

**OVL-NAO, OVL-HP,
OVL-HPM
Door Operators**

Spare Parts Leaflet

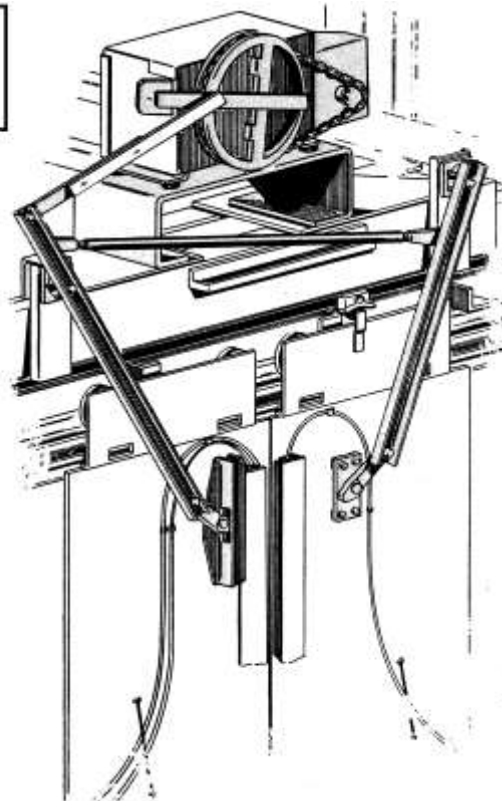
23-10200A

May 18, 2022 / Page 1 of 43

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.

**W/O
VINTAGE**



OTIS

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

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

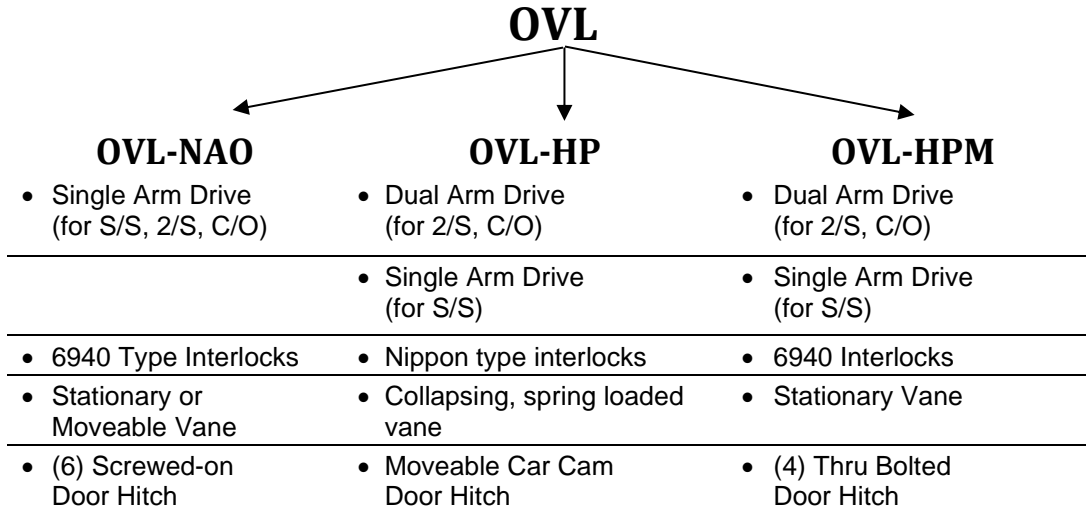
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Leaflet Description

This leaflet details information on the three types of OVL door operators for standard entrance widths used in NSAA. Standard entrance widths are 36, 42, and 48 inch for center-openings, 32, 36, and 42 inch for single-slide openings, and 42 and 48 inch for two-speed openings. Customers are advised to identify the type of OVL operator they have prior to contacting OSC. If entrance type is non-standard, please refer to the NON-STANDARD portion of this section.

IDENTIFICATION

There are visual differences between the three types of OVL operators covered in this SPL. This chart details how to visually differentiate which type the customer has.



REFERENCE SECTION

For OVL-NAO, please reference pages 4 to 8

For OVL-HP, please reference pages 9 to 13

For OVL-HPM, please reference pages 14 to 20

NON-STANDARD OPENING TYPES

For non-standard entrance widths, please have the following information available before contacting OSC Customer Service:

1. Machine Number
2. Opening Width, Height, and Type
3. OVL Type (see IDENTIFICATION portion above).
4. Building Name
5. Building Location

Leaflet Revisions

Date Revised	Subject Matter Expert	Reason for Revision
June 1, 1988	Jeffrey S. Costley	New SPL.
February 12, 2009	Brian Regan	Added History, included OVL-HPM and OVL Closed Loop parts
February 20, 2019	Brian Regan	Clarified non-CSA motor parts on pp. 28–29
January 22, 2020	Peter Kelley	Updated information for p/n 2700CAC37 on p. 42
June 17, 2020	Peter Kelley	Corrected part number YXJO288HM1 on p. 15
May 18, 2022	Peter Kelley	Updated document template and obsolescence info

Continued on next page.

History (continued)

23-10200A

Related Drawings

Drawing No.	Title	Drawing No.	Title
YX10200D	Type YX10200A Operator for C/O Car Doors	YX10200G	Type YX10200A Operator with moveable vane for C/O Car Doors
YX10200E	Type YX10200C Operator for S/S Car Doors	YX10200F	Type YX10200C Operator for 2/SP Car Doors
YX10200J	Type YX10200C Operator with moveable vane for 2/SP Car Doors	_YX10200AD	OVL Strut Mount 42 & 48-in. C/O
_YX10200H	OVL Cab Mount 42 & 48-in. C/O	_YX10200Y	OVL Cab Mount 36 & 42-in. S/S
_YX10200T	OVL Cab Mount 48-in. 2/SP	AAA24360G	OVL-HP Cab Mount C/O
AAA24360K	OVL-HP Strut Mount C/O	AAA24360H	OVL-HP Cab Mount S/S
A_A24360B	OVL-HPM Cab Mount C/O	A_A24360C	OVL-HPM Cab Mount S/S
A_A24360D	OVL-HPM Cab Mount 2/SP	_10200A	Operator Engine Unit for OVL Operator w/ C/O Door
_10200C	Operator Engine Unit for OVL Operator w/ S/S, 2/SP Door	_10200BB	Operator Engine Unit Center Opening
_10200BC	Operator Engine Unit Single Slide and 2/SP	AAA24350AW	Operator Engine Unit Center Opening
AAA24350AX	Operator Engine Unit Single Slide and 2/SP		

Related Documents

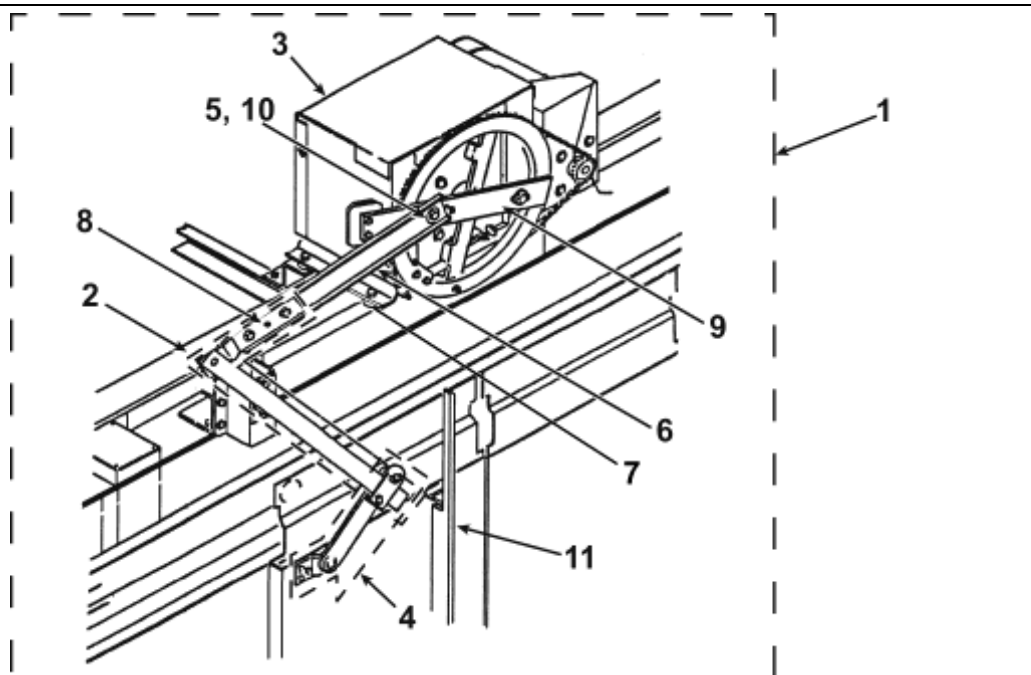
Document ID	Title
SPL 19-B6940BF	<i>Door Stop, Mechanical</i>
SPL 25-AAA23100AAB	<i>Hoistway Entrance</i>
SPL 25-AAA24479A	<i>Car & Hoistway Door Rollers & Guides: Integral & Applied Hangers</i>
SPL 25-AAA6331BZ	<i>Hoistway Door System Two-Speed Doors</i>
SPL 25-YXJO6331CL	<i>Hoistway Door MRQ</i>
SPL 26-6331BR	<i>Door Closer, Hoistway for QL and OVL-HPM Door Operator Systems</i>
SPL 26-AAA23402L	<i>Door Weight Closer</i>
SPL 26-AAA6940BM	<i>Spring Closer Two-Speed Doors</i>
SPL 26-YXJO6940BL	<i>Door Closer Weighted MRQ</i>
SPL 27-AAA23400K	<i>Interlock (OVL Type) for European Applications</i>
SPL 27-E6940AP	<i>Interlock Assemblies & Door Closers</i>
SPL 27-YX10202A	<i>Interlock Assembly (first used on MRQ system w/OVL operator)</i>

Subject Matter Expert

Name	Department
Peter Kelley	OSC Service Engineering

23-10200A

OVL-NAO YX10200D Type: Open Loop, C/O Arrangement with Stationary Vane



W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	ENTRANCE WIDTH (in.)
1	YX10200D3	AAA24350AW Type Operator with Linkages and Mounting Brackets: MOD ONLY. See NOTE 3 .	36–40
	YX10200D4		41–48
2	See Page 35, 36	Assembly, Arm and Bearing, Type YX10200K	
3	See Page 22	Assembly, Engine Unit, Type AAA24350AW, MOD Application	
	See Page 24, 25	Assembly, Engine Unit, Type YX10200A (120W) and YY10200BB (200W)	
4	See Page 38	Assembly, Link, Type 7300E	
5	207Z3	Bearing, Ball	
6	YYJO288GX12	Drive Arm w/o Bearing (see NOTE 1)	
7	462HA111	Spacer	
8	81AX1	Pin, Roll (see NOTE 2)	
9	See Page 33	Plate, Drive Hitch Type JO343AV	
10	172PM7	Ring, Retaining	
11	A6940AT2	Vane, Stationary for > 700 F.P.M & < 1200 F.P.M, 45-3/4-in. L	
	A6940AT1	Vane, Stationary for < 700 F.P.M, 30-in. L	

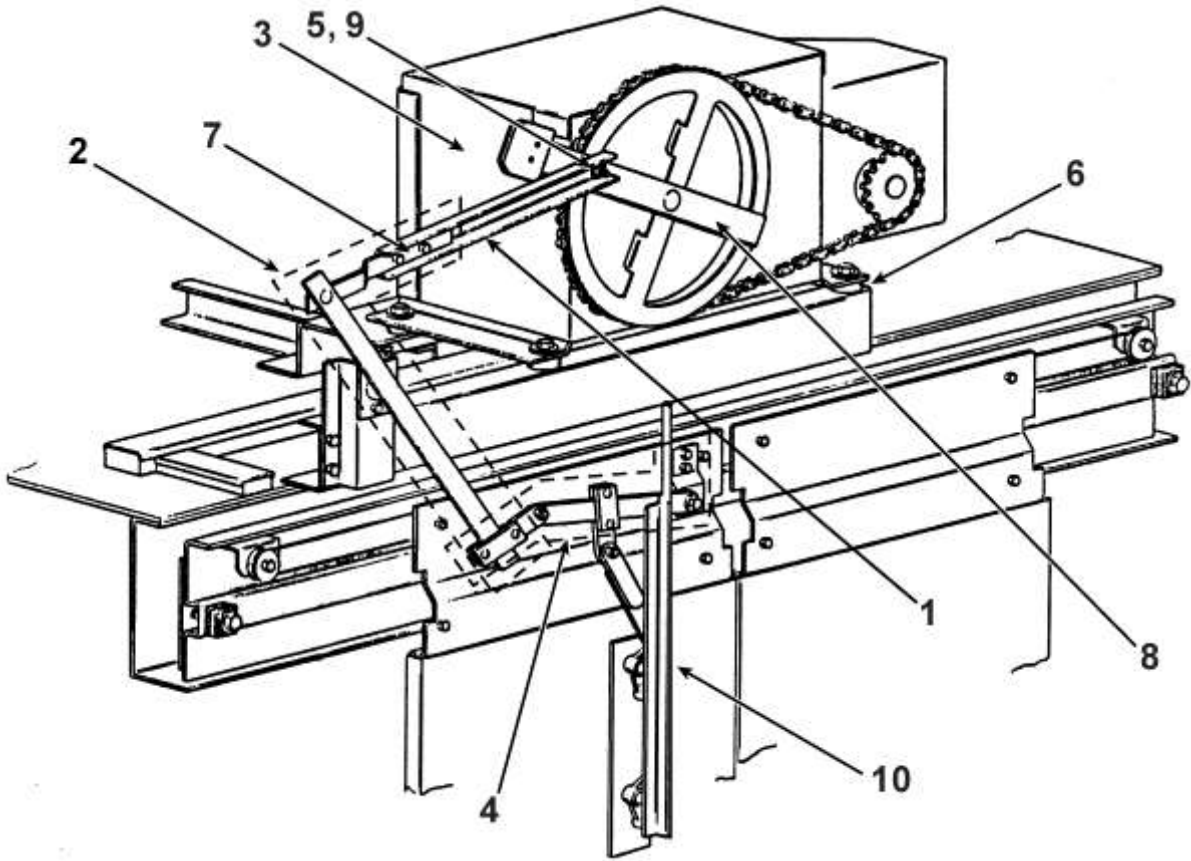
NOTE 1: Arm does not come with bearing or retaining ring. Order additionally (1) bearing, item 5, and (1) retaining ring, item 10.

NOTE 2: After final arm adjustment, drill #13 (.185) hole and pin in place.

NOTE 3: For MOD Closed-Loop OVL-NAO operator identities, see page 23.

OVL-NAO YX10200G Type: Open Loop, C/O Arrangement with Moveable Vane

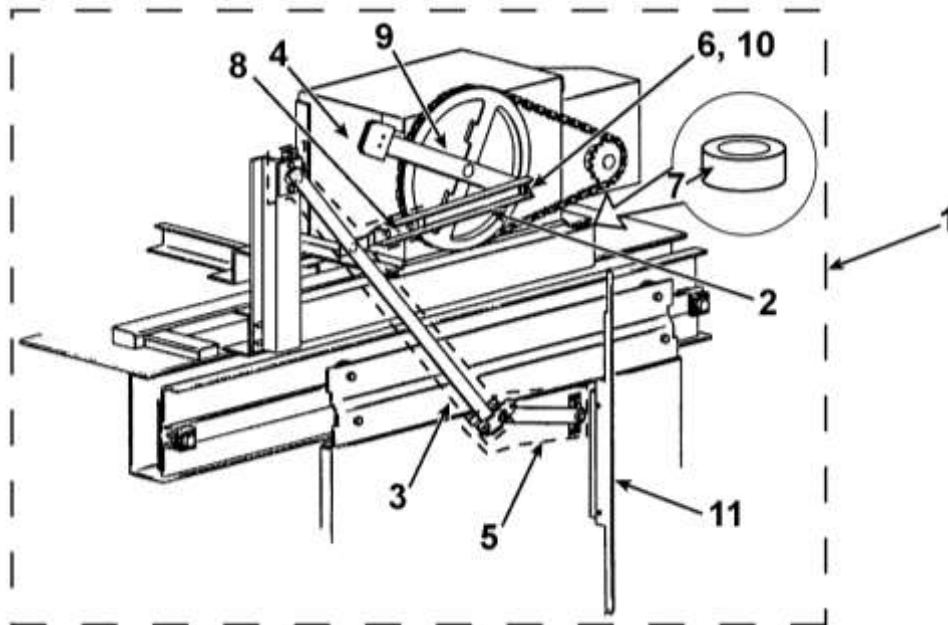
23-10200A



W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	YYJO288GX12	Arm, Drive w/o Bearing (see NOTE 1), 20 in. L
2	See Page 35, 36	Assembly, Arm and Bearing, Type YX10200K
3	See Page 22, 23	Assembly, Engine Unit
4	See Page 38	Assembly, Link, Type 7770P
5	207Z3	Bearing, Ball
6	462HA111	Spacer
7	81AX1	Pin, Roll (see NOTE 2)
8	See Page 33	Plate, Drive Hitch, Type JO343AV
9	172PM7	Ring, Retaining
10	See Page 41	Vane, Moveable, Type C6970F

NOTE 1: Arm does not come with bearing or retaining ring. Order additional (1) bearing, item 5, and (1) retaining ring, item 9.

NOTE 2: After final arm adjustment, drill #13 (.185) hole and pin in place.

23-10200A**OVL-NAO YX10200E Type: Open Loop, S/S Arrangement with Stationary Vane**

W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	ENTRANCE WIDTH (in.)
1	YX10200E7	AAA24350AX Type Operator with Linkages and Mounting Brackets: MOD ONLY. (see NOTE 3)	41–42
	YX10200E8		36–40
	YX10200E9		32–35
2	YYJO288GX12	Arm, Drive w/o Bearing, 20 in. L (see NOTE 1)	
3	See Page 35, 36	Assembly, Arm and Bearing, Type YX10200K	
4	See Page 22	Assembly, Engine Unit, Type AAA24350AX	
	See Page 26, 27	Assembly, Engine Unit, Type YX10200C (120 W) and 10200BC (200 W)	
5	See Page 38	Assembly, Link, Type 7300E	
6	207Z3	Bearing, Ball	
7	462HA111	Spacer	
8	81AX1	Pin, Roll (see NOTE 2)	
9	See Page 33	Plate, Drive Hitch, Type JO343AV	
10	172PM7	Ring, Retaining	
11	A6940AT2	Vane, Stationary, 45-3/4 in. L, for > 700 F.P.M & < 1200 F.P.M	
	A6940AT1	Vane, Stationary, 30 in. L, for < 700 F.P.M	

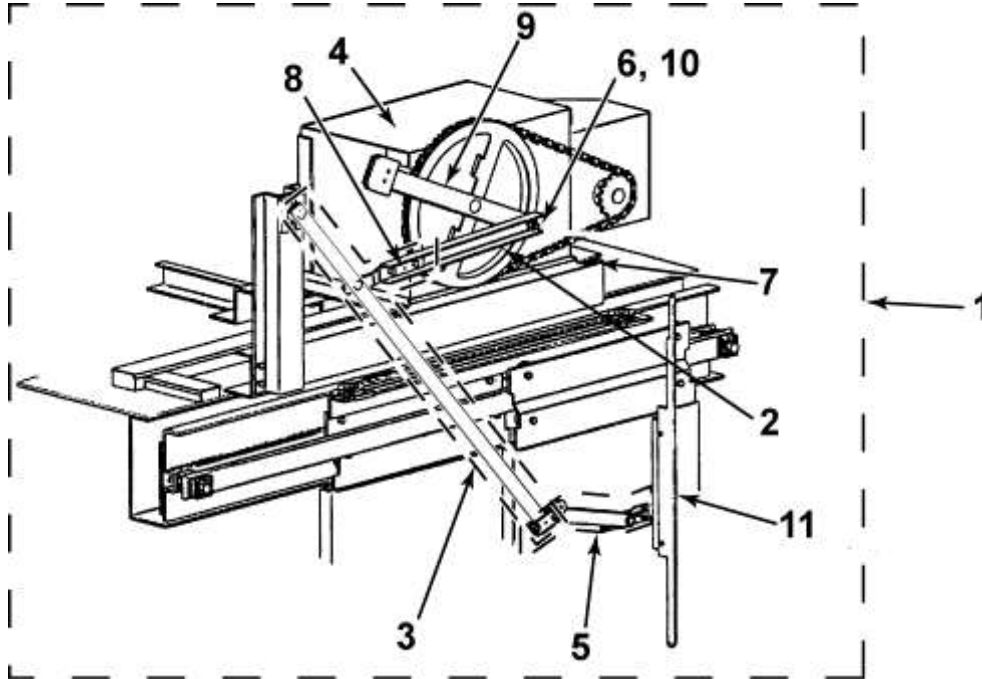
NOTE 1: Arm does not come with bearing or retaining ring. Order additional (1) bearing, item 6, and (1) retaining ring, item 10.

