

Harmonic Drive QL Operator

Spare Parts Leaflet

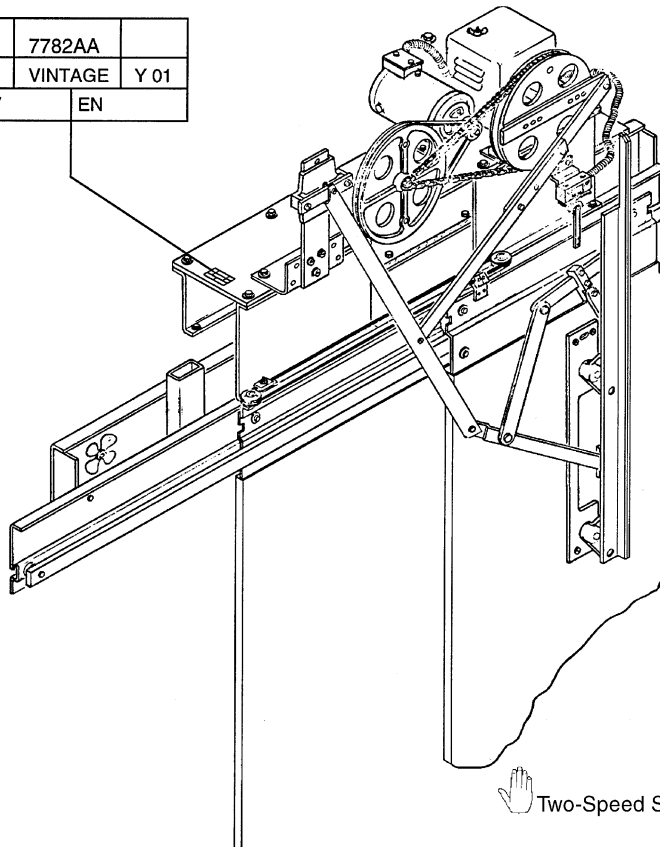
23-7782AA

September 7, 2022 / Page 1 of 25

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.

23	7782AA	
Y	VINTAGE	Y 01
REV	EN	



Two-Speed Shown

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

NOTE: No component tags were ever present on upper level QL drawings 7782AB-AD, AH-AL. A major design change took place May 1990. The 7782AA went to A7782AA, but the component tag was not changed in all cases to reflect this version change. Spare parts remained essentially the same, except for the cam pack and the drive pulley lever arms 395E.

Leaflet Revisions

Date Revised	Subject Matter Expert	Reason for Revision
September 1987	---	New leaflet
May 1991	---	Update parts
September 1997	Michael Tracey	Update parts, add history page.
June 1, 2000	Duane Stupienski	Update parts and artwork.
June 25, 2007	Diem Tran	Added QL rebuild kit A7782AA500.
September 16, 2008	Brian Regan	Corrected p/n error on p. 6; was p/n AAA232BM3, now is p/n AAA332BM3
November 20, 2019	Peter Kelley	Revised history page
November 25, 2020	Peter Kelley	Added NOTES for p/n COMMBMT-100
September 7, 2022	Juan Murillo	Added OBSOLESCENCE notice.

Related Drawings

Drawing No.	Title	Drawing No.	Title
7782AA	Door Operator Engine, Harmonic Drive, S/S, 2/Speed & C/O	7782AJ	Arrangement, QL Operator with Fixed and Movable Vane and Car Door Switch, S/S Door, 32", 36" & 42" Openings
7782AB	Door Operator & Linkage Assembly, Otis Harmonic Drive, 42 C/O	7782AL	Door Operator & Linkage Assembly, Otis Harmonic Drive, 48", 2/Speed
7782AC	Door Operator & Linkage Assembly, Otis Harmonic Drive, 36 & 42 S/S	A7782AA	Door Operator Engine, Harmonic Drive, S/S, 2/Speed & C/O
7782AD	Door Operator & Linkage Assembly, Otis Harmonic Drive, 42 & 48 2/Speed	A7782AE	Cam Pack Assembly, Otis Harmonic Drive, Door Operator
7782AE	Cam Pack Assembly, Otis Harmonic Drive, Door Operator	AAA7782AY	Cam Pack Assembly, Otis Harmonic Drive, Door Operator
7782AH	Arrangement, 36, 42 & 48 C/O, for QL Operator with Fixed and Movable Vane	---	---

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History (continued)

23-7782AA

Related Documents

Document ID	Title
SPL 05-6098	Type 6098 Mechanical Switches
SPL 23-AAA7782AT	Harmonic Drive QL Operator
SPL 19-6178CA	Integral Hanger Car Door Systems: Center-Opening, Single-Slide, Two-Speed
SPL 19-6178CH	Applied Hanger Car Door Systems: Single-Slide, Center-Opening, Two-Speed
SPL 10-7782P	Door Operator, Retrofit Controller
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
FEA 22.10-1H	7782AA Quiet Line (QL) Door Operator
OMM 22.12	QL Operator
SWP 22.0-A	Door Operators & Car Doors

Subject Matter Expert

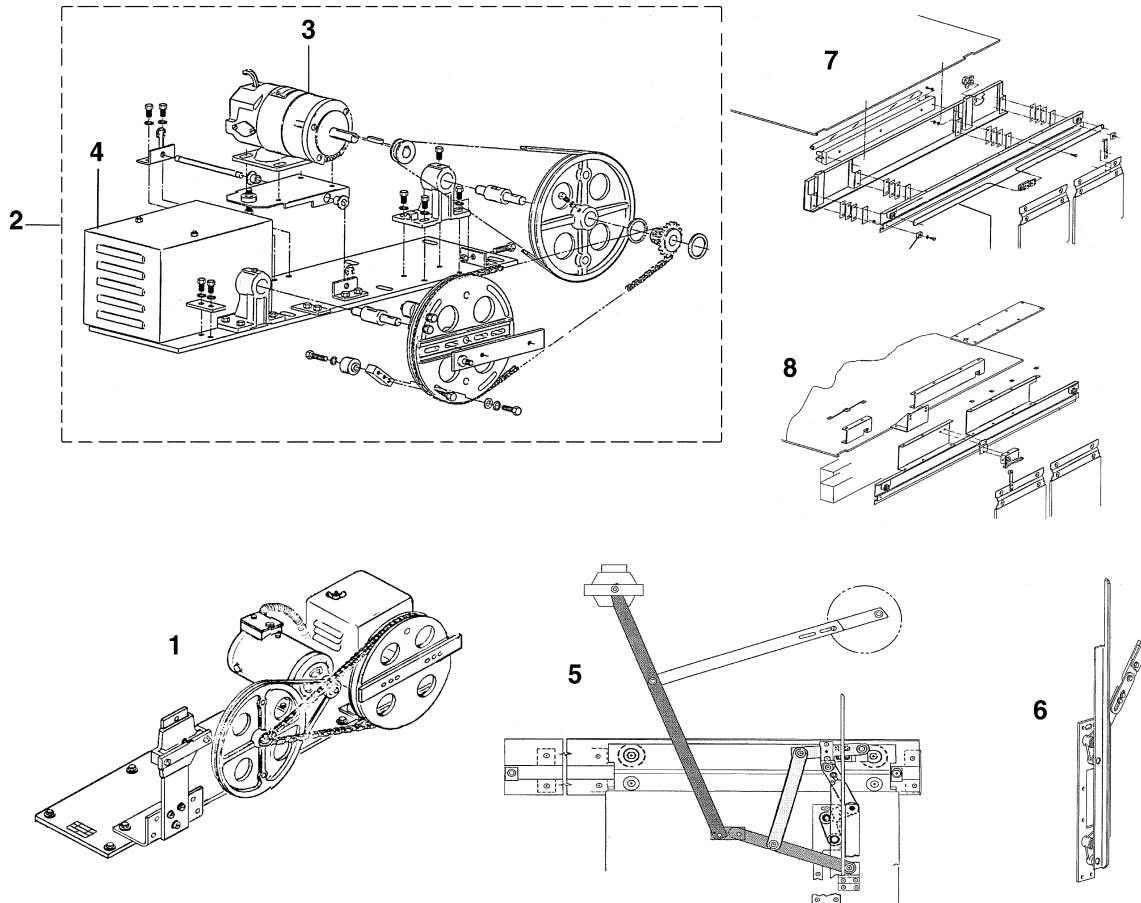
Name	Department
Peter Kelley	OSC Service Engineering

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.

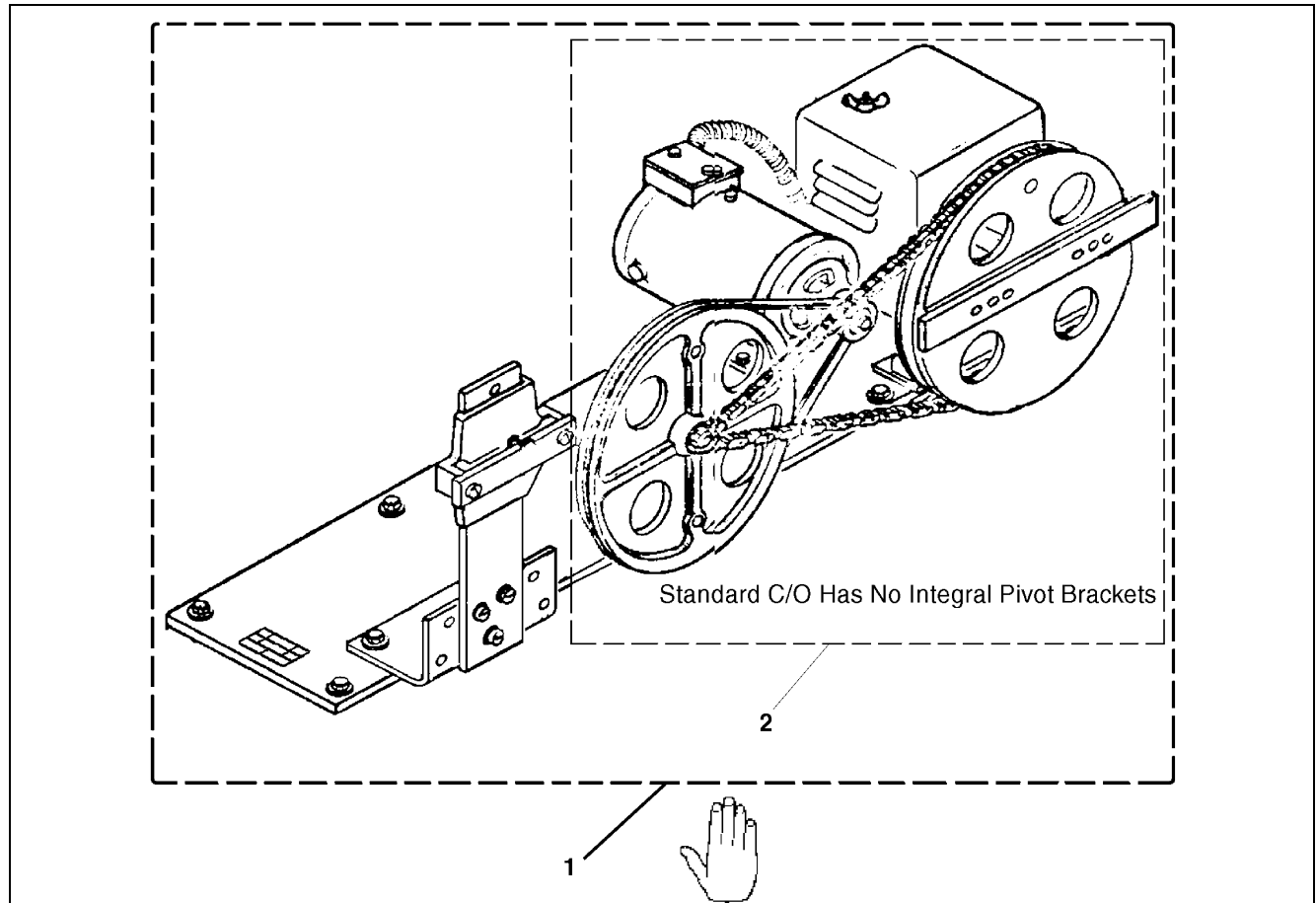
If you have any suggestions about this document, please contact the subject matter expert listed on this page.







