

CashCoad

BackLoad Bill Validator

MSM Series

Operation and service Manual

Part 2. TESTING AND REPAIR

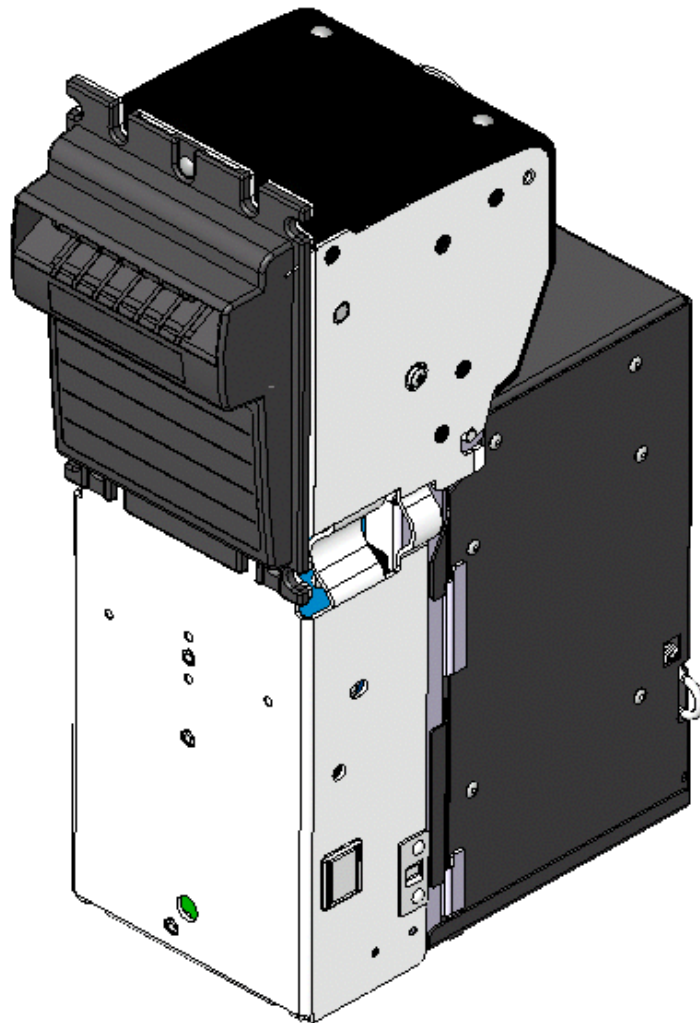
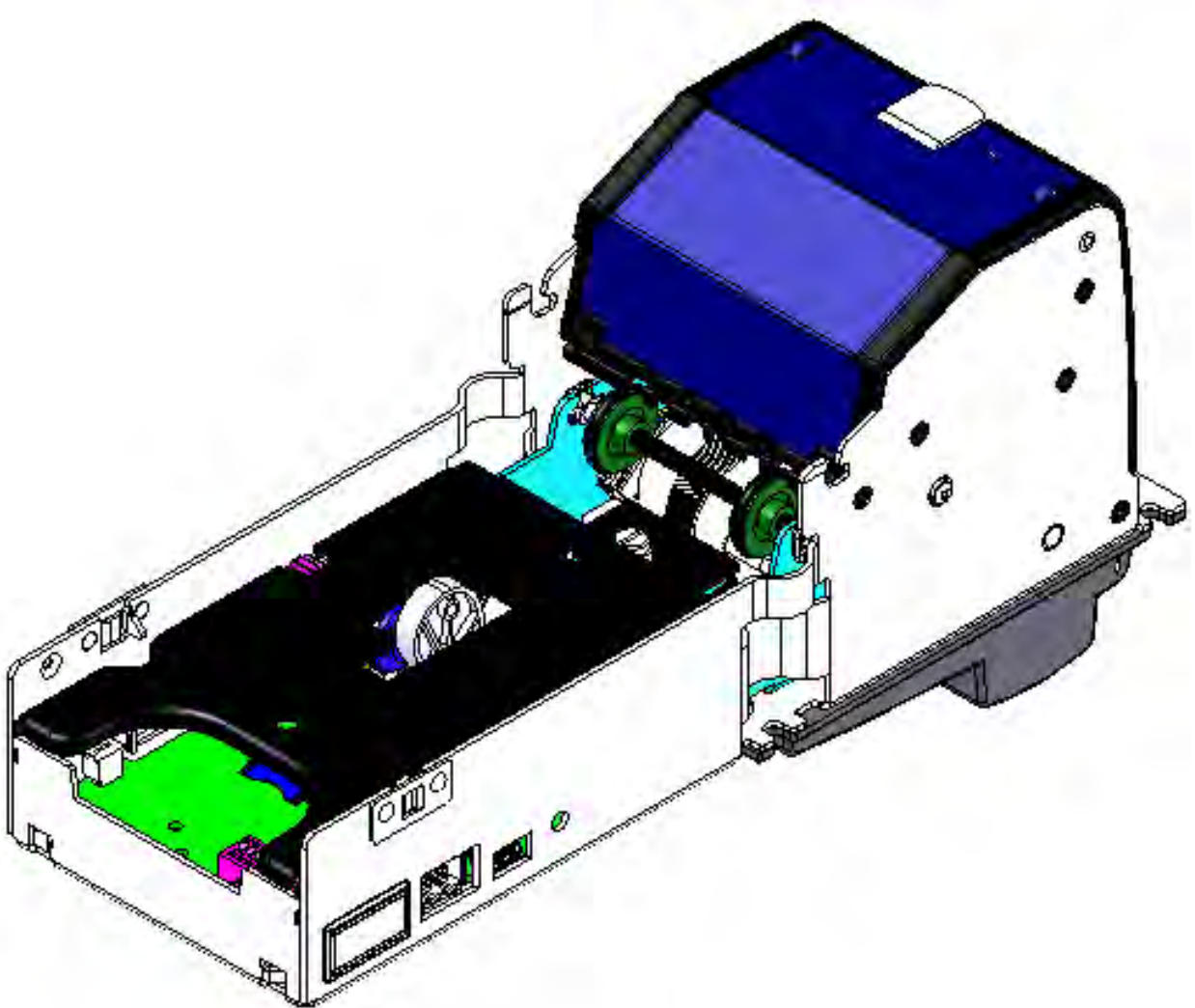


