

**PITNEY BOWES**  
*Sure-Feed Engineering*

***ROTARY AND LETTER SHOP  
TURNOVER***

***10X13***

***FLOWMASTER-RS (ROTARY)  
FLOWMASTER-LS (LETTER SHOP)***

***Parts Manual***



***SURE-FEED ENGINEERING***

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**VERSION HISTORY**

The table below summarizes the history of this document as it is published onto the company website(s). It identifies the version, date of issue and revisions and changes.

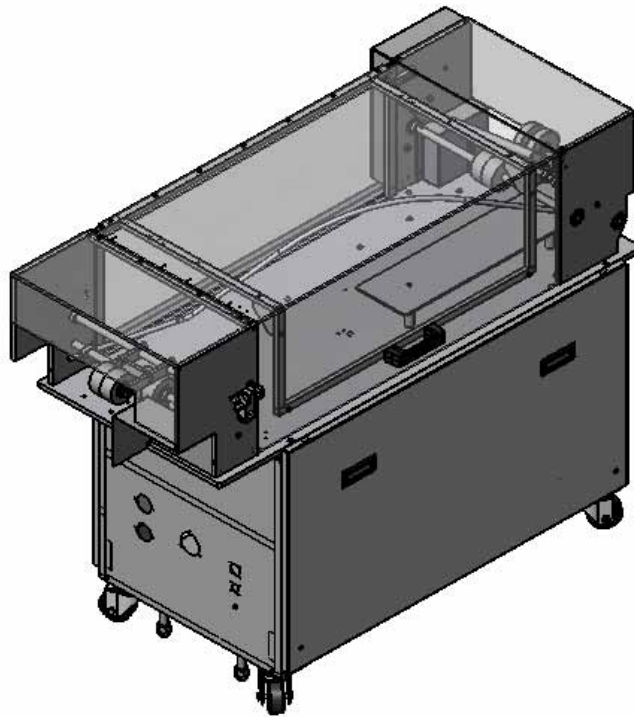
VERSION	DATE	CHANGES
FM-RS-LS_TURNOVER10x13		ORIGINAL RELEASE
FM-RS-LS_TURNOVER10x13revA	08/22/07	REV A: See page notes

**PAGE NOTES**

REV	DATE	PAGE	REVISION NOTE
A	8/21/07	3	Added figure 8-10
		23-25	Corrected p/n, added figure and p/n

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*Sure-Feed Engineering*

# TURNOVER 10X13



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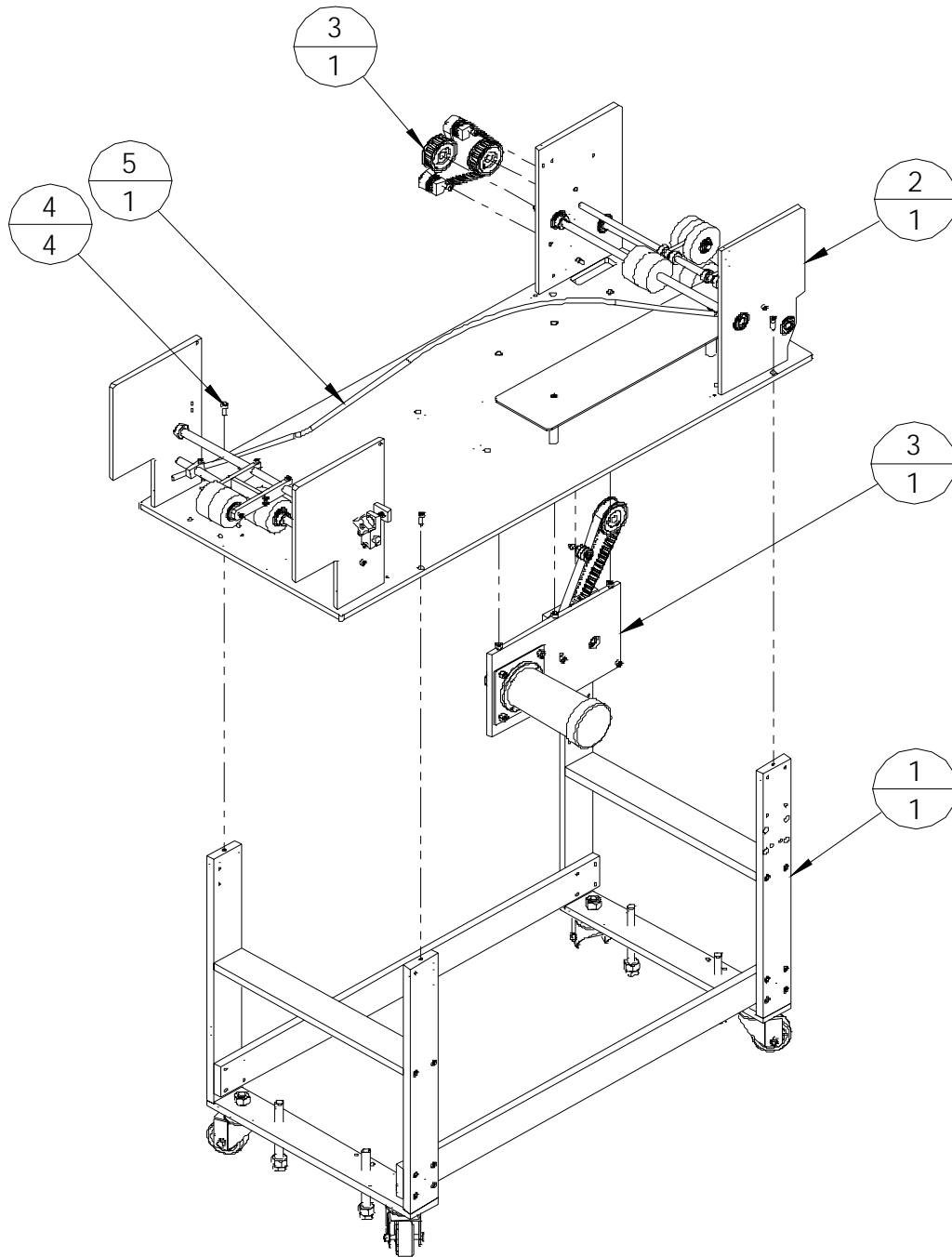
## **TURNOVER**

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**TURNOVER ASSEMBLY (Fig. 8-1)**  
**(20022-006)**

