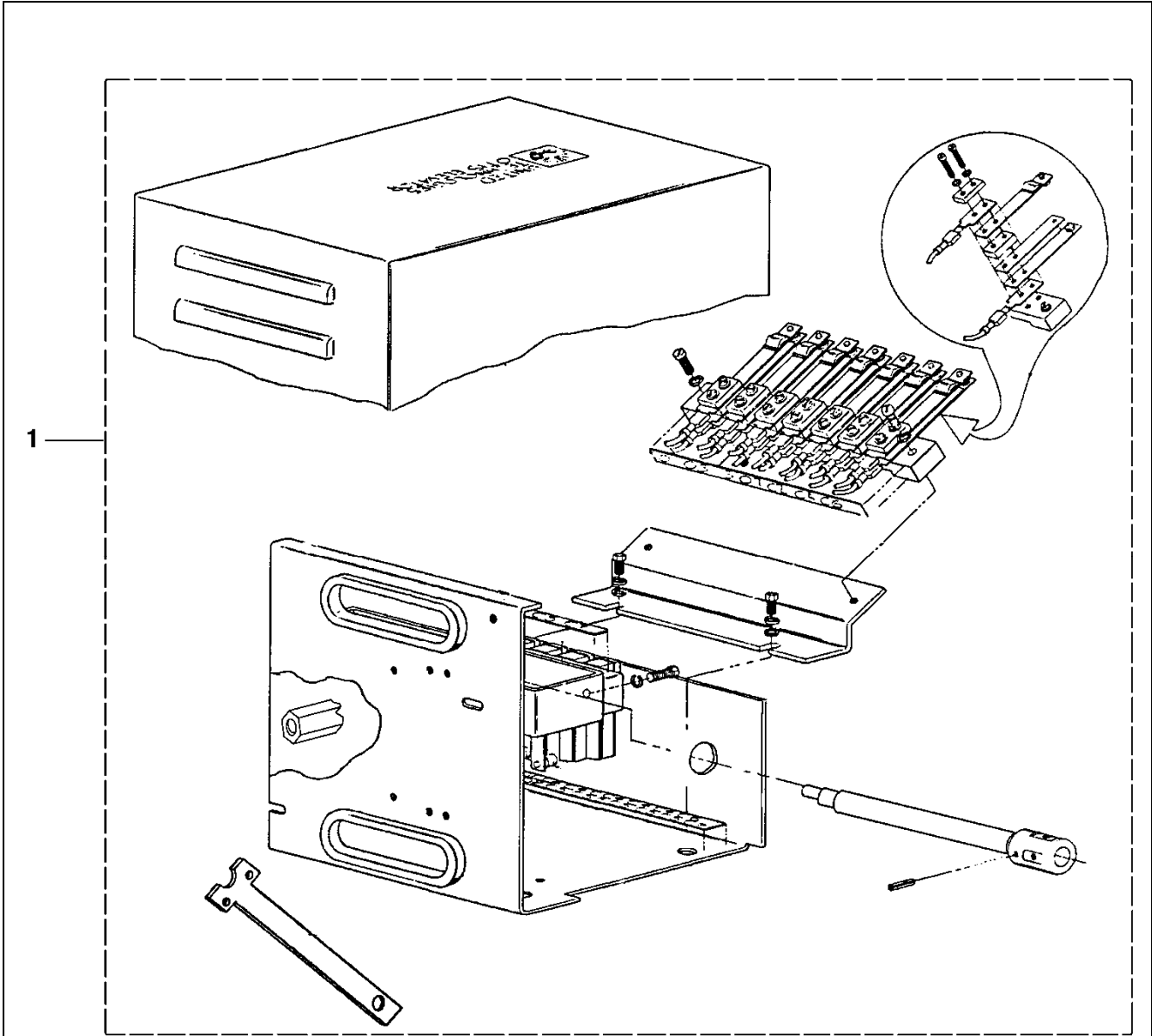
AAA7782AT ABA7782AT		
REF. No.	PART No.	DESCRIPTION
1	395E4	Arm, Lever
2	498AH1 AAA198AV1	Assembly, Intermediate Pulley, w/ Encoder Holes, w/ Sprocket and Washer
3	212AB4	Bearing, Nylon Flanged
---	A7782AA500	Kit, QL Operator Rebuild
4	172DR4	Ring, Retaining
5	471GB3*	Stand, Bearing (for Drive Pulley)
6	471FY2*	Stand, Bearing (for Intermediate Pulley)
7	131CV1*	Washer





* Parts are part of QL Operator retrofit kit p/n A7782AA500 (see TIP 22.10-11).



REF. No.	PART No.	DESCRIPTION
	AAA7782AT ABA7782AT	
1	AAA240AK1*	Brush (for Leroy-Somer® Motor)
2	6333DP-LS/HB8000900	Cap (for Leroy-Somer® Motor)
3	6333DP1 AAA6333EZ1	Motor, 120 VDC, 1/6 HP, 1140 RPM ( TIP 22.10-12 for new motor installation)