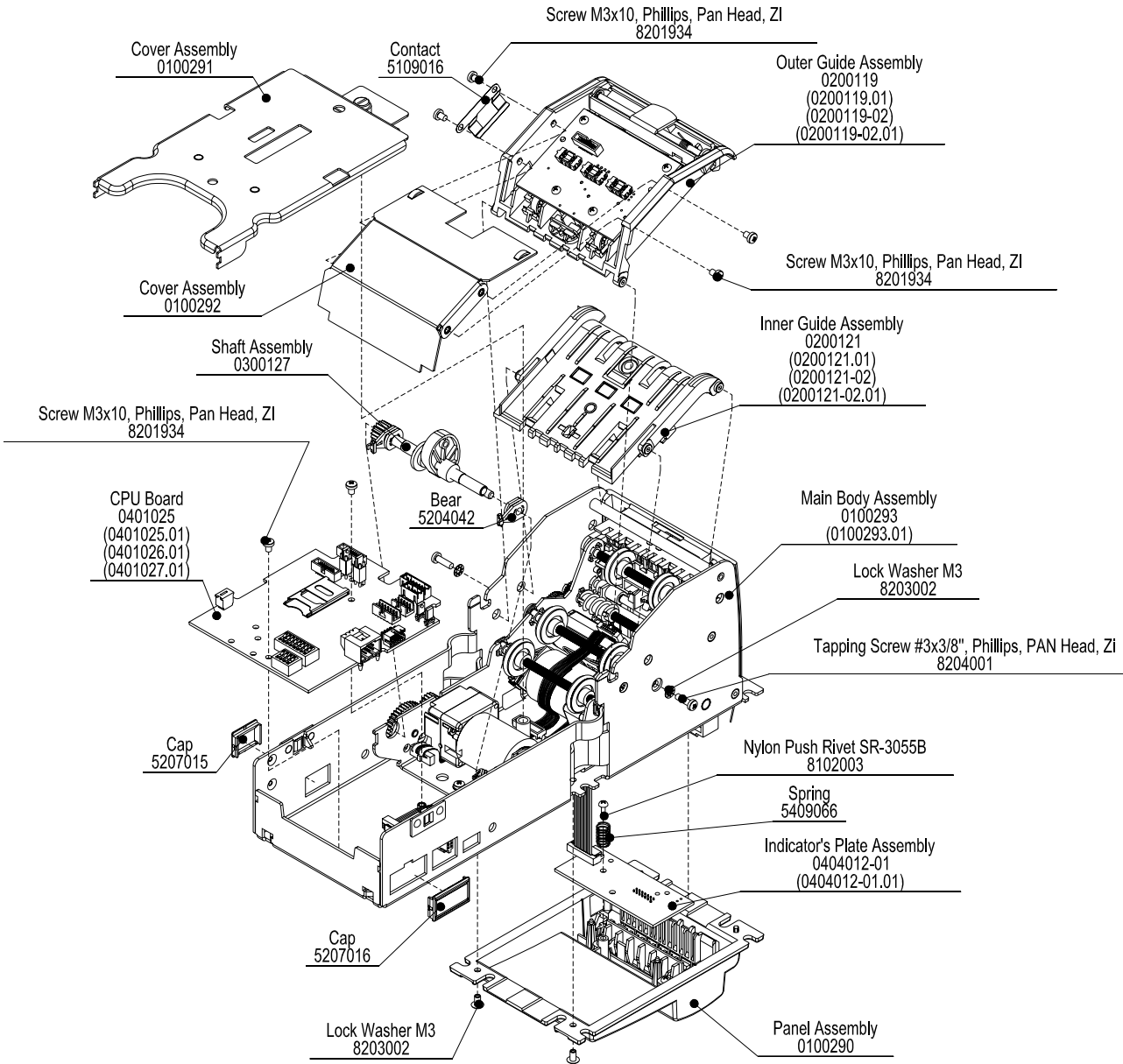
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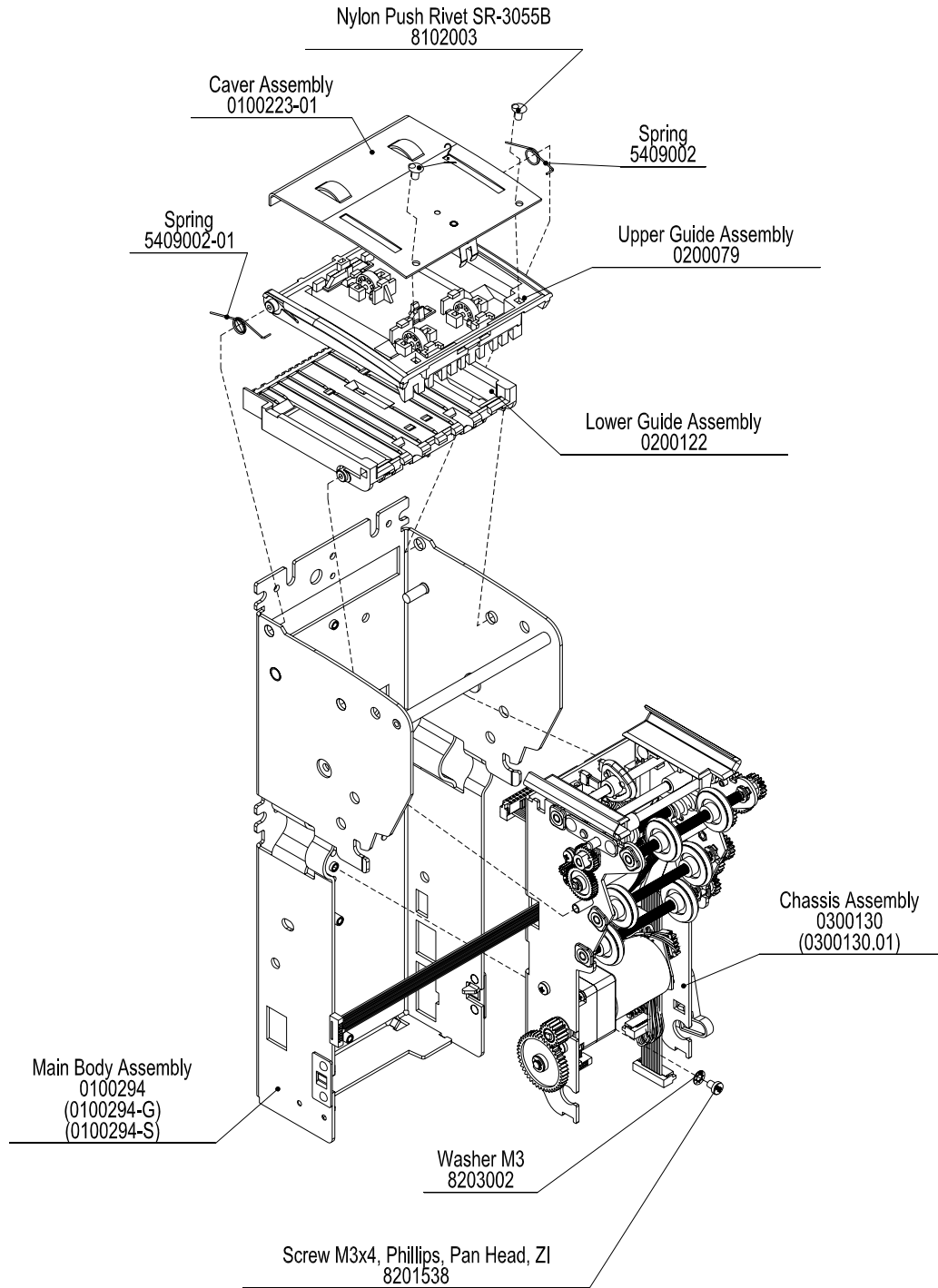
MSM ACCEPTOR ASSEMBLY.



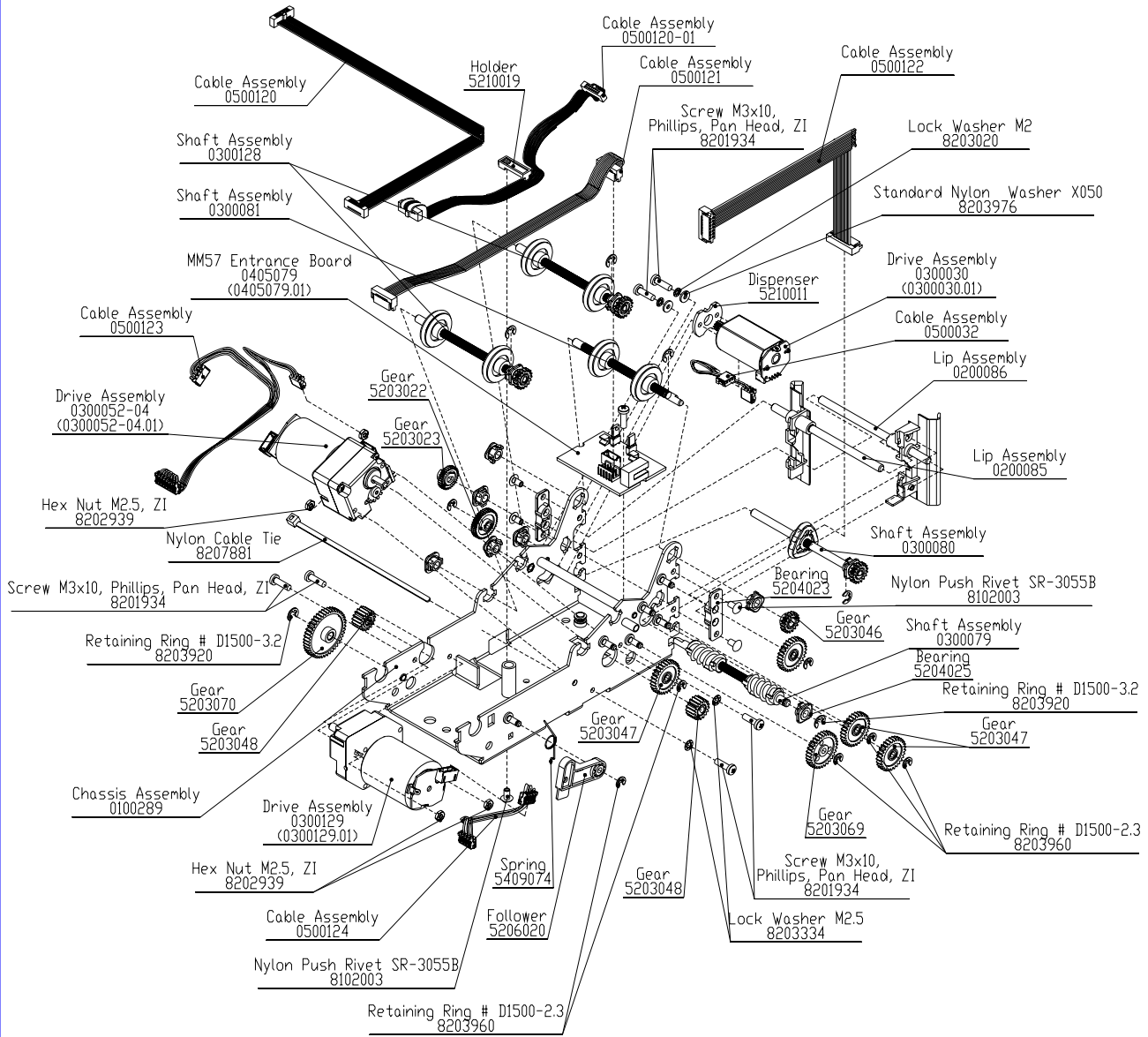
Exploded view of MSM Acceptor Assembly.



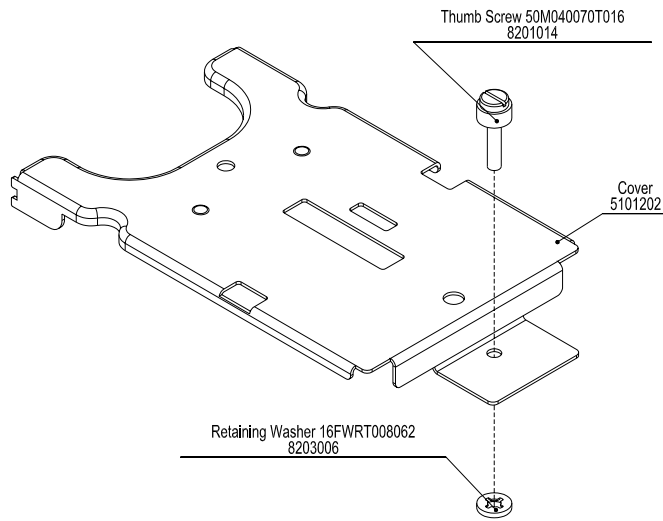
Exploded view of Main Body Assembly (0100293).