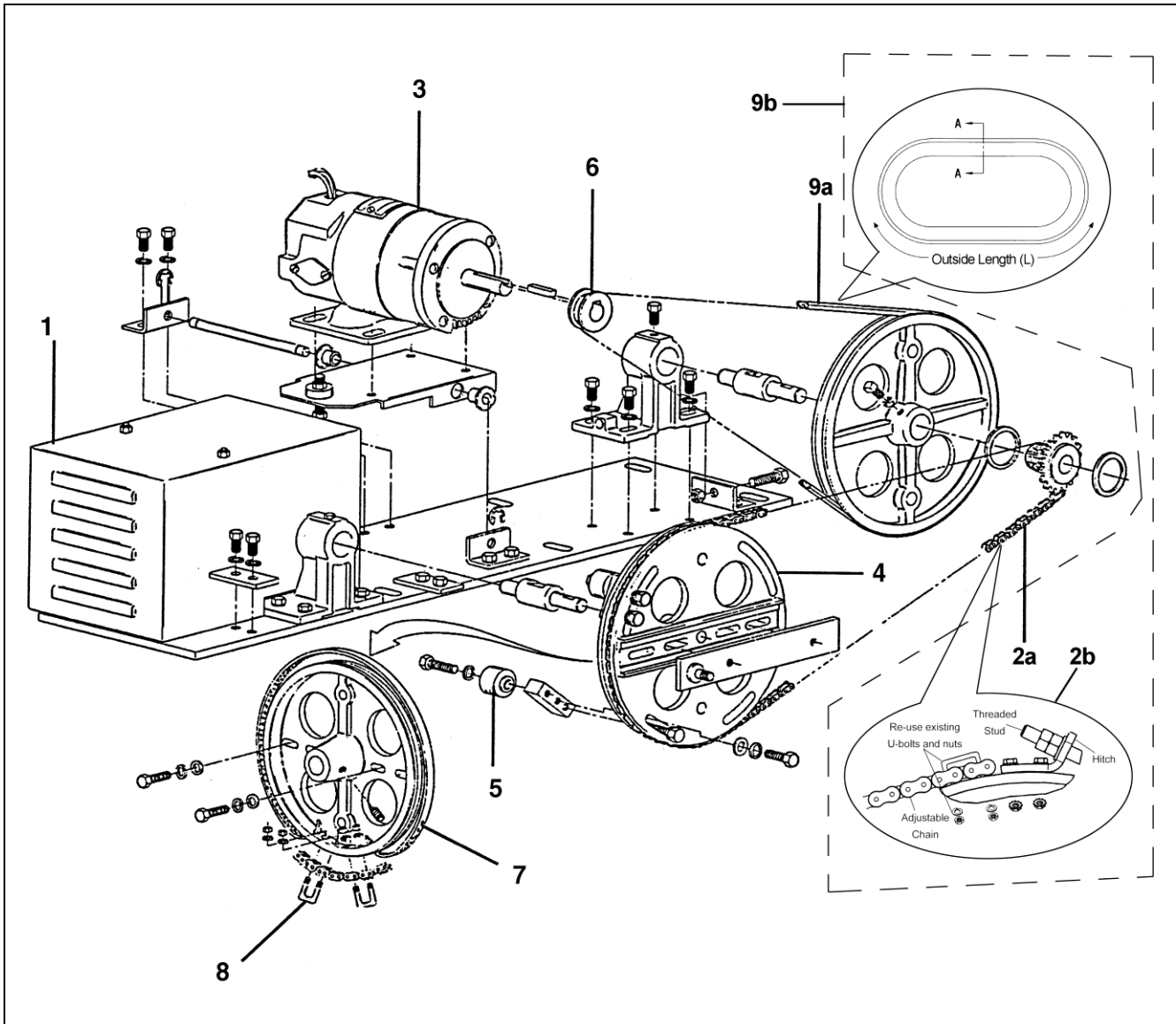
REF. No.	PAGE No.	DESCRIPTION
1	5	Type A7782AA Operator Engine Assembly
2	6-8	Type A7782AA Engine Assembly Components
3	9	Door Operator Motor
4	10-12	Type AAA7782AY Cam Pack
5	13-14	Linkage, Center-Opening Door
	15-17	Linkage, Single-Slide Door
	18-19	Linkage, Two-Speed Door
	20	Type 288TJ/TP Drive Arm
6	21	Type C6970F Vane Assembly for Center-Opening Door
	22	Type C6970F Vane Assembly for Single-Slide Door
	23	Type C6970F Vane Assembly for Two-Speed Door
7	24	Track & Header
8	25	Gate Switch & Operator Mounting Parts



Type A7782AA Operator Engine Assembly

23-7782AA

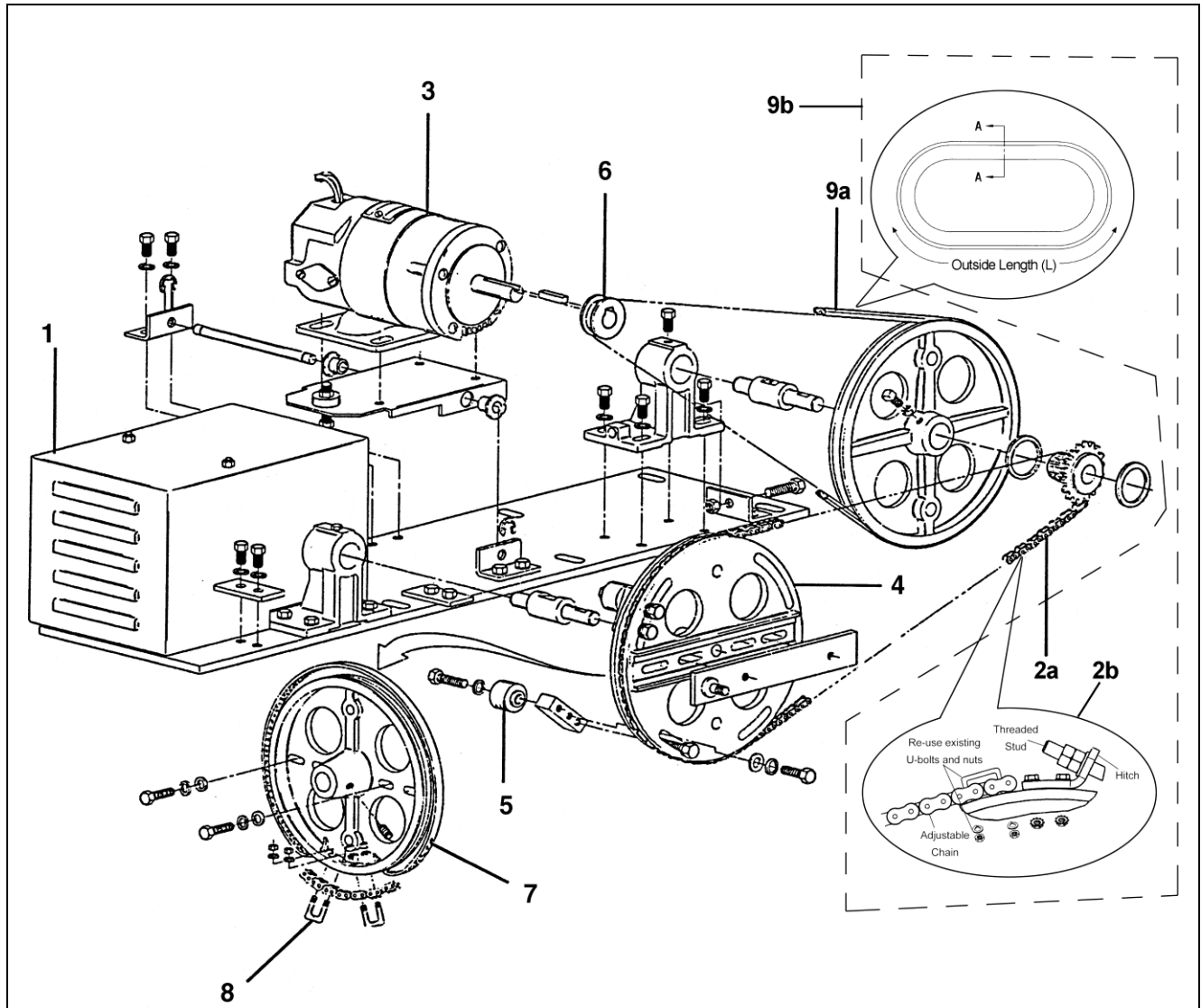


VINTAGE Y01		
REF. No.	PART No.	DESCRIPTION
1	A7782AA1	Assembly, Operator Engine, for 36 in. and 42 in. Single-Slide,  and 48 in. Two-Speed Doors
	A7782AA2	Assembly, Operator Engine, for 36 in. and 42 in. Single-Slide,  and 48 in. Two-Speed Doors
	A7782AA4	Assembly, Operator Engine, Retrofit for 7777A Operator for 36 in. and 42 in. Single-Slide,  and 48 in. Two-Speed Doors
	A7782AA5	Assembly, Operator Engine, Retrofit for 7777A Operator for 36 in. and 42 in. Single-Slide,  and 48 in. Two-Speed Doors
	A7782AA6	Assembly, Operator Engine, Retrofit for 7300/7660 Operator Center-Opening Doors
2	A7782AA3	Assembly, Operator Engine, for 42 in. Center-Opening Doors
---	A7782AA500	Kit, QL Operator Retrofit, See TIP 22.10-13



		VINTAGE Y01		
		7782AA	A7782AA	
REF. No.	PART No.		DESCRIPTION	
1	7782AE	---	Assembly, Cam Pack, Type AAA7782AY,  pp. 10-12	
2	a	332AW28	Chain, #35	
	b	AAA332BM3	Chain, Adjustable Drive, Retrofit, See TIP 22.10-11	
3	---		Motor, 1/6 HP, 120 VDC,  p.9	
4	498AJ4	A198AJ4	Pulley, Drive	
	B198AJ1			