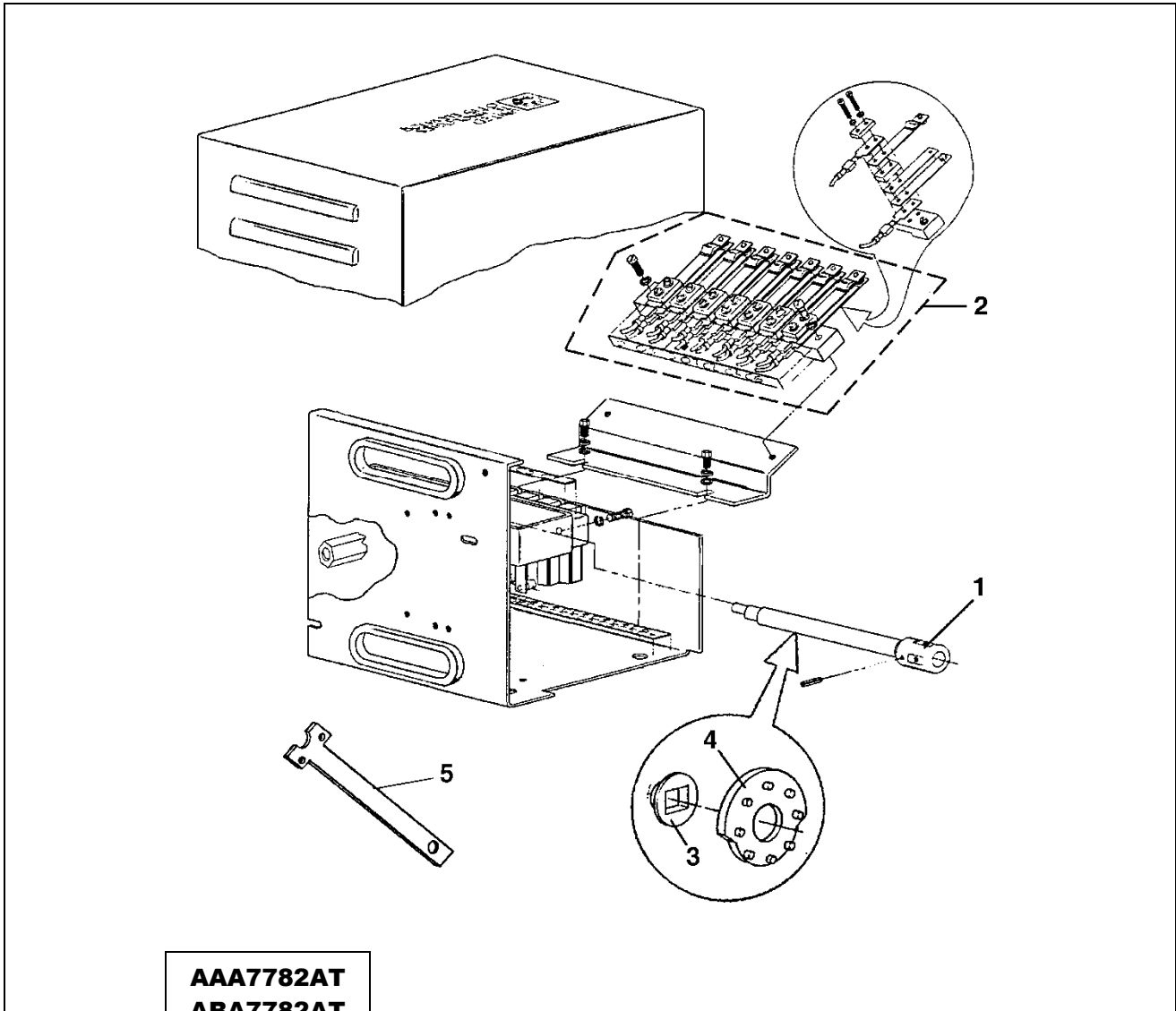
* Parts are part of QL Operator retrofit kit p/n A7782AA500 (see TIP 22.10-11).



REF. No.	PART No.	DESCRIPTION
1	AAA7782AY1	Assembly, Cam Pack, w/o Door Control Subsystem 
	AAA7782AY2	Assembly, Cam Pack, w/o Door Control Subsystem 
	AAA7782AY3	Assembly, Cam Pack, w/ Door Control Subsystem 
	AAA7782AY4	Assembly, Cam Pack, w/ Door Control Subsystem 

(Continued on Next Page)