NOTE 2: After final arm adjustment, drill #13 (.185) hole and pin in place.

NOTE 3: For MOD Closed-Loop OVL-NAO operator identities see page 23.

OVL-NAO YX10200F Type: Open Loop, 2/SP Arrangement with Stationary Vane

23-10200A



W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	ENTRANCE WIDTH (IN)
1	YX10200F5	AAA24350AX Type Operator with Linkages and Mounting Brackets: MOD ONLY (see NOTE 3)	44-48
	YX10200F6		42-43
2	YYJO288GX12	Arm, Drive w/o Bearing, 20 in. L (see NOTE 1)	
3	YX10200K4	Assembly, Arm and Bearing	
4	See Page 22	Assembly, Engine Unit, MOD, Type AAA24350AX	
	See Page 26, 27	Assembly, Engine Unit, Type YX10200C(120 W) and YY10200BC (200 W)	
5	See Page 38	Assembly, Link, Type 7300E	
6	207Z3	Bearing, Ball	
7	462HA111	Spacer	
8	81AX1	Pin, Roll (see NOTE 2)	
9	See Page 33	Plate, Drive Hitch, Type JO343AV	
10	172PM7	Ring, Retaining	
11	A6940AT2	Vane, Stationary, 45-3/4 in. L, for >700 F.P.M and <1200 F.P.M	
	A6940AT1	Vane, Stationary, 30 in. L, for <700 F.P.M	

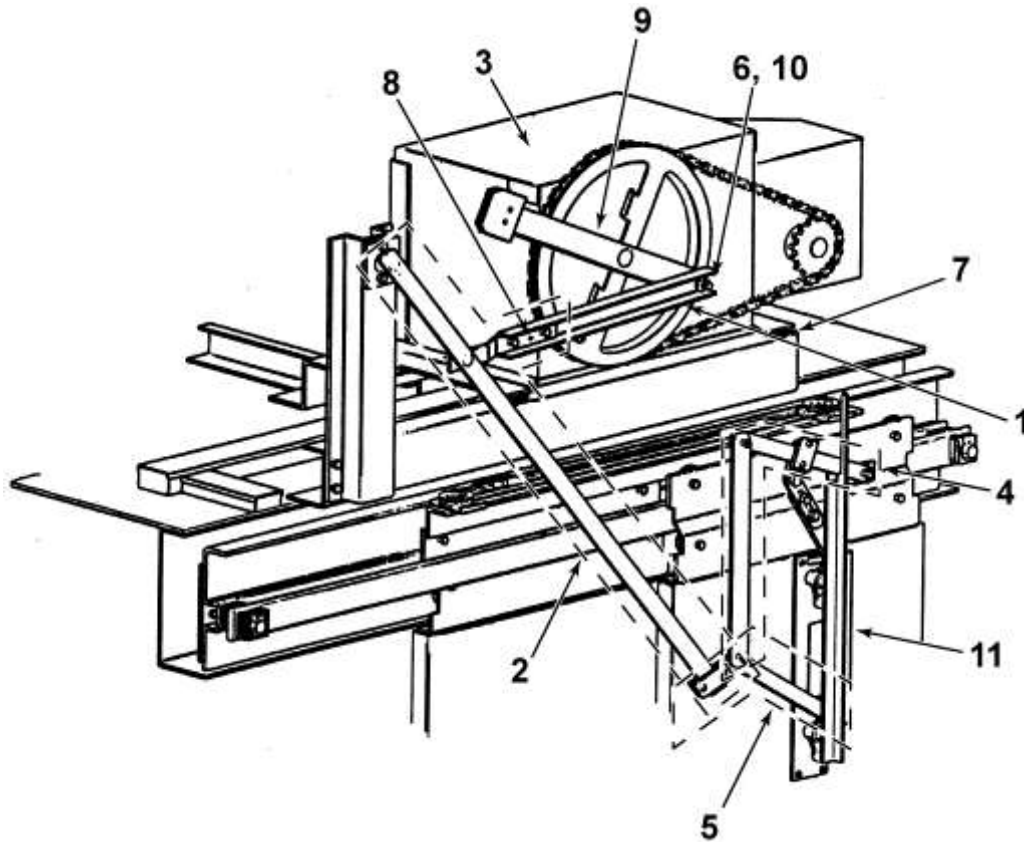
NOTE 1: Arm does not come with bearing or retaining ring. Order additional (1) bearing, item 6, and (1) retaining ring, item 10.

NOTE 2: After final arm adjustment, drill #13 (.185) hole and pin in place.

NOTE 3: For MOD Closed-Loop OVL-NAO operator identities see page 23.

23-10200A

OVL-NAO YX10200J Type: Open Loop, 2/SP Arrangement with Moveable Vane



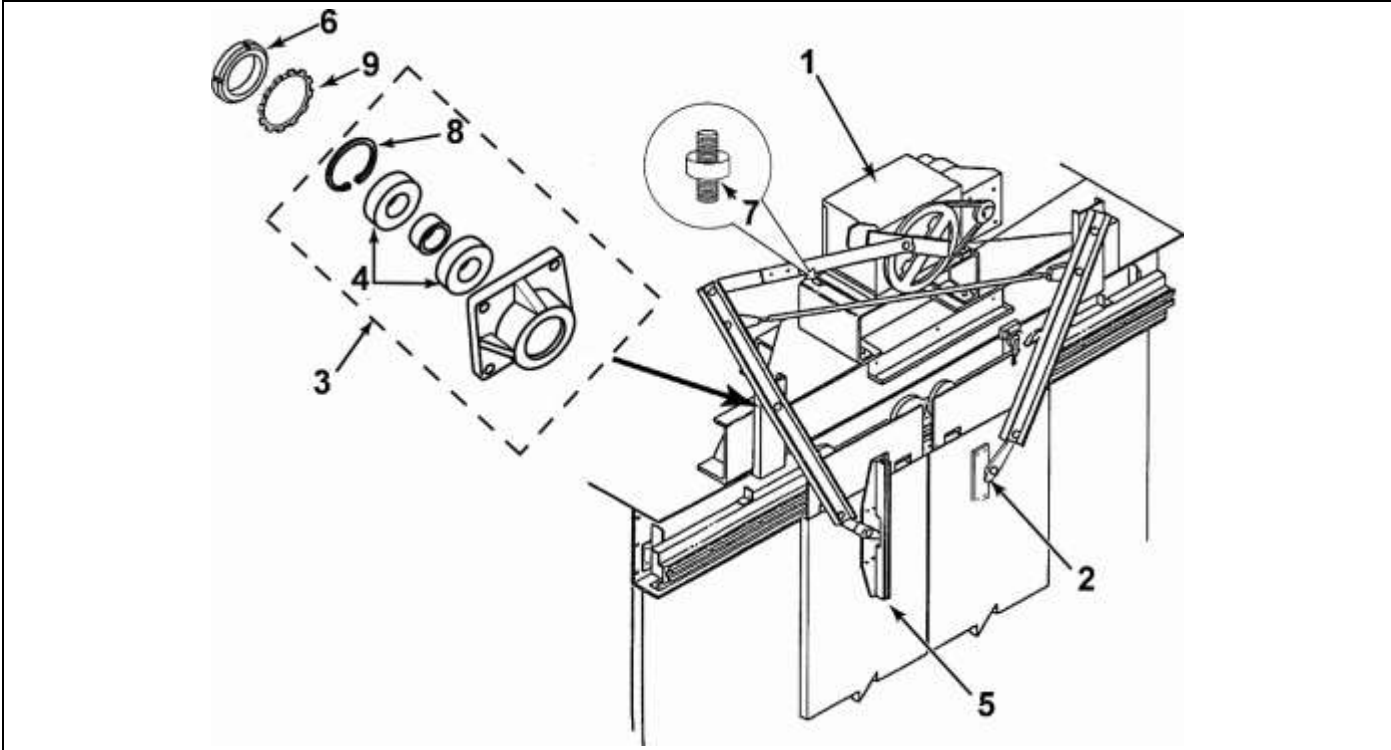
	W/O VINTAGE	
REF. No.	PART No.	DESCRIPTION
1	YYJO288GX12	Arm, Drive w/o Bearing, 20 in. L (See NOTE 1)
2	YX10200K4	Assembly, Arm and Bearing
3	See Page 26, 27	Assembly, Engine Unit
4	See Page 39	Assembly, Idler Link, Type 7770J
5	See Page 38	Assembly, Link, Type 7770P
6	207Z3	Bearing, Ball
7	462HA111	Spacer
8	81AX1	Pin, Roll See NOTE 2
9	See Page 33	Plate, Drive Hitch, Type JO343AV
10	172PM7	Retaining Ring
11	See Page 41	Vane, Movable, Type C6970F

NOTE 1: Arm does not come with bearing or retaining ring. Order additionally (1) bearing, item 6, and (1) retaining ring, item 10.

NOTE 2: After final arm adjustment, drill #13 (.185) hole and pin in place.

OVL-HP YX10200R Type: Open Loop, C/O Arrangement with Collapsible Vane

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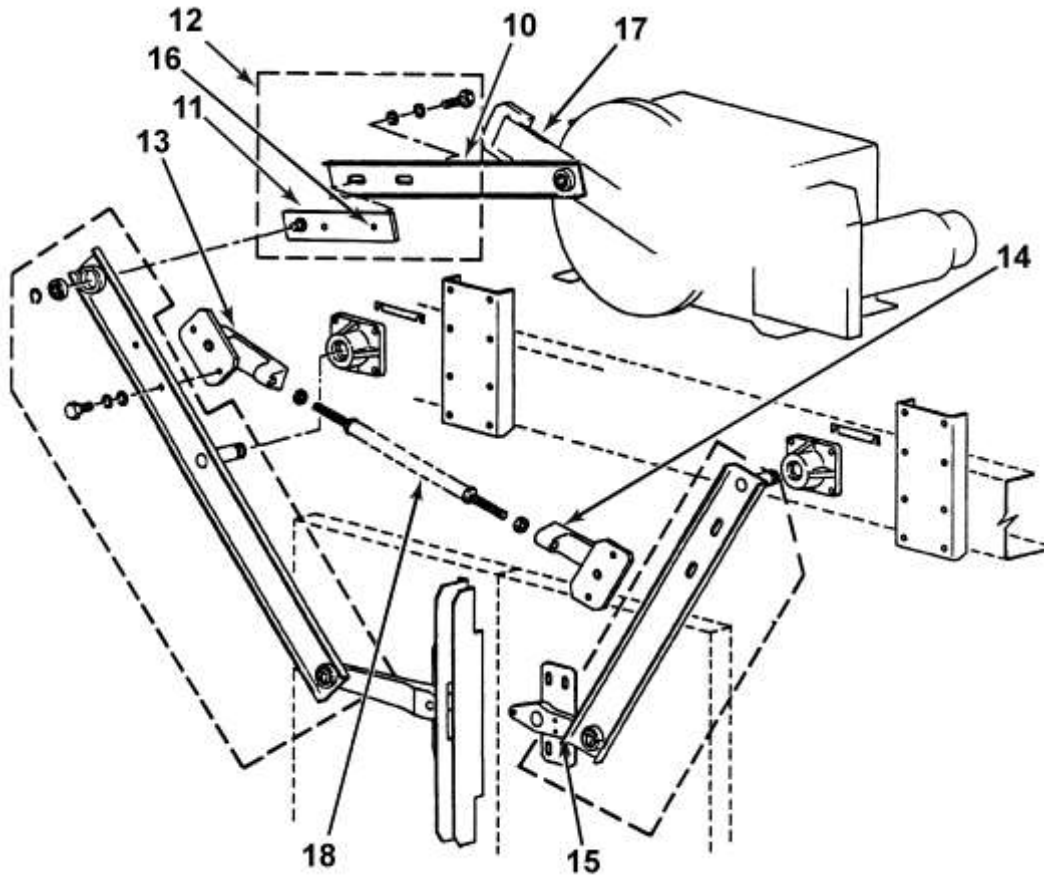


	1987-1994	1994-PRESENT		
REF. No.	PART No.		DESCRIPTION	REMARKS
1	YY10200A Type - See Page 24, 25	---	Assembly, Engine Unit	120 W
	YY10200BB Type -See page 24, 25			200 W
	---	AAA24350AW Type - See Page 22		200 W, DCSS
2	YYJO288GP1 JO288GP1	AAA288ZL1 JO288GP1	Assembly, Hitch Arm	
3	AAA396MT1		Assembly, Housing and Bearing	
4	207Z67		Bearing	
5	YY10201A1 AAA24390A_TYPE		Collapsible Vane (see Page 42)	
6	72FJ1		Nut, Bearing M25 X 1.5	
7	YYJO310EK1 JO310EK4 JO310EK2		Pad, Isolation	
8	172PM2		Ring, Retaining	
9	130AT1		Washer, Keyed M25	

Continued on next page.

23-10200A

OVL-HP YX10200R Type: Open Loop, C/O Arrangement w/Collapsible Vane

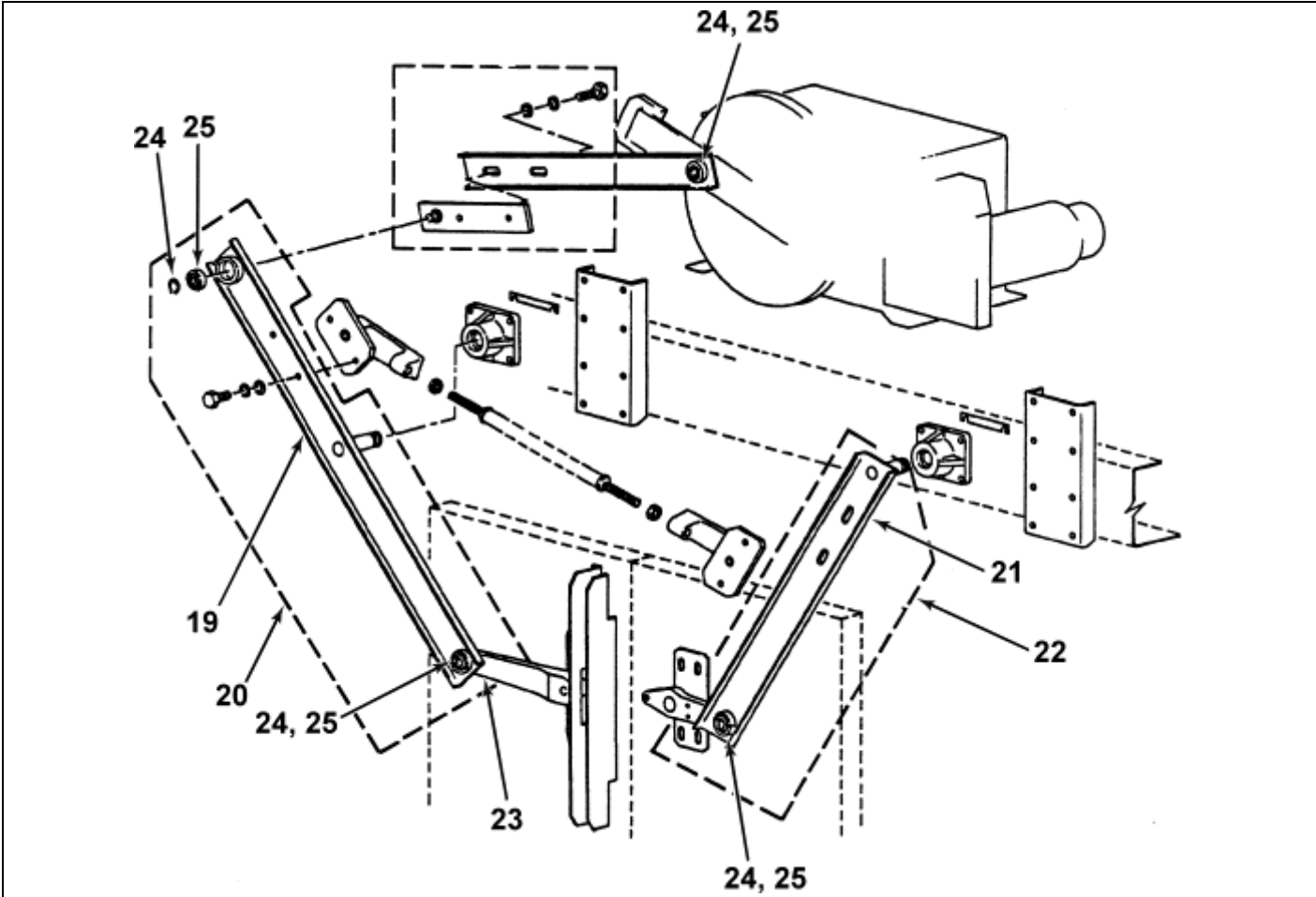


REF. No.	PART No.		DESCRIPTION	REMARKS
	1987-1994	1994-PRESENT		
10	See Page 32		Arm, Drive, Type YYJO288GX	
11	YYJO288GY6	YYJO288GY10	Assembly, Drive Arm	42-in.
	YYJO288GY2			48-in.
12	2700CAC29	---	Kit, Drive Arm with Hardware and Fasteners (see NOTE 2)	42-in.
	2700CAC27			48-in.
13	YYJO316BTP1		Bracket, Connecting	☝
14	YYJO316BTP2			☝
15	See Page 37		Hitch Connection	
16	81AX1		Pin, Spring See NOTE	
17	See Page 33		Plate, Drive Hitch, Type JO343AV	
18	YXJO100D2	YXJO100D6	Rod, Connecting	42-in.
	YXJO100D4			48-in.

OVL-HP YX10200Y and AAA24360H

Type: Open Loop, Single-Slide Arr.