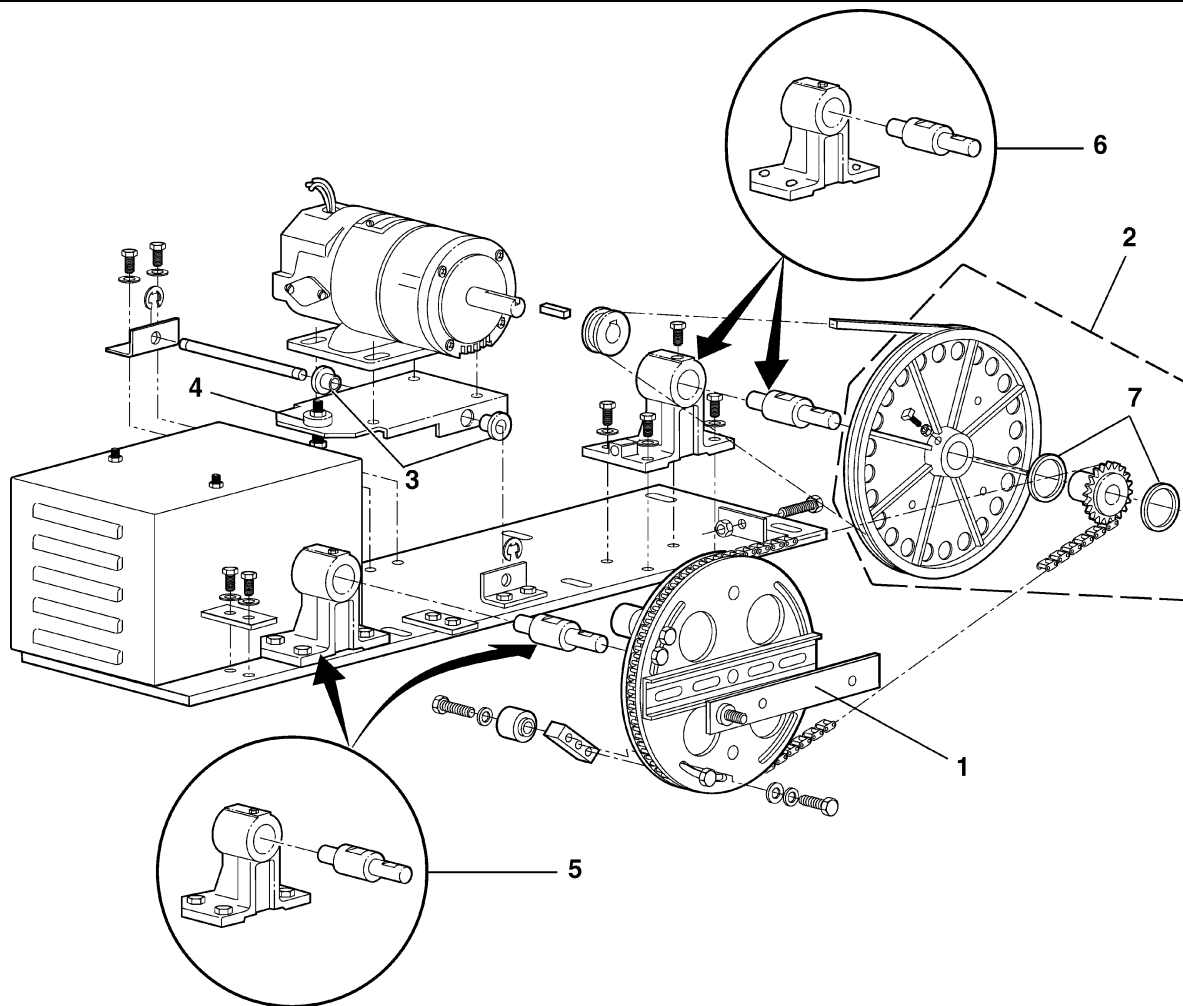
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VINTAGE Y01	
7782AA	A7782AA

REF. No.	PART No.		DESCRIPTION	
5	456EY1		Roller, Stop	
6	265BX1		Sheave, V-Belt	
7	298SF1	---	Strip, Rubber Silencer (for 198AJ1 sheave)	
8	65FG1		U-Bolt, Chain Hold Down	
9	a	717B1	AAA717J2	V-Belt, L = 45 in. (NOTE: Replacing current belt marked 717B1)
		AAA717J1		V-Belt, L = 44 in. (NOTE: Replacing current belt marked 4L440)
	b	AAA332BM500*		Kit, Adjustable Drive Chain Retrofit, w/V-Belt, See TIP 22.10-11

NOTE: Parts marked with * are part of QL operator retrofit kit A7782AA500.



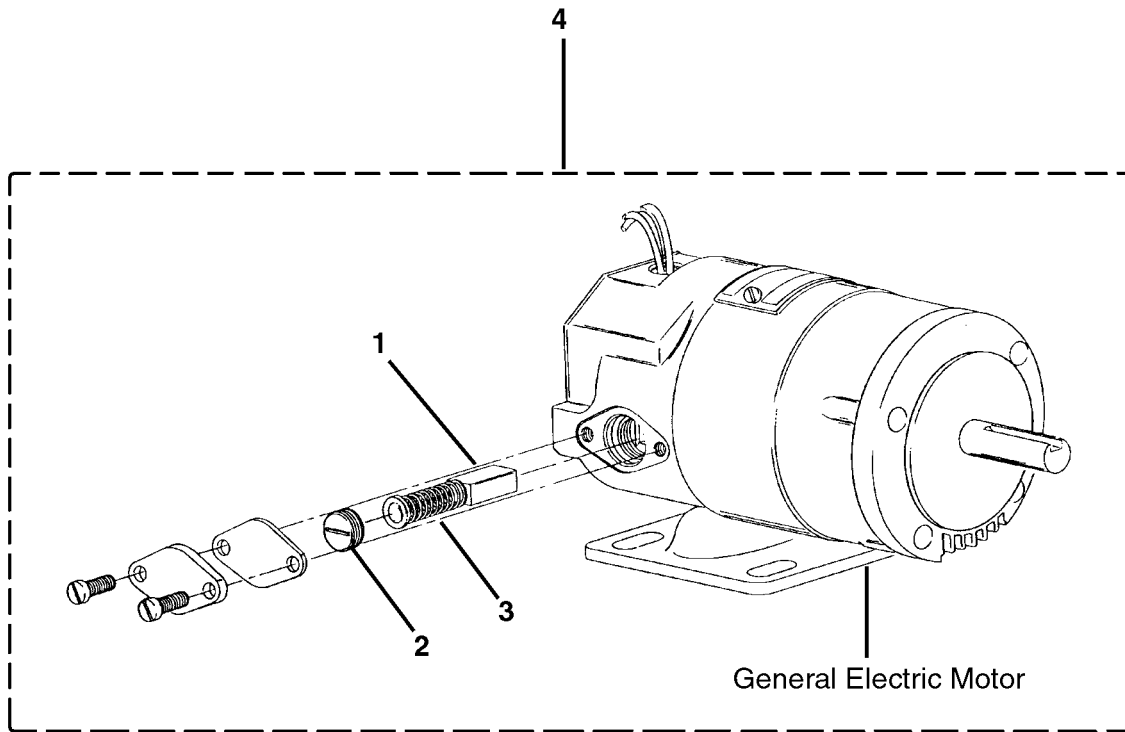
VINTAGE Y01	
7782AA	A7782AA

REF. No.	PART No.		DESCRIPTION
1	395E1	---	Arm, Drive Pulley Lever, 15 in. L
	395E2	---	Arm, Drive Pulley Lever, 11.5 in. L
	---	395E3	Arm, Drive Pulley Lever, 14.25 in. L (6 holes)
2	198AH1 AAA198AV1		Assembly, Intermediate Pulley, w/ Encoder Holes, w/ Sprocket and Washer
3	212AB4		Bearing, Nylon Flanged
4	321FD1		Bushing, Rubber
5	471GB3*		Stand, Bearing (for Drive Pulley)
6	471FY2*		Stand, Bearing (for Intermediate Pulley)
7	131CV1*		Washer, Rubber

NOTE: Parts marked with * are part of QL operator retrofit kit A7782AA500.

Door Operator Motor

23-7782AA

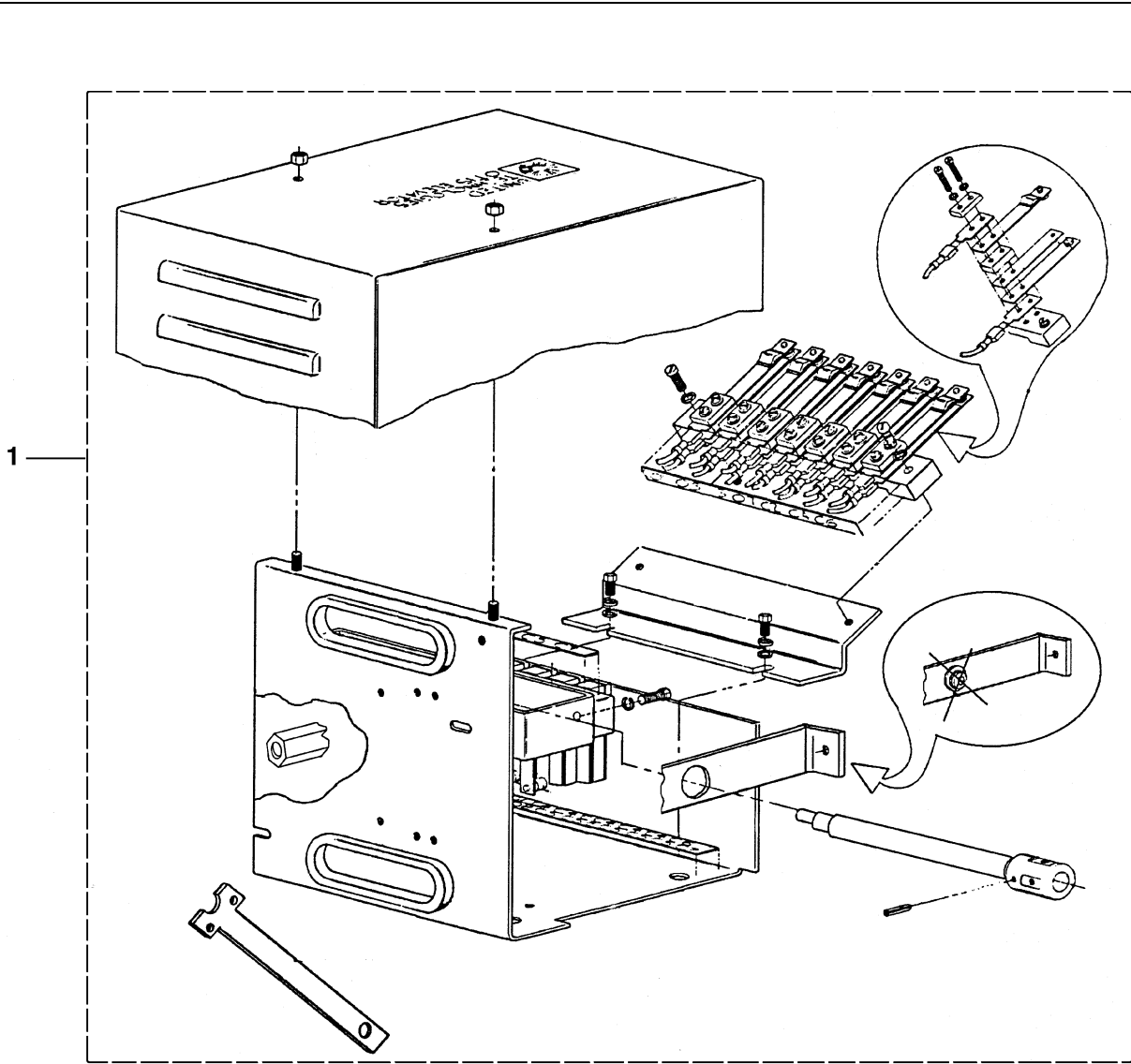


VINTAGE Y01		
REF. No.	PART No.	DESCRIPTION
1	240BA3	Brush (for General Electric® Motor)
	AAA240AK1*	Brush (for Leroy-Somer® Motor)
2	329BY3	Cap (for General Electric® Motor)
	6333DP-LS/HB8000900	Cap (for Leroy-Somer® Motor)
3	178AY3	Holder
4	6333DP1	Motor, 120 VDC, 1/6 HP, 1140 RPM
	AAA6333EZ1	Motor, See TIP 22.10-12 for QL Operator Motor Replacement for New Motor Installation

NOTE: Parts marked with * are part of QL operator retrofit kit A7782AA500.