Type AAA7782AY Cam Pack Components



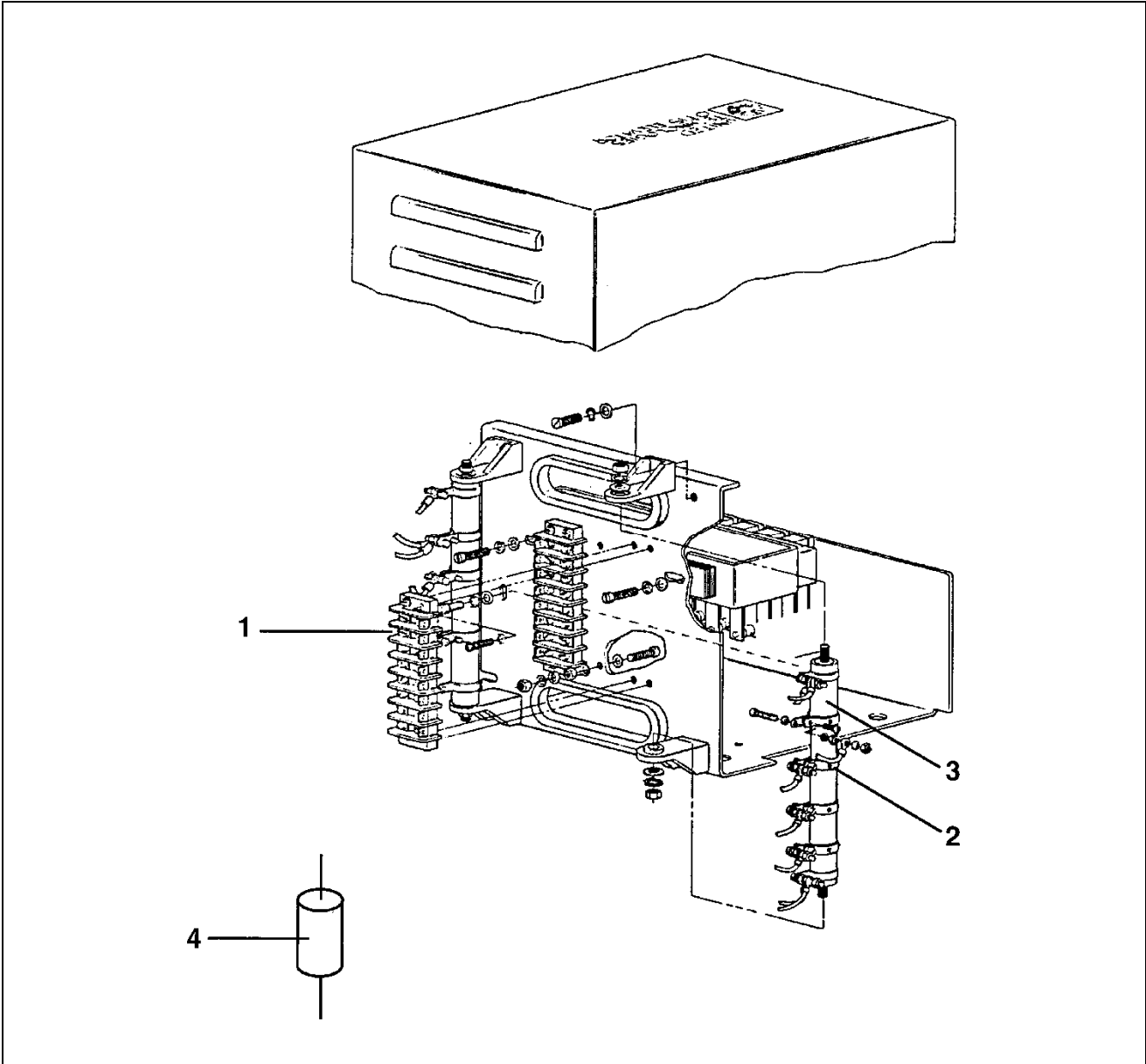
AAA7782AT ABA7782AT		
REF. No.	PART No.	DESCRIPTION
1	218B1*	Assembly, Coupling Shaft, w/o Cams
2	477DB1 177DB2*	Assembly, Stopping Switch
3	321FF1*	Bushing, End Drive
	321FF2*	Bushing, Intermediate Drive
4	327MR1*	Cam, Door Open, White (7 Needed for Full Assembly)
	327MR2*	Cam, Door Open, Black (7 Needed for Full Assembly)
5	314AD1*	Tool, Cam Adjusting

* Parts are part of QL Operator retrofit kit p/n A7782AA500 (see TIP 22.10-11).

(Continued on Next Page)

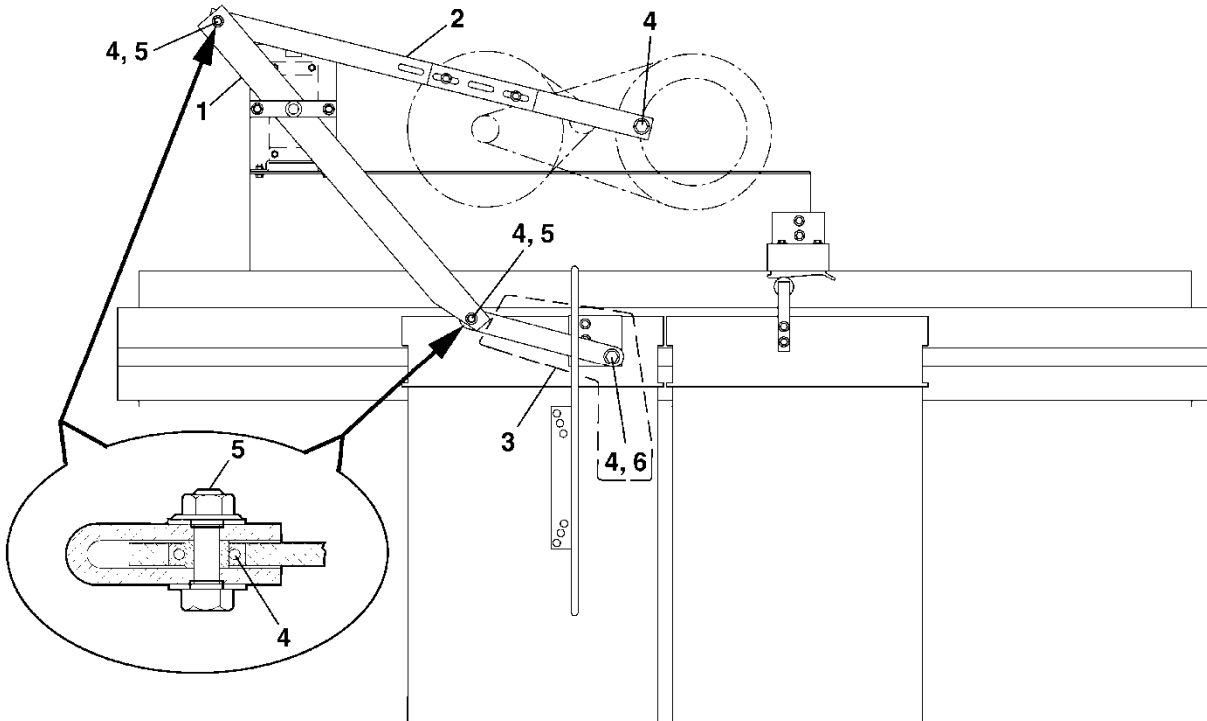
Type AAA7782AY Cam Pack Components

23-AAA7782AT



AAA7782AT ABA7782AT		
REF. No.	PART No.	DESCRIPTION
1	303G28	Board, Terminal
2	432AA4 AAA617L101	Lug, Adjustable
3	AAA617W1	Resistor, R5, W (3) Ref. 2
	AAA617W2	Resistor, R6, W (4) Ref. 2
4	AAA00605AAA015	Suppressor