23-10200A

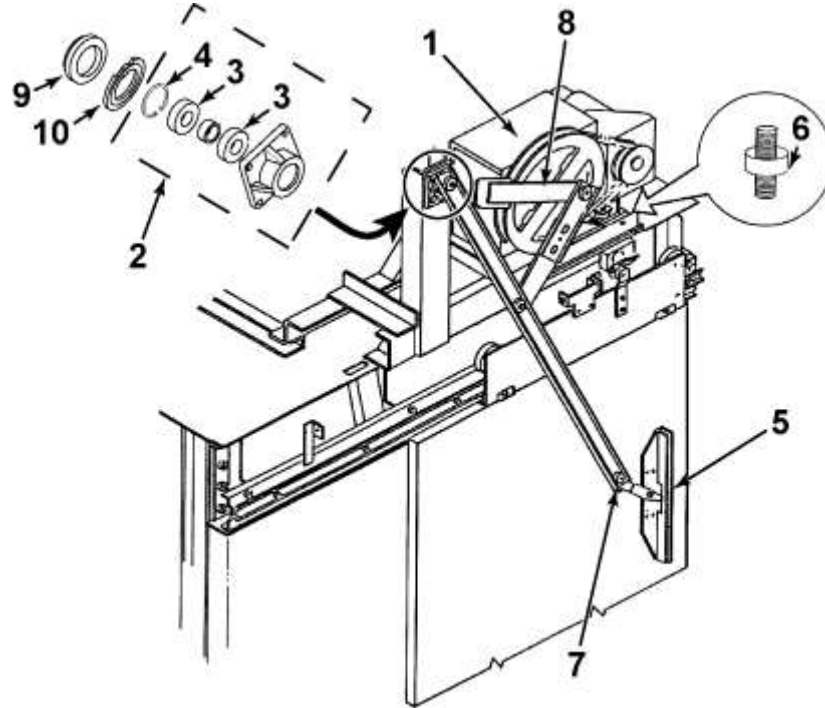


REF. No.	1987-1994		1994-PRESENT		DESCRIPTION	REMARKS
	PART No.					
19	YYJO288HA2	YYJO288HA6			Swing Arm #1	42-in.
	YYJO288HA4					48-in.
20	2700CAC31	---		Kit, Swing Arm #1 with Hardware and Fasteners (see NOTE 2)	42-in.	
	2700CAC32				48-in.	
21	YYJO288HB2	YYJO288HB6		Swing Arm #2	42-in.	
	YYJO288HB4				48-in.	
22	2700CAC33	---		Kit, Swing Arm #2 with Hardware and Fasteners (see NOTE 2)	42-in.	
	2700CAC34				48-in.	
23	See Page 37			Swing Arm Connection		
24	207Z3			Bearing		
25	172PM7			Retaining Ring		

NOTE: After final arm adjustment, drill #13 (.185) hole and pin in place.

23-10200A

OVL-HP YX10200W Type: Open Loop, Single-Slide Arr. w/Collapsible Vane

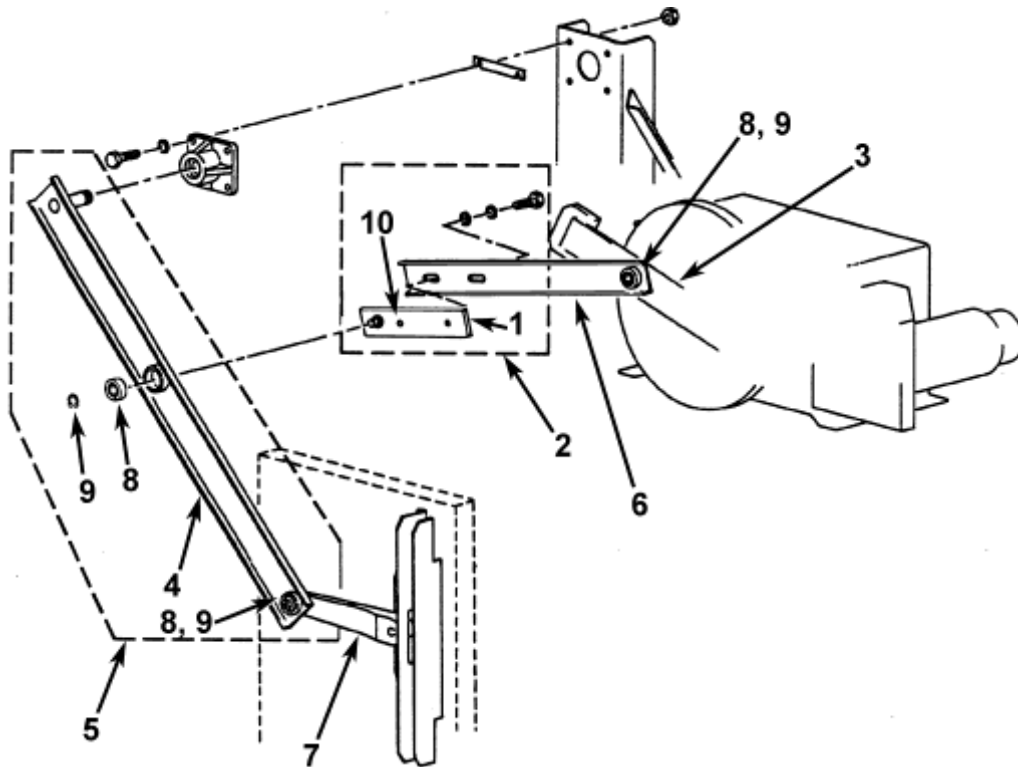


	1987-1988	1988-PRESENT		
REF. No.	PART No.		DESCRIPTION	REMARKS
1	YY10200C Type - See Page 26, 27	---	Assembly, Engine Unit	120 W
	YY10200BC Type-See pp 26, 27			200 W
	---	AAA24350AX Type - See Page 22		200 W, DCSS
2	AAA396MT1		Assembly, Housing and Bearing	
3	207Z67		Bearing	
4	172PM2		Retaining Ring	
5	YY10201A3 AAA24390A7	AAA24390A3	Movable Car Cam (See Page 42)	
	YY10201A4 AAA24390A8	AAA24390A4		
6	YYJO310EK1 JO310EK1	JO310EK2	Pad, Isolation	
7	81AX1		Pin, Spring See NOTE	
8	See Page 33		Plate, Drive Hitch, Type JO343AV	
9	72FJ1		Nut, Bearing M25 X 1.5	
10	130AT1		Washer, Keyed M25	

NOTE: After final arm adjustment, drill #13 (.185) hole and pin in place.

OVL-HP YX10200W Type: Open Loop, Single-Slide Arr. w/Collapsible Vane

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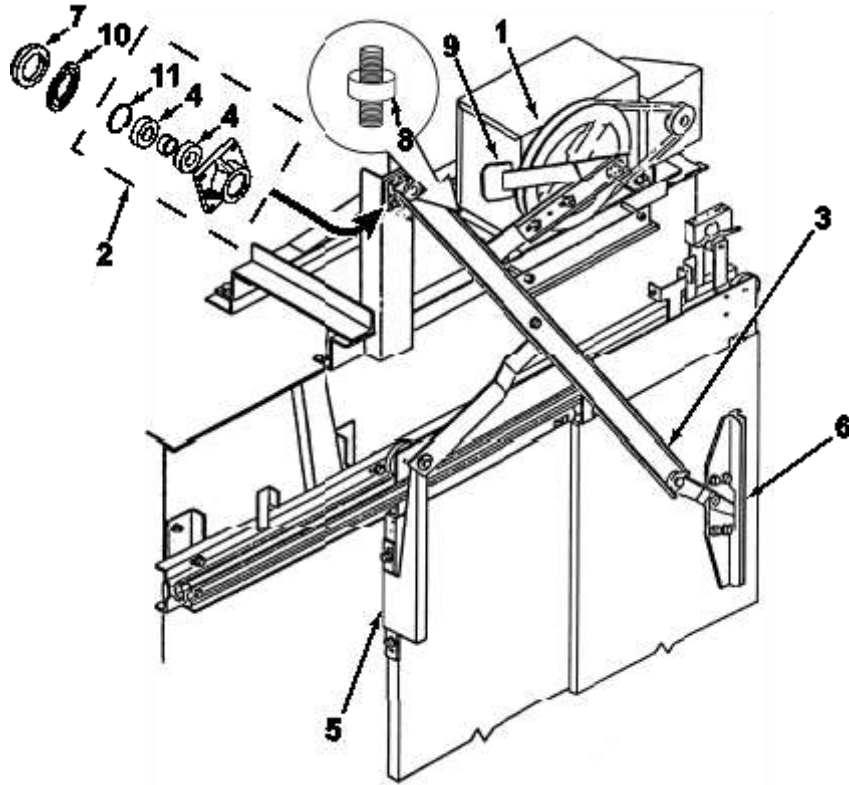
	1987-1988	1988-PRESENT		
W/O VINTAGE				
REF. No.	PART No.		DESCRIPTION	REMARKS
1	YYJO288GY4	YYJO288GY14	Arm, Drive without Bearing (see NOTE 2)	36-in.
	YYJO288GY6	---		42-in.
2	2700CAC28	---	Kit, Drive Arm with Hardware and Fasteners (see NOTE 2)	36-in.
	2700CAC29			42-in.
3	See Page 33		Plate, Drive Hitch, Type JO343AV	
4	YXJO288HK2	YXJO288HK6	Swing Arm (NOTE 2)	36, 42-in.
5	2700CAC34	---	Kit, Swing Arm _ Hardware for Fastening (See NOTE 2)	36, 42-in.
6	See Page 32		Arm, Transmission Type YYJO288GX	
7	See Page 37		Connection Swing Arm	
8	207Z3		Bearing	
9	172PM7		Retaining Ring	
10	81AX1		Pin, Spring See NOTE	

NOTE: After final arm adjustment, drill #13 (.185) hole and pin in place.

NOTE 2: Arm and arm kit does not contain bearing or retaining ring. Order additionally bearing, Ref. No. 8 and retaining ring, Ref. No. 9, as needed.

23-10200A

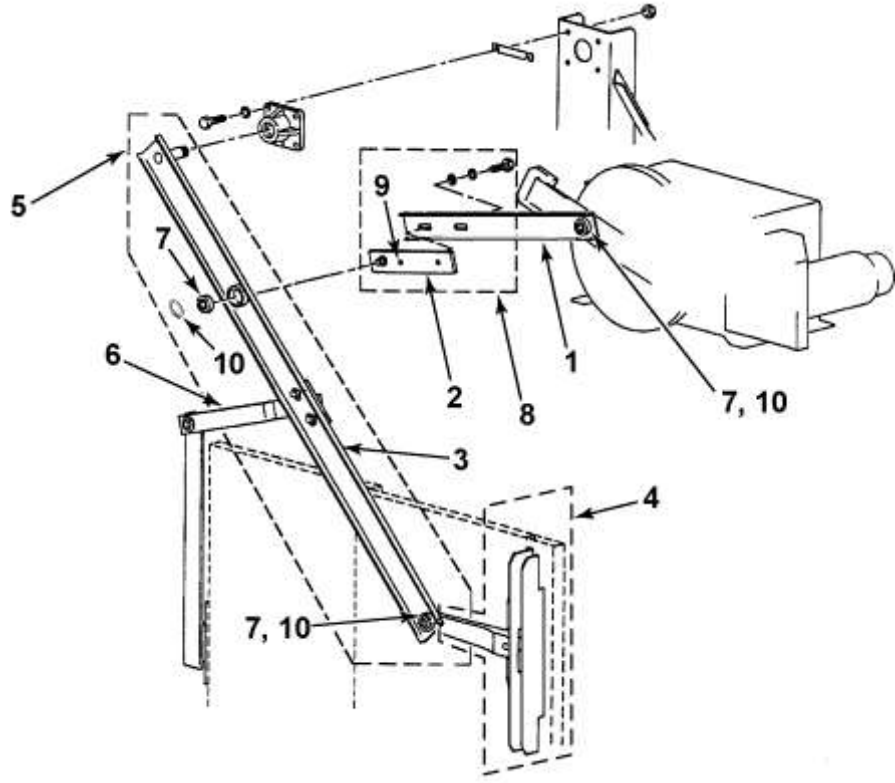
**OVL-HP YX10200P Type: Open Loop,
2/SP Arr. with Collapsible Vane**



	1987-1991	1991-PRESENT		
	WITHOUT VINTAGE			
REF. No.	PART No.		DESCRIPTION	REMARKS
1	YY10200C Type -See Page 26	---	Assembly, Engine Unit	120 W
	YY10200BC Type -See page 26, 27			200 W
	---	AAA24350AX Type - See Page 22		200 W, DCSS
2	AAA396MT1		Assembly, Housing and Bearing	
3	YYJO288HK4	YYJO288HK6	Assembly, Swing Arm	48-in.
4	207Z67		Bearing	
5	YXJO316BTT1	YXJO316BTT3	Bracket, Hitch	
	YXJO316BTT2	YXJO316BTT4		
6	AAA24390A		Collapsible Vane (see Page 42)	
7	72FJ1		Nut, Bearing M25 X 1.5	
8	YYJO340EK4		Pad, Isolation	
	JO340EK4			
	JO310EK2			
9	See Page 33		Plate, Drive Hitch, Type JO343AV	
10	130AT1		Washer, Keyed M25	
11	172PM2		Retaining Ring	

OVL-HP YX10200P Type: Open Loop, 2/SP Arr. with Collapsible Vane

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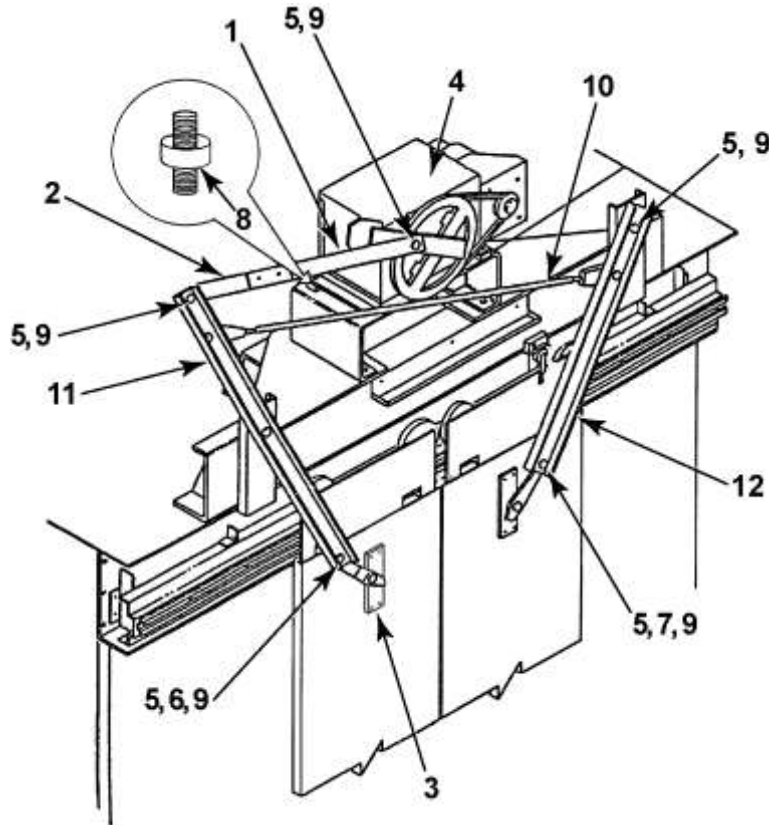
REF. No.	1987-1991		1991-PRESENT		DESCRIPTION	REMARKS
	WITHOUT VINTAGE					
REF. No.	PART No.				DESCRIPTION	REMARKS
1	See Page 32				Arm, Drive	---
2	YYJO288GY8	YYJO288GY12			Arm, Drive, w/o Bearing (see NOTE 2)	48-in.
3	YXJO288HK4	YXJO288HK6			Arm, Swing (see NOTE 2)	48-in.
4	See Page 42				Collapsible Vane	
5	2700CAC36	---			Assy., Swing Arm +Hardware + Fasteners (see NOTE 2)	48-in.
6	YXJO288HM1				Assembly, Slow Door Arm	48-in., A=18.90
	---	YXJO288HM2				48-in., A=17.43
	---	YXJO288HM3				42-in.
	---	YXJO288HM4				48-in., A=17.24
7	207Z3				Bearing	
8	2700CAC30	---			Kit, Drive Arm + Hardware + Fasteners (see NOTE 2)	
9	81AX1				Pin, Spring (see NOTE)	
10	172PM7				Retaining Ring	

NOTE: After final arm adjustment, drill #13 (.185) hole and pin in place.

NOTE 2: Arm and arm kit does not contain bearing or retaining ring. Order additionally bearing, Ref. No. 7 and retaining ring, Ref. No. 10, as needed.

23-10200A

OVL-HPM A_A24360B Type: Open Loop, C/O Arrangement



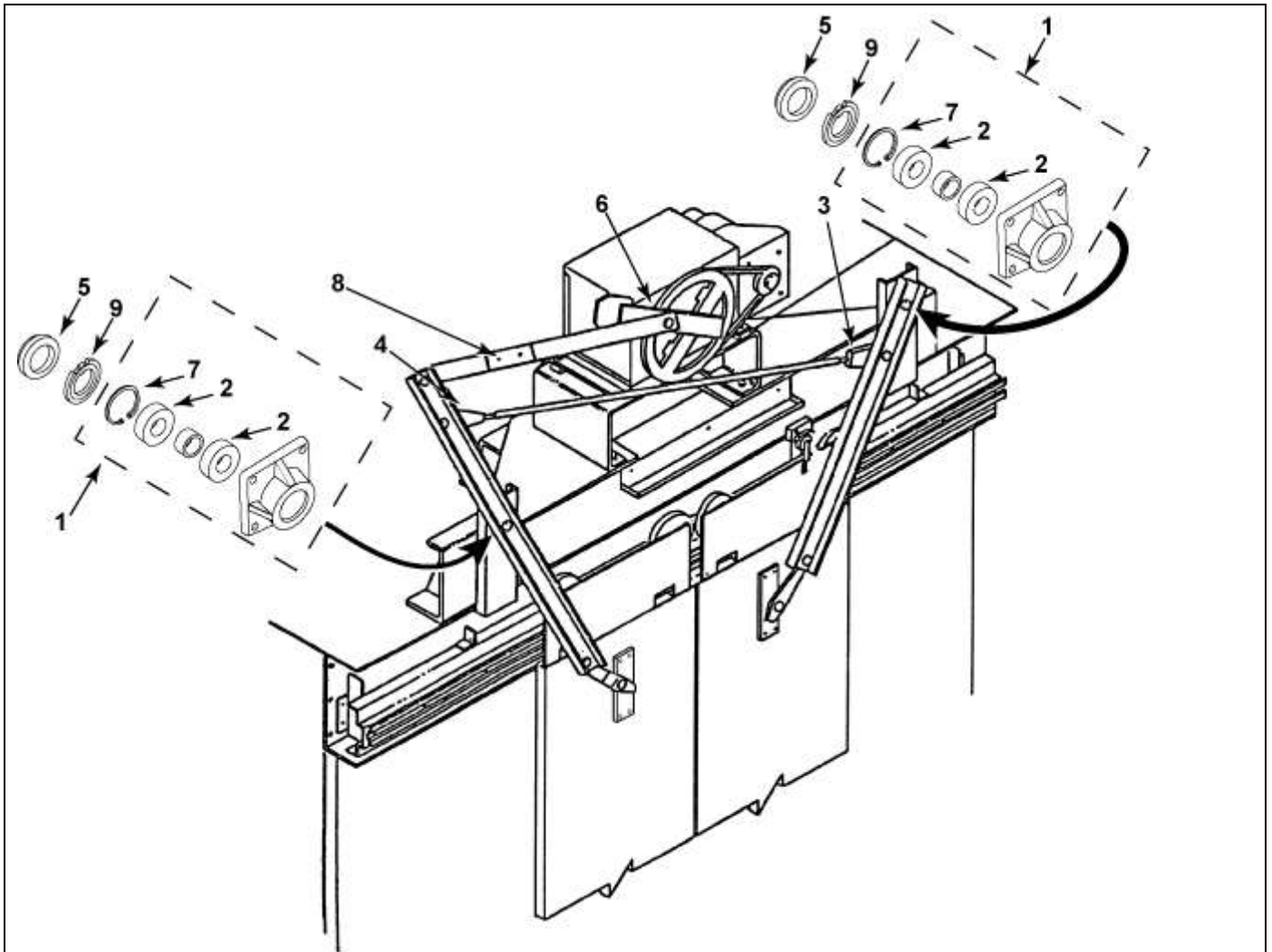
W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	See Page 32	Arm, Drive, Type YYJO288GX
2	YYJO288GY10	Arm, Drive w/o Bearing (see NOTE)
3	AAA288ZT1	Arm, Hitch
4	See Page 22	Assembly, Engine Unit, Type AAA24350AW
	See Page 24, 25	Assembly, Engine Unit, Type YY10200BB
5	207Z3	Bearing
6	See page 37	Connection, Hitch
7	See Page 37	Connection, Swing Arm
8	YYJO310EK1 , JO310EK4, JO310EK2	Pad, Isolation
9	172PM7	Retaining Ring, External
10	YXJO100D6	Rod, Connecting
11	YYJO288HA6	Swing Arm #1 w/o Bearing see NOTE
12	YYJO288HB6	Swing Arm #2 w/o Bearing see NOTE



NOTE: Arm does not contain bearing or retaining ring. Order additional bearing (Ref. 5) and retaining ring (Ref. 9) as needed.