ITEM	PART NO.	QTY.	DESCRIPTION
1	SEE FIG. 8-2	1	ASSEMBLY, FRAME (22020-002)
2	SEE FIG. 8-3	1	ASSEMBLY, TRANSPORT (20020-014)
3	SEE FIG. 8-6	1	ASSEMBLY, DC DRIVE (20020-039)
	SEE FIG. 8-6	1	ASSEMBLY, AC DRIVE OPTION (20020-040)
4	-	4	BOLT, SKT HEAD, 5/16-18 X 3/4
5	20005-001	1	GUIDE, ENVELOPE TWIST
6	SEE FIG. 8-8, 8-9	1	ASSEMBLY, COVERS (20020-018) (NOT SHOWN)

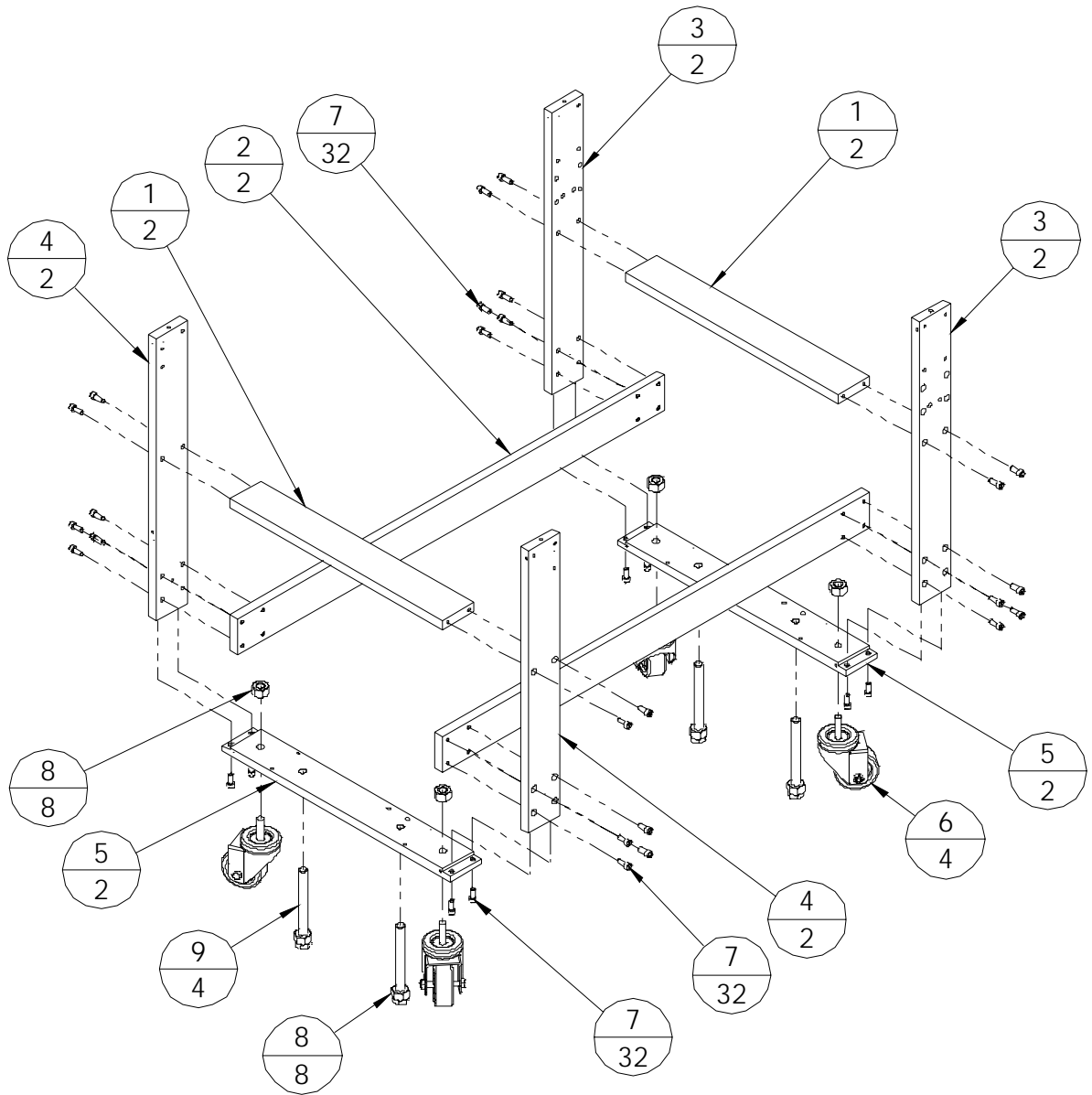
FIG 8-1



**TURNOVER (Fig. 8-2)**  
**FRAME ASSEMBLY (20020-002)**

<b>ITEM</b>	<b>PART NO.</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
1	20003-005	2	CROSSBAR, UPPER
2	20003-003	2	CROSSBAR, SIDE
3	20010-001	2	LEG, DISCHARGE
4	20010-002	2	LEG, INFEED
5	20003-004	2	CROSS BRACE, LOWER
6	99010-005	4	CASTER, 5/8-11 STEM
7	-	32	BOLT, SKT HEAD, 5/16-18 X 3/4
8	-	8	NUT, HEX, 5/8-11
9	-	4	BOLT, HEX HEAD, 5/8-11 X 6