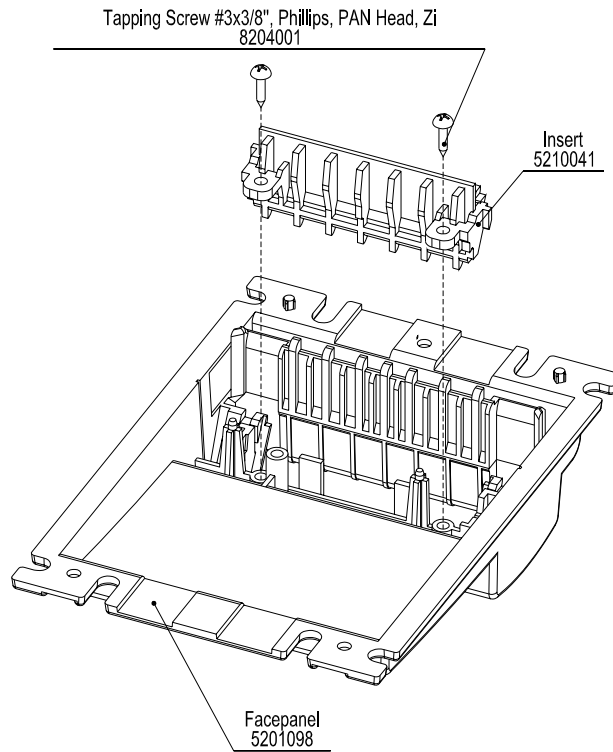
Exploded view of Chassis Assembly (0300130).



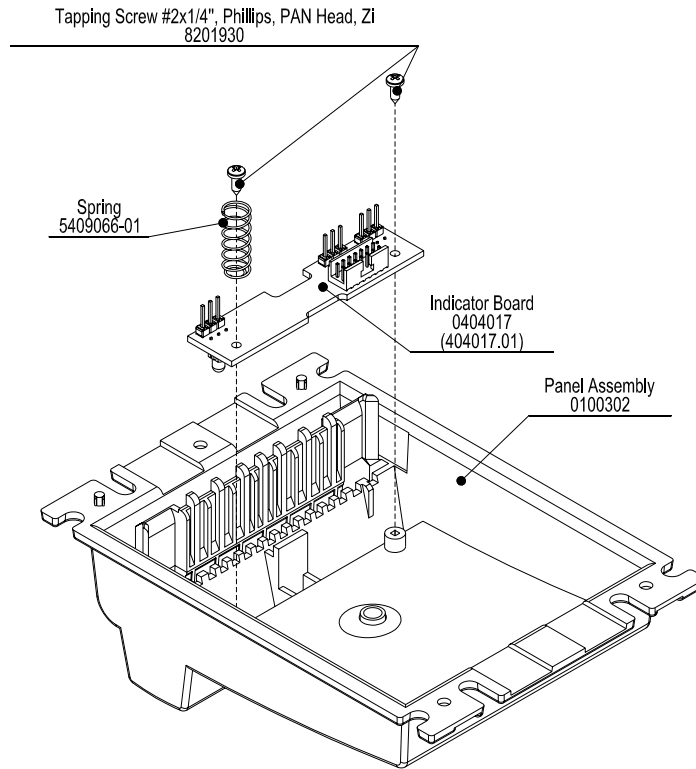
Exploded view of Cover (0100291).



Exploded view of Facepanel Assembly (0100290).



Exploded view of Facepanel Assembly (0100303).



LIST OF SPARE PARTS AND ASSEMBLY FOR MSM Acceptor.

Item	Part ID #	Part/Assembly Name	Quantity per assembly							
			MSM-3001	MSM-3005	MSM-3008	MSM-3017	MSM-3020	MSM-3021	MSM-3024	MSM-3051
1	0100293	Main Body Assembly	-	1	1	-	-	-	-	-
2	0100293.01	Main Body Assembly	1	-	-	1	1	1	1	1
3	0100294	Main Body Assembly	1	1	1	1	1	1	1	1
4	0100294-G	Main Body Assembly	-	-	-	-	-	-	-	-
5	0100294-S	Main Body Assembly	-	-	-	-	-	-	-	-
6	0100291	Cover Assembly	1	1	1	1	1	1	1	1
7	0100292	Cover Assembly	1	1	1	1	1	1	1	1
8	0100290	Panel Assembly	1	1	1	1	1	1	1	-
9	0100303.01	Panel Assembly	-	-	-	-	-	-	-	1
10	0300127	Shaft Assembly	1	1	1	1	1	1	1	1
11	0200121	Inner Guide Assembly	-	1	-	-	-	-	-	-
12	0200121.01	Inner Guide Assembly	1	-	-	1	-	1	-	1
13	0200121-02	Inner Guide Assembly	-	-	1	-	-	-	-	-
14	0200121-02.01	Inner Guide Assembly	-	-	-	-	1	-	1	-
15	0200119	Outer Guide Assembly	-	1	-	-	-	-	-	-
16	0200119.01	Outer Guide Assembly	1	-	-	1	-	1	-	1
17	0200119-02	Outer Guide Assembly	-	-	1	-	-	-	-	-
18	0200119-02.01	Outer Guide Assembly	-	-	-	-	1	-	1	-
19	0401025	CPU Board	-	1	1	-	-	-	-	-
20	0401025.01	CPU Board	-	-	-	-	-	1	1	-
21	0401026.01	CPU Board	-	-	-	1	1	-	-	-
22	0401027.01	CPU Board	1	-	-	-	-	-	-	1
23	0405079	MM57 Entrance Board	-	1	1	-	-	-	-	-
24	0405079.01	MM57 Entrance Board	1	-	-	1	1	1	1	1
25	0404012-01	Indicator's Plate Assembly	-	1	1	-	-	-	-	-
26	0404012-01.01	Indicator's Plate Assembly	1	-	-	1	1	1	1	-
27	0404017.01	Indicator Board	-	-	-	-	-	-	-	1
28	0500120	Cable Assembly	1	1	1	1	1	1	1	1
29	0500120-01	Cable Assembly	1	1	1	1	1	1	1	1
30	0500121	Cable Assembly	1	1	1	1	1	1	1	1
31	0500122	Cable Assembly	1	1	1	1	1	1	1	1
32	0500123	Cable Assembly	1	1	1	1	1	1	1	1
33	0500124	Cable Assembly	1	1	1	1	1	1	1	1
34	0500032	Cable Assembly	1	1	1	1	1	1	1	1

LIST OF SPARE PARTS AND ASSEMBLY FOR MSM Acceptor (continue).

35	0300052-04	Drive Assembly	-	1	1	-	-	-	-	-
36	0300052-04.01	Drive Assembly	1	-	-	1	1	1	1	1
37	0300030	Drive Assembly	-	1	1	-	-	-	-	-
38	0300030.01	Drive Assembly	1	-	-	1	1	1	1	1
39	0300129	Drive Assembly	-	1	1	-	-	-	-	-
40	0300129.01	Drive Assembly	1	-	-	1	1	1	1	1
41	0100289	Chassis Assembly	1	1	1	1	1	1	1	1
42	0300130	Chassis Assembly	-	1	1	-	-	-	-	-
43	0300130.01	Chassis Assembly	1	-	-	1	1	1	1	1
44	0300081	Shaft Assembly	1	1	1	1	1	1	1	1
45	0300128	Shaft Assembly	2	2	2	2	2	2	2	2
46	0300079	Shaft Assembly	1	1	1	1	1	1	1	1
47	0300080	Shaft Assembly	1	1	1	1	1	1	1	1
48	0200085	Lip Assembly	1	1	1	1	1	1	1	1
49	0200086	Lip Assembly	1	1	1	1	1	1	1	1
50	0100303.01	Panel Assembly	-	-	-	-	-	-	-	1
51	0200122	Lower Guide Assembly	1	1	1	1	1	1	1	1
52	0100223-01	Caver Assembly	1	1	1	1	1	1	1	1
53	0200079	Upper Guide Assembly	1	1	1	1	1	1	1	1
54	0100302	Panel Assembly	-	-	-	-	-	-	-	1
55	5204042	Bear	2	2	2	2	2	2	2	2
56	5204023	Bearing	2	2	2	2	2	2	2	2
57	5204025	Bearing	7	7	7	7	7	7	7	7
58	5204061	Cam	1	1	1	1	1	1	1	1
59	5207015	Cap	1	1	1	1	1	1	1	1
60	5207016	Cap	1	-	-	1	1	-	-	1
61	5109016	Contact	1	1	1	1	1	1	1	1
62	5101202	Cover	1	1	1	1	1	1	1	1
63	5210011	Dispenser	1	1	1	1	1	1	1	1
64	5201098	Facepanel	1	1	1	1	1	1	1	-
65	5206020	Follower	1	1	1	1	1	1	1	1
66	5210041	Insert	1	1	1	1	1	1	1	-
67	5203048	Gear	3	3	3	3	3	3	3	3
68	5203023	Gear	1	1	1	1	1	1	1	1
69	5203046	Gear	1	1	1	1	1	1	1	1
70	5203047	Gear	4	4	4	4	4	4	4	4
71	5203069	Gear	1	1	1	1	1	1	1	1
72	5203070	Gear	1	1	1	1	1	1	1	1
73	5203022	Gear	1	1	1	1	1	1	1	1
74	5210019	Holder	1	1	1	1	1	1	1	1

LIST OF SPARE PARTS AND ASSEMBLY FOR MSM Acceptor (continue).