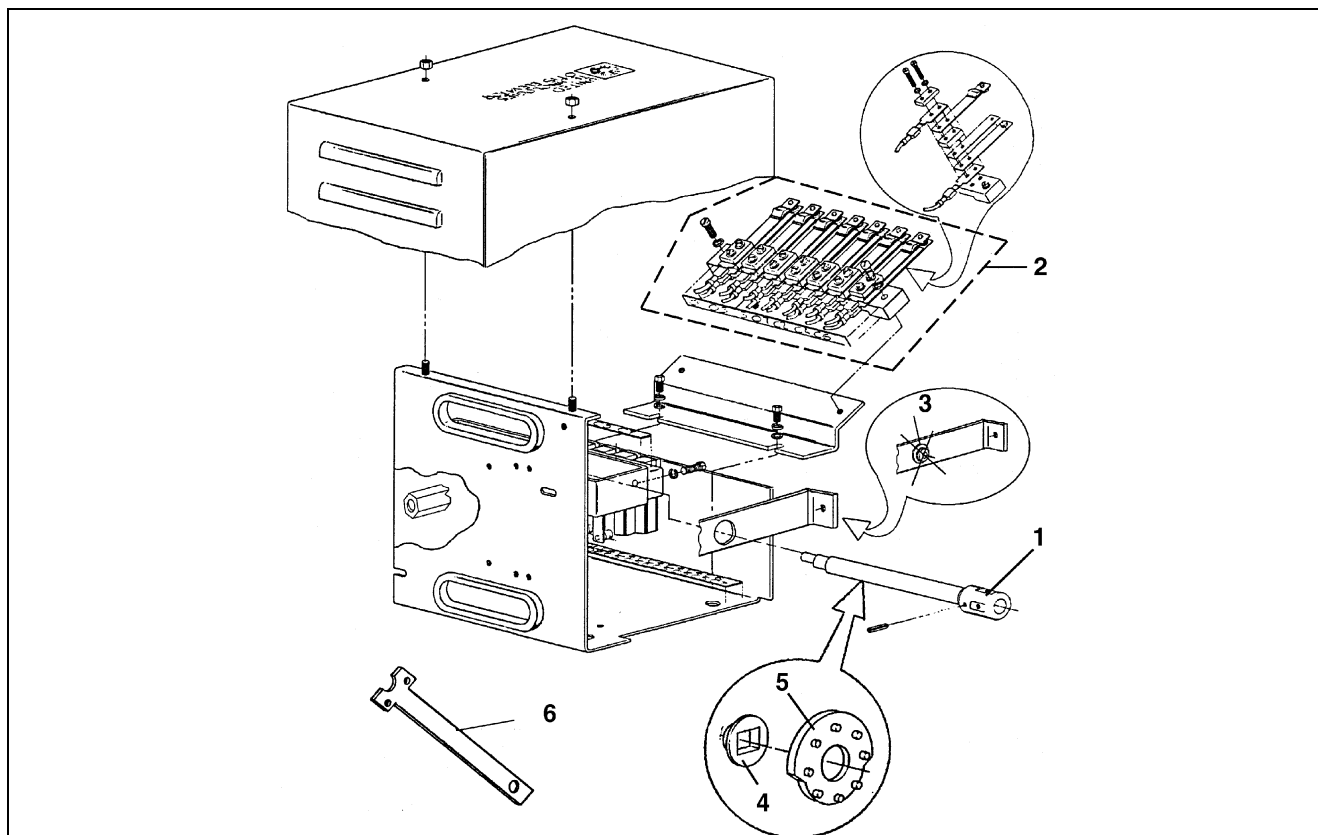
23-7782AA


Type 7782AE & AAA7782AY Cam Pack



		VINTAGE Y01		
		7782AA	A7782AA	
REF. No.	PART No.		DESCRIPTION	
1	A7782AE4	AAA7782AY1	Assembly, Cam Pack, w/o Door Control Subsystem,	
	A7782AE4	AAA7782AY2	Assembly, Cam Pack, w/o Door Control Subsystem,	

Cam Pack



		VINTAGE Y01	
		A7782AE 7782AE	AAA7782AY
REF. No.	PART No.		DESCRIPTION
1	218B1*		Assembly, Coupling Shaft w/o Cams
2	477DB4	177DB2*	Assembly, Stopping Switch
3	242AG4	---	Bearing,  NOTE 1
4	321FF1*		Bushing, End Drive
	---	321FF2*	Bushing, Intermediate Drive (used only in AAA7782AY)
5	327MR2*		Cam, Door Open, Black (7 Needed for Full Assembly)
	327MR1*		Cam, Door Open, White (7 Needed for Full Assembly)
6	314AD1*		Tool, Cam Adjusting

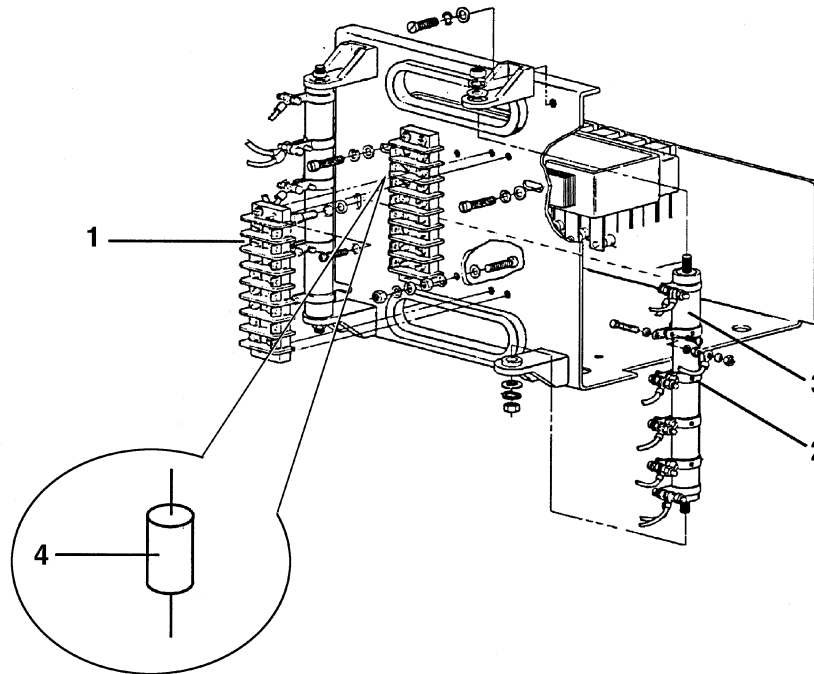
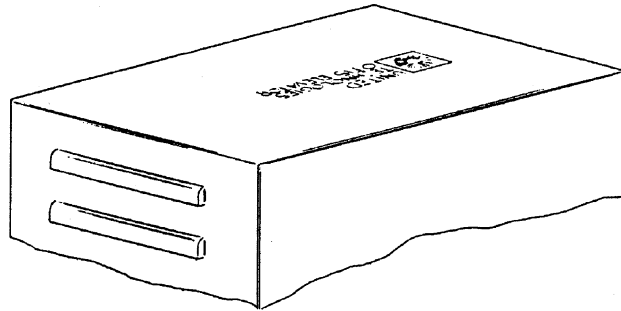
NOTE 1: Bearing is not required for operation. If it fails, remove and do not replace the bearing. However, retain the existing support bracket as box stiffener. New cam pack assembly uses a standoff as the box stiffener, taking place of the drive shaft support bracket with bearing.

NOTE 2: Parts marked with * are part of QL operator retrofit kit A7782AA500.

23-7782AA

Type 7782AE & AAA7782AY

Cam Pack

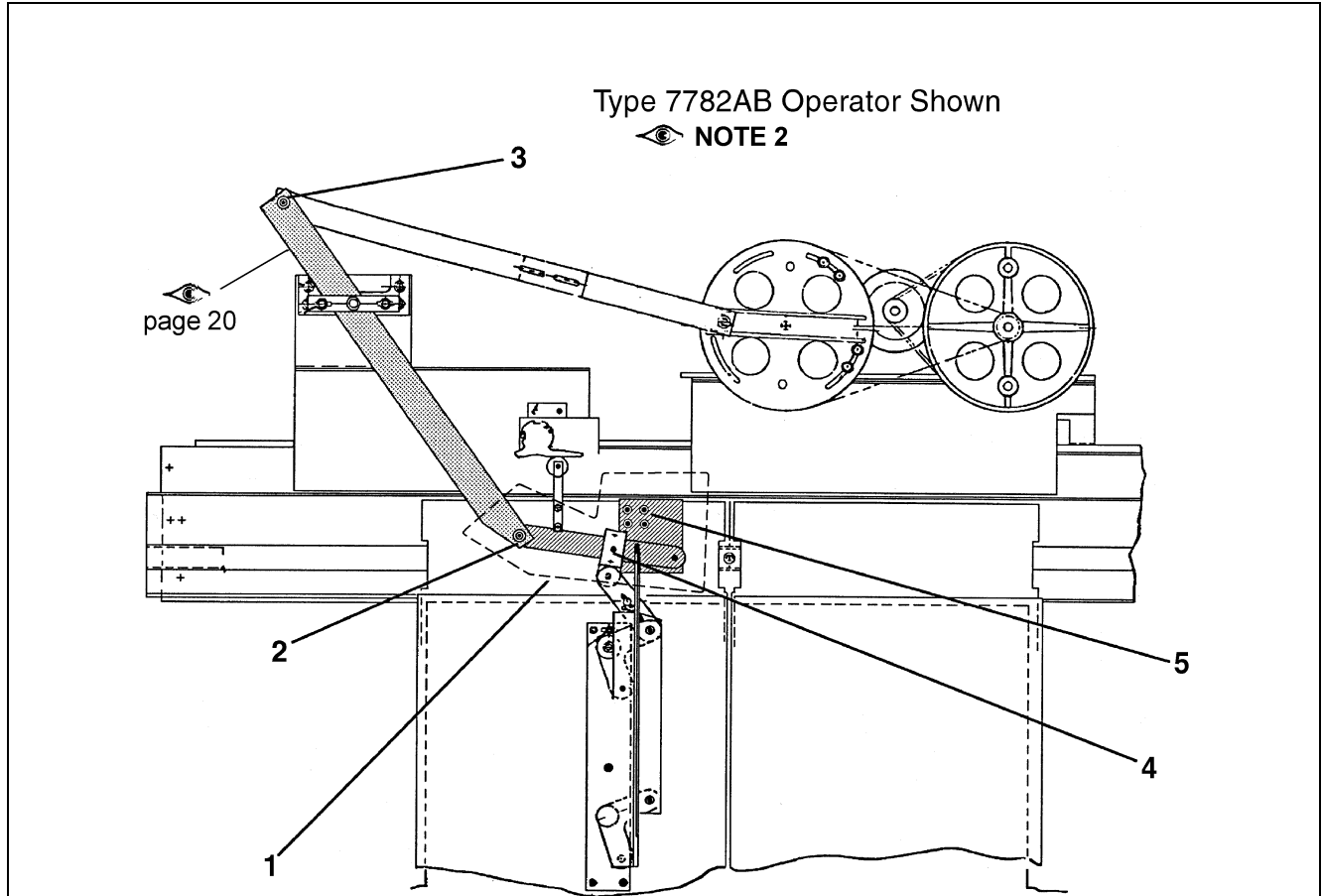


**W/O VINTAGE
AAA7782AY
A7782AE
7782AE**

REF. No.	PART No.	DESCRIPTION
1	303G28	Board, Terminal
2	AAA617L101	Lug, Adjustable
3	AAA617L10 AAA617W1	Resistor, R5 with (3) Ref. 2
	AAA617L10 AAA617W2	Resistor, R6 with (4) Ref. 2
4	605H2 AAA00605AAA015	Suppressor