FIG 8-2



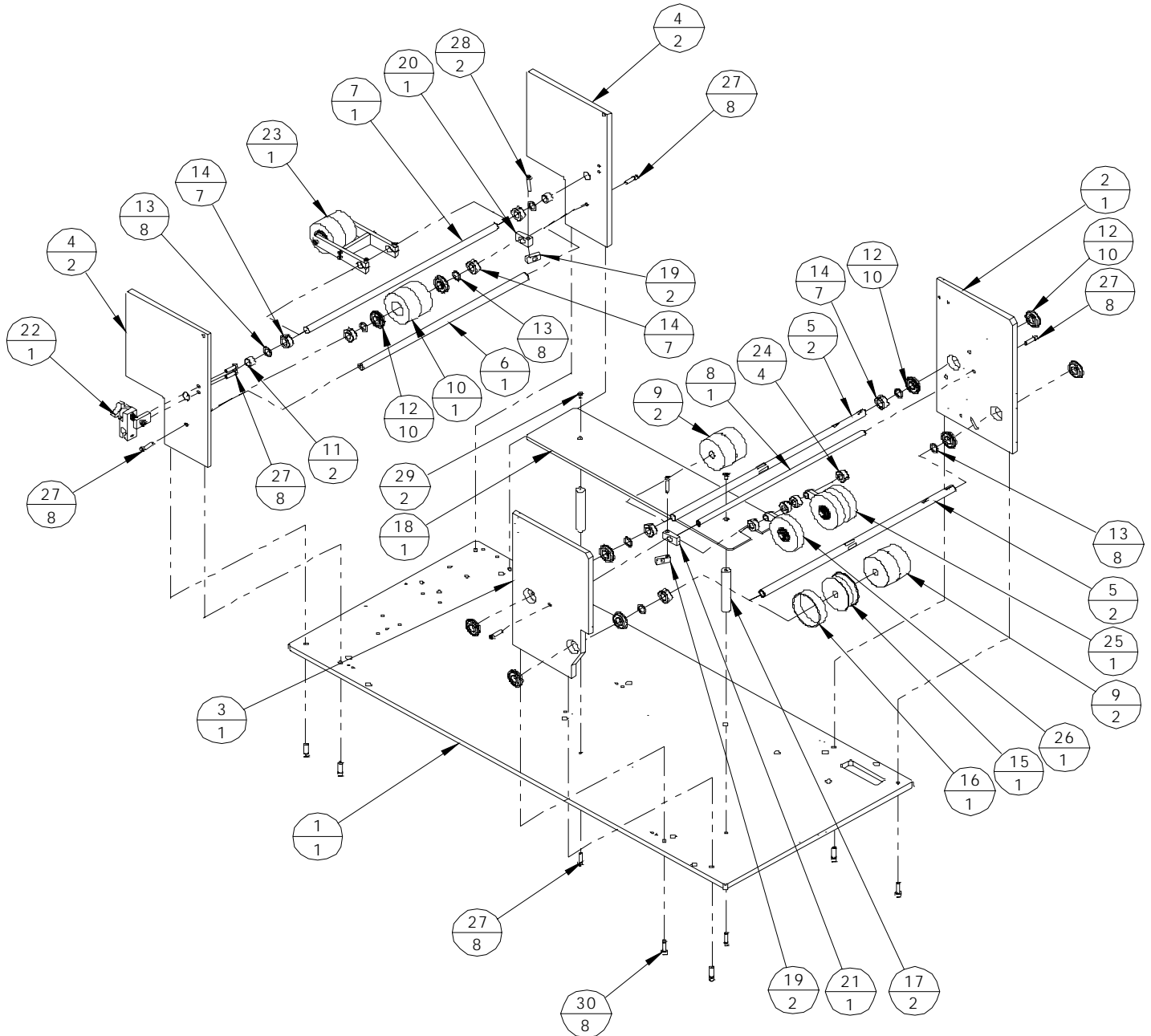


**TURNOVER (Fig. 8-3)**

**TRANSPORT ASSEMBLY (20020-014)**

ITEM	PART NO.	QTY.	DESCRIPTION
1	20001-002	1	PLATE, TURNOVER DECK
2	20000-006	1	SIDEFAME, LH DISCHARGE
3	20000-005	1	SIDEFAME, RH DISCHARGE
4	20000-004	2	SIDEFAME, INFEED
5	20004-012	2	SHAFT, SECONDARY
6	20004-009	1	SHAFT, IDLER, LONG
7	20004-010	1	SHAFT, IDLER, SHORT
8	20004-011	1	SHAFT, NIP PIVOT
9	20006-002	2	ROLLER, CROWNED DRIVE
10	20006-001	1	ROLLER, CROWNED IDLER
11	99003-029	2	BUSHING, SL, 5/8 X 3/4 X 1/2
12	99003-006	10	BEARING, 5/8 X 1-3/8, SEALED W/ S.R.
13	99003-021	8	WASHER, NYLON, 5/8 X 1/16
14	99017-005	7	COLLAR, 5/8 SHAFT
15	12006-001	1	PULLEY, 3" CROWNED X 1" WIDE
16	10014-001	1	BELT, URETHANE
17	18012-013	2	STANDOFF, SKID PLATE
18	20011-003	1	PLATE, SKID
19	20009-004	2	BRACKET, TURNOVER GUIDE MTG, 3/8"
20	20009-002	1	BRACKET, TURNOVER GUIDE MTG, 5/8"
21	20009-003	1	BRACKET, TURNOVER GUIDE MTG, 1/2"
22	<b>SEE FIG. 8-4</b>	<b>1</b>	<b>ASSEMBLY, SHAFT ADJ. (20020-003)</b>
23	<b>SEE FIG. 8-5</b>	<b>1</b>	<b>ASSEMBLY, IDLER ROLLER (20020-004)</b>
24	99017-004	4	COLLAR, 1/2
25	<b>SEE FIG. 8-5</b>	<b>1</b>	<b>ASSEMBLY, EXIT ROLLER (DOUBLE) (20020-005)</b>
26	<b>SEE FIG. 8-5</b>	<b>1</b>	<b>ASSEMBLT, EXIT ROLLER (SINGLE) (20020-010)</b>
27	-	8	BOLT, SKT HEAD, 1/4-20 X 1
28	-	2	BOLT, SKT HEAD, 1/4-20 X 1.25
29	-	2	SCREW, FLAT HEAD, #10-24 X 1/2
30	-	8	BOLT, SKT HEAD, 5/16-18 X 1
31	99000-038	1	BELT, TURNOVER, 111.6" LONG (NOT SHOWN)
32	99000-039	1	BELT, TURNOVER, 91.65" LONG (NOT SHOWN)

FIG 8-3

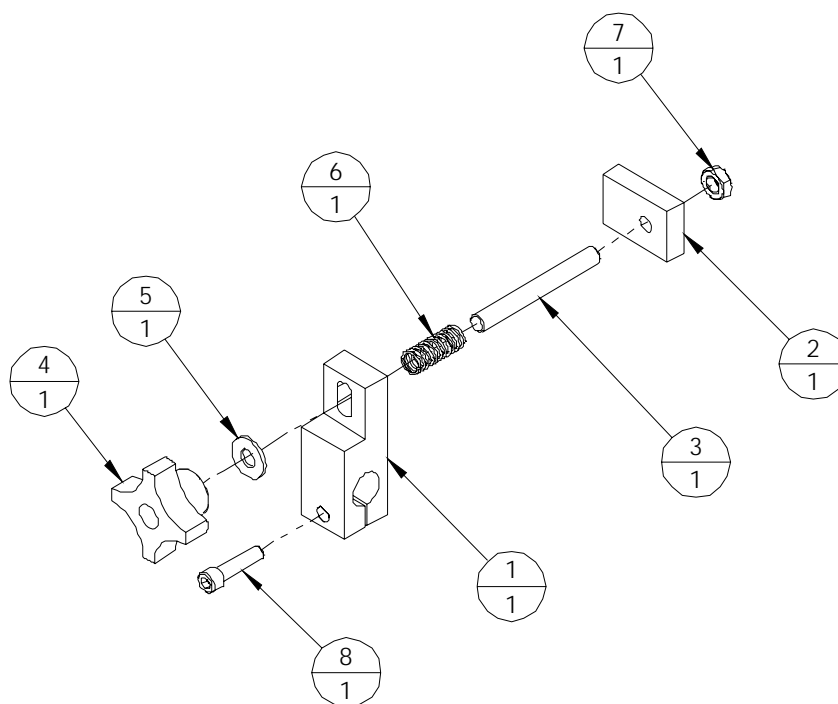


**TURNOVER (Fig. 8-4)**

**SHAFT ADJ. ASSEMBLY (20020-003)**

<b>ITEM</b>	<b>PART NO.</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
1	20007-002	1	BLOCK, SHAFT CLAMP
2	20007-001	1	BLOCK, SHAFT ADJ
3	10004-028	1	STUD, SEPARATOR ADJ.
4	99004-001	1	KNOB, 5/16-24 FEMALE
5	99003-015	1	WASHER, NYLON, 5/16 X 1/16
6	99005-045	1	SPRING, SEPARATOR
7	-	1	NUT, HEX, 5/16-24
8	-	1	SCREW, SKT HEAD, 1/4-20 X 1