**Type AAA7782AV Linkage:
Center-Opening Doors**



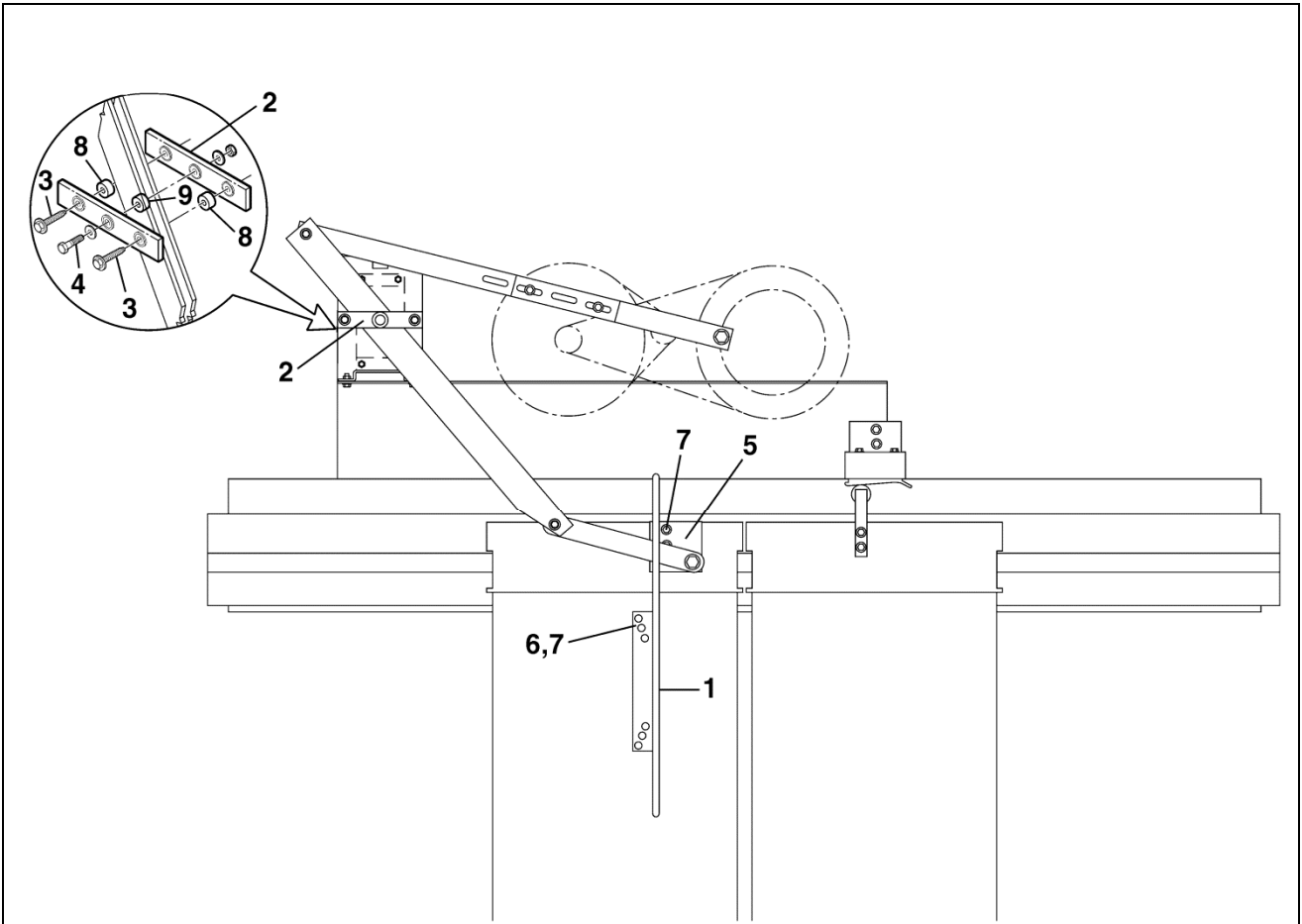
W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	288TJ9	Arm, Drive, 36 in. through 60 in. Center-Opening
2	395F2	Arm, Transmission
3	AAA430ES1	Assembly, Link (1.5 in. offset to door)
	AAA430ES3	Assembly, Link (service version operator; 1 in. offset to door)
4*	209AN3	Bearing, Roller (mounted in Ref. 2)
5	58AP4	Bolt, Shoulder
6	58AP3	Bolt, Shoulder (1 in. long for Ref. 3)

* Bearing removal tool p/n COMMBMT-100

(Continued on Next Page)