75	5308126	Shaft	1	1	1	1	1	1	1	1	1
76	5204062	Shield	1	1	1	1	1	1	1	1	1
77	5409066-01	Spring	-	-	-	-	-	-	-	-	1
78	5409074	Spring	1	1	1	1	1	1	1	1	1
79	5409002	Spring	1	1	1	1	1	1	1	1	1
80	5409002-01	Spring	1	1	1	1	1	1	1	1	1
81	5409066	Spring	1	1	1	1	1	1	1	1	-
82	8202939	Hex Nut M2.5, ZI	4	4	4	4	4	4	4	4	4
83	8203002	Lock Washer M3	3	3	3	3	3	3	3	3	3
84	8203334	Lock Washer M2.5	2	2	2	2	2	2	2	2	2
85	8203020	Lock Washer M2	2	2	2	2	2	2	2	2	2
86	8102003	Nylon Push Rivet SR-3055B	10	10	10	10	10	10	10	10	10
87	8207881	Nylon Cable Tie	2	2	2	2	2	2	2	2	2
88	8203920	Retaining Ring # D1500-3.2	6	6	6	6	6	6	6	6	6
89	8203960	Retaining Ring # D1500-2.3	7	7	7	7	7	7	7	7	7
90	8203976	Standard Nylon Washer X050	2	2	2	2	2	2	2	2	2
91	8201538	Screw M3x4, Phillips, Pan Head, ZI	6	6	6	6	6	6	6	6	6
92	8201934	Screw M3x10, Phillips, Pan Head, ZI	2	2	2	2	2	2	2	2	2
93	8204001	Tapping Screw #3x3/8", Phillips, PAN Head, Zi	3	3	3	3	3	3	3	3	-
94	8201930	Tapping Screw #2x1/4", Phillips, PAN Head, Zi	-	-	-	-	-	-	-	-	2
95	8201538	Screw M3x4, Phillips, Pan Head, ZI	1	1	1	1	1	1	1	1	1
96	8201934	Screw M3x10, Phillips, Pan Head, ZI	7	7	7	7	7	7	7	7	7
97	8203006	Retaining Washer 16FWRT008062	1	1	1	1	1	1	1	1	1
98	8201014	Thumb Screw 50M040070T016	1	1	1	1	1	1	1	1	1

Tools required:

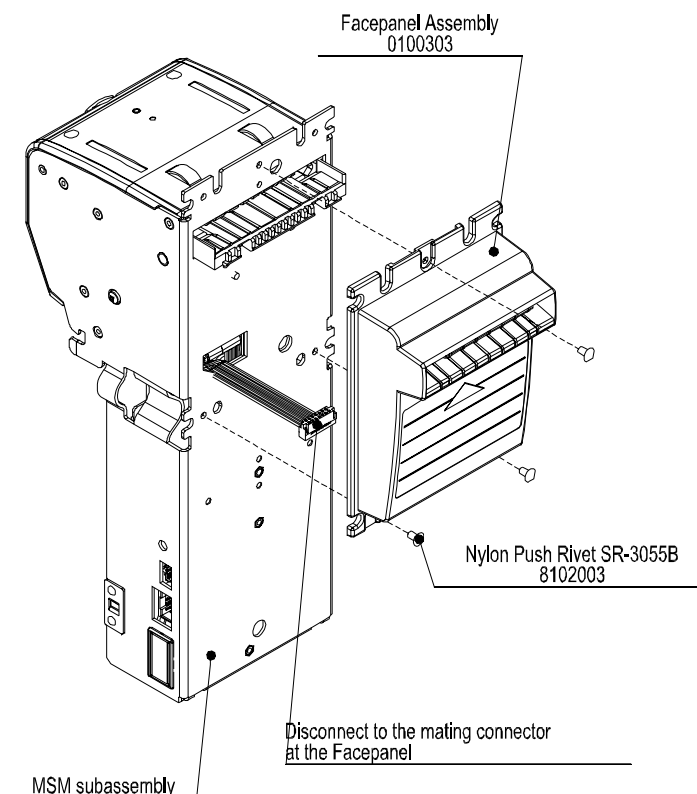
- Flat screwdriver
- Torque wrench
- Philips screwdriver #1
- Extractor 5110050
- Hex nut wrench (5.5 mm)
- Tweezers
- Hook
- Applicator Tools for DIN6799 #877324,
- Applicator Tool for VU01.05.001

Disassembly of MSM Acceptor

Step 1

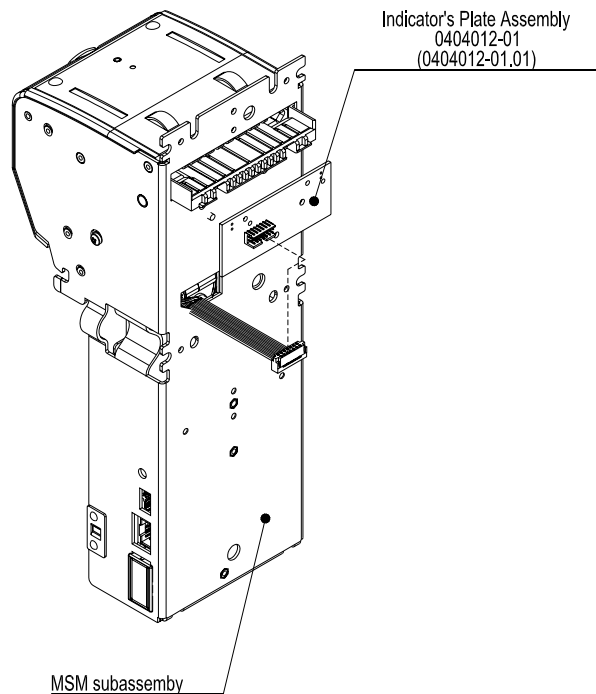
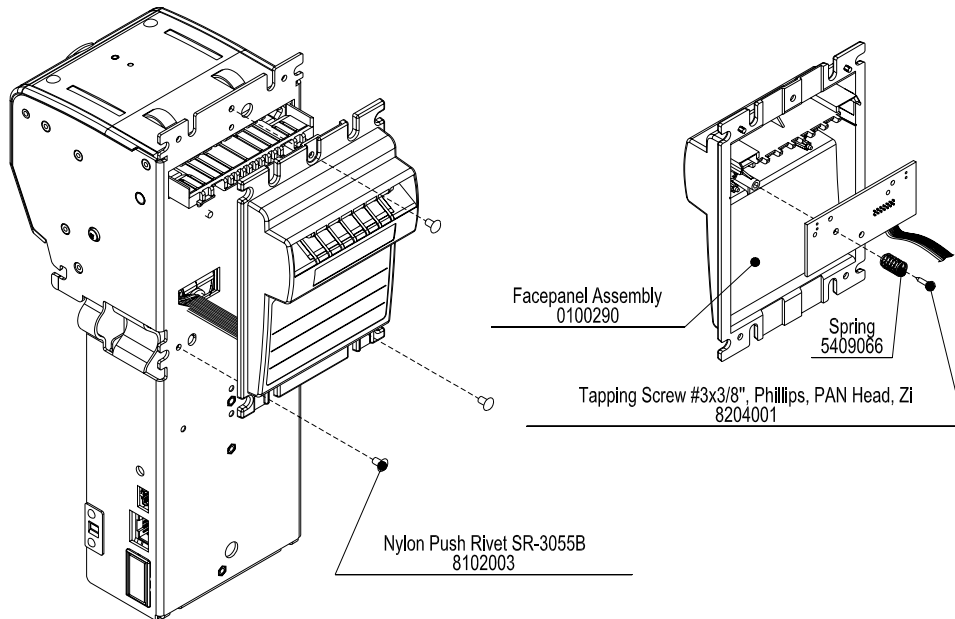
Disassembly MSM Acceptor with Facepanel (0100303)

- Pull out 3 nylon push rivets
- Remove facepanel.
- Disconnect the cable



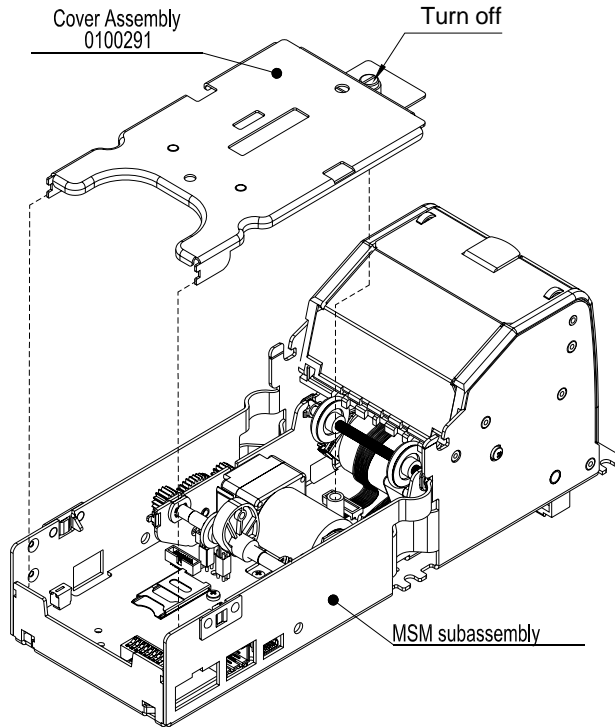
Disassembly MSM Acceptor with Facepanel (0100290)

- Pull out 3 nylon push rivets
- Remove facepanel.
- Remove screw #3x3/8" and spring.
- Remove indicator's plate.
- Disconnect the cable



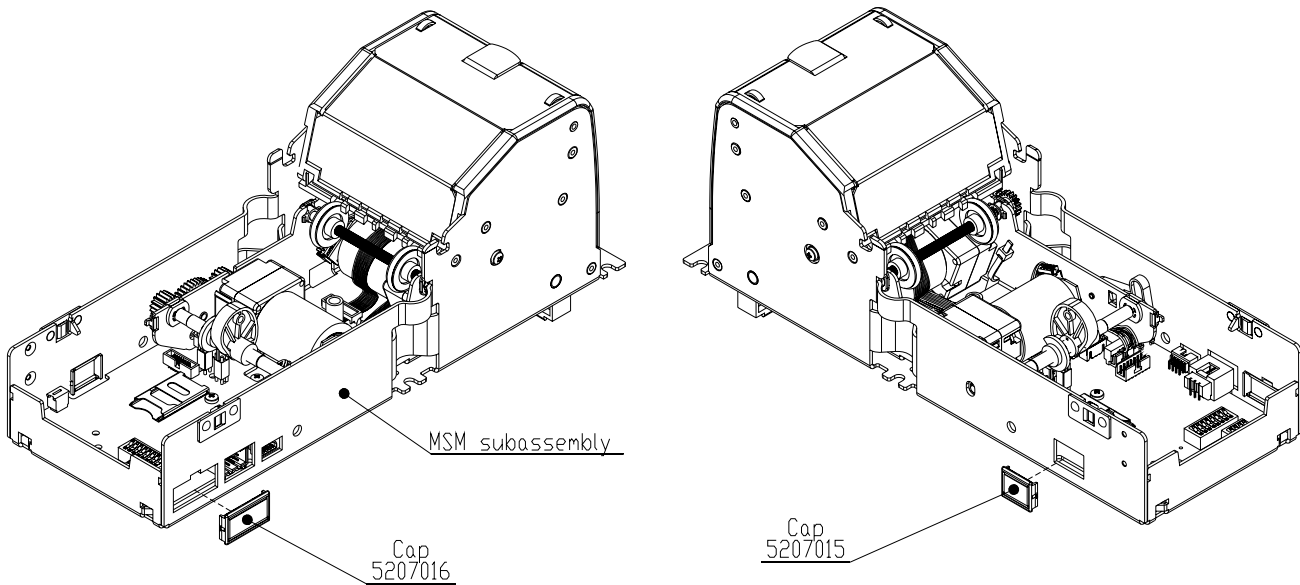
Step 2

-Remove cover.