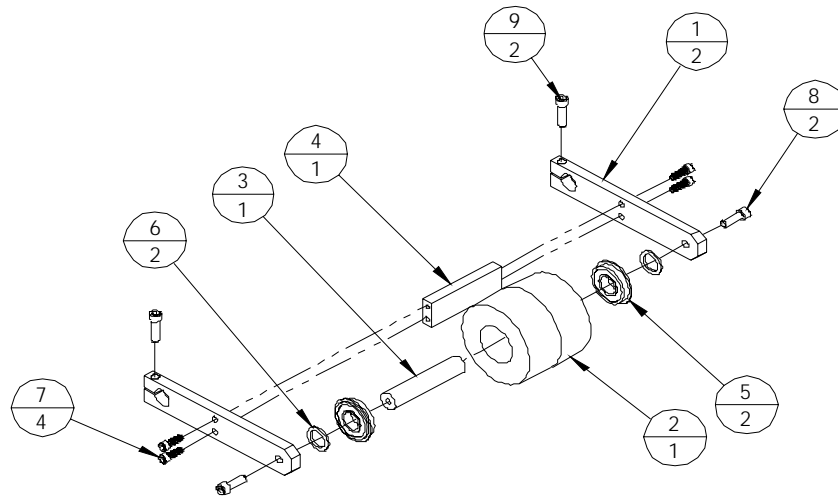
FIG 8-4



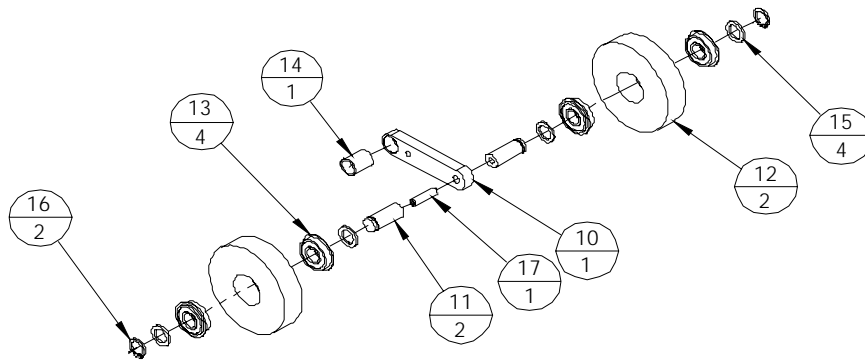
**TURNOVER (Fig. 8-5)**  
**ROLLER ASSEMBLIES**

ITEM	PART NO.	QTY.	DESCRIPTION
	<b>20020-004</b>	<b>1</b>	<b>ASSEMBLY, IDLER ROLLER</b>
1	20008-001	2	BAR, IDLER ROLLER MTG.
2	20006-001	1	ROLLER, CROWNED IDLER
3	20004-001	1	SHAFT, IDLER, SHORT
4	20012-002	1	SPACER, IDLER SUPPORT
5	99003-006	2	BEARING, 5/8 X 1-3/8, SEALED W/ S.R.
6	99003-021	2	WASHER, NYLON, 5/8 X 1/16
7	-	4	SCREW, SKT HEAD, #10-24 X 5/8
8	-	2	BOLT, SKT HEAD, 1/4-20 X 3/4
9	-	2	BOLT, SKT HEAD, 1/4-20 X 7/8
	<b>20020-005</b>	<b>1</b>	<b>ASSEMBLY, EXIT ROLLER (DOUBLE)</b>
10	20008-002	1	BAR, EXIT ROLLER
11	20004-005	2	SHAFT, EXIT ROLLER
12	20006-003	2	ROLLER, EXIT
13	99003-007	4	BEARING, 1/2 X 1-1/8, SEALED W/ S.R.
14	99003-038	1	BUSHING, SLEEVE, 1/2 X 5/8 X 3/4
15	99003-018	4	WASHER, NYLON, 1/2 X 1/16
16	99022-004	2	SNAP RING, 1/2
17	-	1	SET SCREW, 1/4-20 X 1
	<b>20020-010</b>	<b>1</b>	<b>ASSEMBLY, EXIT ROLLER (SINGLE)</b>
18	20008-002	1	BAR, EXIT ROLLER
19	20004-005	1	SHAFT, EXIT ROLLER
20	20006-003	1	ROLLER, EXIT
21	99003-007	2	BEARING, 1/2 X 1-1/8, SEALED W/ S.R.
22	99003-038	1	BUSHING, SLEEVE, 1/2 X 5/8 X 3/4
23	99003-018	2	WASHER, NYLON, 1/2 X 1/16
24	99022-004	1	SNAP RING, 1/2
25	-	1	BOLT, SKT HEAD, 1/4-20 X 5/8