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OVL-HPM A_A24360B Type: Open Loop, C/O Arrangement

23-10200A

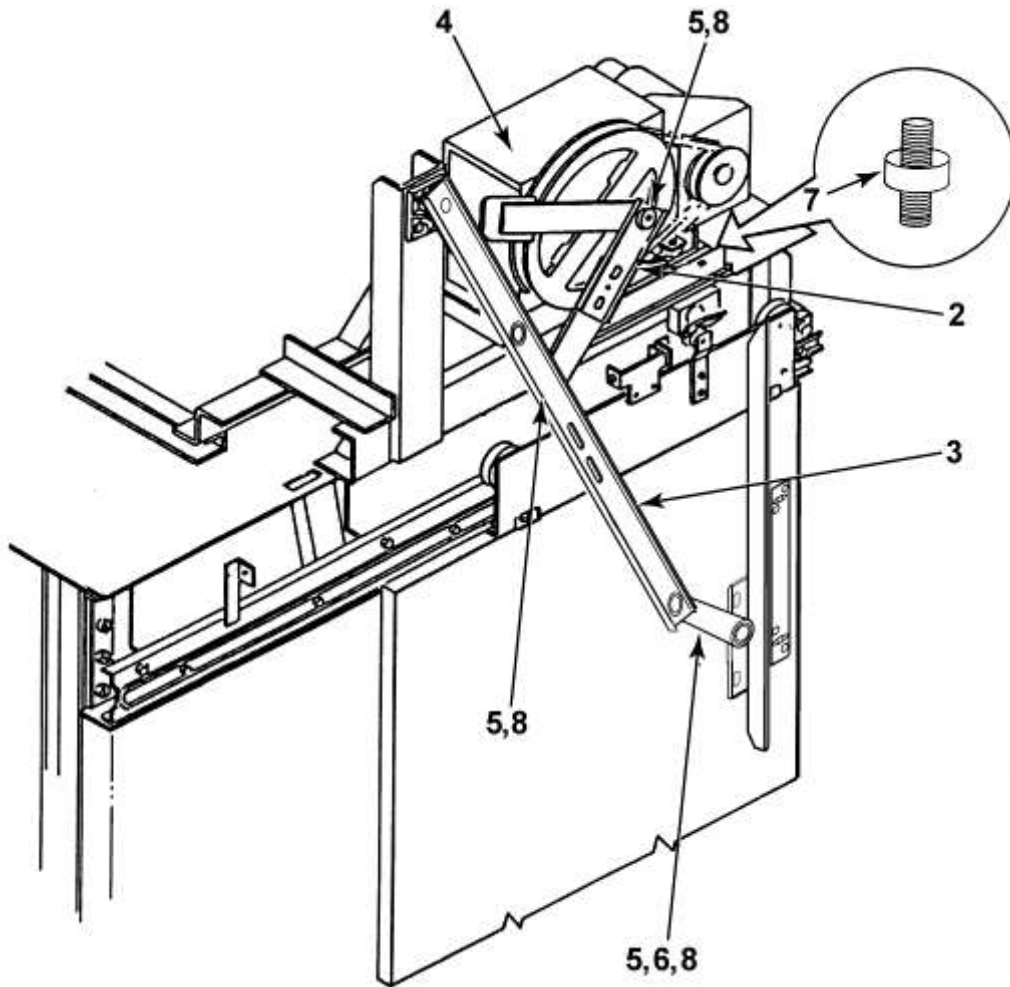


W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	AAA396MT1	Assembly, Housing and Bearing
2	207Z67	Bearing
3	YYJO316BTP2	Bracket, Connecting, 
4	YYJO316BTP1	Bracket, Connecting, 
5	72FJ1	Nut, Bearing M25 X 1.5
6	See Page 31	Plate, Drive Hitch, Type JO343AV
7	172PM2	Retaining Ring, Internal
8	81AX1	Spring, Pin, (see NOTE)
---	AAA24395A1	Vane, Stationary
9	130AT1	Washer, Keyed M25

NOTE: After final arm adjustment, drill #13 (.185) hole and pin in place.

23-10200A

OVL-HPM A_A24360C Type: Open Loop, Single-Slide Arrangement



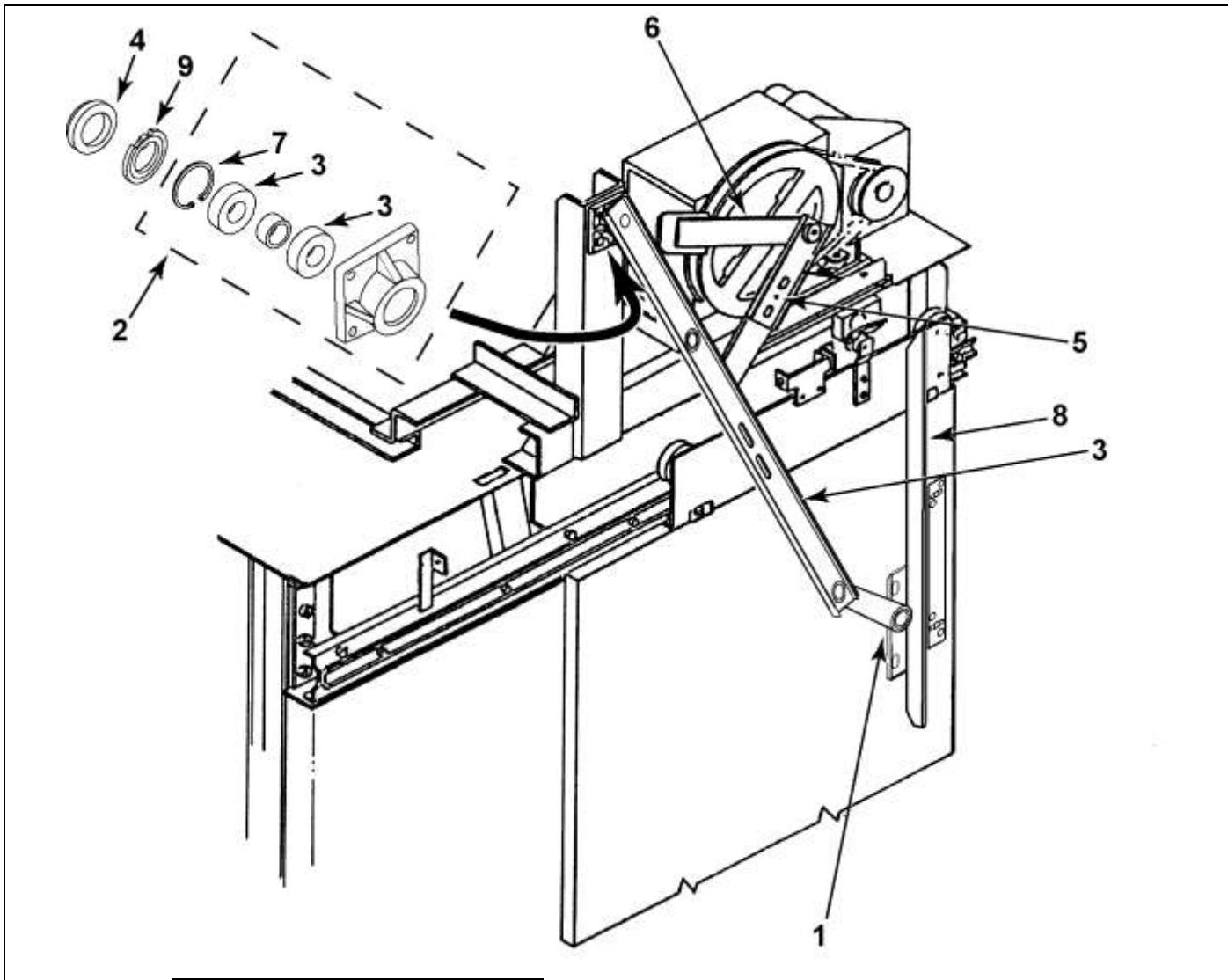
W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	YYJO288GY14	Arm, Drive w/o Bearing (see NOTE)
2	See Page 32	Arm, Transmission, Type YYJO288GX
3	YYJO288HK6	Arm, Swing w/o Bearing (see NOTE)
4	See Page 22	Assembly, Engine Unit, Type AAA24350AX
	See Page 26, 27	Assembly, Engine Unit, Type YY10200BC
5	207Z3	Bearing
6	See Page 37	Connection, Swing Arm
7	YYJO310EK1, JO310EK1, JO310EK2	Pad, Isolation
8	172PM7	Retaining Ring, External

NOTE: Arm does not come with bearing or retaining ring. Order additional bearing (Ref. 5) and retaining ring (Ref. 8) as needed.

Continued on next page.

OVL-HPM A_A24360C Type: Open Loop, Single-Slide Arrangement

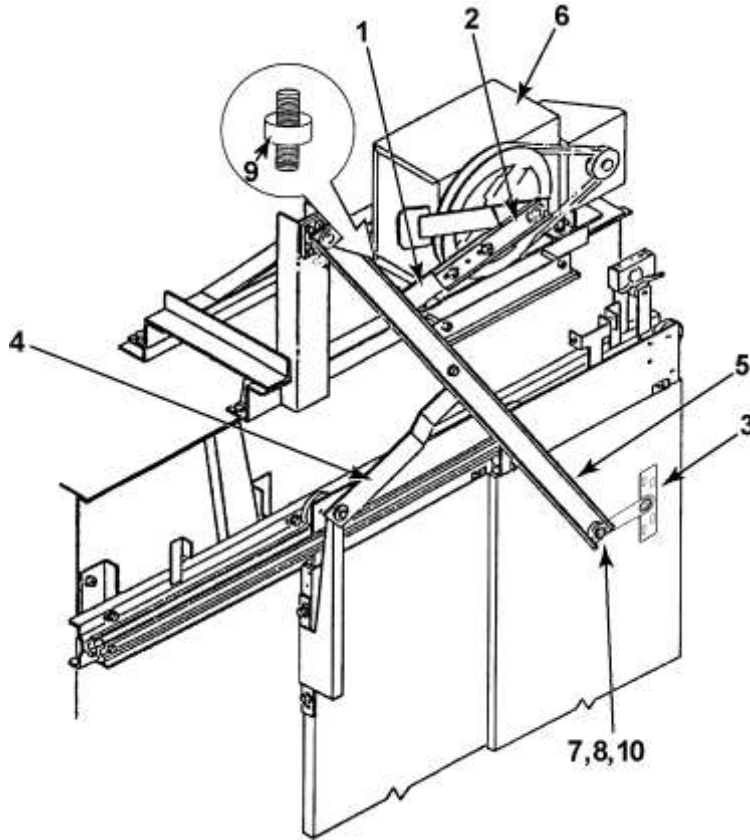
23-10200A



W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	AAA288ZT2	Assy., Hitch w/Plate
2	AAA396MT1	Assembly, Housing and Bearing
3	207Z67	Bearing
4	72FJ1	Nut, Bearing M25 X 1.5
5	81AX1	Pin, Roll
6	See Page 33	Plate, Drive Hitch, Type JO343AV
7	172PM2	Retaining Ring, Internal
8	AAA24395A1	Vane, Stationary (not shown),
	AAA24395A2	Vane, Stationary (not shown),
9	130AT1	Washer, Keyed M25

23-10200A

OVL-HPM A_A24360D Type: Open Loop, 2-Speed Arrangement



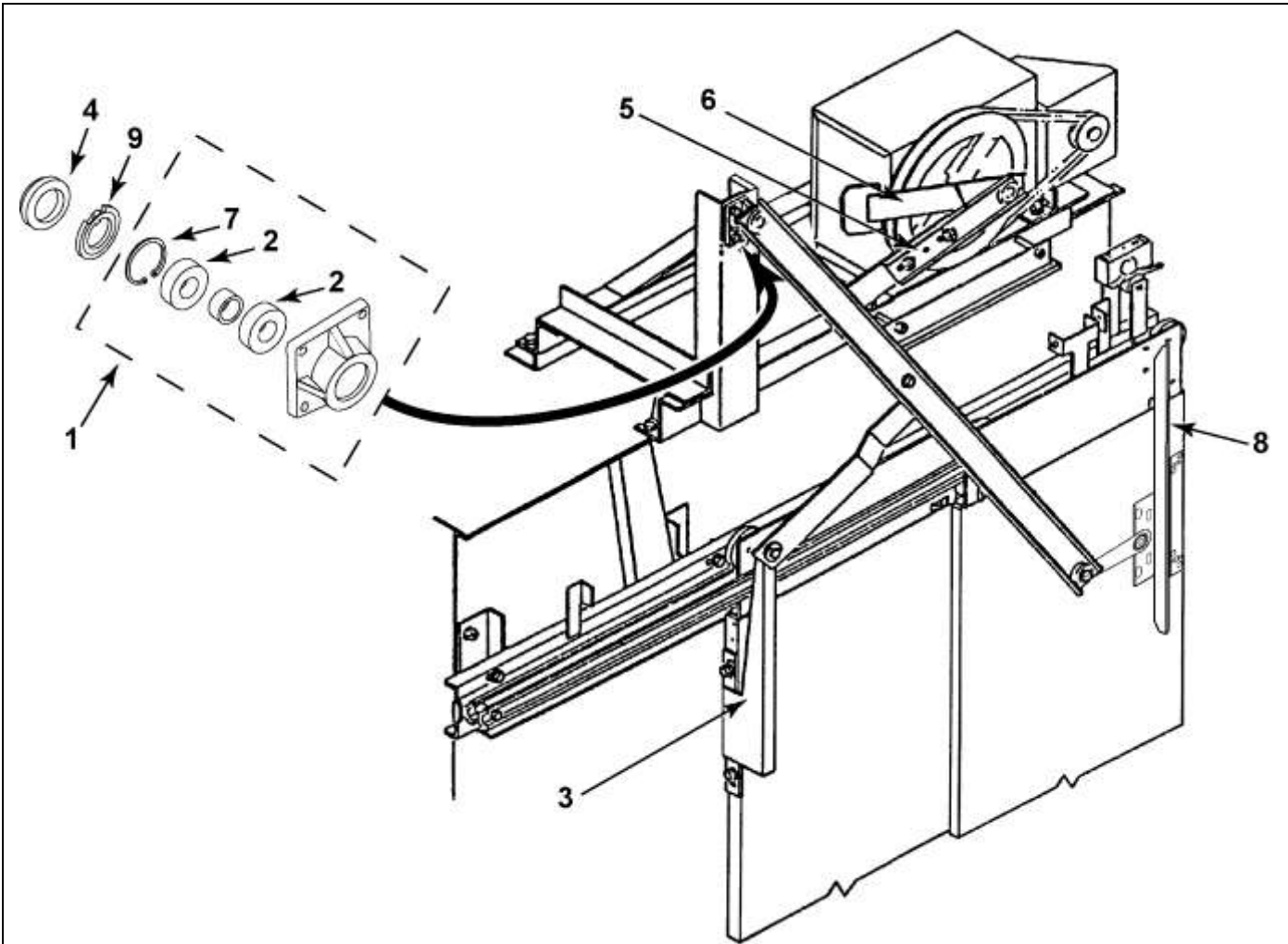
W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	YYJO288GY14	Arm, Drive (see NOTE)
2	See Page 32	Arm, Drive Type YYJO288GX
3	AAA288ZT2	Assy., Hitch w/Plate
4	AAA288ZY1	Arm, Slow Door w/Bearing, Entrance Width = 42 in.
	AAA288ZY2	Arm, Slow Door w/Bearing, Entrance Width = 48 in.
5	YYJO288HK6	Arm, Swing w/o Bearing (see NOTE)
6	See Page 22	Assembly, Engine Unit, Type AAA24350AX
	See Page 26, 27	Assembly, Engine Unit, Type YY10200BC
7	See Page 37	Connection, Swing Arm
8	207Z3	Bearing
9	YYJO310EK1, JO310EK1, JO310EK2	Pad, Isolation
10	172PM7	Retaining Ring, External





NOTE: Arm does not contain bearing or retaining ring. Order additional bearing (Ref. 8) and retaining ring (Ref. 10) as needed.

Continued on next page.

OVL-HPM A_A24360D Type: Open Loop, 2-Speed Arrangement

23-10200A

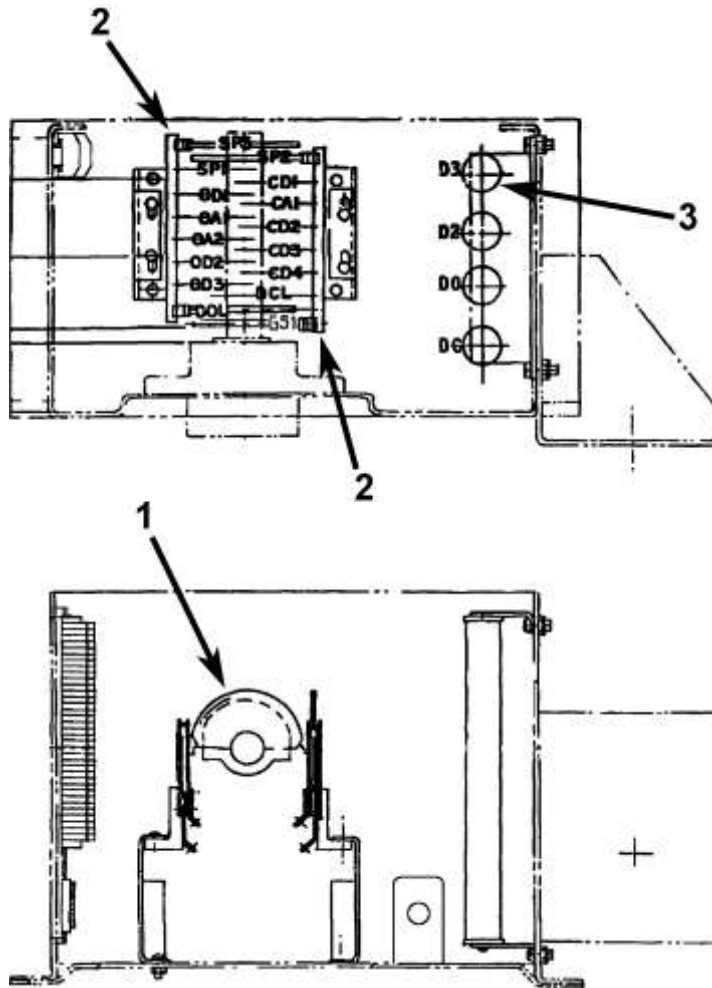


REF. No.	W/O VINTAGE PART No.	DESCRIPTION
1	AAA396MT1	Assembly, Housing and Bearing
2	207Z67	Bearing
3	YXJO316BTT3	Bracket, Hitch, 
	YXJO316BTT4	Bracket, Hitch, 
4	72FJ1	Nut, Bearing M25 X 1.5
5	81AX1	Pin, Roll, See NOTE
6	See Page 33	Plate, Drive Hitch, Type JO343AV
7	172PM2	Retaining Ring, Internal
8	AAA24395A1	Vane, Stationary, 
	AAA24395A2	Vane, Stationary, 
9	130AT1	Washer, Keyed M25

NOTE: After final arm adjustment, drill #13 (.185) hole and pin in place.