Linkage: Center-Opening Doors

23-7782AA



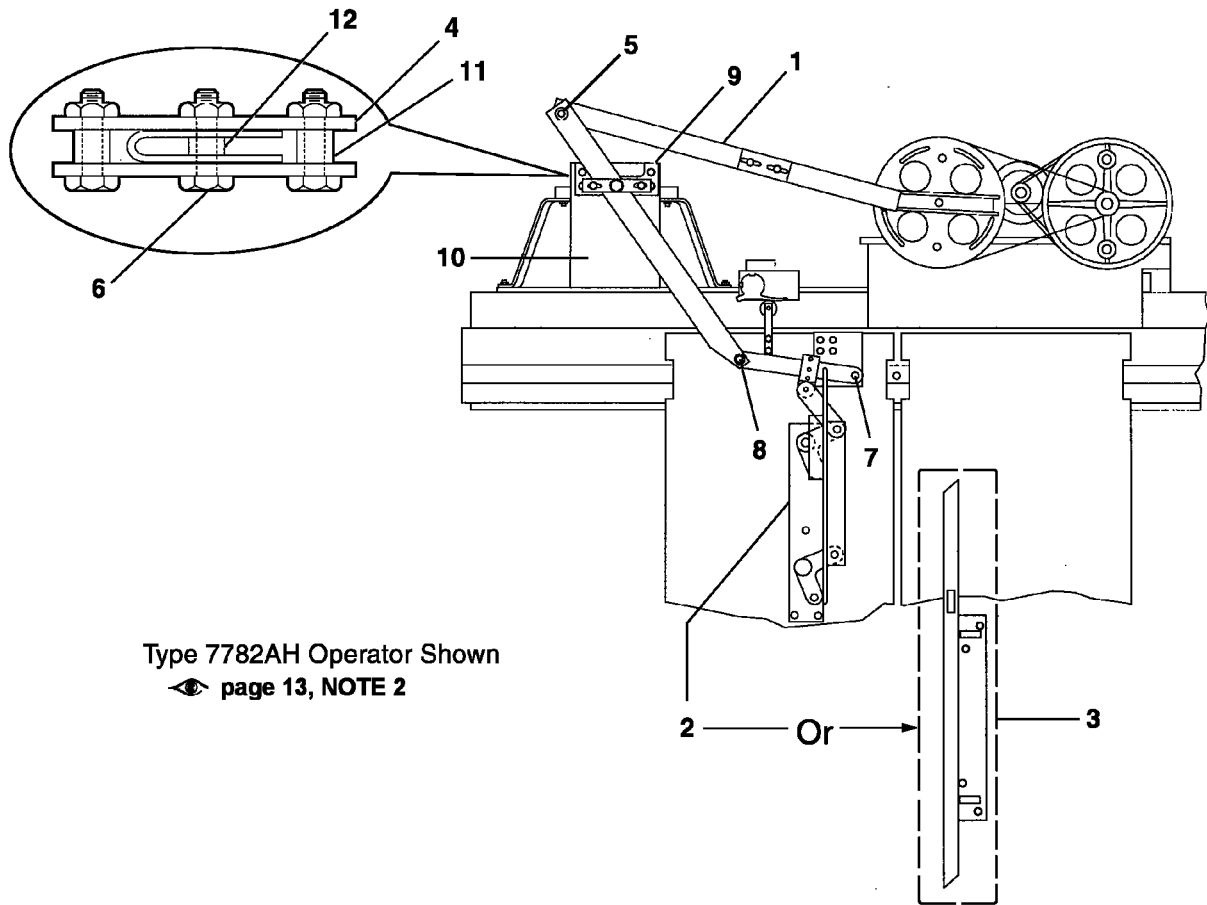
W/O VINTAGE 7782AB 7782AH		
REF. No.	PART No.	DESCRIPTION
1	7770AF3	Assembly, Link, 36 in. or 48 in. Opening NOTE 1
	7770AF4	Assembly, Link, 42 in. Opening NOTE 1
2	207R2*	Bearing
3*	209AN3	Bearing
4	81AX1	Pin, Roll
5	109P2	Screw, Thread-Rolling 1/4 x 5/8 in.

NOTE 1: Also order thread-rolling screws, Ref. 5.

NOTE 2: Type 7782AB operator used for 42 in. C/O doors; type 7782AH used for 36 in., 42 in., or 48 in. C/O doors.

NOTE 3: Parts marked with * are part of QL operator retrofit kit A7782AA500.

* Bearing removal tool p/n COMMBMT-100



Type 7782AH Operator Shown
 👁 page 13, NOTE 2

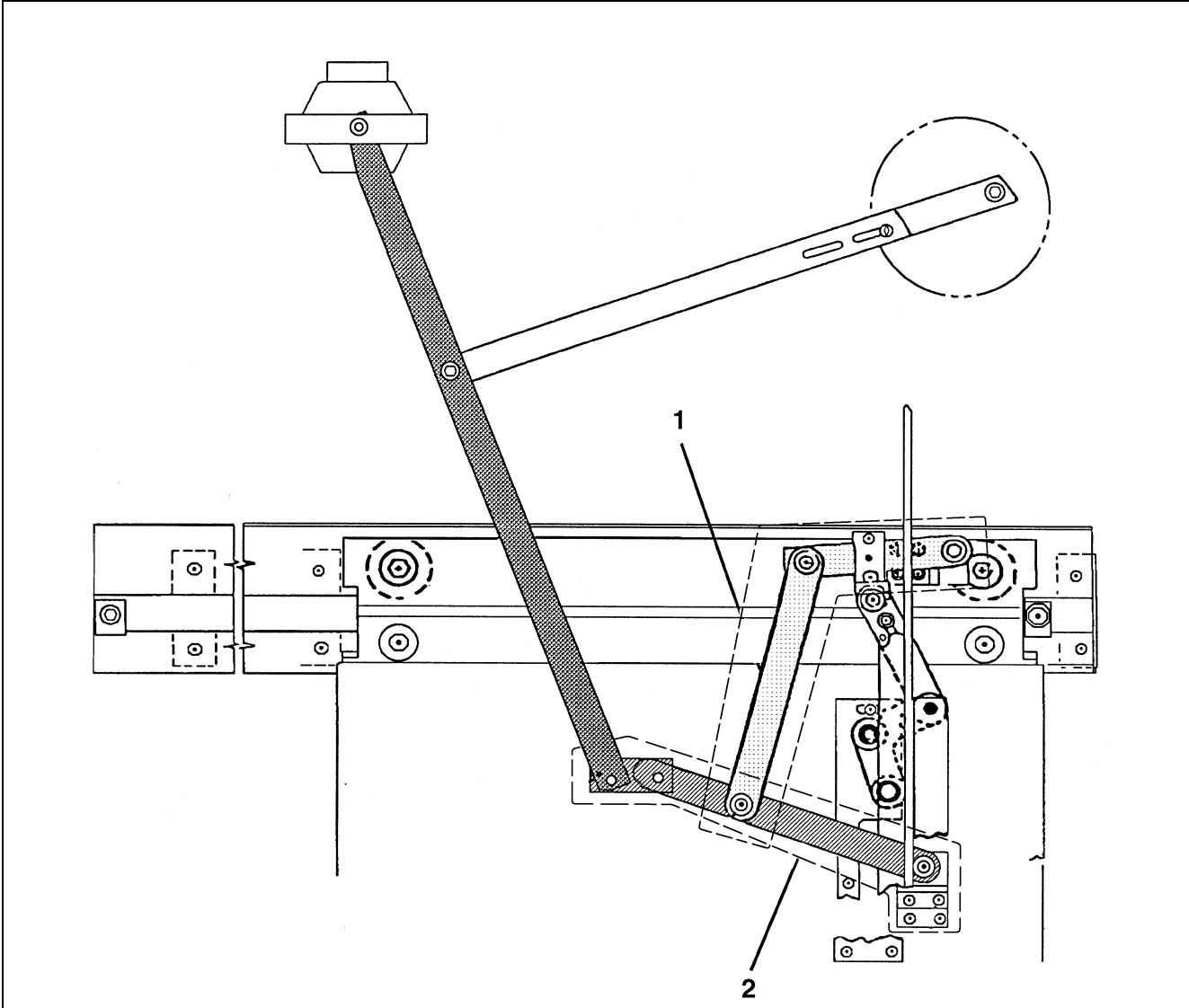
**W/O VINTAGE
 7782AB
 7782AH**

REF. No.	PART No.	DESCRIPTION
1	395F1	Arm, Transmission
2	---	Assembly, Moveable Vane, Type C6970F, 👁 p. 21
3	A6940AT1	Assembly, Stationary Vane
4	299AKG2*	Bar, Drive Arm Mounting, (2) used in C/O Applications
5	58AP1*	Bolt, Shoulder
6	58AP2*	Bolt, Shoulder
7	59A1*	Bolt, Shoulder
8	59A2*	Bolt, Shoulder
9	316DYH1	Bracket, Cast Mounting
10	316EAD3	Bracket, Pivot, 👁 TIP 22.10-10 for Service Replacement
11	462HA113	Spacer, Steel
12	462HA114*	Spacer, Aluminum

NOTE: Parts marked with * are part of QL operator retrofit kit A7782AA500.