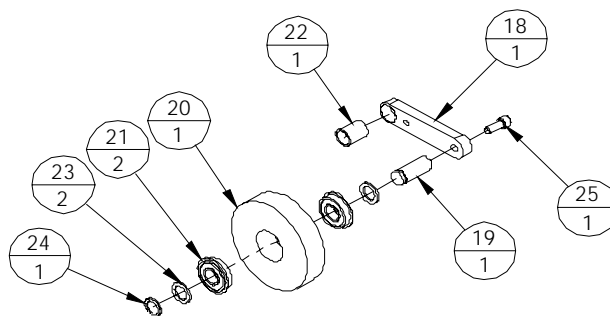
FIG 8-5



ASSY# 22020-004



ASSY# 22020-005



ASSY# 22020-010

**TURNOVER (Fig. 8-6)**  
**DC DRIVE ASSEMBLY (20020-039)**

ITEM	PART NO.	QTY.	DESCRIPTION
1	20011-001	1	PLATE, MOTOR MTG.
2	20011-002	1	PLATE, INTERMEDIATE SHAFT
3	20012-004	1	STANDOFF, MOTOR SUPPORT
4	99002-065	1	PULLEY, TIMING, 36L075 (1610 TAPERLOCK)
5	99002-059	1	PULLEY, TIMNG, 12L075, 1/2B W/ KEYWAY
6	99002-035	4	PULLEY, TIMING, 22L075 (1008 TAPERLOCK)
7	20004-008	1	SHAFT, INTERMEDIATE
8	99017-019	4	BUSHING, TAPERLOCK, 1008, 5/8B
9	99017-026	1	BUSHING, TAPERLOCK, 1610, 1/2B
10	99003-007	2	BEARING, 1/2 X 1-1/8, SEALED W/ S.R.
11	99003-032	1	WASHER, NYLON, 1/2 X 1/32
12	99003-018	2	WASHER, NYLON, 1/2 X 1/16
13	99017-004	1	COLLAR, 1/2
14	<b>SEE FIG. 8-7</b>	<b>1</b>	<b>ASSEMBLY, TENSIONER (W/ ROLLER) (20020-006)</b>
15	<b>SEE FIG. 8-7</b>	<b>2</b>	<b>ASSEMBLY, TENSIONER (W/ PULLEY) (20020-007)</b>
16	99000-157	1	BELT, TIMING, 285L075
17	-	4	BOLT, SKT HEAD, 3/8-16 X 1
18	-	2	BOLT, SKT HEAD, 5/16-18 X 5/8
19	-	5	BOLT, SKT HEAD, 5/16-18 X 1
20	-	3	BOLT, SKT HEAD, 5/16-18 X 3/4
21	99000-028	1	BELT, TIMNG, 255L075
22	99000-034	1	BELT, TIMING, D240L075

**TURNOVER (Fig. 8-6)**  
**DC DRIVE ASSEMBLY (20020-039)**

ITEM	PART NO.	QTY.	DESCRIPTION
23	99001-019	1	MOTOR, DC, 1/4 HP
24	20011-005	1	PLATE, MOTOR ADAPTOR
25	-	4	BOLT, SKT HEAD, 1/4-20 X 5/8
26	-	4	NUT, HEX, 3/8-16
27	20004-024	1	STUD, TENSIONER
28	99003-062	3	BEARING, SEALED, 10X26X8 MM
29	-	2	WASHER, FLAT, 1/4
30	-	1	BOLT, BUTTON HEAD, 1/4-20 X 1/2
31	-	1	BOLT, SKT HEAD, 1/4-20 X 3/4
32	20011-014	1	PLATE, SENSOR FLAG
33	20019-001	1	COLLAR, FLAG MTG.
34	98009-028	1	SENSOR, PROXIMITY

**AC DRIVE OPTION ASSEMBLY (Fig. 8-6)**  
**(20020-040)**

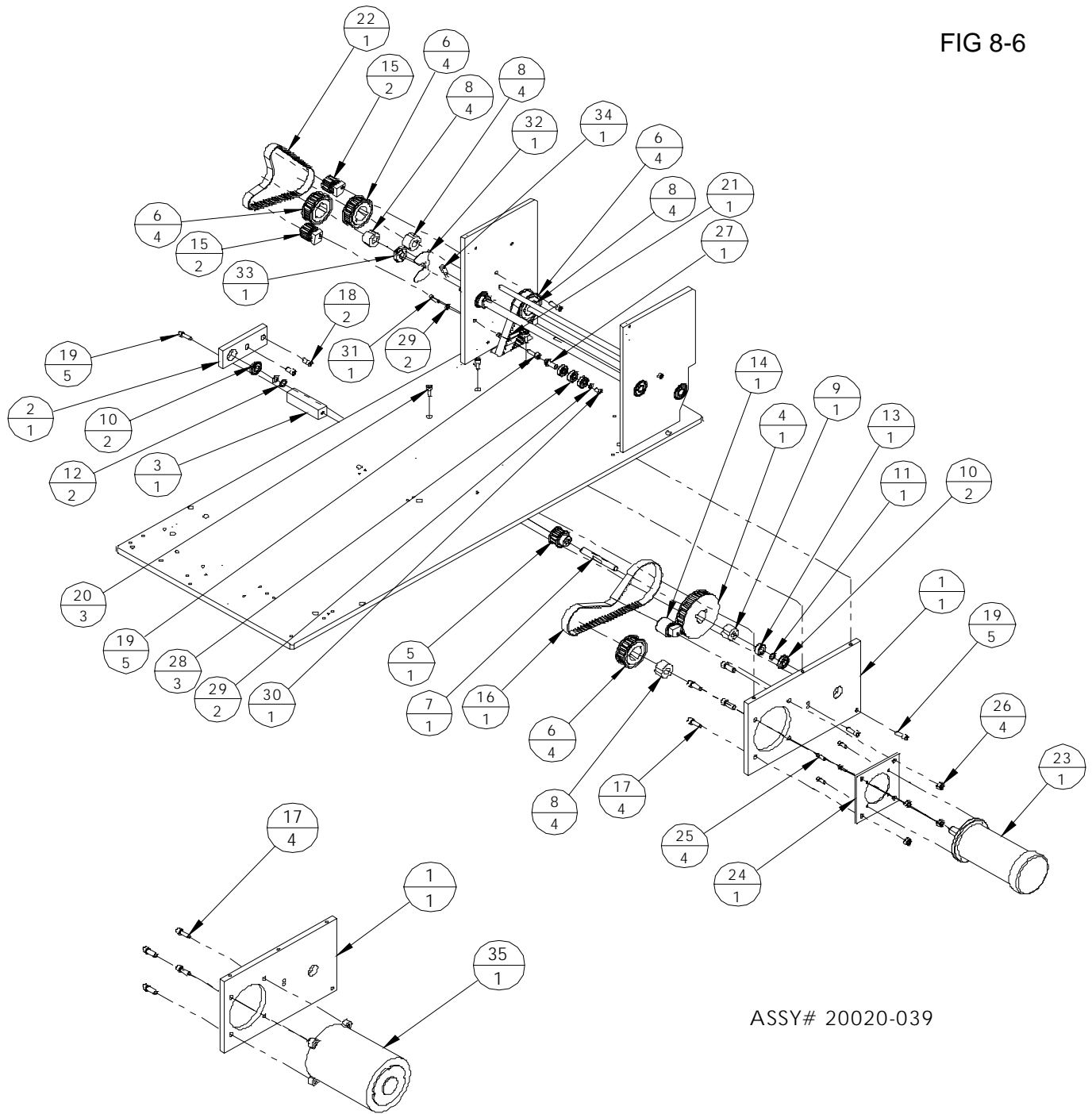
ITEM	PART NO.	QTY.	DESCRIPTION
	<b>20020-040</b>	<b>OPT</b>	<b>ASSEMBLY, AC DRIVE</b>
35	99001-004	OPT	MOTOR, AC, 1/4 HP, 56C