23-10200A

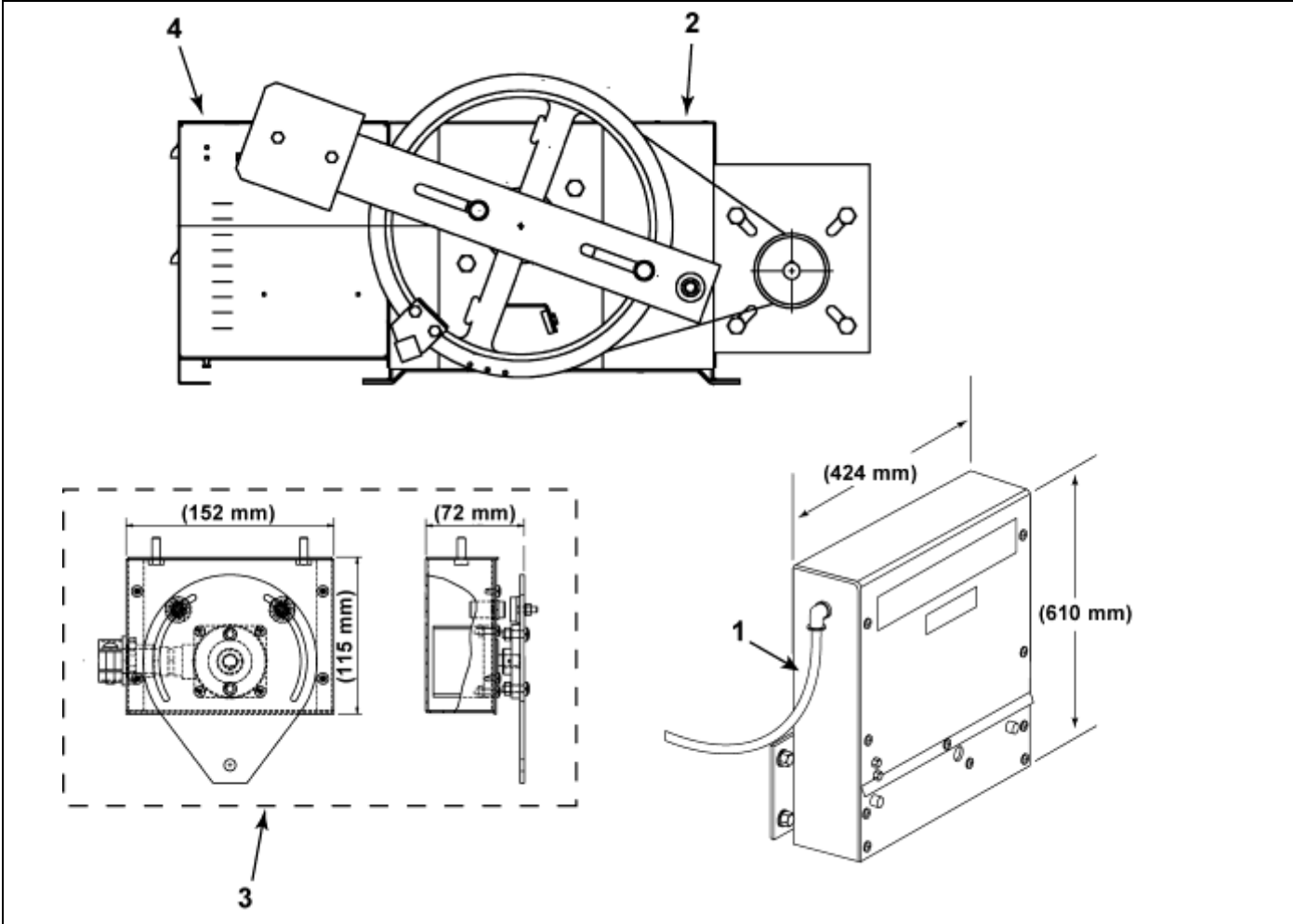
OVL-HPM Open Loop Engine Unit Assm. Type AAA24350AW & AAA24350AX



W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	REMARKS
1	ACA327MS3	Cam	Open Loop ONLY (all entrance types)
2	AAA24430D1	Contact Assembly, Speed Control	
3	---	Resistor Assy. (see Page 30)	
---	---	MOD Closed Loop Package for OVL-NAO	See Page 23

OVL-NAO Closed Loop Door Operator (CLDO) C/O Arrangements

23-10200A



W/O VINTAGE				
REF. No.	PART No.	DESCRIPTION	ENTRANCE TYPE	ENTRANCE WIDTH (IN)
1	---	CLDO MOD Package for Existing Open Loop OVL Operators , Type AAA24350AG See SPL 23-AAA24350AG		
2	AAA24350AW21 AAA24350CB1	Assembly, Engine Unit, MOD ONLY See NOTE 1	C/O	36, 42
	AAA24350AW22 AAA24350CB2			48
3	AAA24350AT1	Assembly, Secondary Position, Remote Mount SPT (shown), Pre Jan. 2007		
	AAA24350AT3	Assembly, Secondary Position, Cam Shaft SPT, After Jan. 2007		
4	AAA24350B_ See NOTE 2	Controller, DCSS See SPL 10-AAA24350B	ALL	ALL

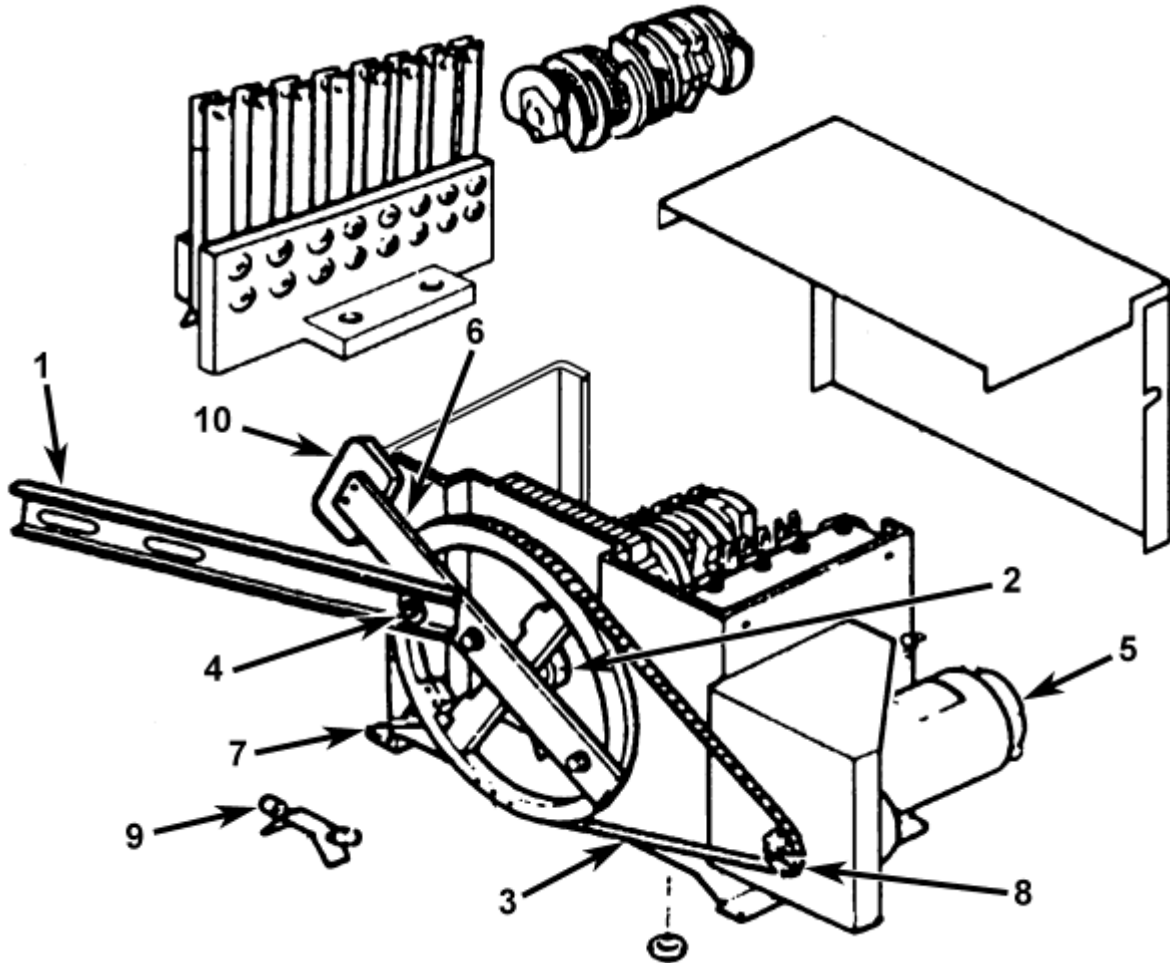
NOTE 1: Remote mount SPT is no longer available through OSC. These arrangements are replaceable if the current remote mount SPT is reusable. If remote mount SPT is not reusable, please contact OSC to upgrade engine unit.

NOTE 2: For NEB operators, DCSS controller box is mounted next to the OVL Operator. For MOD operators, DCSS controller is found in the machine room.

23-10200A

Engine Unit Assembly

Types ___10200A and ___10200BB



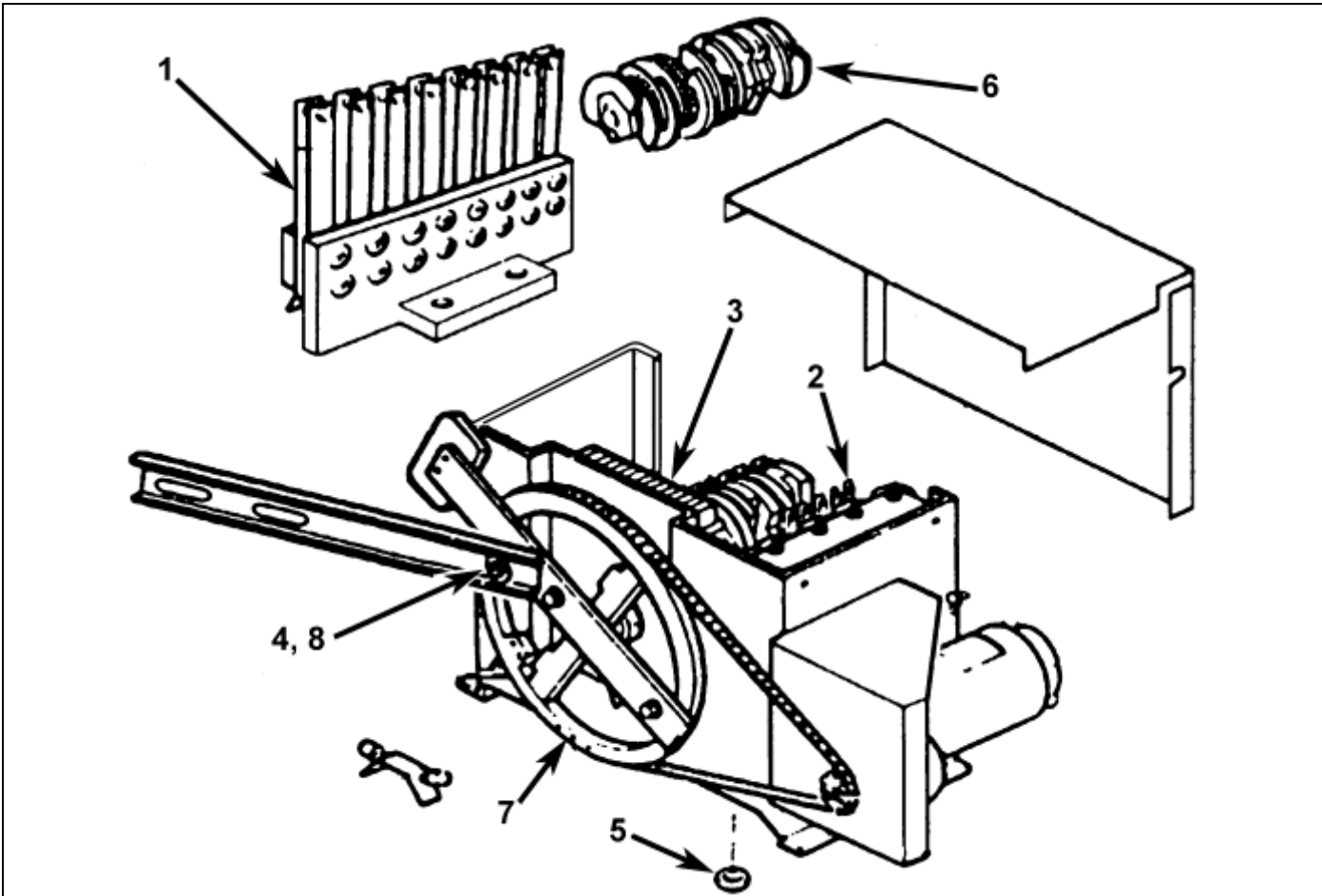
REF. No.	W/O VINTAGE PART No.	DESCRIPTION
1	See Page 32	Arm, Drive, Type YYJO288GX
2	YY10200F1	Assembly, Bearing
3	See Page 31	Assembly, Chain, Type JO332J
4	207Z3	Bearing
5	See Page 29	Motor
6	See Page 33	Plate, Drive Hitch, Type JO343AV
7	JO392BE1	Plate, Hitch
8	See Page 31	Sprocket, Type JO195AN
9	JO320AS2	Stopper
10	YYJ0343AG1	Weight, Balance

Continued on next page.

Engine Unit Assembly

Types ___10200A and ___10200BB

23-10200A



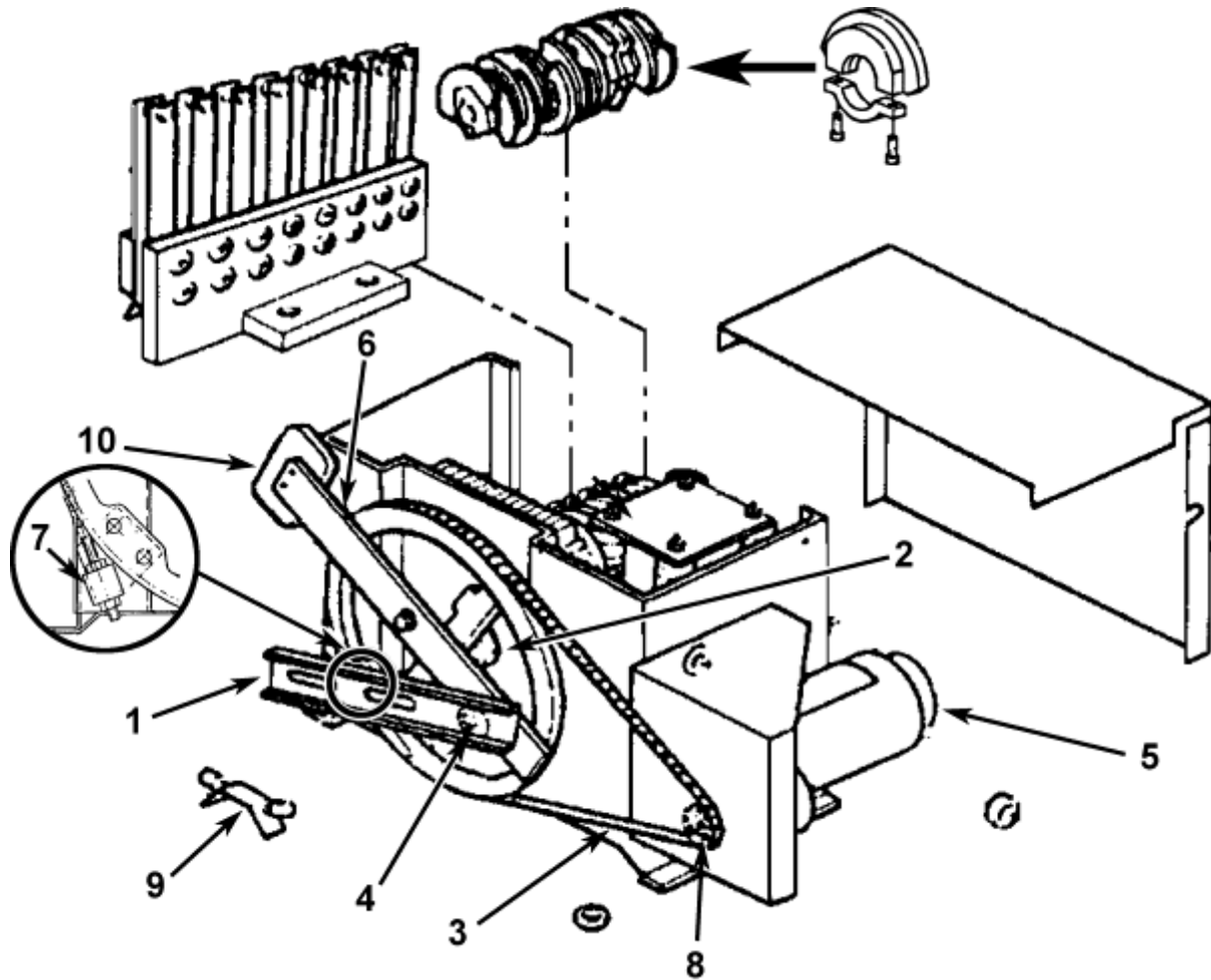
	W/O VINTAGE	
REF. No.	PART No.	DESCRIPTION
1	JO6098BF1 JAA26901AAE101	Assembly, Door Speed Control Switch See NOTE
2	See Page 30	Assembly, Resistor, Type JO5600A
3	See Page 30	Assembly, Terminal
4	40200A/AN02 72FJ2	Bearing Nut, M15 X 1
5	JO334G3 JO334G4	Bushing
6	JO327CK2 ACA327MS3	Cam
7	YYJO198T2	Pulley
8	40200A/AW02 130AT2	Washer, Keyed, M15

NOTE: If ordering p/n JAA26901AAE101 to replace p/n JO6098BF1, must order additionally retrofit connector p/n AAA190CC7. Without connector, new assembly will not be able to fit where replaced assembly was used.