Step 3

-Remove caps.

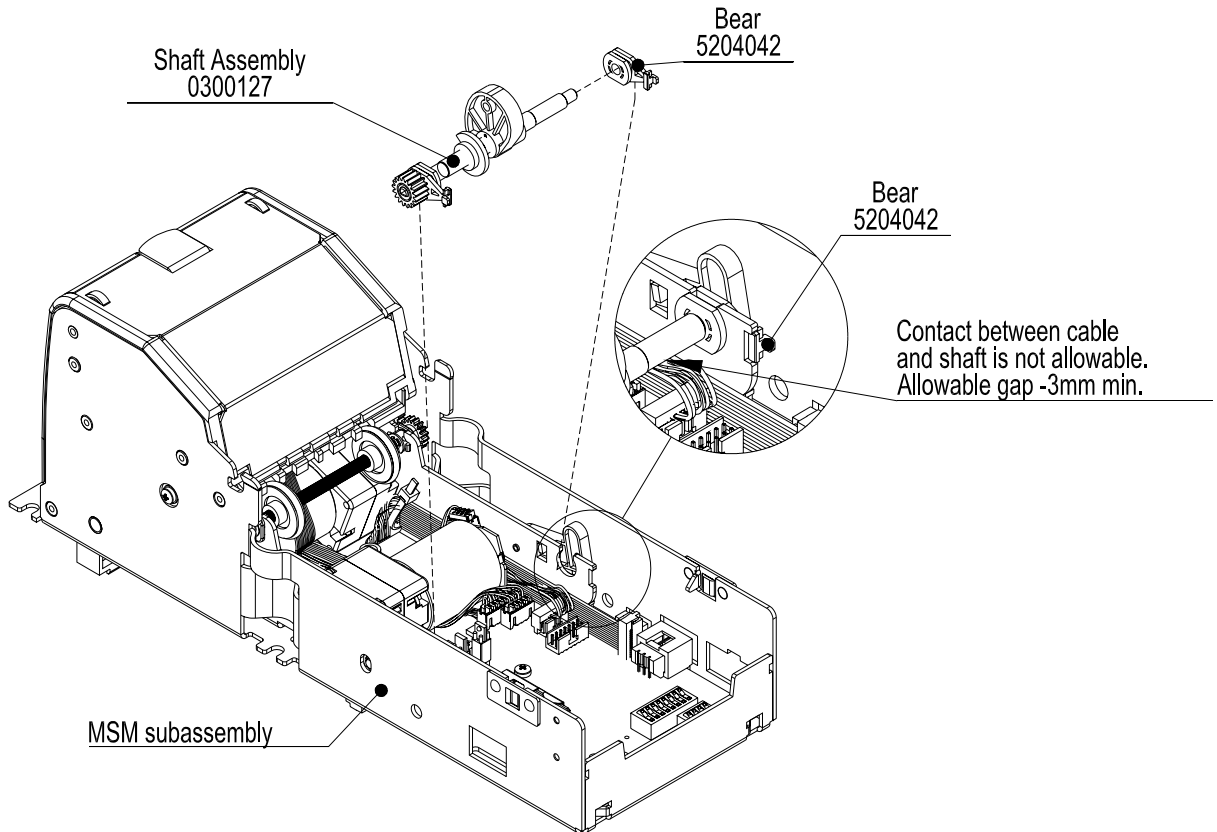


Step 4

-Remove 2 bears and shaft.

Warning! For assembling contact between cable and shaft is not allowable.

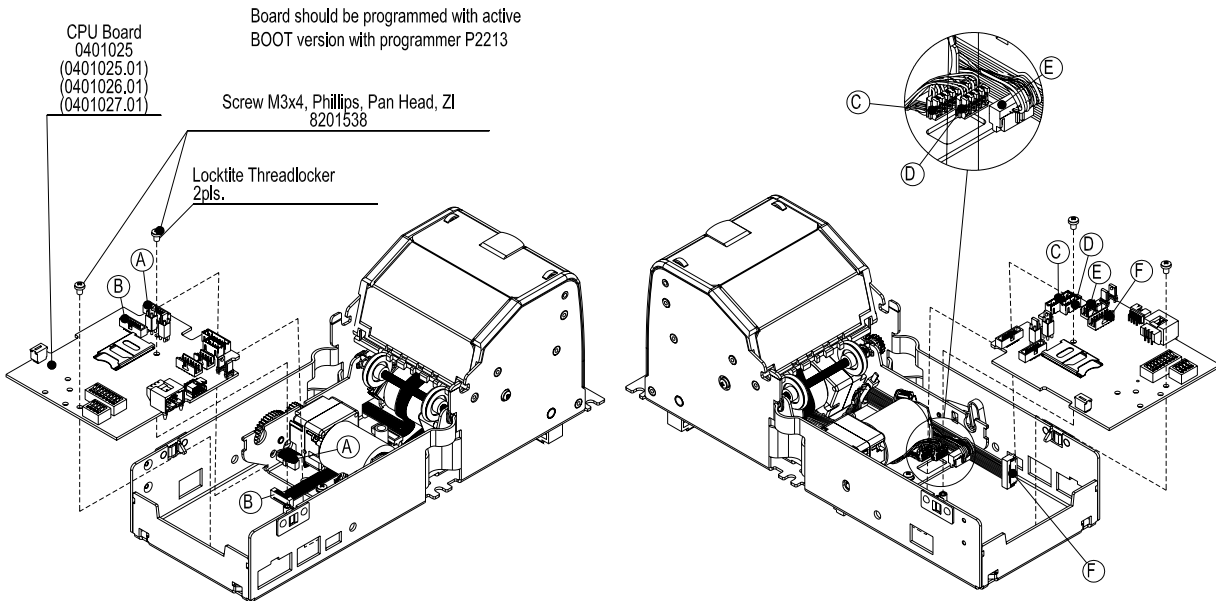
Allowable gap – 3 mm min.



Step 5

- Disconnect the cables
- Remove 2 screws.
- Remove CPU board.

Warning! Подключение кабелей при сборке согласно рис.