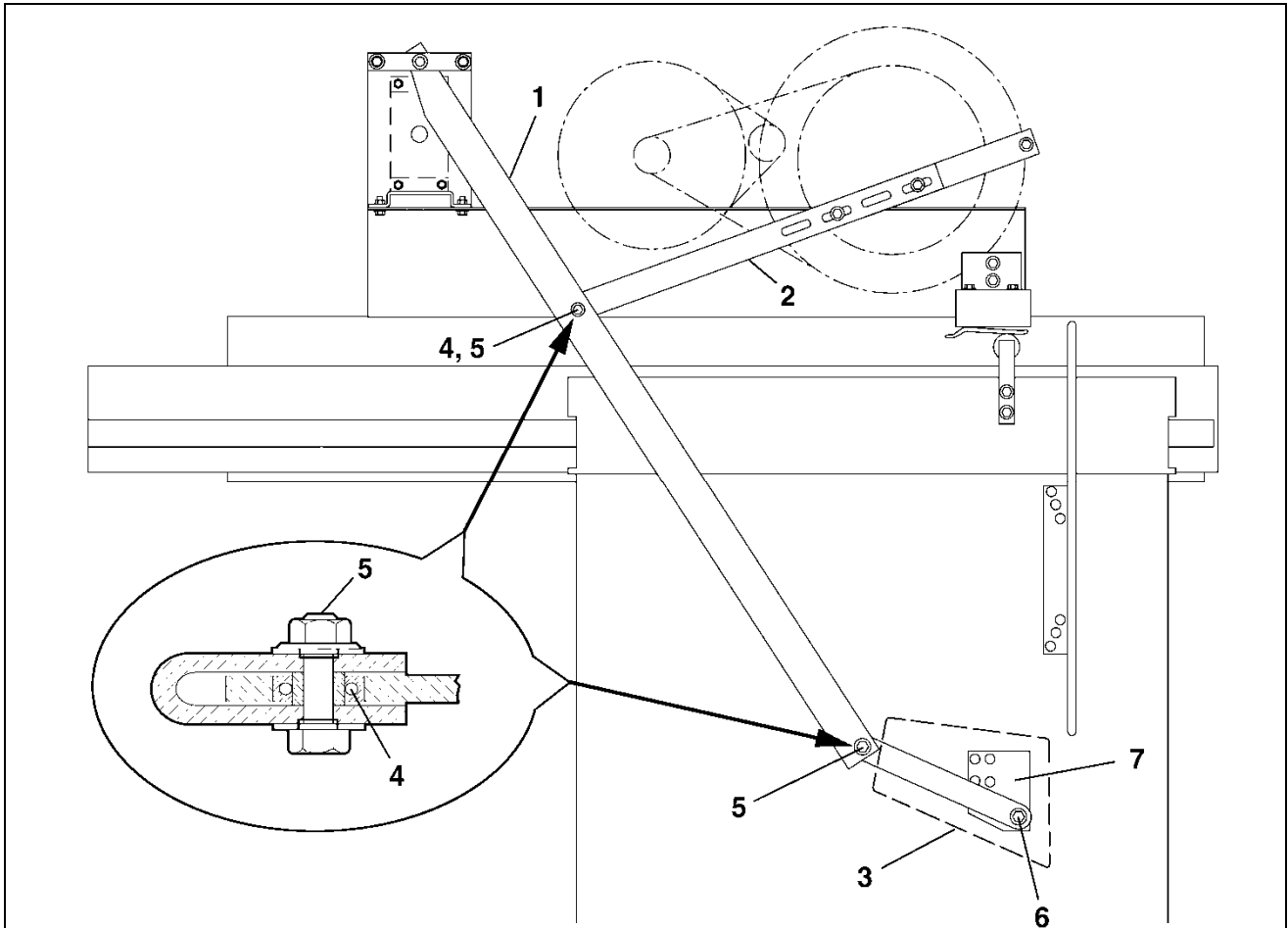
Type AAA7782AV Linkage: Center-Opening Doors





23-AAA7782AT



W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	A6940AT3 AAA6940BZ1	Assembly, Stationary Vane w/Field Mounting Sundries
2	299AKG4	Bar, Drive Arm Mounting
3	---	Bolt, Hex Whiz, 5/16-18 x 1 1/2 in.
4	---	Bolt, Hex Whiz, 3/8-16 x 2 w/1 in. Shoulder
5	316DKC5	Bracket w/o Link (for 1 in. offset door) (service version only)
	AAA513Z2	Bracket w/o Link (for 1.5 in. offset door) (new equipment version)
6	AAA141AV1	Rivet (for pinning)
7	109P2	Screw, Thread-Rolling 1/4 x 5/8 in.
8	462HA113	Spacer, Steel
9	462HA129	Spacer, Aluminum