23-10200A

Engine Unit Assembly

Types ___10200C and ___10200BC



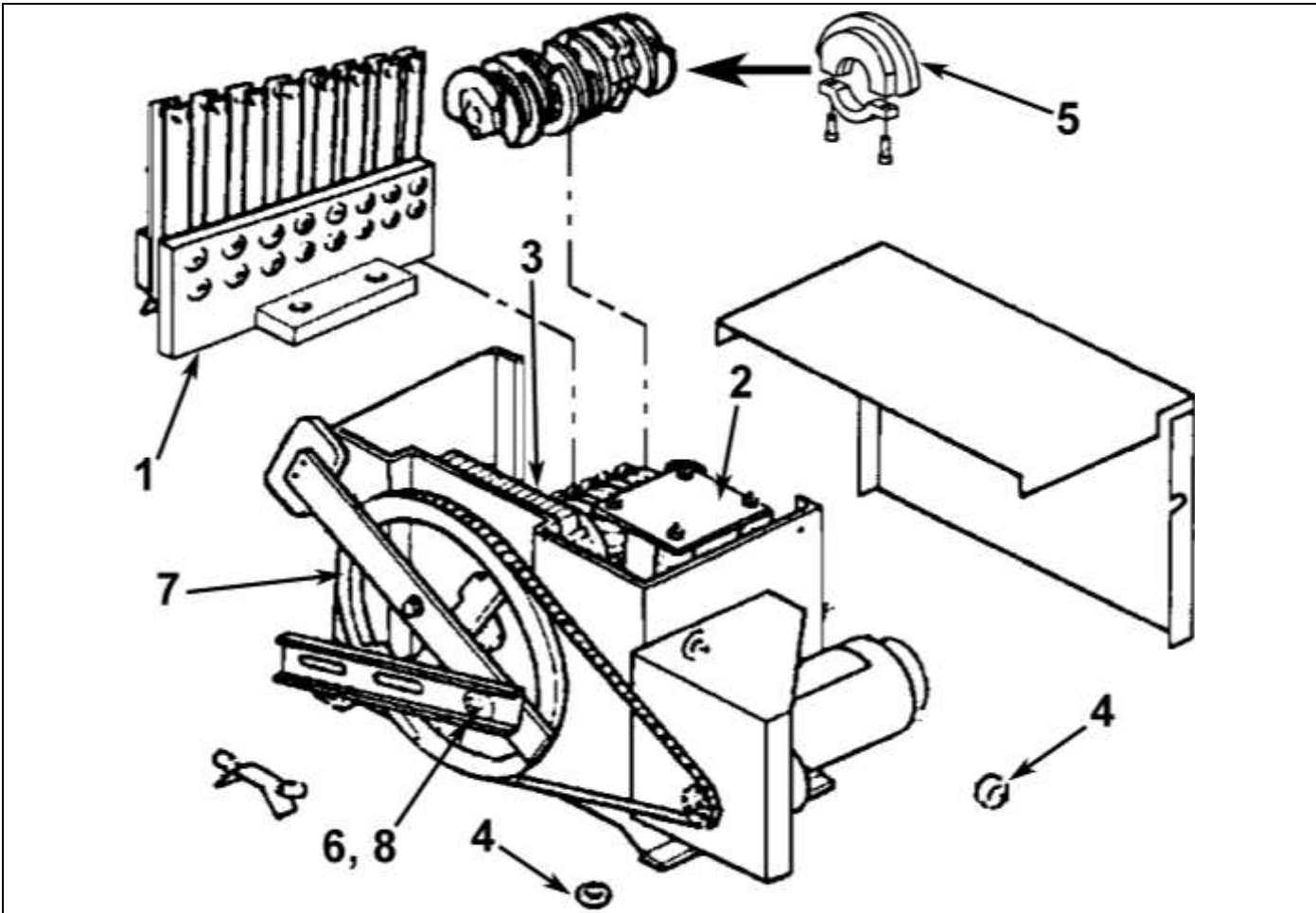
REF. No.	PART No.	DESCRIPTION
1	See Page 32	Arm, Drive, Type YYJO288GX
2	YY10200F1	Assembly, Bearing
3	See Page 31	Assembly, Chain, Type JO332J
4	207Z3	Bearing
5	See Page 29	Motor
6	See Page 34	Plate, Drive Hitch, Type JO343AW
7	JO392BE1	Plate, Hitch
8	See Page 31	Sprocket, Type JO195AN
9	JO320AS2	Stopper
10	YYJOA343AR1	Weight, Balance

Continued on next page.

Engine Unit Assembly

Types _ _ _ 10200C and _ _ 10200BC

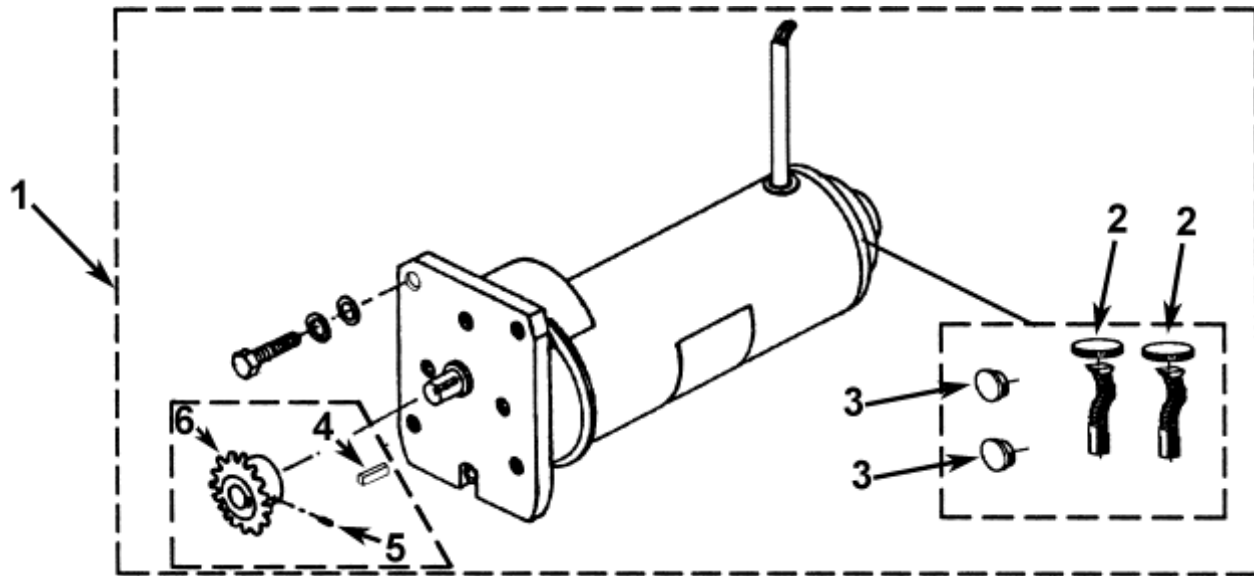
23-10200A



	W/O VINTAGE	
REF. No.	PART No.	DESCRIPTION
1	JO6098BF1 JAA26901AAE101	Assembly, Door Speed Control Switch See NOTE
2	See Page 30	Assembly, Resistor, Type JO5600A
3	See Page 30	Assembly, Terminal
4	JO334G3 JO334G4	Bushing
5	JO327CK2 ACA327MS3	Cam
6	40200A/AN02 72FJ2	Nut, Bearing, M15 X 1
7	YYJO198T2	Pulley
8	40200A/AW02 130AT2	Washer, Keyed, M15

NOTE: If ordering p/n JAA26901AAE101 to replace p/n JO6098BF1, must order additionally retrofit connector p/n AAA190CC7. Without connector, new assembly will not be able to fit where replaced assembly was used.

Motor (Open Loop Systems)



W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	REMARKS
1	JO6333B1 JO6333E1 JOA6333E2	Motor, non-CSA certified (see NOTES 1 and 3)	120 Watt, Open Loop (JO6333B1)
			200 Watt, Open Loop (JO & JOA6333E2)
2	JO65BG1	Bolt	---
3	JO240A1	Brush See NOTE 2	For JO6333B1, JOA6333E2 , JO6333E2 Motors
4	JO329AK1	Cap See NOTE 2	
5	192BA4	Key (rounded on one end) 5 x 5 x 17 mm	
6	DIN912 M4X0.7X10	Screw, M4 Hex Head Cap	
7	See Page 31	Sprocket, Type JO195AN	
8	VP-904964	Washer, Plain	
9	VP-904892	Washer, Spring Lock	

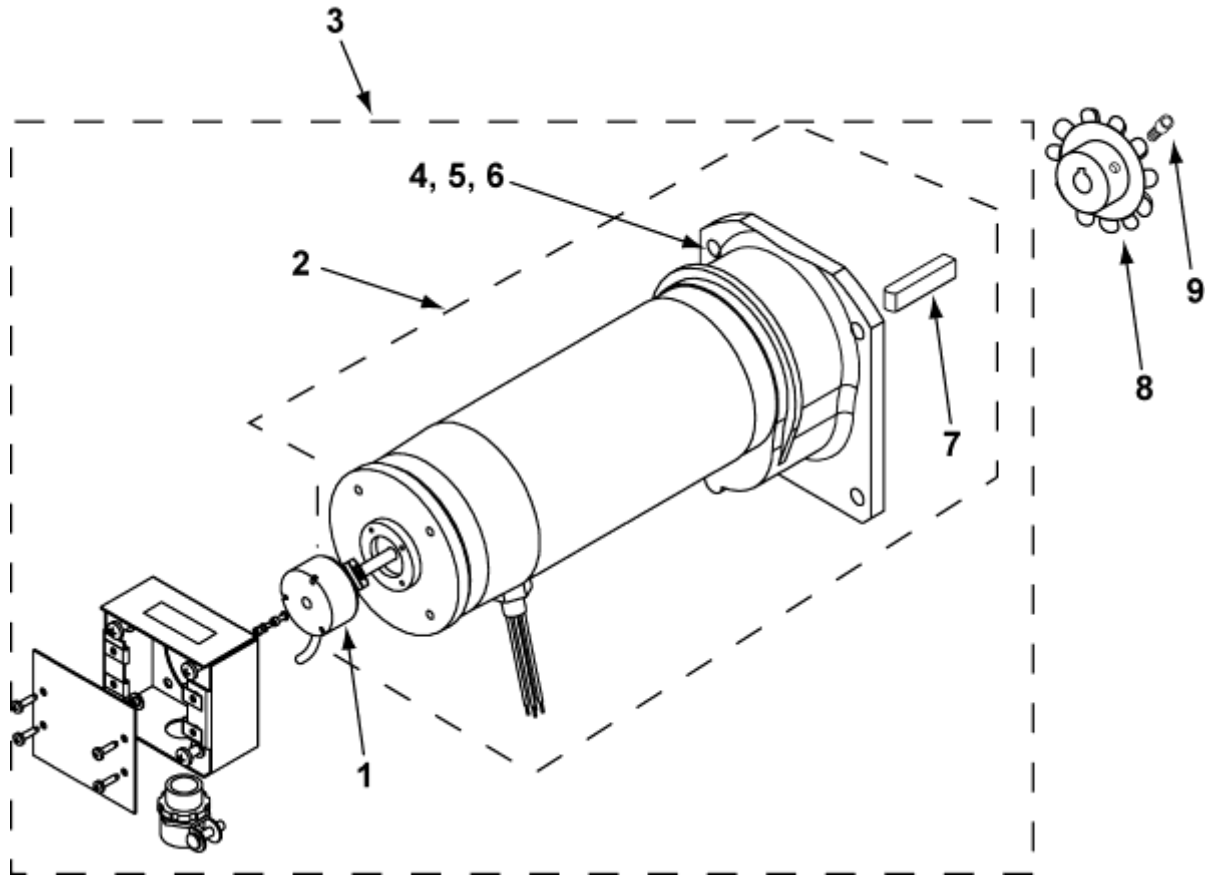
NOTE 1: This motor is no longer available. If replacing entire motor, order (1) replacement motor item 1, (4) plain washers item 8; (4) lock washers item 9; (4) bolts item 2; (1) hex screw Item 6; (1) key item 5, and (1) sprocket Item 7.

NOTE 2: Order qty 2 per motor.

NOTE 3: Use of motor p/n AAA6333EH1 (p. 29) in place of motor p/n JOA6333E2, and vice versa, is acceptable.. See TIP 22.8-31 for upgrade to Glide P.

Continued on next page.

Motor (Closed Loop Systems)



W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	REMARKS
1	AAA633K1	Encoder	
2	AAA6333EH1	Motor Without Encoder Shaft NOTE 3	200 Watt, Open Loop
3	AAA24350BC1	Motor With Encoder Shaft NOTE 2	200 Watt, Closed Loop
	AAA24350BB1	Motor With Encoder Assembly See NOTE 1	200 Watt, Closed Loop
4	JO65BG1	Bolt	
---	AAA241F1	Brush (not shown) See NOTE 4	For AAA6333EH1, AAA24350BC1, AAA24350BB1 Motors
---	AAA178AG1	Cap (not shown) See NOTE 4	
5	VP-904964	Washer, Plain	
6	VP-904892	Washer, Spring Lock	
7	192BA4	Key (rounded on one end) 5 x 5 x 17 mm	
8	See Page 31	Sprocket, Type JO195AN	
9	DIN912 M4X0.7X10	Screw, M4 Hex Head, Cap	

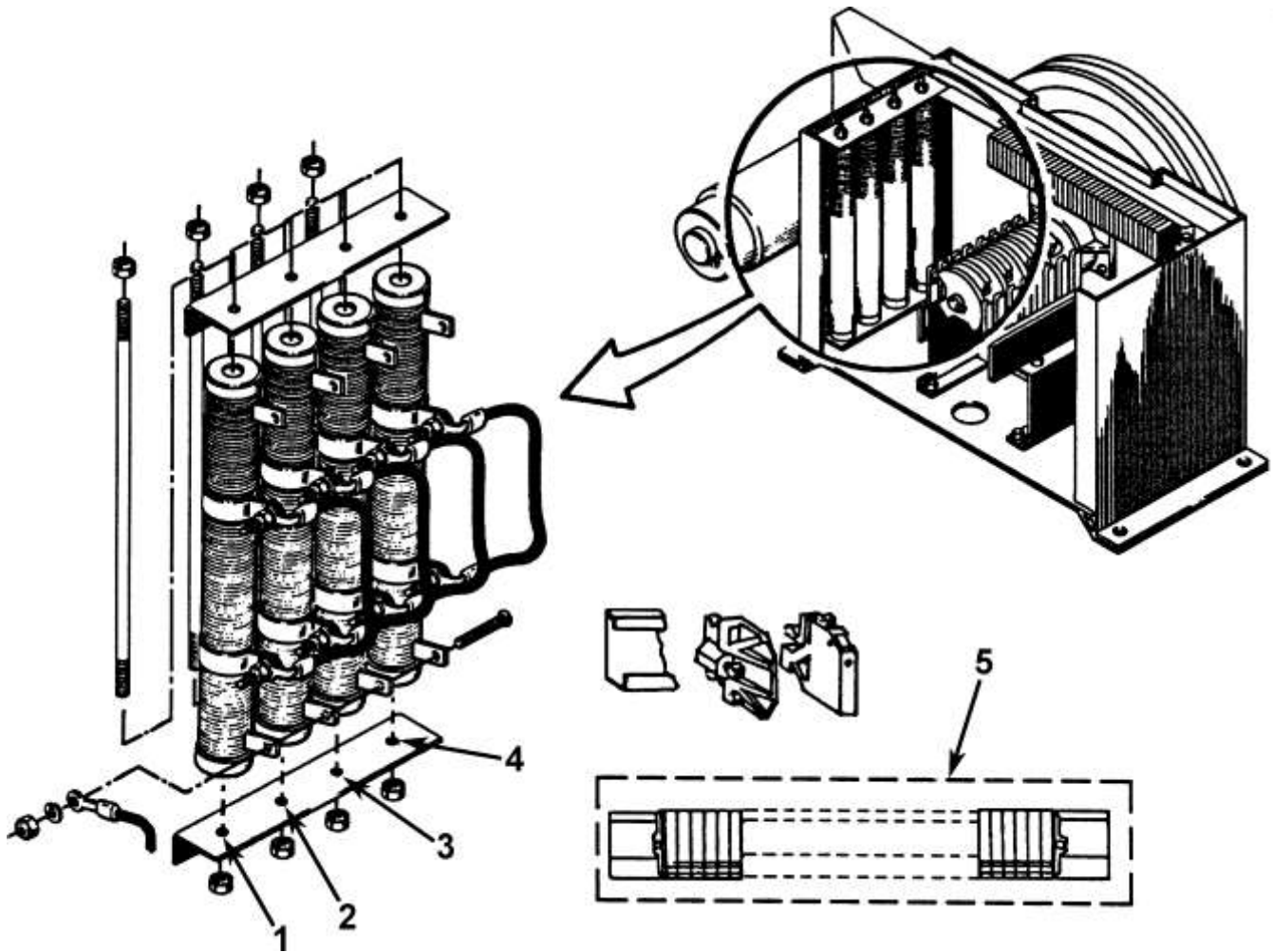
NOTE 1: This arrangement is an assembly of motor p/n AAA24350BC1 with encoder.

NOTE 2: This arrangement is an assembly of open loop motor p/n AAA6333EH1 with and encoder shaft.

NOTE 3: Use of motor p/n JOA6333E2 (p. 28) in place of motor p/n AAA6333EH1, and vice versa, is acceptable. JOA6333E2 is not CSA certified. See TIP 22.8-31 for upgrade to Glide P.

4: Order qty. 2 per motor.

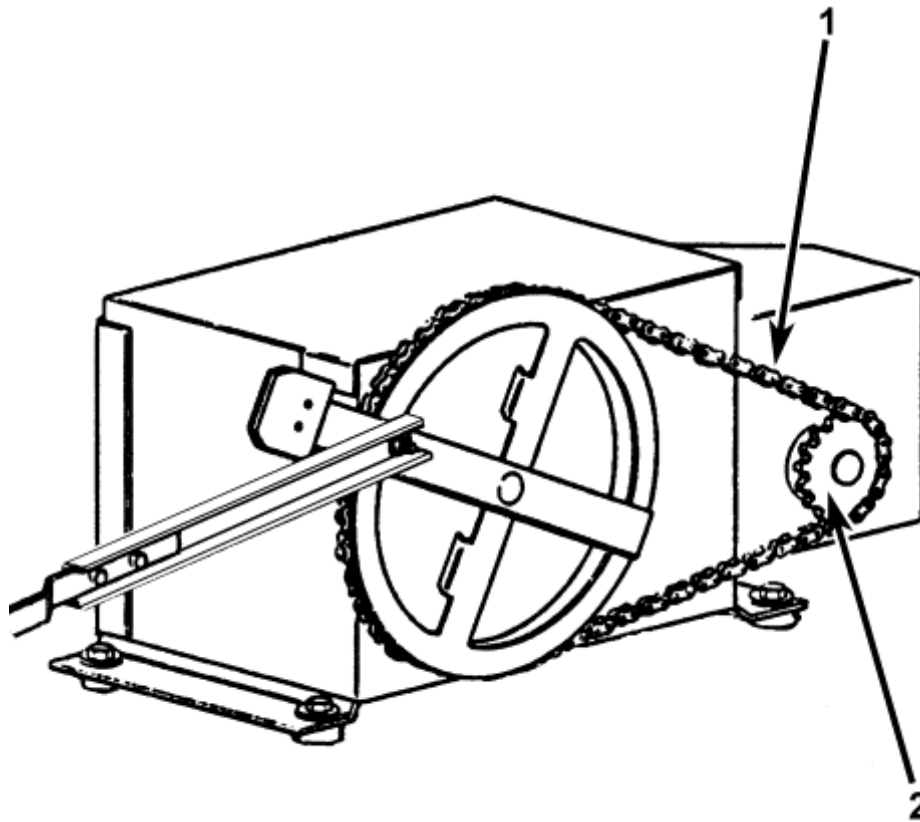
Resistor Assembly Type 5600A



W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA21305D7	Resistor Kit w/Adjustment Band + Hardware, 150 Ohm	DC D2
2	AAA21305D8	Resistor Kit w/Adjustment Band + Hardware, 30 Ohm	D3
3	AAA21305D9	Resistor w/Adjustment Band + Hardware, 200 Ohm	DO
4	AAA21305D10	Resistor w/Adjustment Band + Hardware, 300 Ohm	DC
5	JXGC0303B514 AAA21303AC1	Terminal Block Assembly	---