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FIG 8-6



ASSY# 20020-039

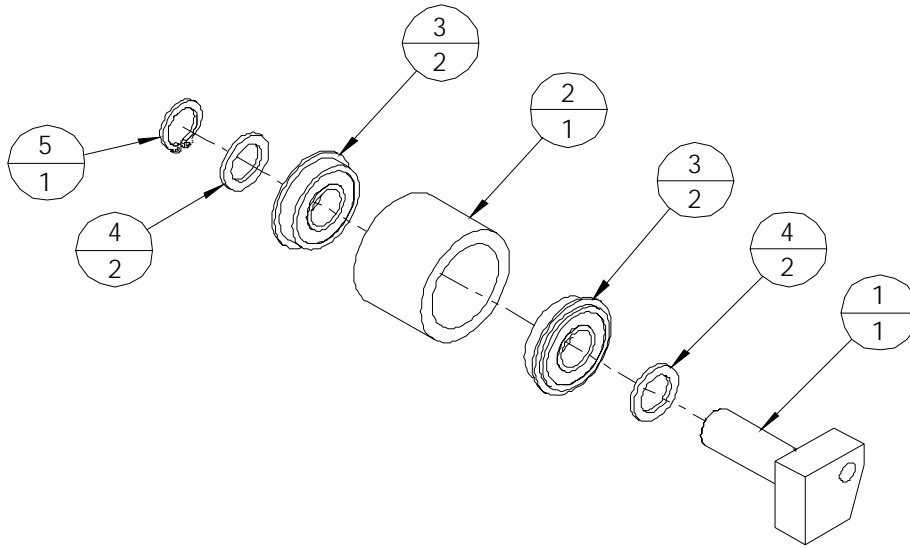
ASSY# 20020-040

NOTE: AC DRIVE SYSTEM (20020-040) HAS ITEM #35 IN PLACE ON ITEM # 23 AND #24

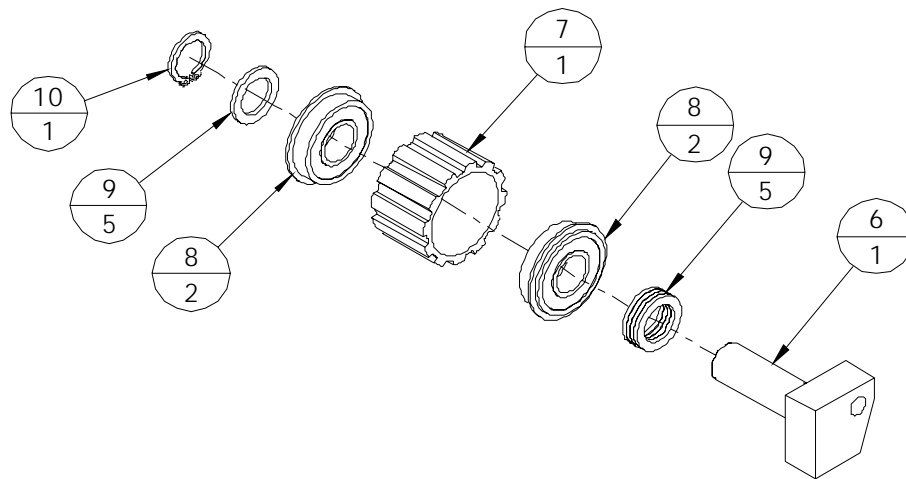
**TURNOVER (Fig. 8-7)**  
**TENSIONER ASSEMBLIES**

ITEM	PART NO.	QTY.	DESCRIPTION
	<b>20020-006</b>	<b>1</b>	<b>ASSEMBLY, TENSIONER (FLAT ROLLER)</b>
1	18004-022	1	SHAFT, ECCENTRIC IDLER, 1/2
2	18006-012	1	ROLLER, FLAT IDLER, 1.5 X 1-1/8 WIDE
3	99003-007	2	BEARING, 1/2 X 1-1/8, SEALED W/ S.R.
4	99003-018	2	WASHER, NYLON, 1/2 X 1/16
5	99022-004	1	SNAP RING, 1/2
	<b>20020-007</b>	<b>2</b>	<b>ASSEMBLY, TENSIONER (PULLEY)</b>
6	18004-022	1	SHAFT, ECCENTRIC IDLER, 1/2
7	20006-004	1	PULLEY, IDLER, 12L075
8	99003-007	2	BEARING, 1/2 X 1-1/8, SEALED W/ S.R.
9	99003-018	5	WASHER, NYLON, 1/2 X 1/16
10	90022-004	1	SNAP RING, 1/2