**Type AAA7782AW Linkage:
Single-Slide Doors**



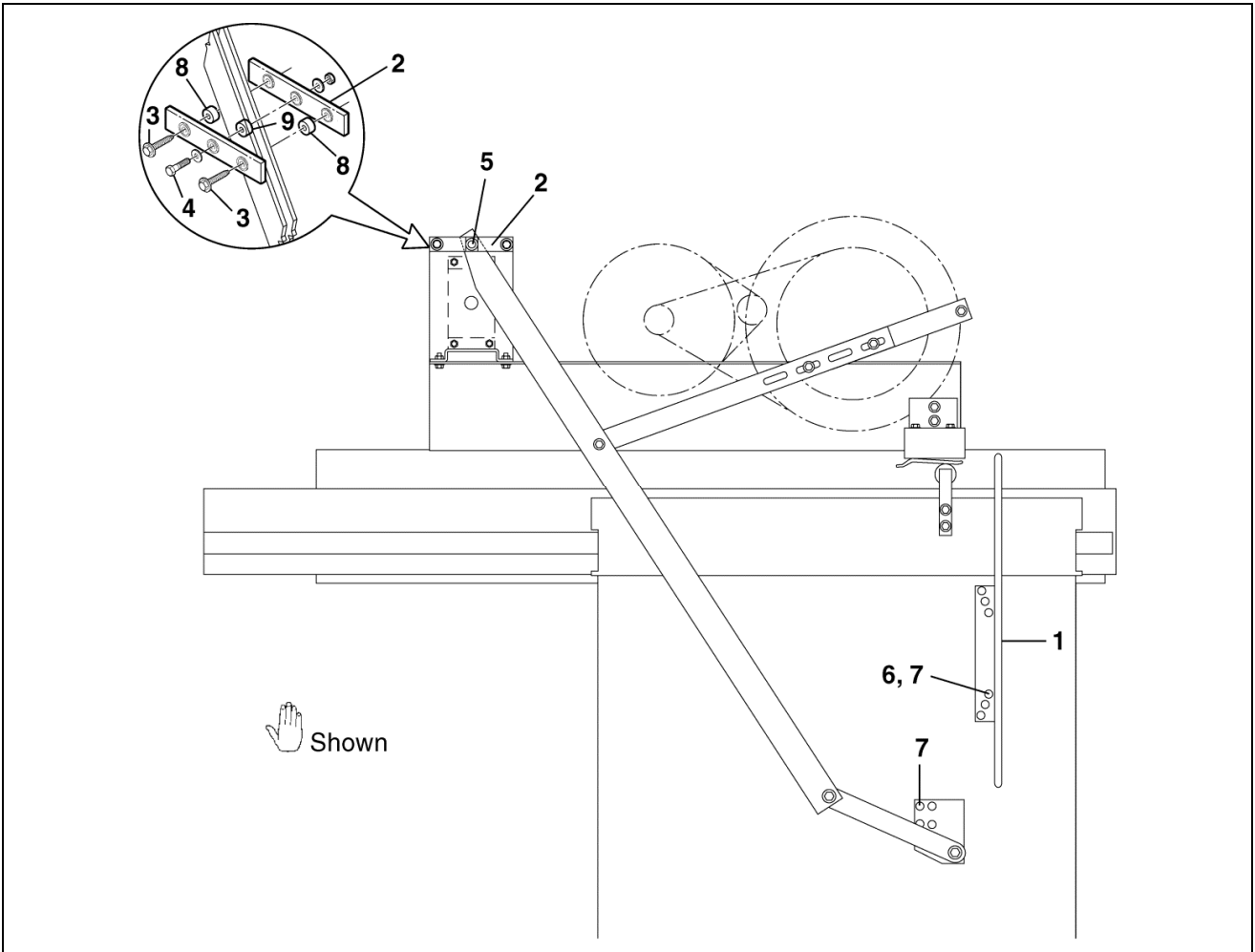
W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	288TJ10	Arm, Drive, 32 in. through 42 in. Single-Slide
2	395F2	Arm, Transmission
3	AAA430ES2	Assembly, Link 
	AAA430ES3	Assembly, Link 
4*	209AN3	Bearing, Roller
5	58AP4	Bolt, Shoulder
6	58AP3	Bolt, Shoulder
7	316DKC4	Bracket for  Ref. 3
	316DKC5	Bracket for  Ref. 3

* Bearing removal tool p/n COMMBMT-100

(Continued on Next Page)

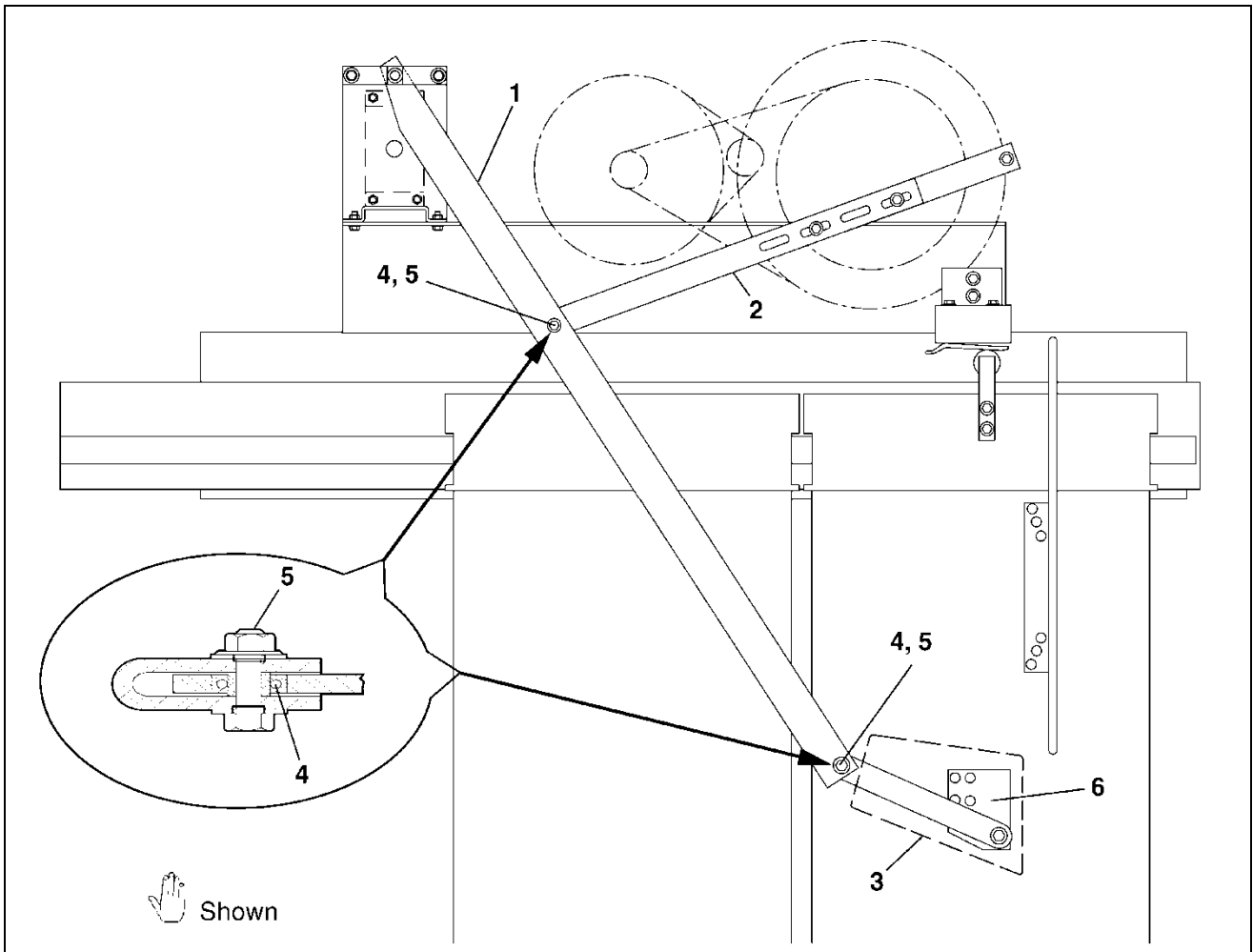
Type AAA7782AW Linkage: Single-Slide Doors