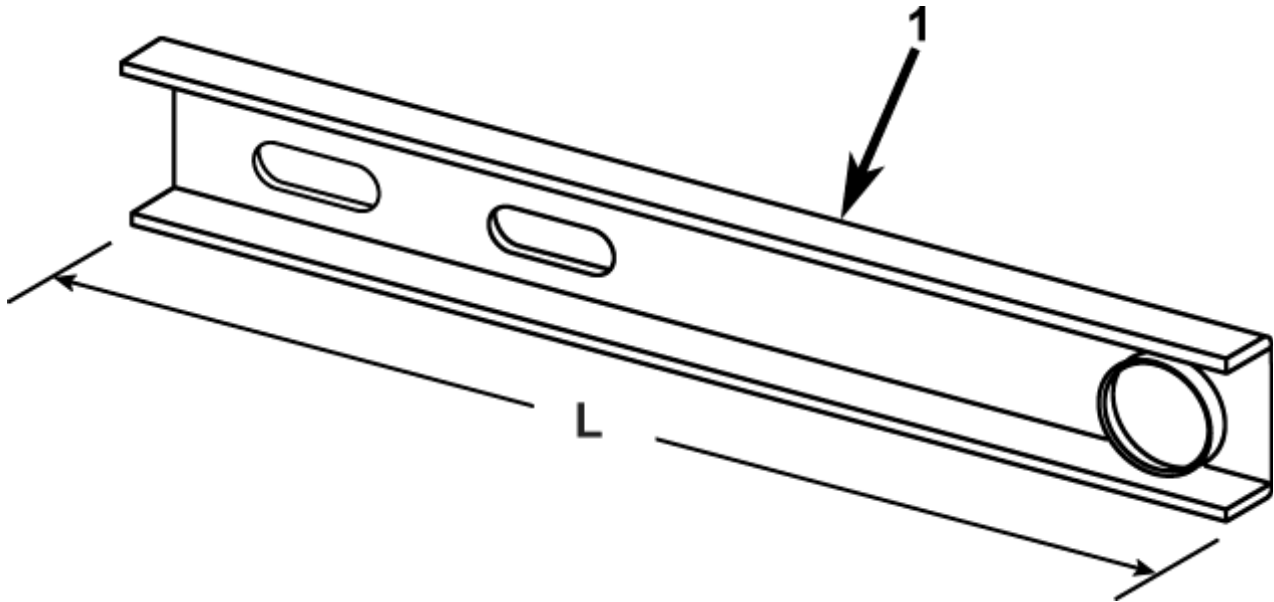
Chain and Sprocket

23-10200A



REF. No.	W/O VINTAGE		TEETH	MOTOR	ENTRANCE	
	PART No.	DESCRIPTION			TYPE	WIDTH (in.)
1	JO332J1	Chain			2/SP, S/S	36, 42
	YYJO332J2				2/SP, S/S	48
	YYJO332J3				C/O	48
	YYJO332J4				C/O	36, 42
2	YYJO195AN1	Sprocket	30	200 W	S/S	36, 42
	YYJO195AN2		27	120 W	C/O	42
	JO195AN3		21		S/S	36, 42
	YYJO195AN4		19	---	---	---
	JO195AN5		17	120 W	2/SP	48
	YYJO195AN6		24	---	---	---
	YYJO195AN7		40	200 W	C/O	42
	JO195AN8		35		C/O	48
	JO195AN9		23		2/SP	48

Drive Transmission Arm

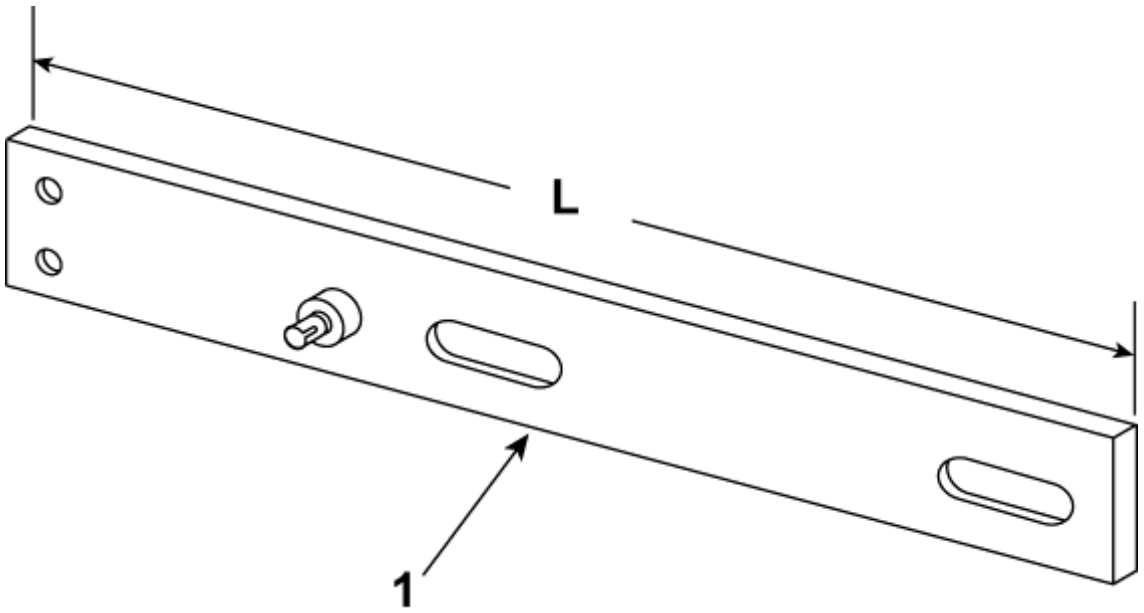


		W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	REMARKS	L	ENTRANCE WIDTH (in.)
1	YYJO288GX8	Drive Arm with Bearing Housing (see NOTE)	OVL-HP OVL-HPM	690 mm / 27 in.	28-35
	JO288GX9			658 mm / 26 in.	36-43
	YYJO288GX10			725 mm / 28.5 in.	44-51
	YYJO288GX12		OVL-NAO	510 mm / 20 in.	32-51
	JO288GX13		OVL-HP	455 mm / 18 in.	36, 42
	YYJO288GX14			445 mm / 17.5 in.	48

NOTE: Arm does not contain bearing or retaining ring. Order additionally bearing (p/n 207Z3) and retaining ring (172PM7).

Drive Hitch Plate for 10200A and 10200BB Type Engine Unit

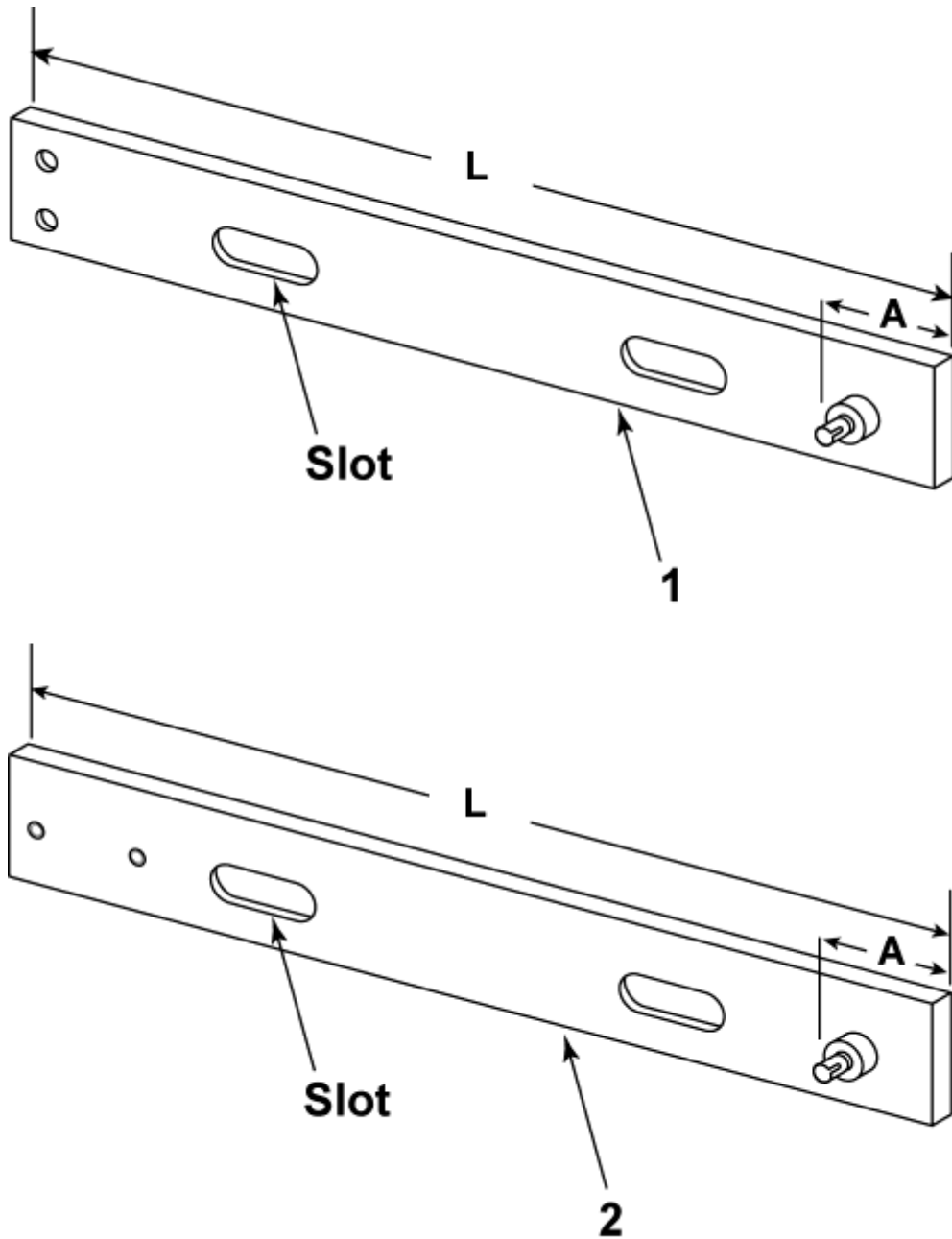
23-10200A



		W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	REMARKS	L (mm/in.)	ENTRANCE WIDTH (in.)
1	JO343AV3	Drive Hitch Plate	OVL-HP,	490/19	35-43
	JO343AV4		OVL-NAO,		44-51
			OVL-HP		
	YYJO343AV6		MOD Installation	580/23	36-60

23-10200A

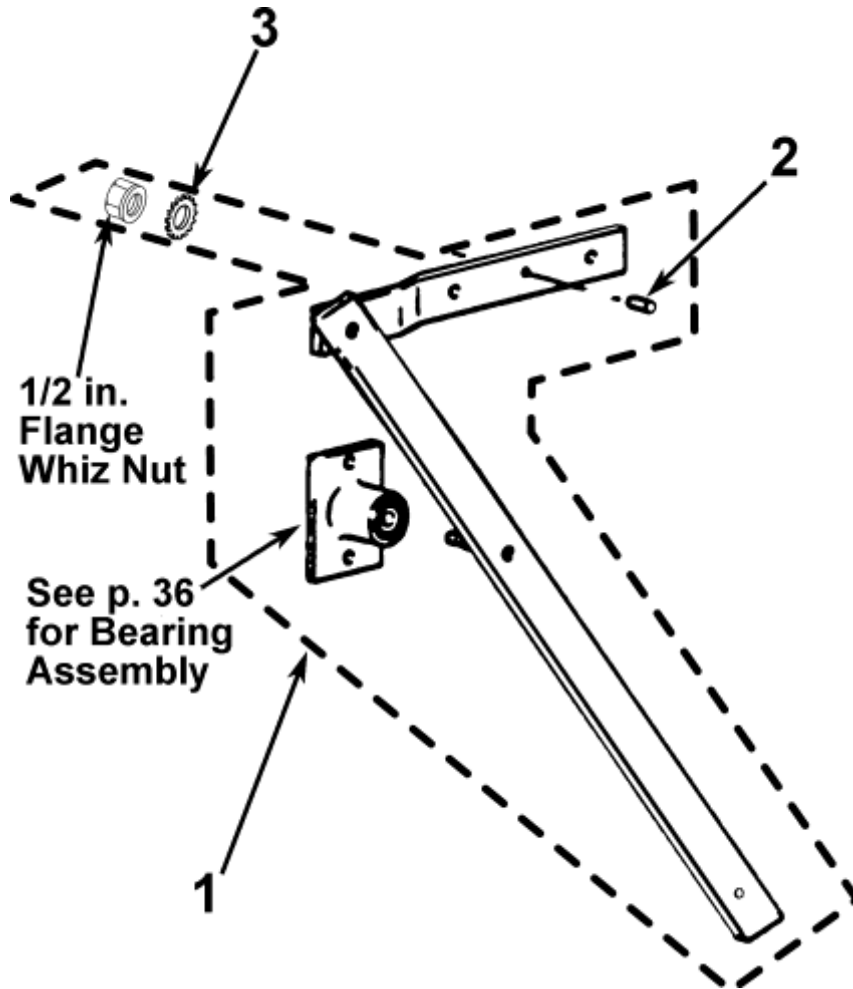
Hitch Plate for 10200C and 10200BC Type Engine Unit



W/O VINTAGE					
REF. No.	PART No.	DESCRIPTION	LENGTH	SLOT SIZE	"A"
1	JO343AW5	Drive Hitch Plate	19.9-in.	0.5 x 1.57-in.	1.96-in.
2	YYJOA343AW5		22.6-in.		0.5 x 3.54-in.
	YYJOA343AW6				
	YYJOA343AW8				

Arm and Bearing Assembly Type YX10200K for OVL-NAO

23-10200A

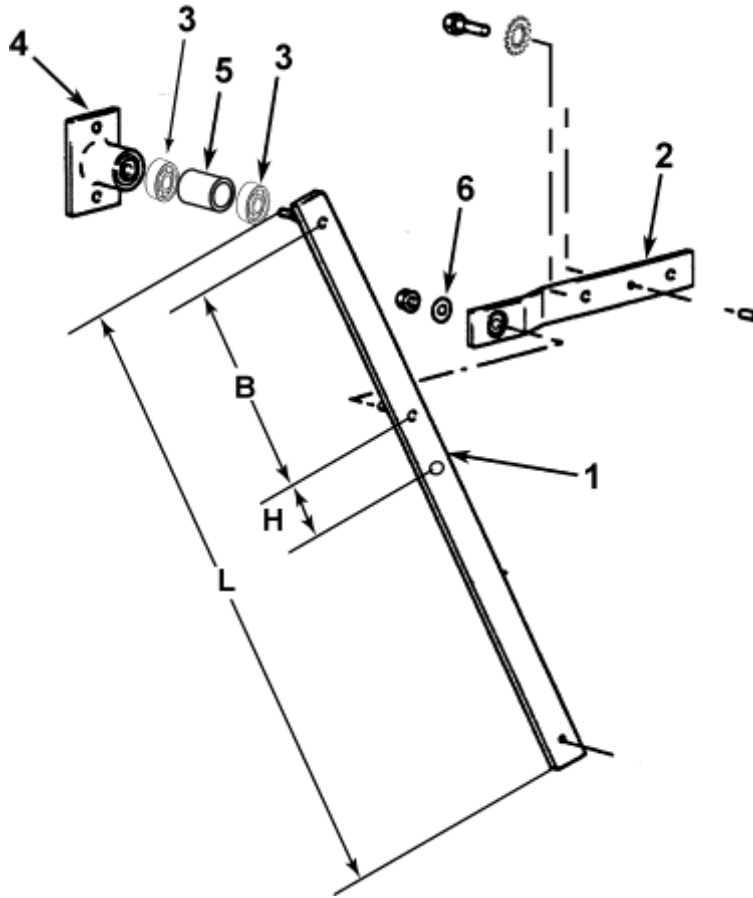


W/O VINTAGE						
REF. No.	PART No.	DESCRIPTION	REMARKS	ENTRANCE		ARR. TYPE
				TYPE	WIDTH (in.)	
1	YX10200K1	Assembly, Arm	As Shown	C/O,	36	YX10200D, YX10200G
	YX10200K2				42, 48	
	YX10200K3		Similar-Reverse Arm and Bearing Locations	S/S	32, 36	YX10200E
	YX10200K4			S/S, 2/SP	42, 48	YX10200E, YX10200F, YX10200J
	YX10200K5			C/O	36	AAA24350BG (CLDO)
	YX10200K6				42, 48	
2	81AX1	Pin, Roll				
3	130J15	Washer, Lock, Internal-External				

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23-10200A

Arm and Bearing Assembly Type YX10200K for OVL-NAO

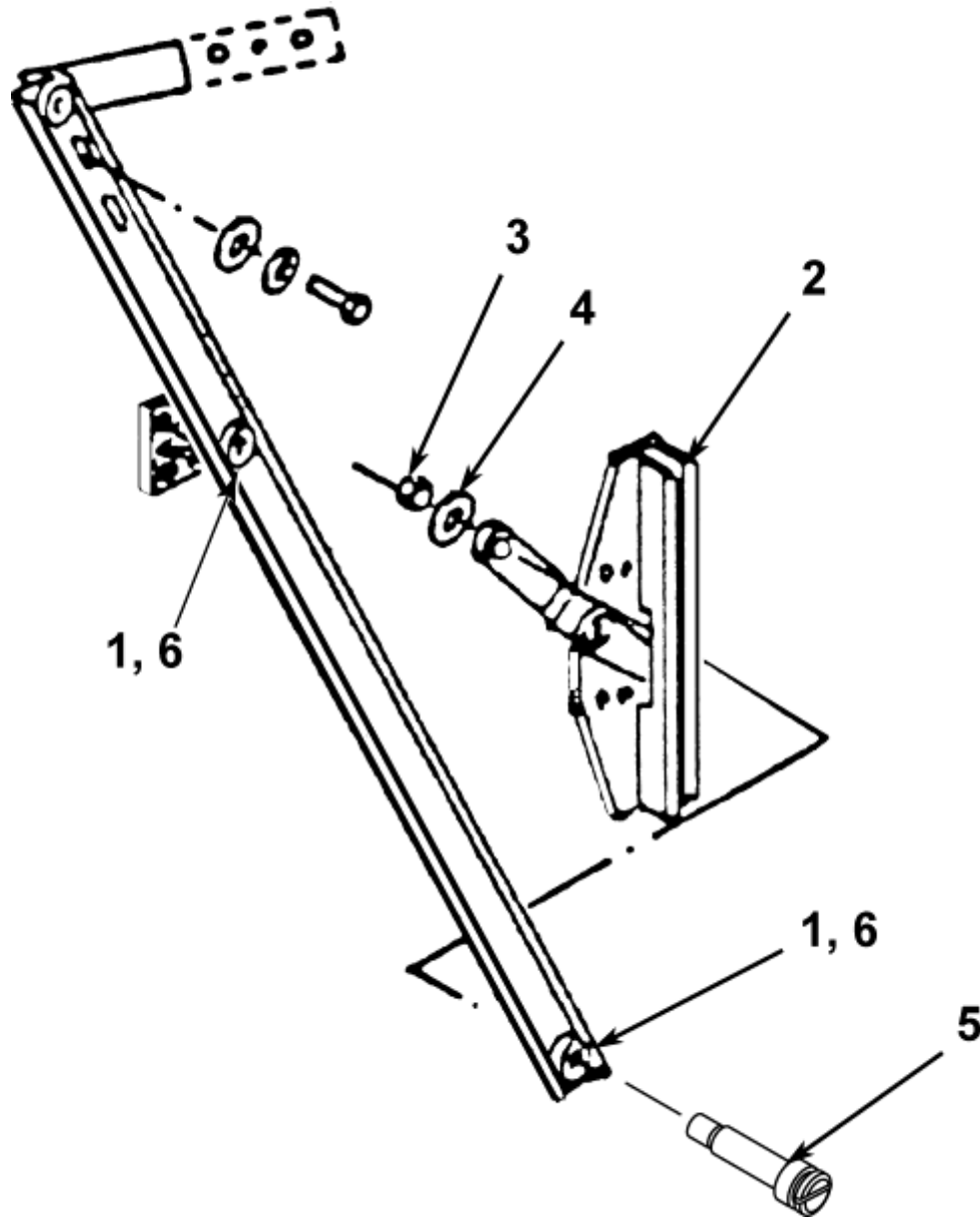


W/O VINTAGE						
REF. No.	PART No.	DESCRIPTION	USED IN ARM ASSY	L (in.)	B (in.)	H (in.)
1	A288SN1	Arm with Studs (see NOTE)	YX10200K1	26.5	7.9	---
	A288SN2		YX10200K2	32.0		---
	A288SN3		YX10200K3	45.0	11.5	---
	A288SN4		YX10200K4	55.0		---
	A288SN9		YX10200K5	26.5	7.9	3.0
	A288SN10		YX10200K6	32.0		
2	299AJM1	Bar w/o Bearing, 13-5/8-in. L				
3	207BX1	Bearing				
4	396KE1	Housing w/o Bearing				
5	AAA462KF1	Spacer				
6	127VB117	Washer				

NOTE: If arm design has flush-fill weld stud (type 288SN), carefully inspect for integrity and replace if compromised.