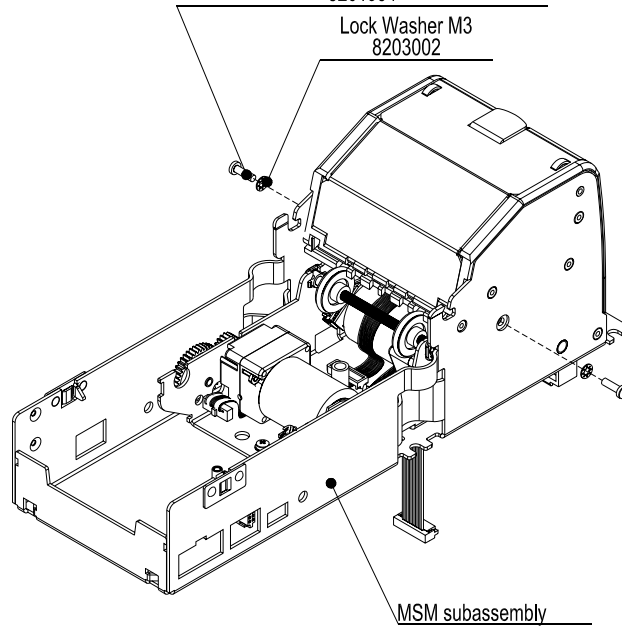


Step 6

-Remove 2 screws M3x10 and 2 lock washers

Screw M3x10, Phillips, Pan Head, ZI
8201934

Lock Washer M3
8203002



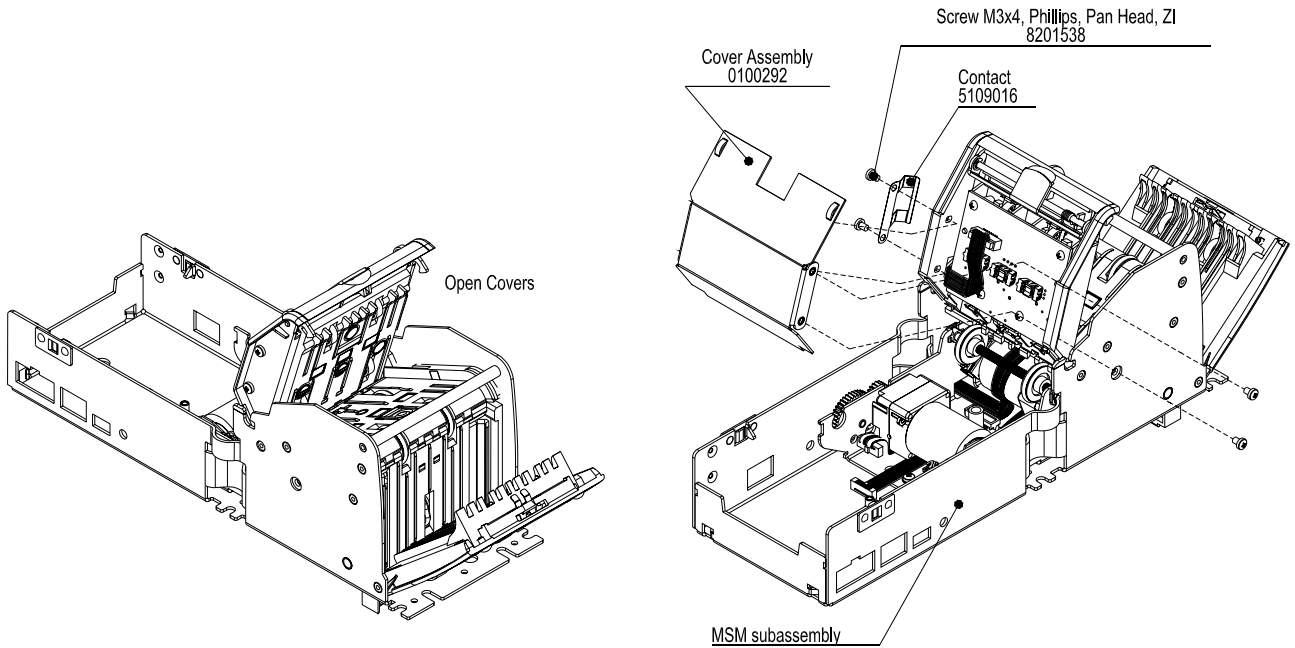
Step 7

-Remove 4 screws M3x4.
-Remove contact.
-Remove cover.

Screw M3x4, Phillips, Pan Head, ZI
8201538

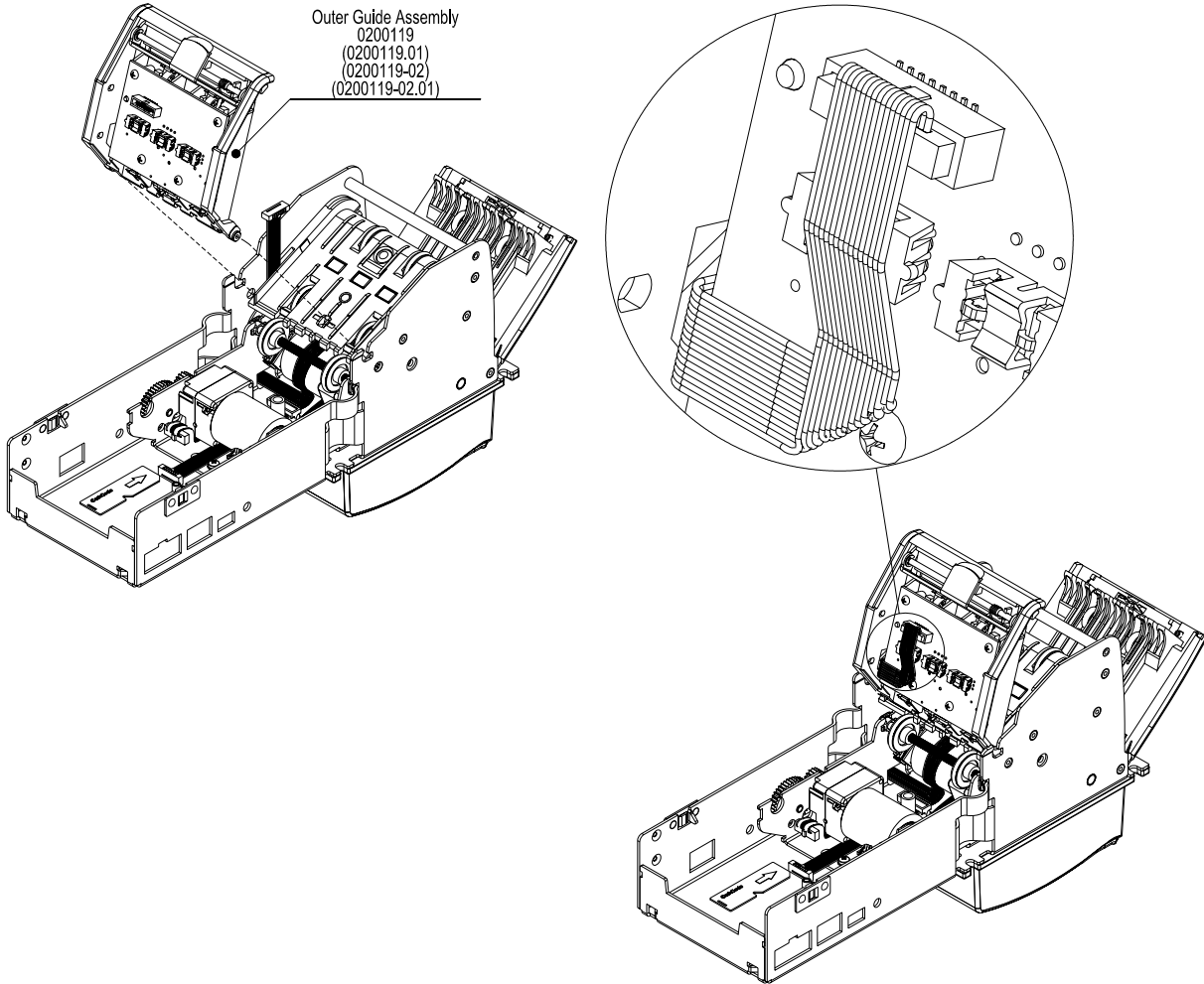
Cover Assembly
0100292

Contact
5109016



Step 8

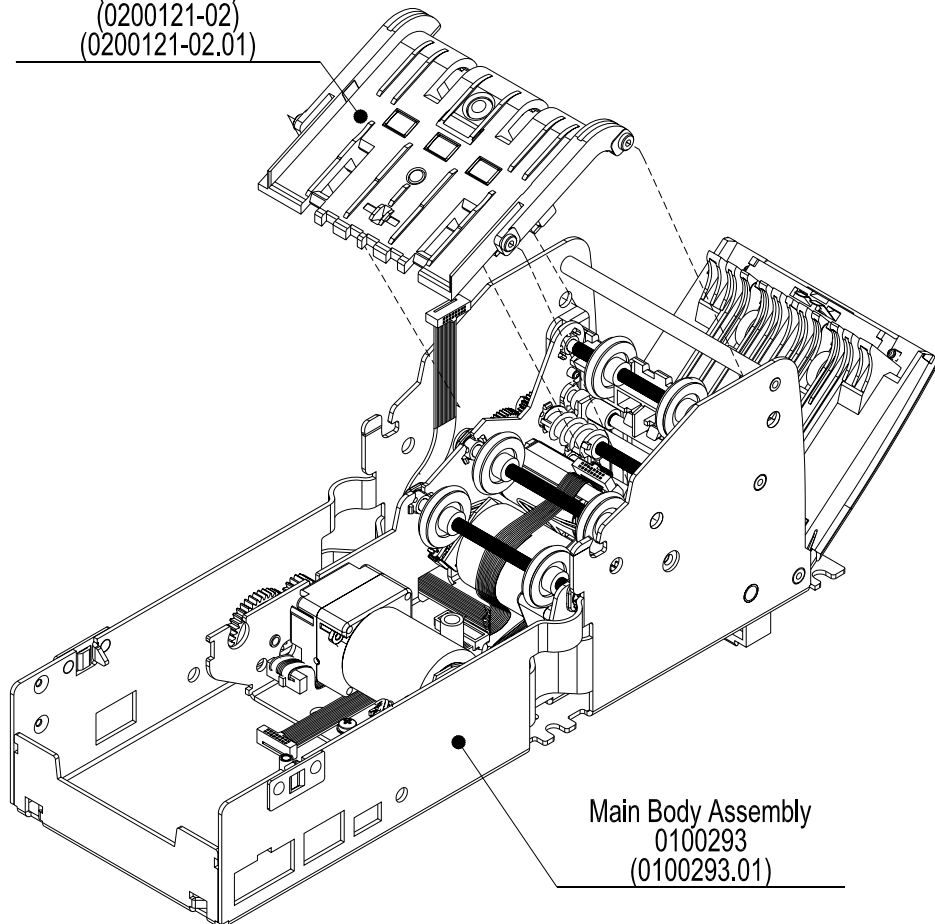
-Remove outer guide.



Step 9

-Remove inner guide.