Linkage: Single-Slide Doors

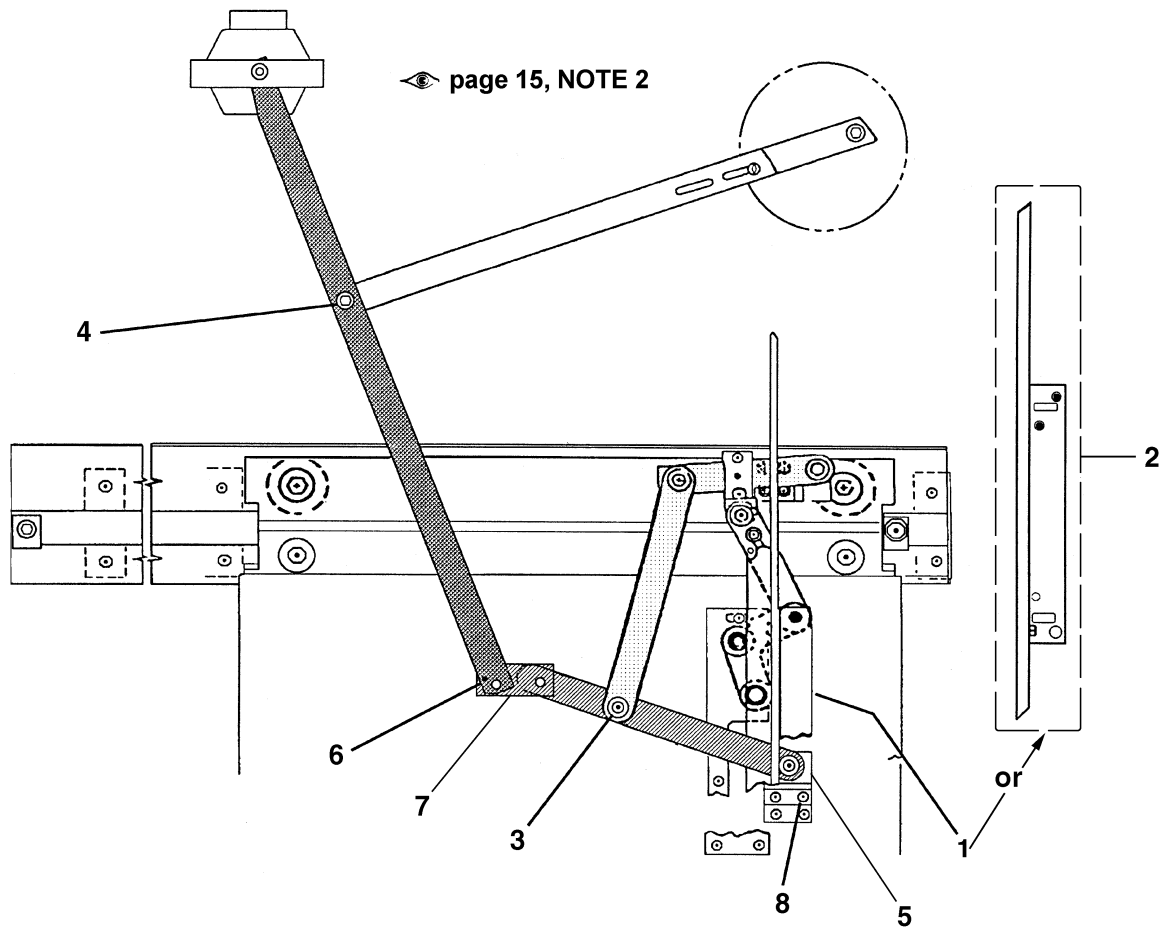
23-7782AA



W/O VINTAGE		
7782AC		
7782AJ		
REF. No.	PART No.	DESCRIPTION
1	2700CCF2 7770J5	Assembly, Idler Link, NOTE 1
	2700CCF3 7770J6	Assembly, Idler Link, NOTE 1
2	2700CCF4 7770P7	Assembly, Link, NOTE 1
	2700CCF10 7770P21	Assembly, Link (only 32 in. door opening with 84 in. x 96 in. opening height and 96 in. x 115 in. cab height), NOTE 1

NOTE 1: Also order roll pin, p/n 81AX1, and thread-rolling screws, p/n 109P2.

NOTE 2: Type 7782AC operator used for 36 in. or 42 in. s/s doors; type 7782AJ for 32 in., 36 in., or 42 in. s/s doors.



**W/O VINTAGE
7782AC
7782AJ**

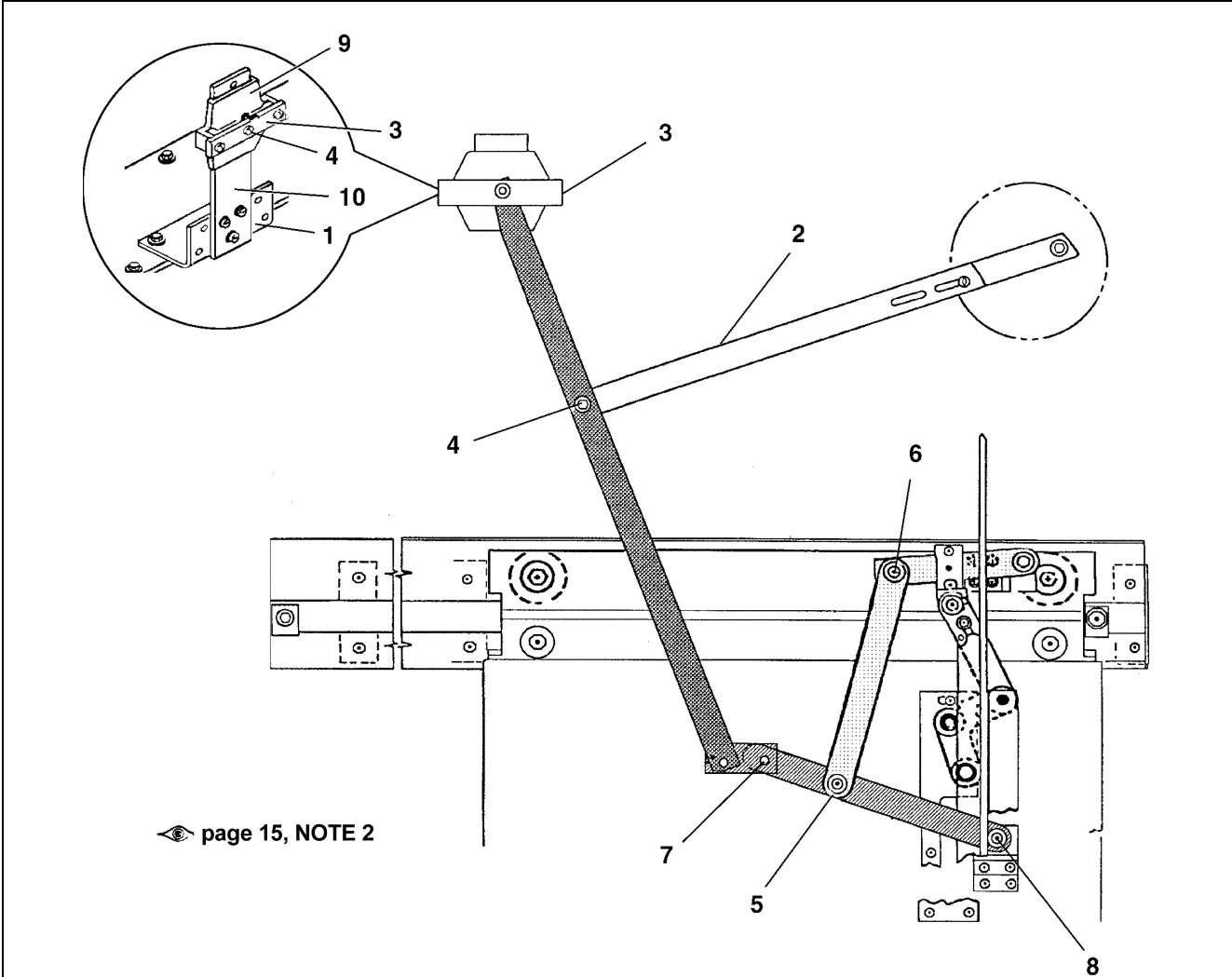
REF. No.	PART No.	DESCRIPTION
1	---	Assembly, Moveable Vane, Type C6970F, p. 22
2	2700CCF7	Assembly, Stationary Vane
	2700CCF8	Assembly, Stationary Vane
3	207R2*	Bearing
4*	209AN3	Bearing
5	316DKB1	Bracket
6	81AX1	Pin, Roll
7	386BEL25	Plate
8	109P2	Screw, Thread-Rolling 1/4 x 5/8 in.

NOTE: Parts marked with * are part of QL operator retrofit kit A7782AA500.

* Bearing removal tool p/n COMMBMT-100

Linkage: Single-Slide Doors

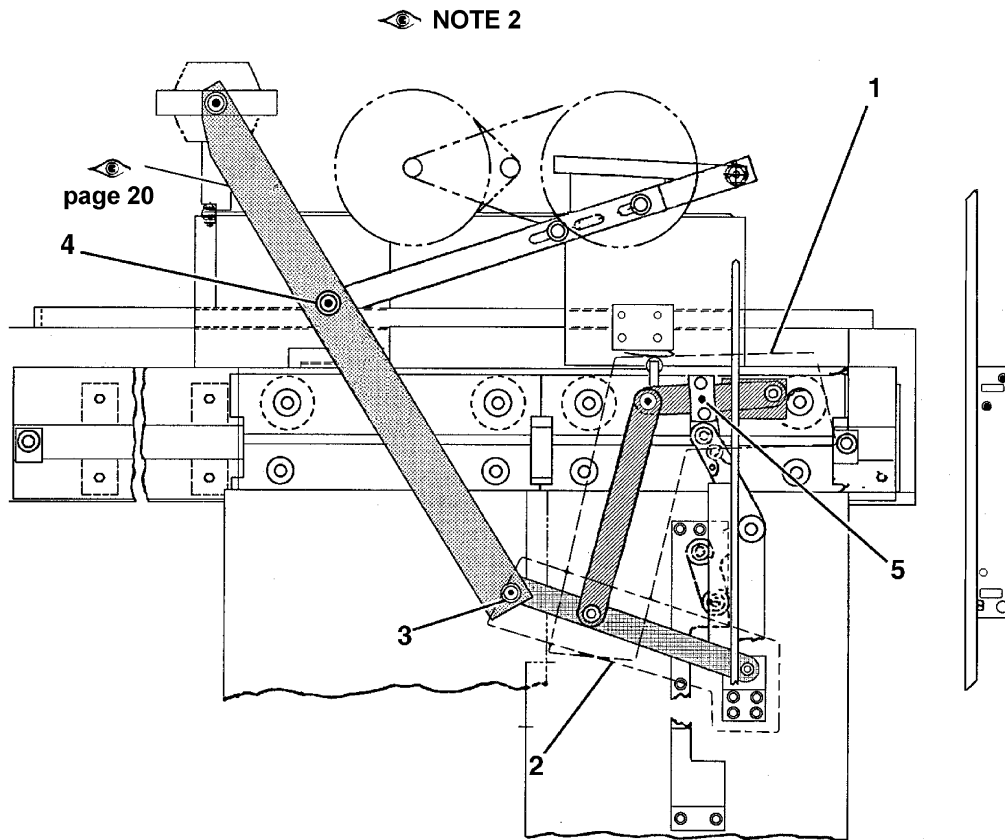
23-7782AA



**W/O VINTAGE
7782AC
7782AJ**

REF. No.	PART No.	DESCRIPTION
1	283BBV1	Angle, Drive Arm
2	395F1	Arm, Transmission
3	299AKG2*	Bar, Drive Arm Mounting, w/Bearing
4	58AP1*	Bolt, Shoulder
5	59A1*	Bolt, Shoulder
6	59A2*	Bolt, Shoulder
7	59A5	Bolt, Shoulder
8	59A7	Bolt, Shoulder
9	316DYC1	Bracket, Drive Arm
10	386BWV1	Plate, Drive Arm

***NOTE:** Parts marked with * are part of QL operator retrofit kit A7782AA500.



**W/O VINTAGE
7782AD
7782AL**

REF. No.	PART No.	DESCRIPTION
1	2700CCF5 7770J3	Assembly, Idler Link, NOTE 1
	2700CCF6 7770J4	Assembly, Idler Link, NOTE 1
2	2700CCF14 7770AF2	Assembly Kit, Link, NOTE 1
3	207R2*	Bearing
4*	209AN3	Bearing
5	81AX1	Roll, Pin

NOTE 1: Also order roll pin, p/n 81AX1, and thread-rolling screws, p/n 109P2.