23-AAA7782AT



W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	A6940AT3 AAA6940BZ1	Assembly, Stationary Vane w/Field Mounting Sundries
	A6940AT4 AAA6940BZ2	Assembly, Stationary Vane w/Field Mounting Sundries
2	299AKG4	Bar, Drive Arm Mounting
3	---	Bolt, Hex Whiz, 5/16-18 x 1 1/2 in.
4	---	Bolt, Hex Whiz, 3/8-16 x 2 w/1 in. Shoulder
5	58AP3	Bolt, Shoulder, 1 in. L
6	AAA141AV1	Rivet (for pinning)
7	109P2	Screw, Thread-Rolling 1/4 x 5/8 in.
8	462HA113	Spacer, Steel
9	462HA129	Spacer, Aluminum

**Type AAA7782AX Linkage:
Two-Speed Doors**



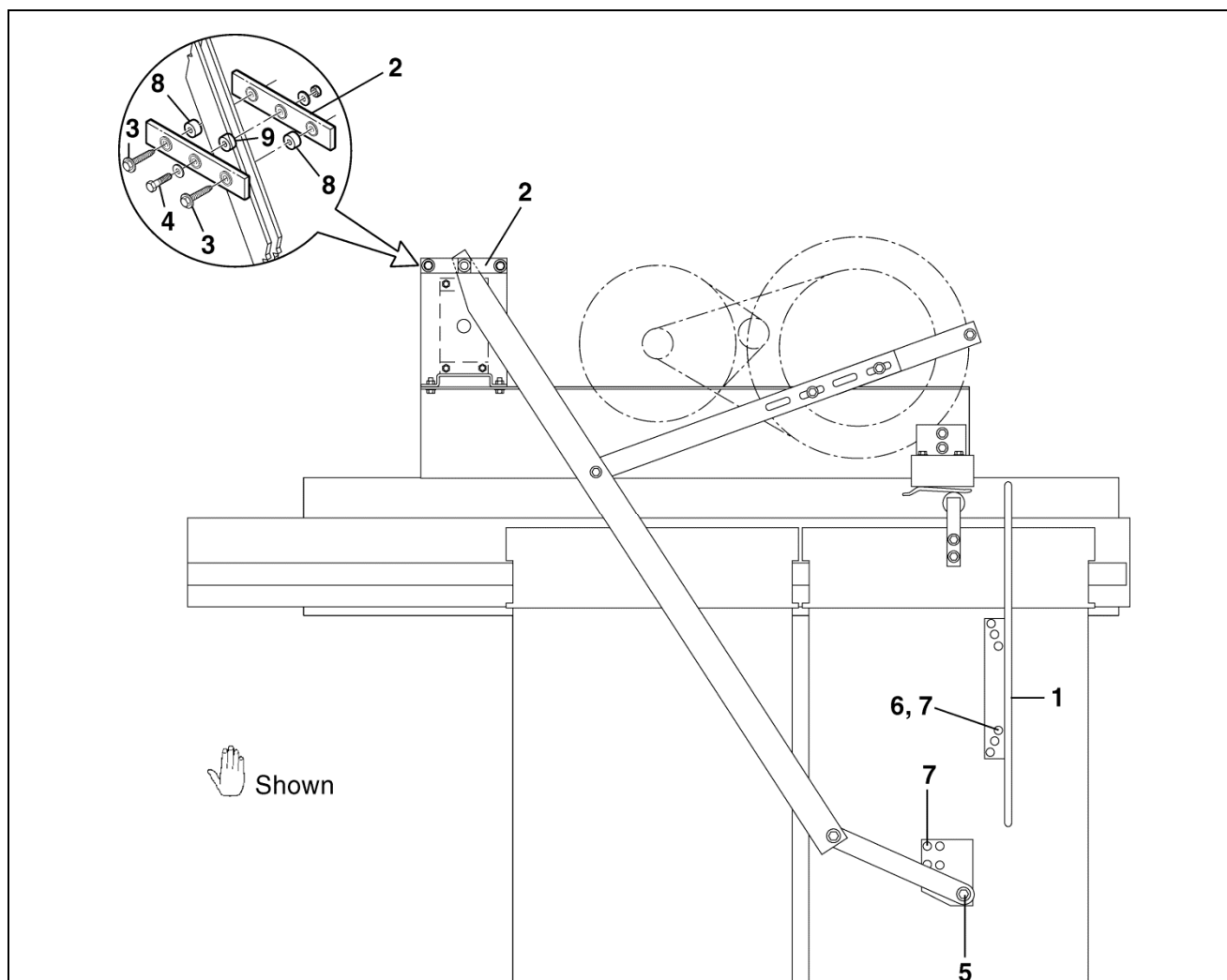
W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	288TJ10	Arm, Drive, 36 in. through 55 in. Two-Speed
2	395F2	Arm, Transmission
3	AAA430ES2	Assembly, Link
	AAA430ES3	Assembly, Link
4*	209AN3	Bearing, Roller
5	58AP4	Bolt, Shoulder
6	316DKC4	Bracket for Ref. 3
	316DKC5	Bracket for Ref. 3