FIG 8-7



ASSY# 20020-006

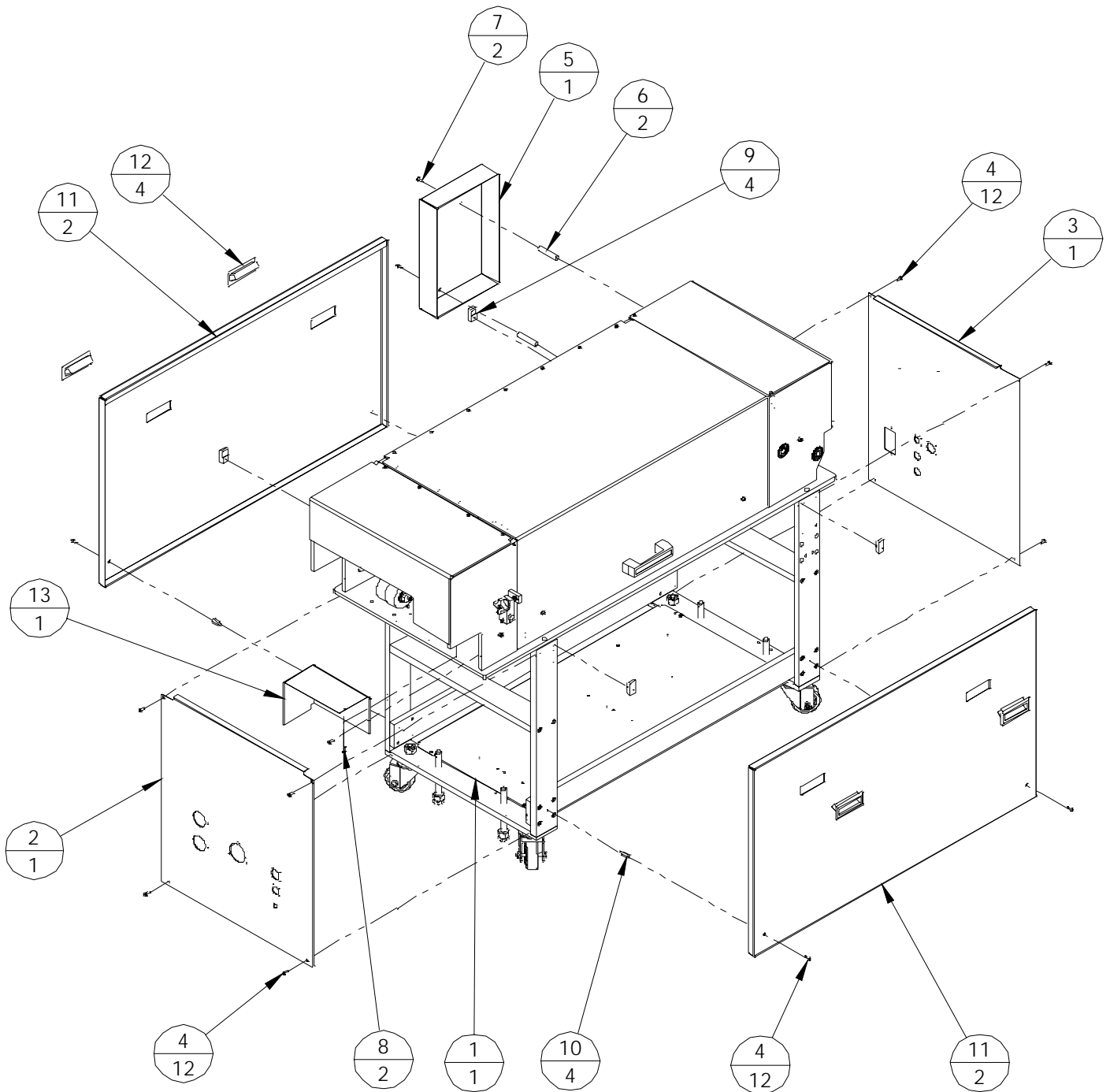


ASSY# 20020-007

**TURNOVER (Fig. 8-8)**  
**COVER ASSEMBLY #1 (20020-018)**

ITEM	PART NO.	QTY.	DESCRIPTION
1	18013-073	1	COVER, FLOOR
2	20013-023	1	COVER, INFEED END
3	20013-024	1	COVER, DISCHARGE END
4	-	12	SCREW, BUTTON HEAD, #10-32 X 1/2
5	20013-013	1	COVER, DRIVE
6	20012-003	2	STANDOFF, DRIVE COVER
7	-	2	SCREW, BUTTON HEAD, #10-24 X 1/2
8	-	2	SCREW, BUTTON HEAD, #8-32 X 1/2
9	18007-042	2	BLOCK, SIDE COVER MTG.
10	99039-079	4	STANDOFF, HEX, #10-32
11	20013-003	2	COVER, LOWER SIDE
12	99012-002	4	HANDLE, POCKET PULL
13	20013-018	1	COVER, TURNOVER @ FRONT TABLE, RH