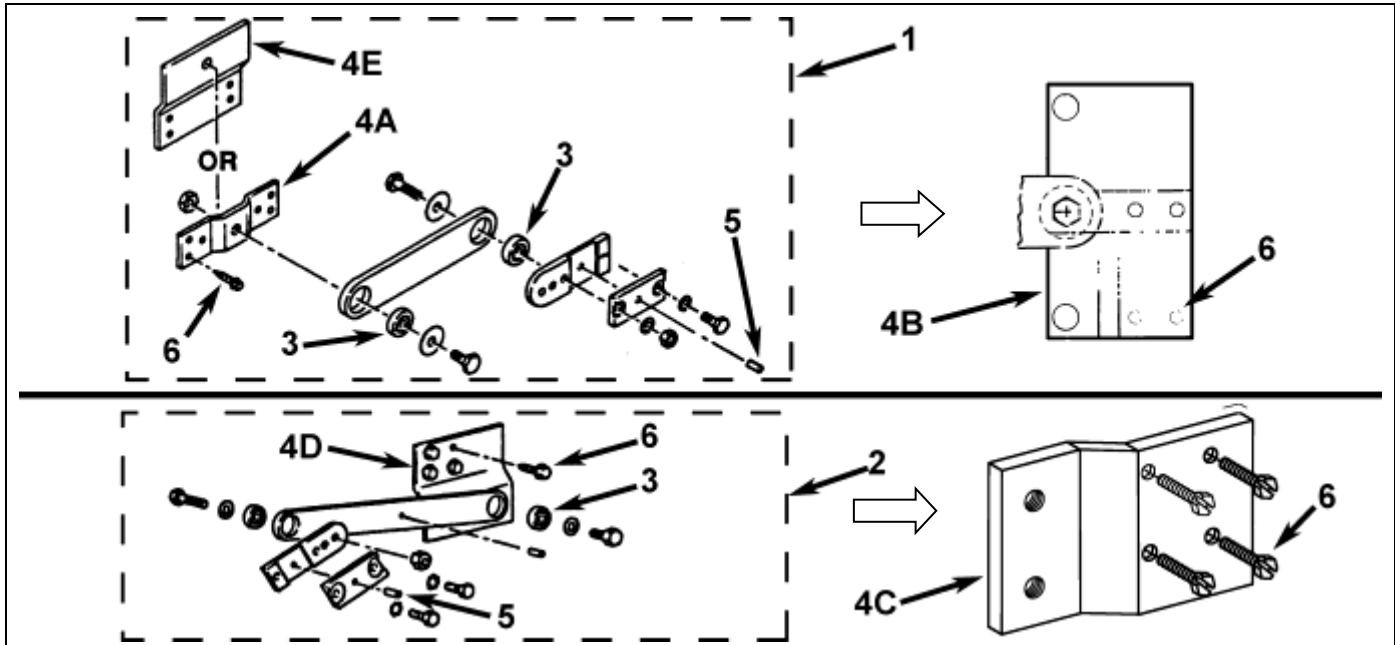
Hitch and Swing Arm Connection

23-10200A



W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	207Z3	Bearing
2	See Page 42	Collapsible Vane
3	YYJO340BX2	Collar
4	---	Nut, Jam M12
5	YYJO77DB1	Pin
6	172PM7	Ring, Retaining

Link Assembly Type 7300E and 7770P



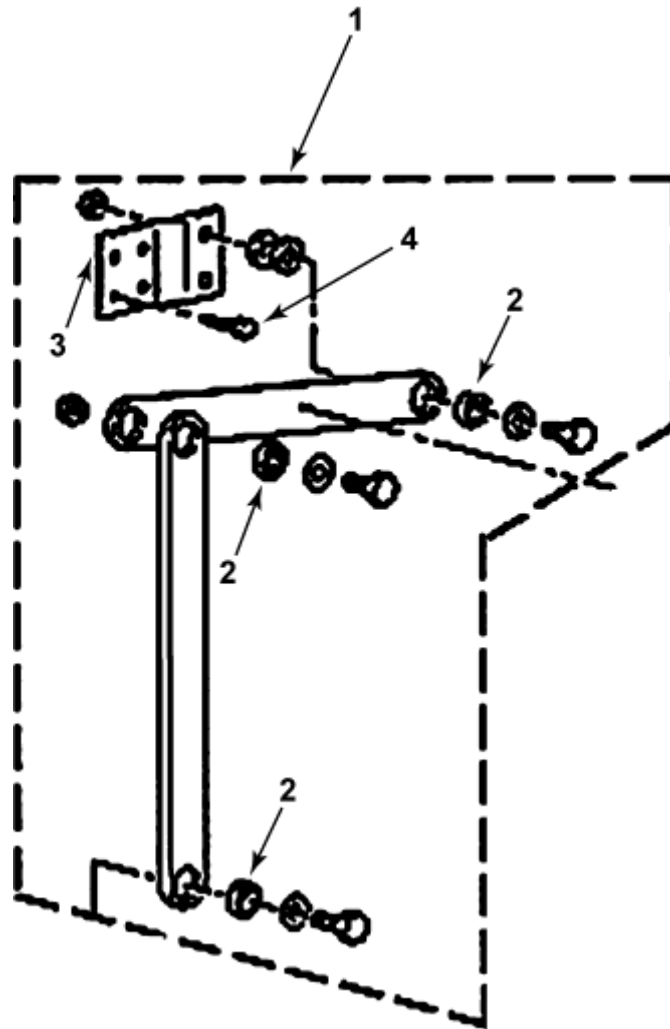
W/O VINTAGE

REF. No.	PART No.	DESCRIPTION	USED IN ARR. TYPE	ENTRANCE		BRACKET TYPE
				TYPE	WIDTH (in.)	
1	7300E2	Link Assembly (OVL-NAO with Stationary Vane) See NOTE	YX10200D	C/O	42, 48	4A
	7300E3		YX10200E	S/S	36	
	7300E10		YX10200F	2/SP	42	
	7300E11		YX10200D	C/O	36	4B
	7300E13		YX10200E	S/S	42	4A
	7300E14		YX10200E	S/S	32	
2	7770P2	Link Assembly (OVL-NAO with Moveable Vane) See NOTE	YX10200G	C/O	36	4C
	7770P3				42, 48	4D
	7770P5		YX10200J	2/SP	42	4E
	7770P6				48	
3	207R1 207R2	Bearing				
4A	316CBC1	Bracket				
4B	316DJW1					
4C	316DFN1					
4D	316DKC2					
4E	316DKB1					
5	81AX1	Pin, Roll				
6	109P2	Screw				

NOTE: Also order installation hardware: (1) ref. 5 Roll Pin and (6) ref. 6 Screw

Idler Link Assembly Type 7770J

23-10200A

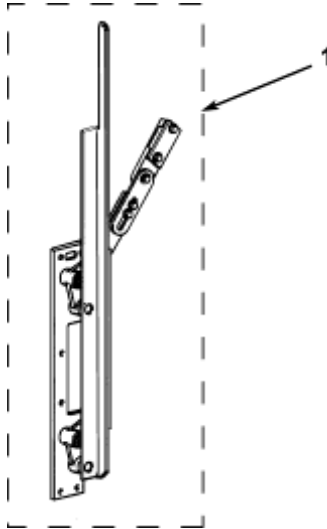


W/O VINTAGE

REF. No.	PART No.	DESCRIPTION	USED IN ARR. TYPE	ENTRANCE WIDTH	HAND
1	7770J1	Idler Link Assembly (OVL-NAO with Moveable Vane)	YX10200J 2 Speed Doors	42	
	7770J2				
	7770J3			48	
	7770J4				
2	207R1 207R2	Bearing			
3	316DFN1	Bracket			
---	81AX1	Pin, Roll (not shown)			
4	109P2	Screw			

NOTE: Also order installation hardware of one roll pin and six screws.

Moveable Vane Type C6970F

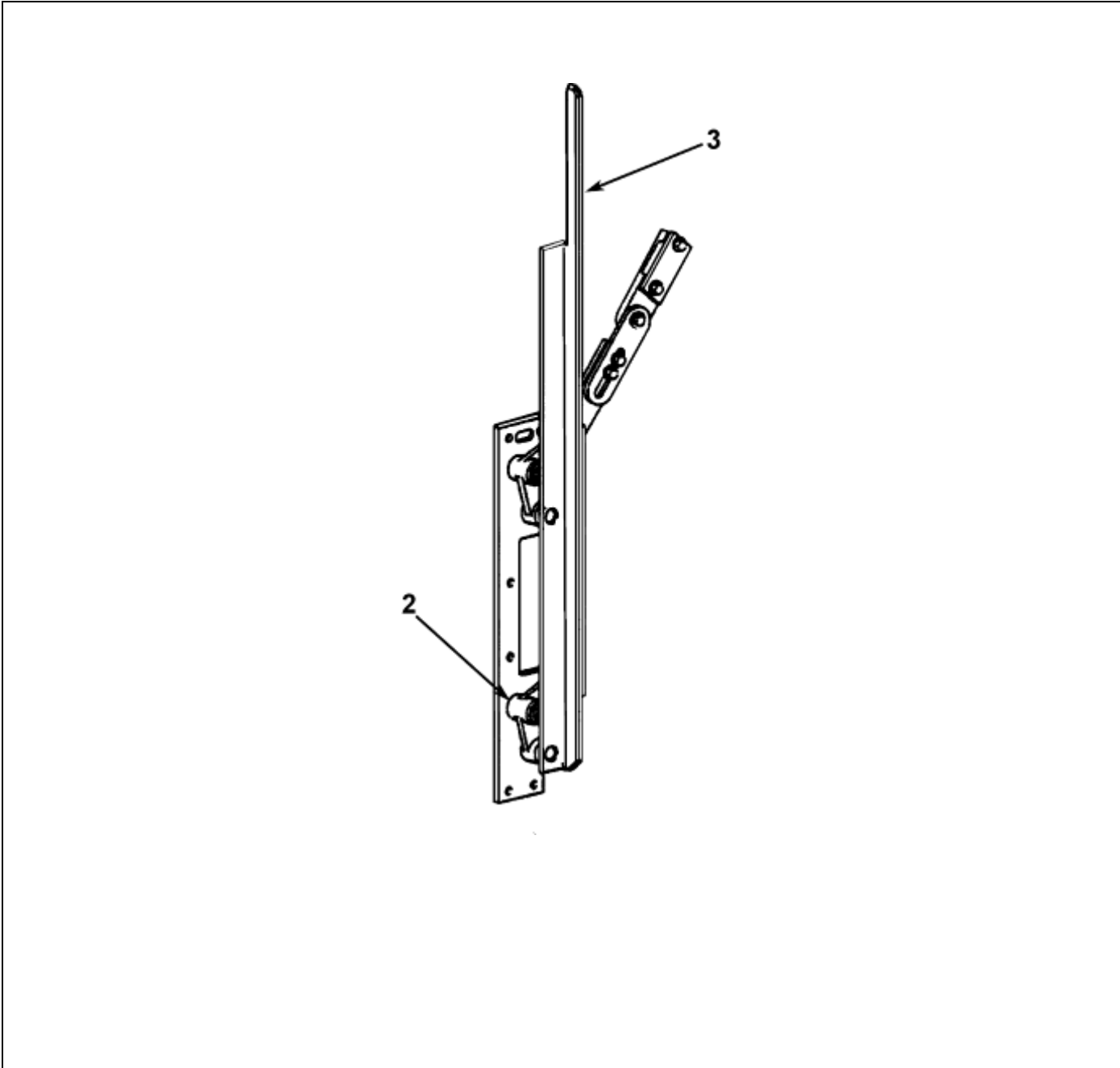


W/O VINTAGE							
REF. No.	PART No.	DESCRIPTION	ENTRANCE			HAND	CAB HEIGHT (in)
			TYPE	WIDTH (in)	HEIGHT (in)		
1	C6970F1	Moveable Vane Assembly	C/O	36	84	↖	96
	96				115		
	C6970F2		2/SP	42		84	↖
	C6970F3						
	C6970F5		C/O	36	↖	96	
	C6970F7			42		96	
	C6970F9			48		84	96
	C6970F11			42		84	↖
	C6970F12		48	↖			
	C6970F13		2/SP	42	84	↖	96
	C6970F14			96	115		
				84	96		
				96	115		
			48	84	↖	96	
	42	96	115				
	48	84	96				
			48	84	↖	96	
			42	96		115	
			48	84		96	
				96	↖	115	
				84		96	
				96		115	

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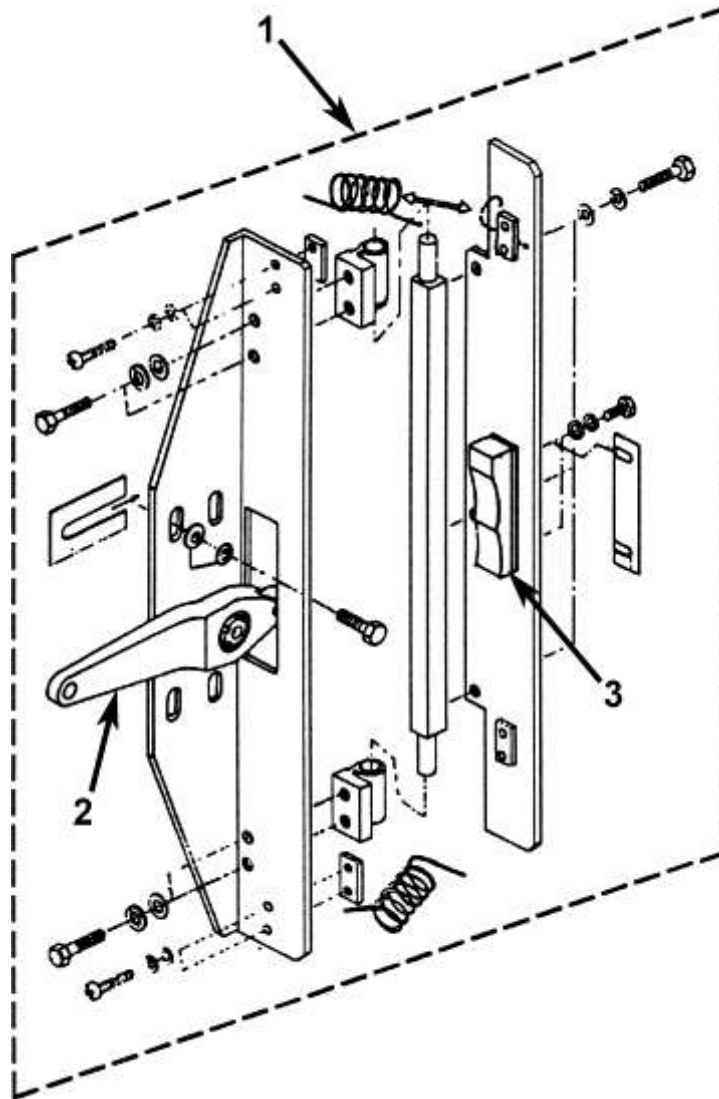
Moveable Vane Type C6970F



23-10200A



W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	HAND
2	A307AG1	Bell Crank Assembly with Bearings	☺
	A307AG2		☹
3	B327FW1	Cam	☺
	B327FW2		☹

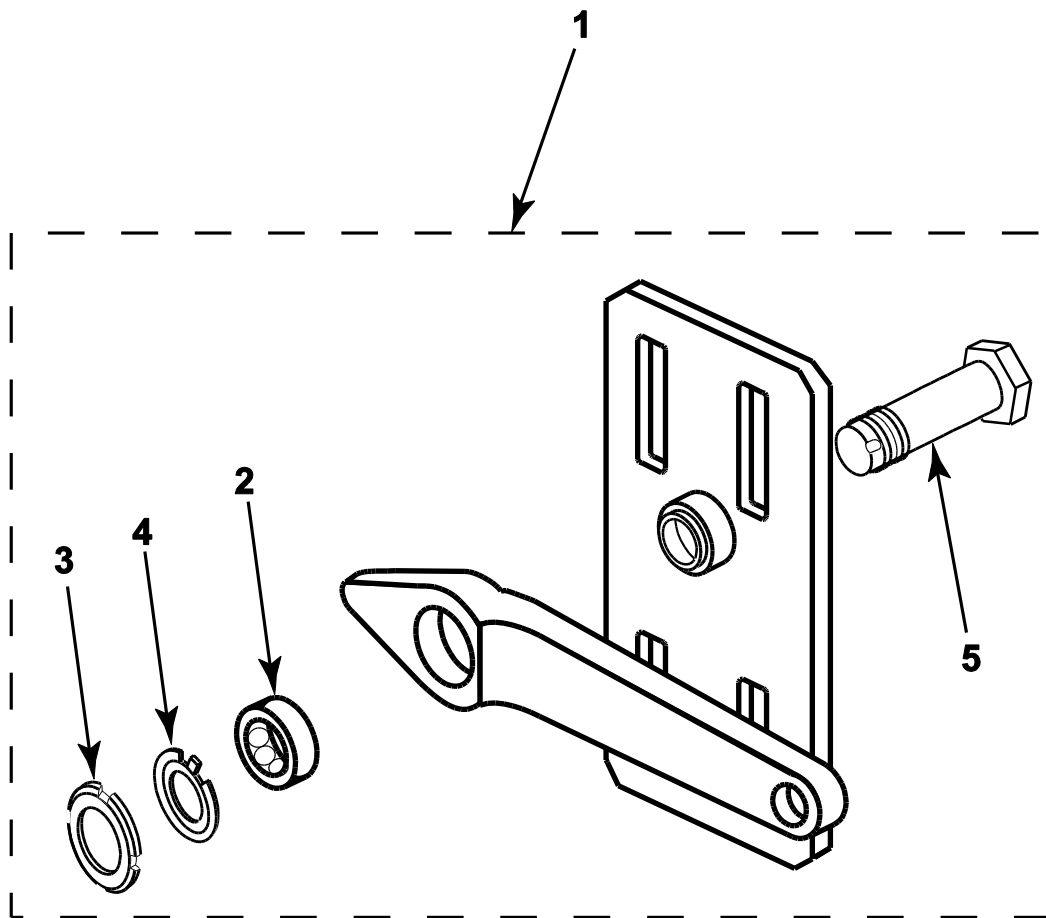
Collapsible Vane Assembly



W/O VINTAGE			
REF. No.	PART No.	DESCRIPTION	REMARKS
1	AAA24390A5	Assembly, Moveable Car Cam	C/O
	AAA24390A7		S/S, 2/SP, 
	AAA24390A8		S/S, 2/SP, 
2	2700CAC37	Assembly, Cam Arm	C/O, 2/SP-C/O
	2700CAC38		S/S, 2/SP
3	YYJO327CH1	Cam, Flat	

Hitch Arm Assembly for OVL-HP

23-10200A



	W/O VINTAGE	
REF. No.	PART No.	DESCRIPTION
1	JO288GP1	Assembly, Hitch Arm
2	207Z3	Bearing
3	72FJ2	Nut, Bearing, M15 x 1
4	130AT2	Washer, Bearing, M15
5	YYJO77CB1	Pin