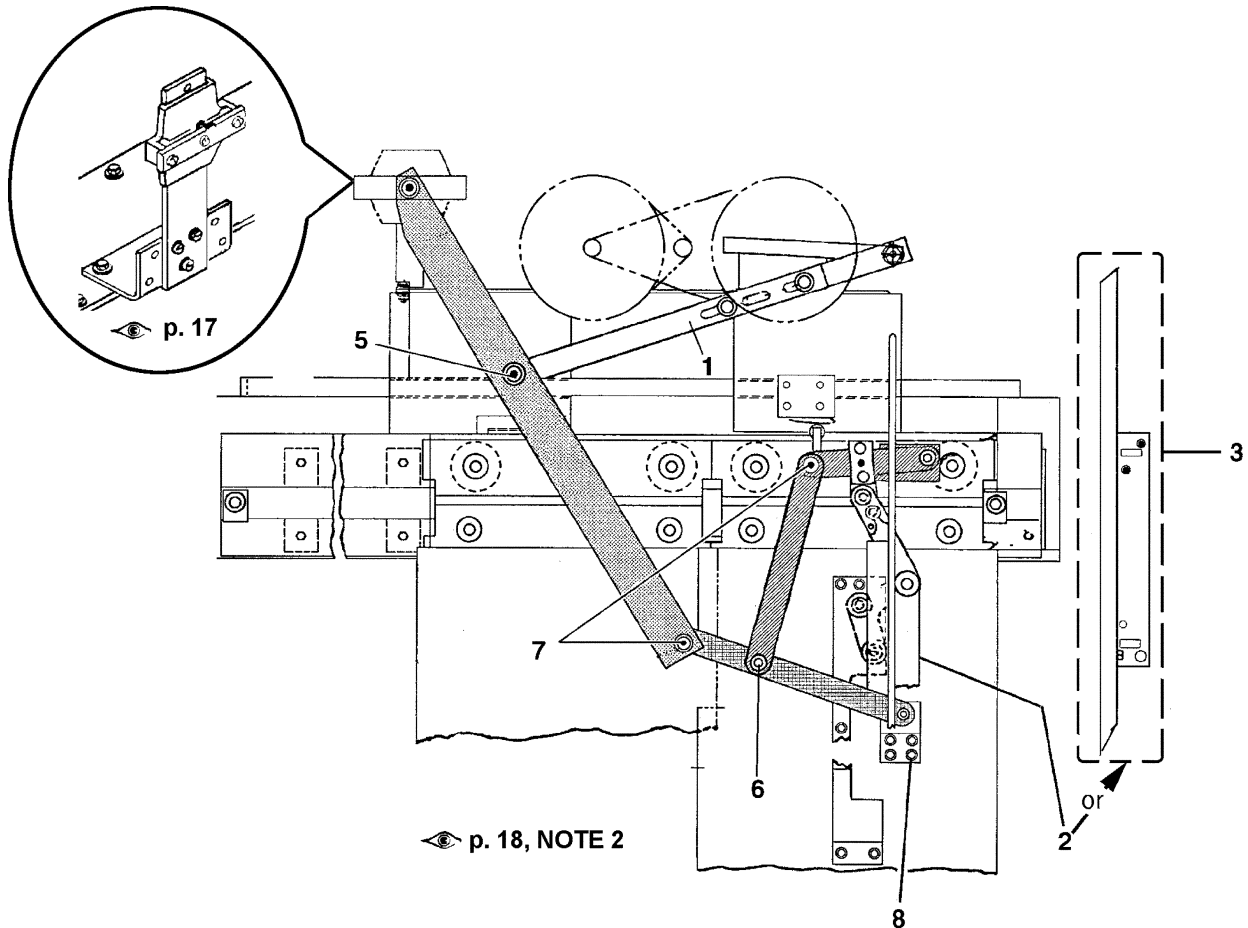
NOTE 2: Type 7782AD operator used for 42 in., 48 in. 2/s doors; type 7782AL for 48 in. 2/s doors.

NOTE 3: Parts marked with * are part of QL operator retrofit kit A7782AA500.

* Bearing removal tool p/n COMMBMT-100

Linkage: Two-Speed Doors

23-7782AA

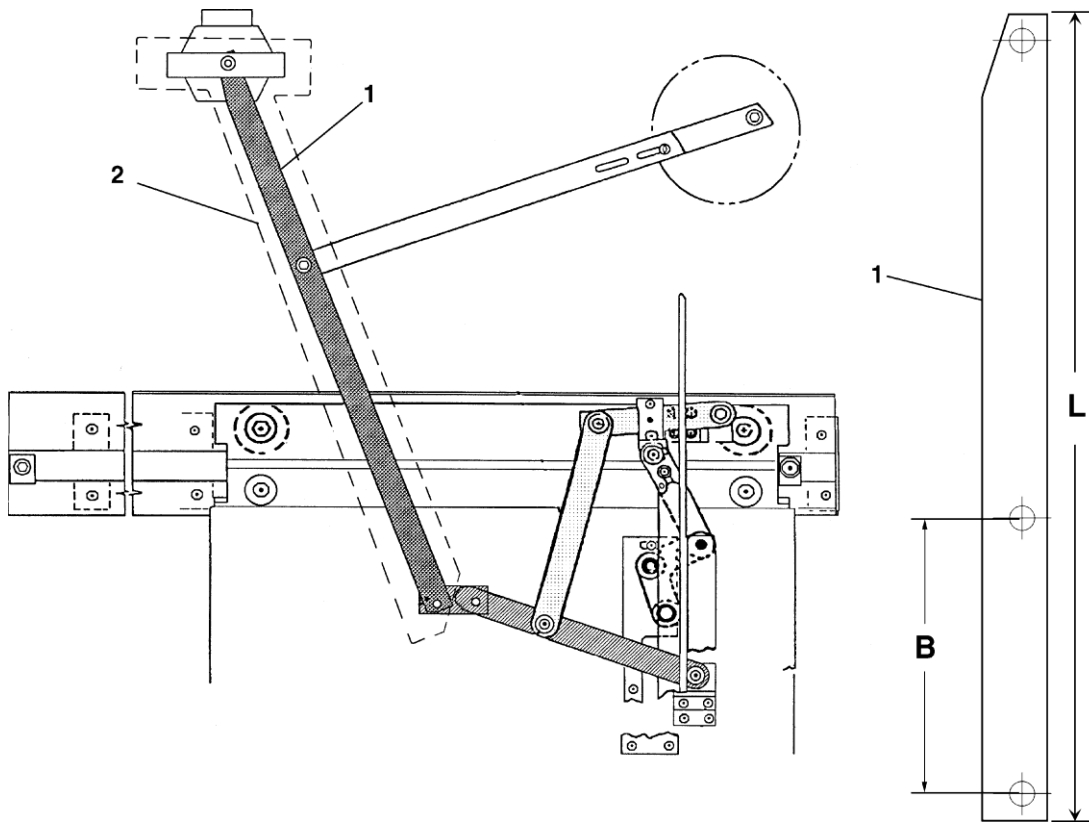


W/O VINTAGE 7782AD 7782AL		
REF. No.	PART No.	DESCRIPTION
1	395F1	Arm, Transmission
2	---	Assembly, Moveable Vane, Type C6970F, p. 23
3	2700CCF7	Assembly, Stationary Vane,
	2700CCF8	Assembly, Stationary Vane,
4	299AKG2*	Bar, Drive Arm Mounting, w/Bearing
5	58AP1*	Bolt, Shoulder
6	59A1*	Bolt, Shoulder
7	59A2*	Bolt, Shoulder
8	109P2	Screw, Thread-Rolling 1/4 x 5/8 in.

NOTE: Parts marked with * are part of QL operator retrofit kit A7782AA500.

23-7782AA

Type 288TJ/TP Drive Arm

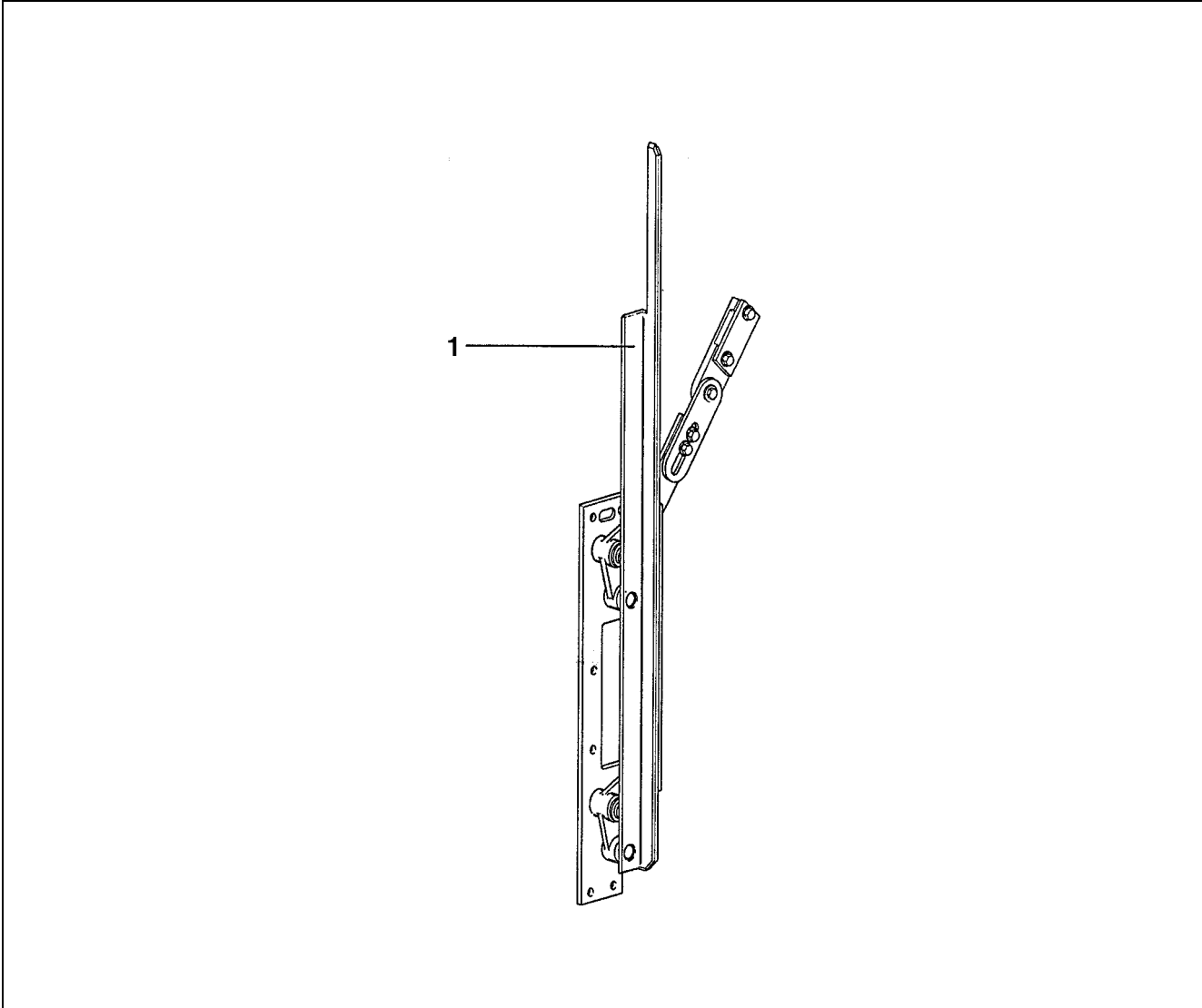


**W/O VINTAGE
7782AB/AC/AD/
AH/AJ/AL**

REF. No.	PART No.	L (in.)	OPENING	B (in.)	REMARKS	DESCRIPTION
1	288TJ8	30.2	C/O 36 in.	9.62	---	Arm, Drive
	288TJ4	33.3	C/O 42 in.	9.62	---	
	288TJ6	33.3	C/O 48 in.	9.56	---	
	288TJ1	41.7	S/S 36 in.	24	---	
	288TJ5	41.7	S/S 32 in.	25	---	
	288TJ2	47.7	S/S 42 in.	26	---	
	288TJ7	51.7	2/S 42 in.	30	---	
	288TJ3	53.7	2/S 48 in.	31	---	
2	288TP1	41.7	S/S 36 in.	---	Uses TJ1 Arm	Assembly, Drive Arm
	288TP4	41.7	S/S 32 in.	---	Uses TJ5 Arm	
	288TP2	47.7	S/S 42 in.	---	Uses TJ2 Arm	
	288TP5	51.7	2/S 42 in.	---	Uses TJ7 Arm	
	288TP3	53.7	2/S 48 in.	---	Uses TJ3 Arm	