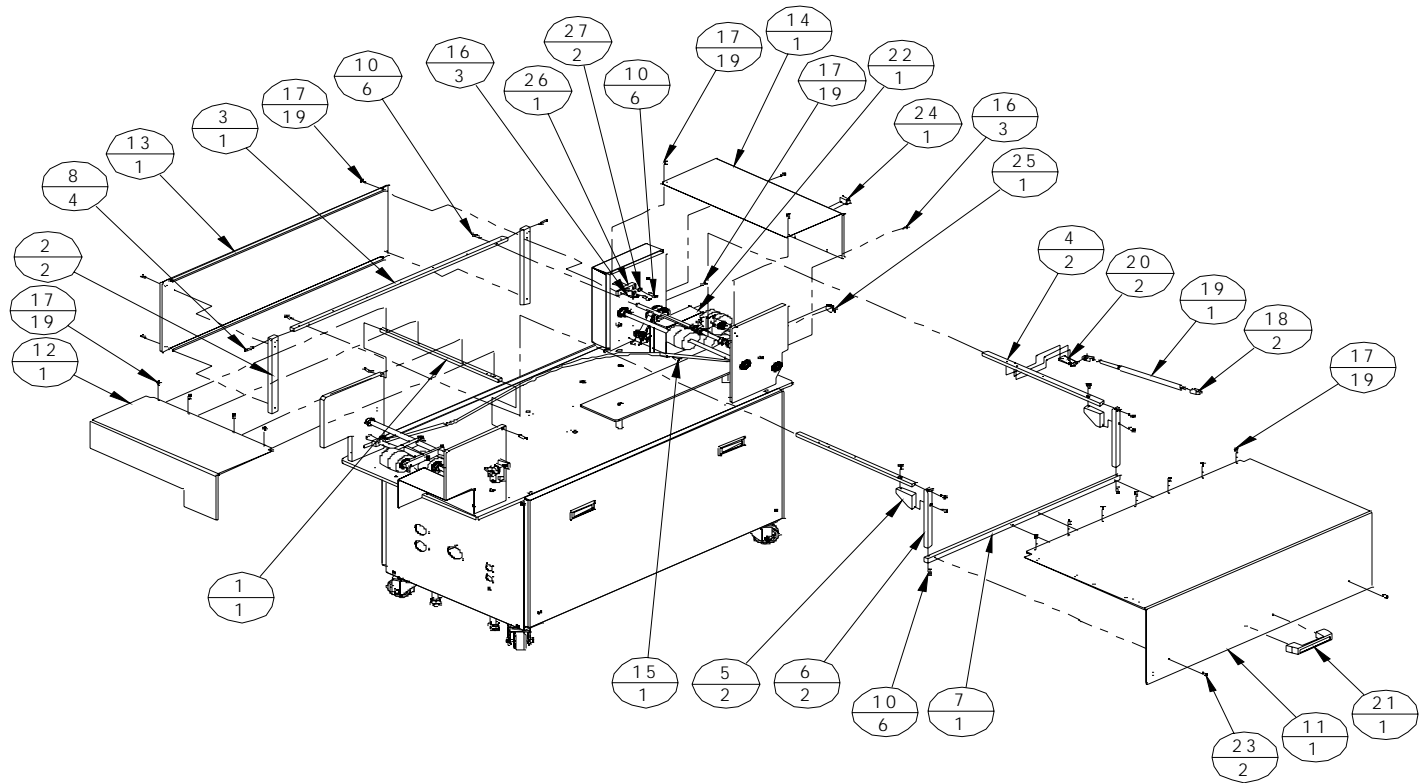
FIG 8-8



**TURNOVER (Fig. 8-9)**  
**COVER ASSEMBLY #2 (20020-018)**

ITEM	PART NO.	QTY.	DESCRIPTION
1	20008-005	1	BAR, END COVER MTG.
2	20007-005	2	BLOCK, END COVER MTG.
3	20008-004	1	BAR, COVER MTG.
4	20008-008	2	BAR, COVER SUPPORT TOP
5	20007-006	2	BLOCK, GUSSET, COVER SUPPORT
6	20008-007	2	BAR, COVER SUPPORT SIDE
7	20008-006	1	BAR, COVER SUPPORT HANDLE
8	99006-024	4	PIN, STUD, 5/16-24 X 1-1/8
9	-	6	BOLT, SKT HEAD, 1/4-20 X 1/2
10	-	6	BOLT, SKT HEAD, 1/4-20 X 3/4
11	20013-014	1	COVER, CENTER LEXAN
12	20013-009	1	COVER, INFEED LEXAN
13	20013-015	1	COVER, SIDE LEXAN
14	20013-010	1	COVER, DISCHARGE LEXAN
15	-	1	SCREW, SKT HEAD, #10-24 X 3/4
16	-	3	SCREW, SKT HEAD, #8-32 X 1/2
17	-	19	SCREW, BUTTON HEAD, #8-32 X 1/2
18	99014-005	2	END FITTING, BALL SOCKET
19	99014-004	1	GAS SPRING, 20LB (10.35 TO 18.62)
20	99014-006	2	ANGLE BRACKET, BALL SOCKET
21	99012-001	1	HANDLE, DOOR
22	20013-016	1	COVER, DRIVE BELT
23	-	2	SCREW, BUTTON, HEAD, 1/4-20 X 1/2
24	98009-037	1	SENSOR, RECEIVER, THRU BEAM
25	98009-002	1	SENSOR, SENDER, THRU BEAM
26	20009-006	1	BRACKET, COVER SUPPORT
27	-	2	WASHER, FLAT, 1/4

FIG 8-9



**TURNOVER CONVEYOR (Fig. 8-10)**

***ELECTRICAL ASSEMBLY***

ITEM	PART NO.	QTY.	DESCRIPTION
	<sup>a</sup> <b>20021-002</b>	<b>1</b>	<b>ASSY, ELECTRICAL, TURNOVER</b>
1	98016-012	1	PLUG, AMP, SERIES 1, 17-16 ST
2	98016-005	1	BACKSHELL, PLASTIC SIZE 17
3	98016-073	1	PLUG, HBL, 3 PIN, 1 POLE, 115
4	98000-036	1	SWITCH, REED
5	98020-024	1	MAGNET, ACTUATOR, REED SWITCH
6	98016-025	15	CONTACT, PIN, 24-20 AWG
7	98016-027	20	CONTACT, SOCKET, 24-20 AWG
8	98003-009	1	RECEPTICAL STRIP-4 OUTLET
9	98016-085	2	CONNECTOR, 3 POS, MALE, 15A
10	98016-077	2	CONNECTOR, 3 POS, FEMALE, 15A
11	98016-082	1	CONNECTOR, 6 POS, MALE, 15A
12	98016-083	1	CONNECTOR, 6 POS, FEMALE, 15A
13	98010-010	11 FT	WIRE, 16/3, SJOOW, BLACK
14	98000-020	1	SWITCH, LIMIT W/ ROLLER
15	98000-021	1	COVER, LIMIT SWITCH
16	98009-002	2	RECEIVER-M5/115, SENSOR
17	98009-037	2	SENDER,-MV5/30/115, SENSOR
18	98013-020	1	INPUT MODULE, CC LINK, 16PT
19	98013-021	1	OUTPUT MODULE, CC LINK, 16PT
20	98012-009	3 FT	DUCT, WIREWAY, 2-1/4 X 1-1/4
	<b>20021-005</b>	<b>1</b>	<b>ASSY, TERMINAL BLOCK</b>
21	98001-022	1 FT	DIN RAIL
22	98001-013	1	GROUND TERMINAL, SPRING
23	98001-010	28	TERMINAL BLOCK, SPRING
24	98004-030	1	CIRCUIT BREAKER, 7 AMP, 2 POLE
25	98001-014	2	TERMINAL BLOCK, END STOP
26	98001-027	2	JUMPER, 4 POLE
27	98001-015	1	TERMINAL BLOCK, SPRING, END



**TURNOVER CONVEYOR (Fig. 8-10)**  
**ELECTRICAL ASSEMBLY**

ITEM	PART NO.	QTY.	DESCRIPTION
	<b>18021-015</b>	<b>1</b>	<b>ASSY, TURNOVER SAFETY HARNESS</b>
9	98016-085	2	CONNECTOR, 3 POS, MALE, 15A
11	98016-082	1	CONNECTOR, 6 POS, MALE, 15A
12	98016-083	1	CONNECTOR, 6 POS, FEMALE, 15A
28	98016-086	1	CONNECTOR, 4 POS, MALE,
29	98001-041	3	CONTACT, SOCKET, 15A
30	98001-042	2	CONTACT, PIN, 15A
31	98001-035	4	CONTACT, SOCKET (.001)
	<b>20020-019</b>	<b>1</b>	<b>ASSY, ELECTRICAL, INFEED PANEL</b>
32	98016-074	2	RECEPTACLE, FLGD, 3 PIN, 11
33	98016-010	1	RECEPTACLE, SQ FLG, AMP, 17-16
34	20013-023	1	COVER, END, INFEED
35	98010-095	5 FT	WIRE, 12/4 SJOW BLACK
36	98003-022	1	RECEPTACLE, FL, HBL TWIST LOCK
37	98010-043	1	CABLE, COMMUNICATION, 5 FT
38	98020-028	1	ADAPTER, RJ45/RJ45
39	98016-006	1	RECEPTACLE, SQ FLG, 13-9 MALE
40	98015-027	1	GRIP, CORD 1/2"
	<b>20020-020</b>	<b>1</b>	<b>ASSY, ELECTRICAL, DISCHARGE PANEL</b>
39	<sup>a</sup> 98016-006	1	RECEPTACLE, SQ FLG, 13-9 MALE
41	20013-024	1	COVER, END, DISCHARGE
42	98016-011	1	RECEPTACLE, SQ FLG, AMP, 11-4
43	98016-030	1	RECEPTACLE, 125V STD OUTLET
44	98016-031	1	HANDY BOX, 2.5 X 4
45	98016-032	1	COVER PLATE
46	98015-001	4	STRAIN RELIEF, 1/2"

REV A: Added Figure 8-10 & 98016-006, corrected 20021-002 from 12021-002  
(8/21/07)

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