* Bearing removal tool p/n COMMBMT-100

(Continued on Next Page)

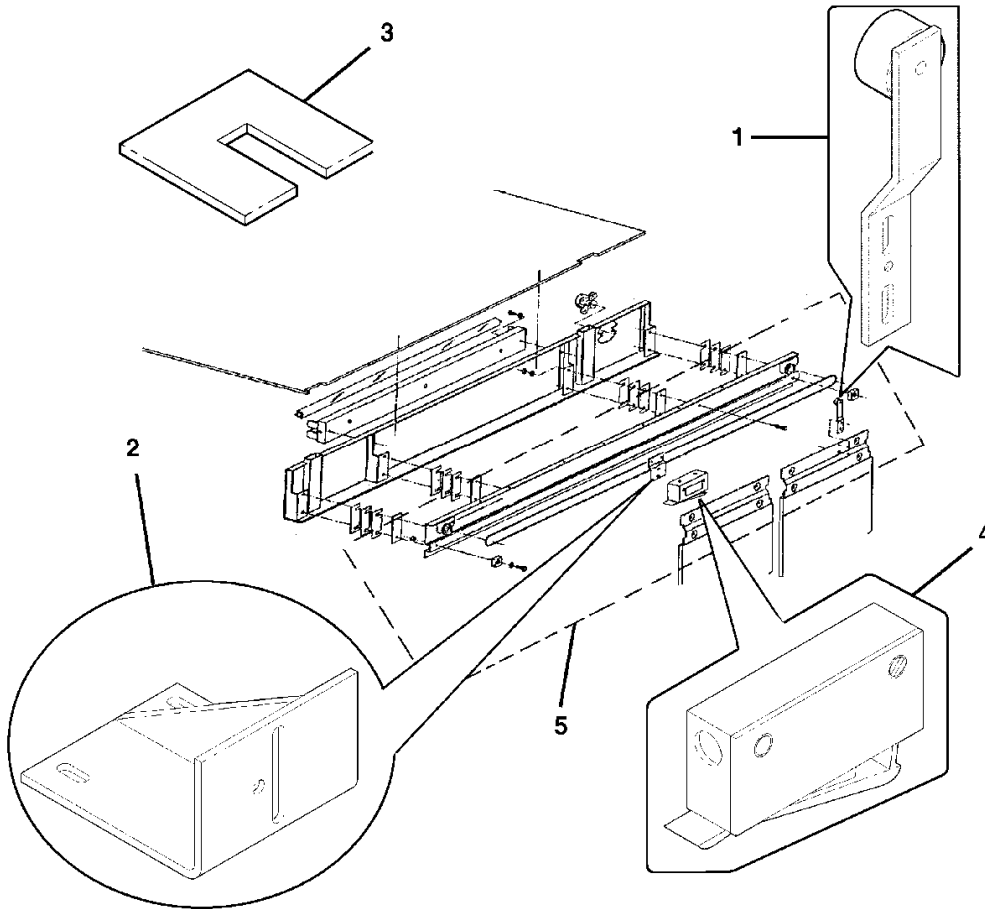
Type AAA7782AX Linkage: Two-Speed Doors



23-AAA7782AT



W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	A6940AT3 AAA6940BZ1	Assembly, Stationary Vane  w/Field Mounting Sundries
	A6940AT4 AAA6940BZ2	Assembly, Stationary Vane  w/Field Mounting Sundries
2	299AKG4	Bar, Drive Arm Mounting
3	---	Bolt, Hex Whiz, 5/16-18 x 1 1/2 in.
4	---	Bolt, Hex Whiz, 3/8-16 x 2 w/1 in. Shoulder
5	58AP3	Bolt, Shoulder, 1 in. L
6	AAA141AV1	Rivet (for pinning)
7	109P2	Screw, Thread-Rolling 1/4 x 5/8 in.
8	462HA113	Spacer, Steel
9	462HA129	Spacer, Aluminum

Gate Switch and Related Components



W/O VINTAGE				
REF. NO.	PART or ML	DESCRIPTION	LENGTH (in.)	DOOR TYPE
1	288RH8	Arm, Roller w/o Offset	6.12	Center-Opening Single-Slide
	288RH12	Arm, Roller w/0.38 Offset	6.40	Two-Speed
	288RH22	Arm, Roller w/0.25 Offset		
2	283BBN2	Bracket, Gate Switch		---
3	255AB115	Shim, 0.015 in. Thickness		---
	255AB132	Shim, 0.12 in. Thickness		---
	255AB133	Shim, 0.06 in. Thickness		---
4	6098MV2	Switch, Gate  SPL 05-6098		Center-Opening Single-Slide Two-Speed
5	---	System, Door Track and Hanger,  SPLs 19-6178CA & 19-6178CH		