Type C6970F Vane Assembly for C/O Doors

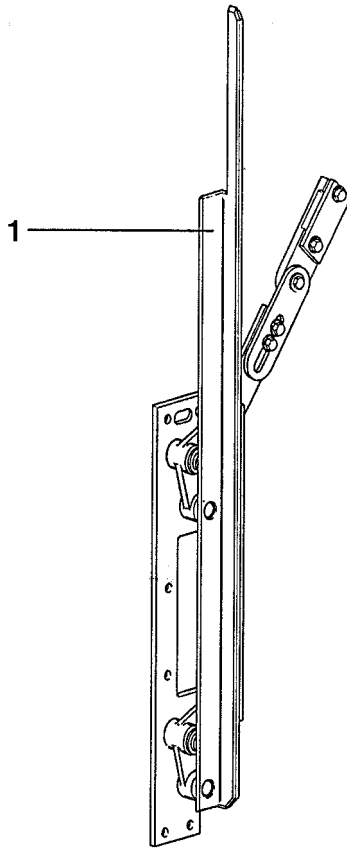
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	W/O VINTAGE	DESCRIPTION				
	REF. No.	PART No.	DOOR OPENING (in.)	OPENING HEIGHT (in.)	CAB HEIGHT (in.)	DOOR STYLE
1		C6970F5	42, 48	84	96	Center-Opening
		C6970F7	36	84	115	
		C6970F17	36	84	96	
		C6970F21	36	96	115	
		C6970F27	42, 48	96	115	
		C6970F28	36, 42, 48	84	115	

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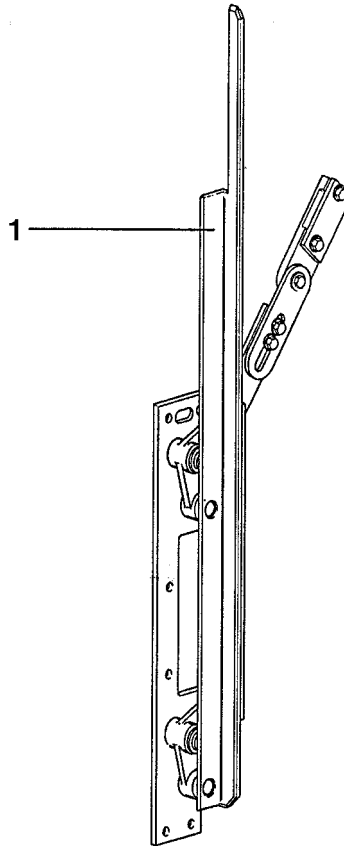
Type C6970F Vane Assembly for S/S Doors



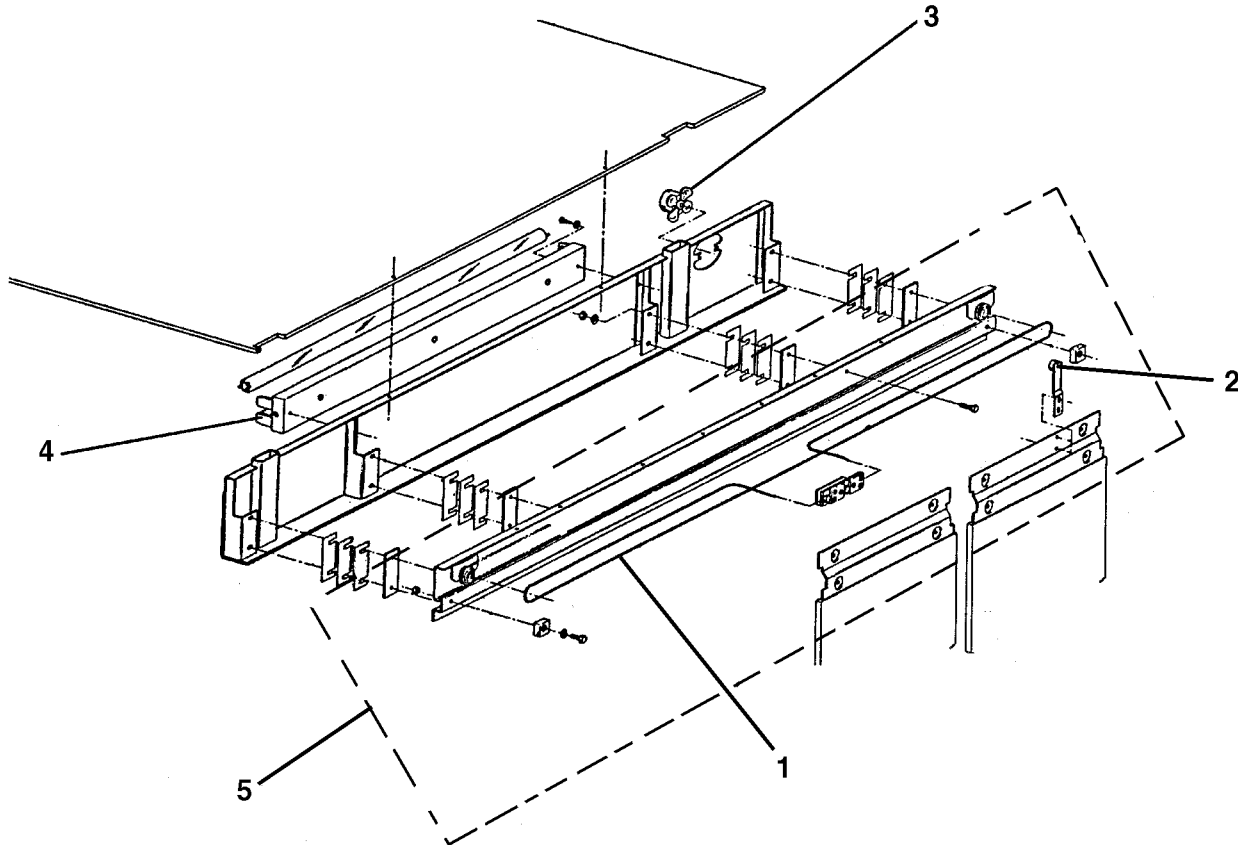
REF. No.	W/O VINTAGE	DESCRIPTION				
	PART No.	DOOR OPENING (in.)	DOOR HAND	OPENING HEIGHT (in.)	CAB HEIGHT (in.)	DOOR STYLE
1	C6970F15	32, 36, 42	↑	84	96	Single-Slide
	C6970F16	32, 36, 42	↑	84	96	
	C6970F29	32, 36, 42	↑	84	115	
	C6970F30	32, 36, 42	↓	84	115	
	C6970F35	32, 36, 42	↑	96	115	
	C6970F36	32, 36, 42	↓	96	115	





Type C6970F Vane Assembly for 2/S Doors

23-7782AA



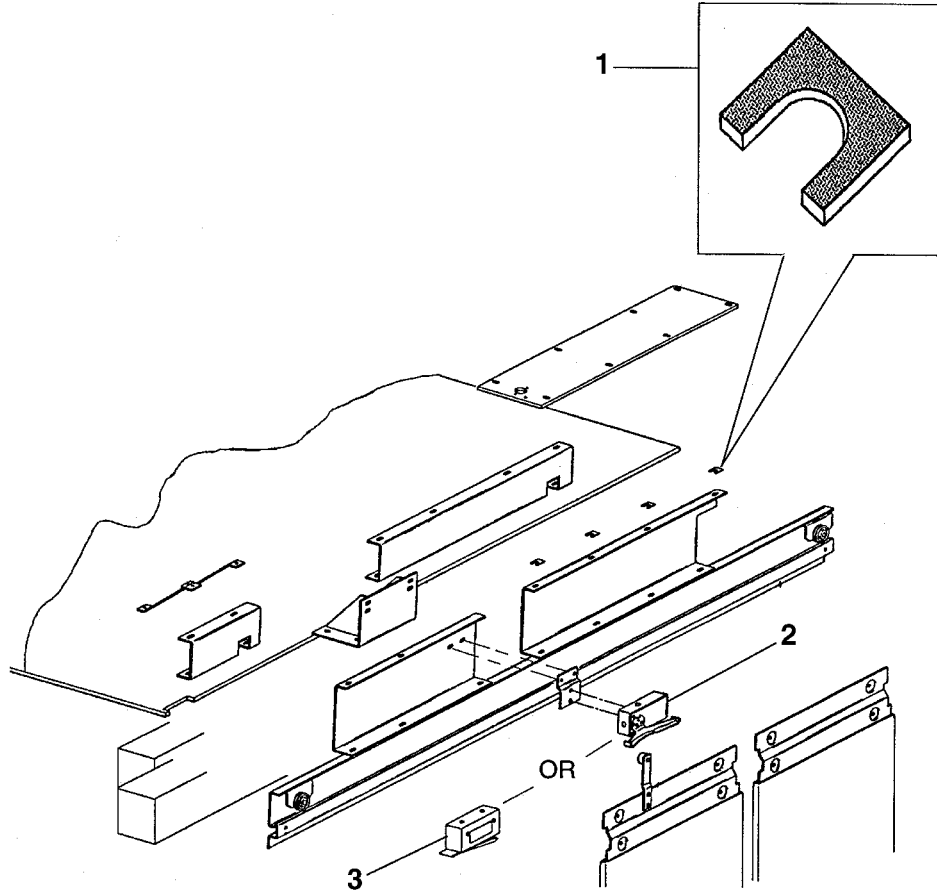
	W/O VINTAGE	DESCRIPTION				
REF. No.	PART No.	DOOR OPENING (in.)	DOOR HAND	OPENING HEIGHT (in.)	CAB HEIGHT (in.)	DOOR STYLE
1	C6970F19	42, 48		84	96	Two-Speed
		48		84	115	
	C6970F20	42, 48		84	96	
		48		84	115	
	C6970F29	42		84	115	
	C6970F30	42		84	115	
	C697033	42, 48		96	115	
C6970F34	42, 48		96	115		









W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	174AS9995	Aircord, Order Per Foot,  to Suit
2	288RH8	Arm, Roller, for C/O or S/S Doors
	288RH4	Arm, Roller, for 2/S Doors
3	---	Fan, Type 6091AB,  SPL 17-6193MJ1-4
4	---	Light Fixture, Type 417CB,  SPL 17-6193MJ1-4
5	---	System, Door Track and Hanger,  SPLs 19-6178CA and 19-6178CH

Gate Switch

23-7782AA



W/O VINTAGE				
REF. No.	PART No.	DESCRIPTION	HAND	DOOR STYLE
1	256AD1	Cork, Shim	---	---
2	6098E5	Switch, Gate,  SPL 05-6098		C/O or S/S
	6098E6	Switch, Gate,  SPL 05-6098		
3	6098MV1	Switch, Gate, GAL Type,		S/S or 2/S
	6098MV2	 SPL 05-6098	Universal	