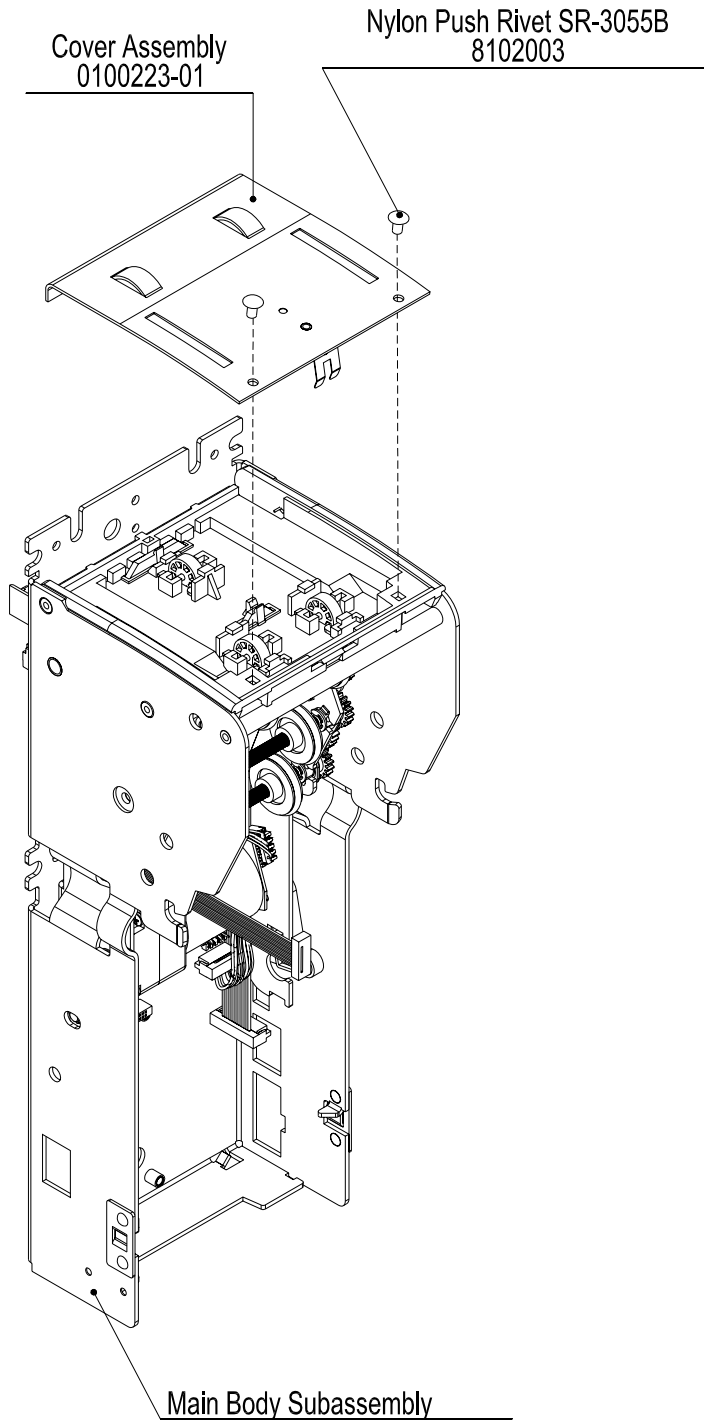
Inner Guide Assembly
0200121
(0200121.01)
(0200121-02)
(0200121-02.01)



Main Body Assembly
0100293
(0100293.01)

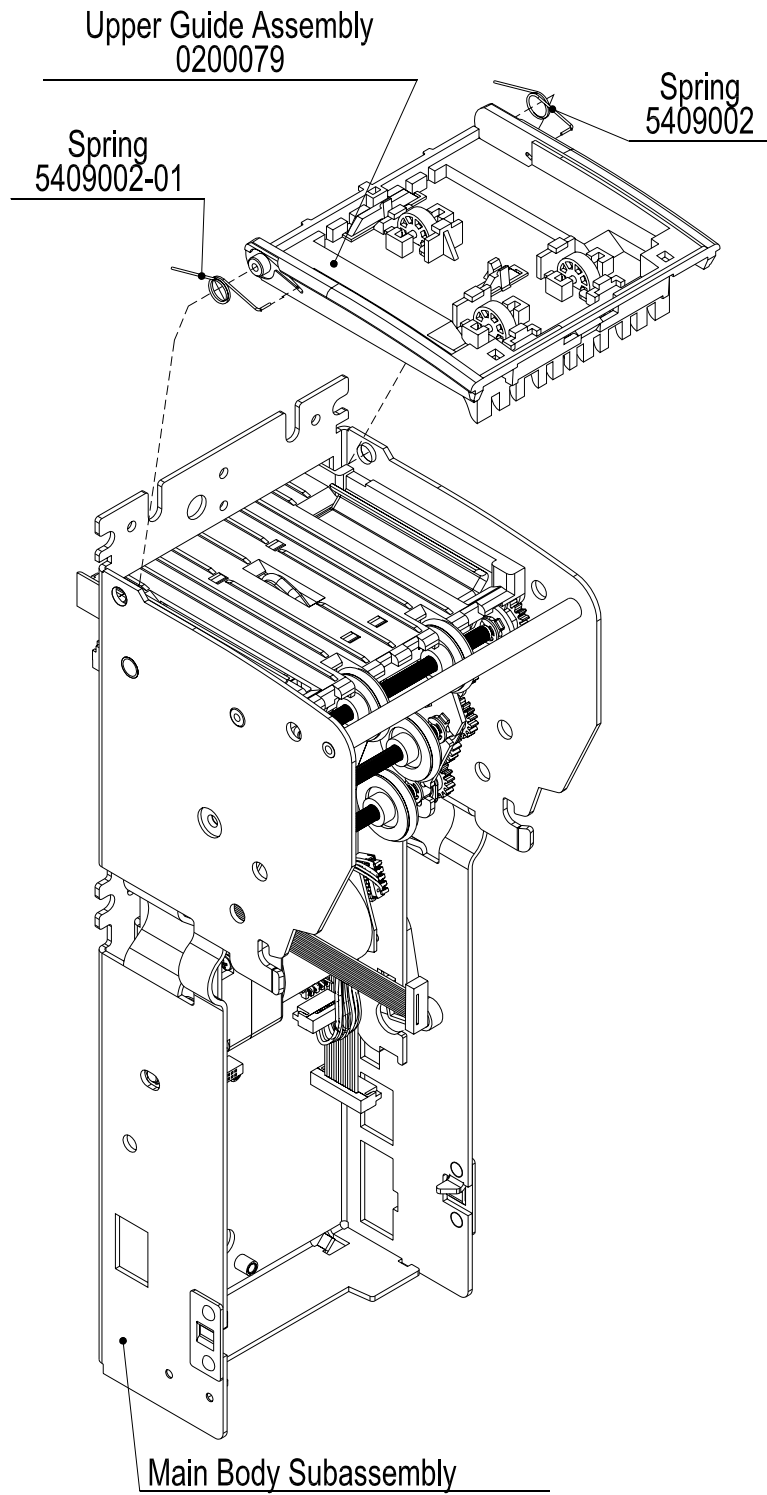
Step 10

- Remove 2 nylon push rivets.
- Remove cover.



Step 11

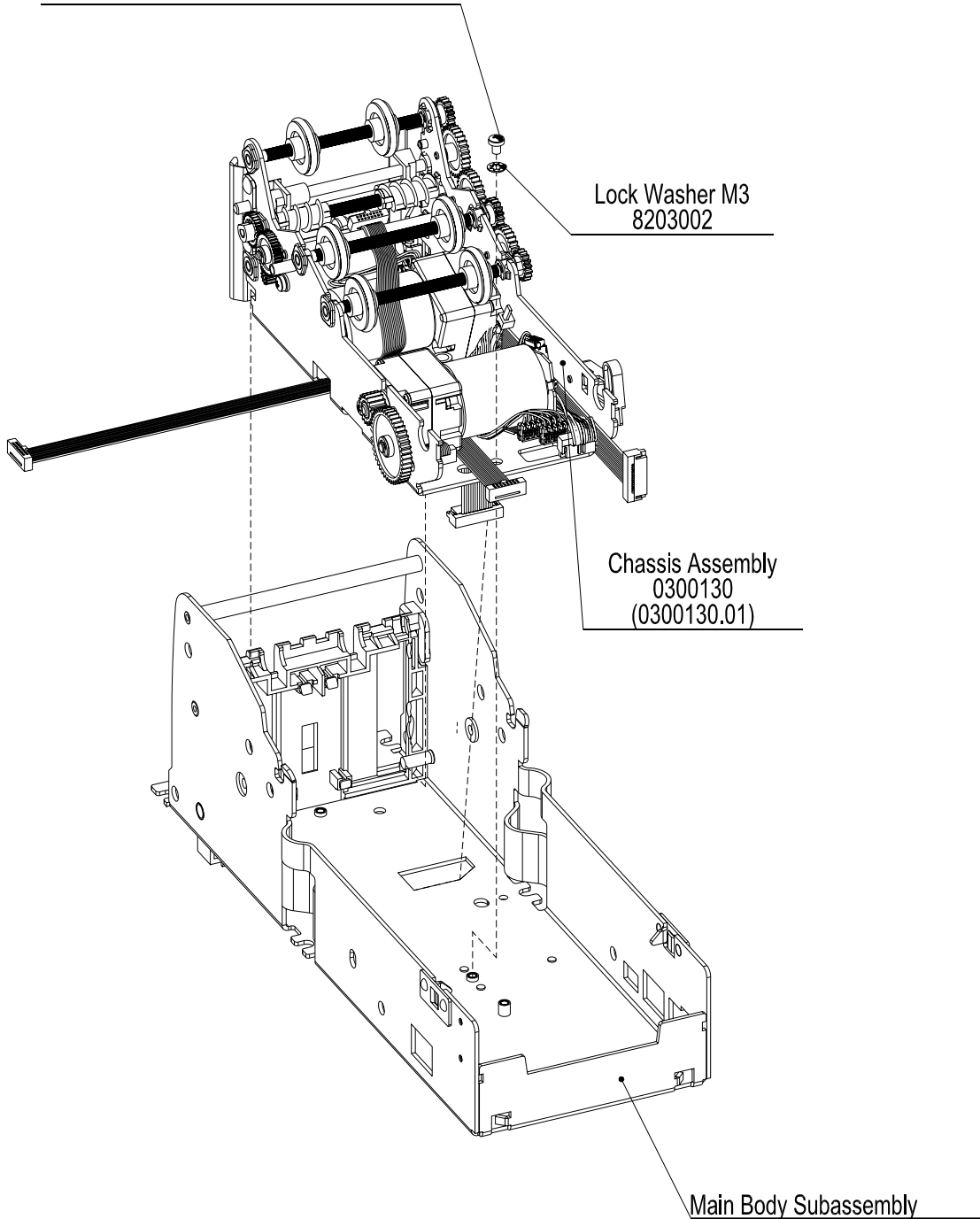
-Remove 2 springs and upper guide.



Step 12

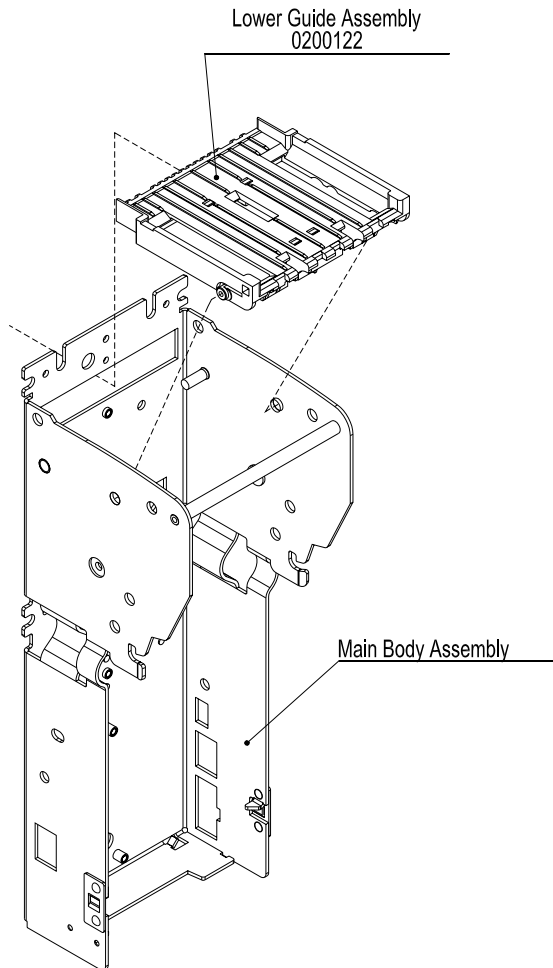
- Remove screws M3x4 and lock washers.
- Remove chassis.

Screw M3x4, Phillips, Pan Head, ZI
8201538



Step 13

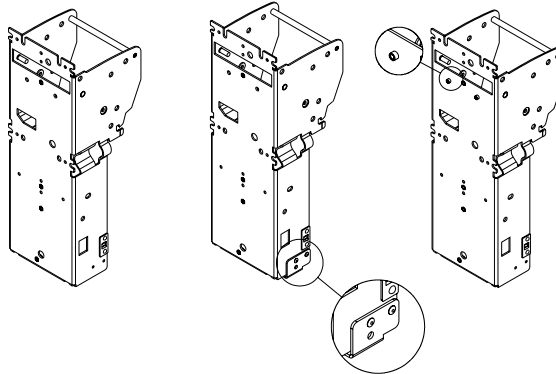
- Remove lower guide.
- Remove 3 gears.



0100293

0100293-G

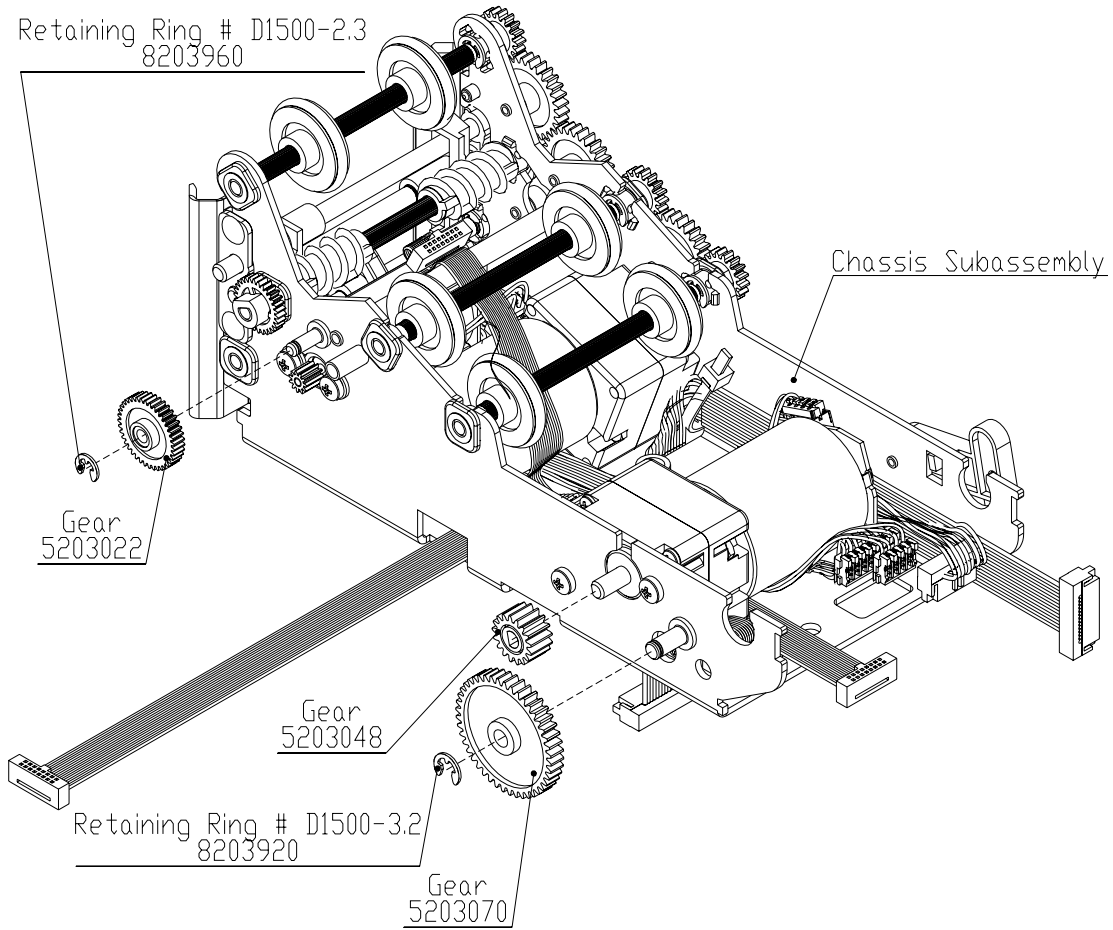
0100293-S



Disassembly of Chassis Assembly (0300130, 0300130.01).

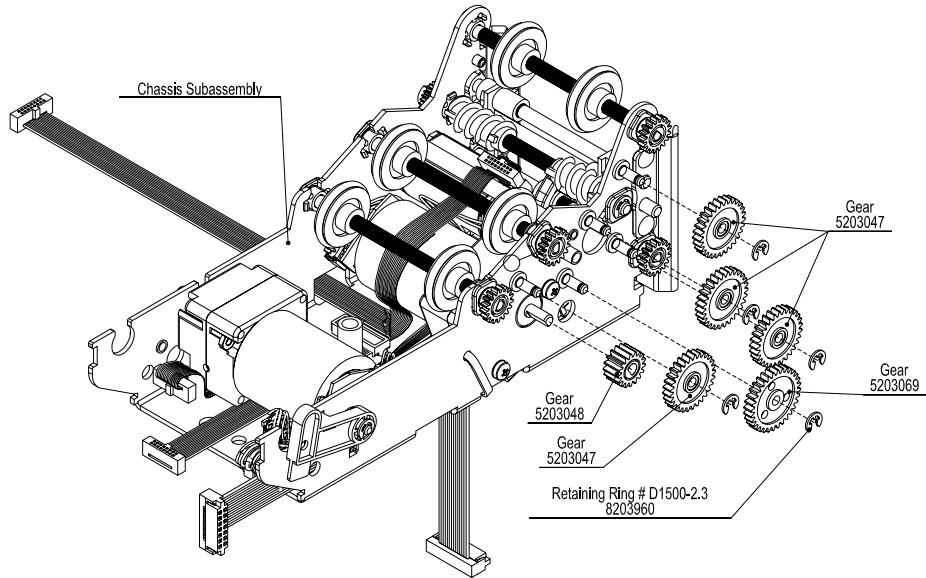
Step 1

- Remove 2 retaining rings.
- Remove 3 gears.



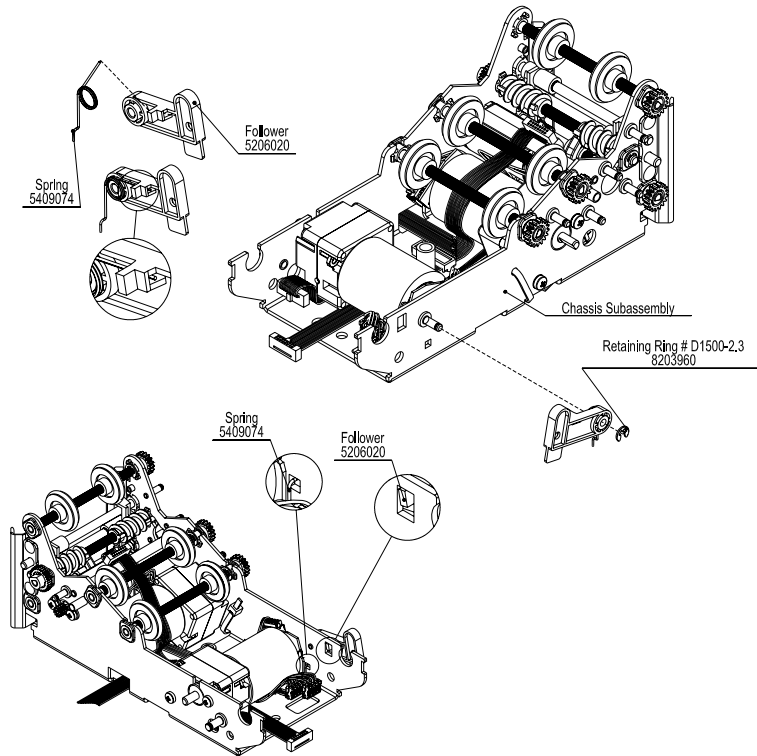
Step 2

- Remove 5 retaining rings.
- Remove 6 gears.



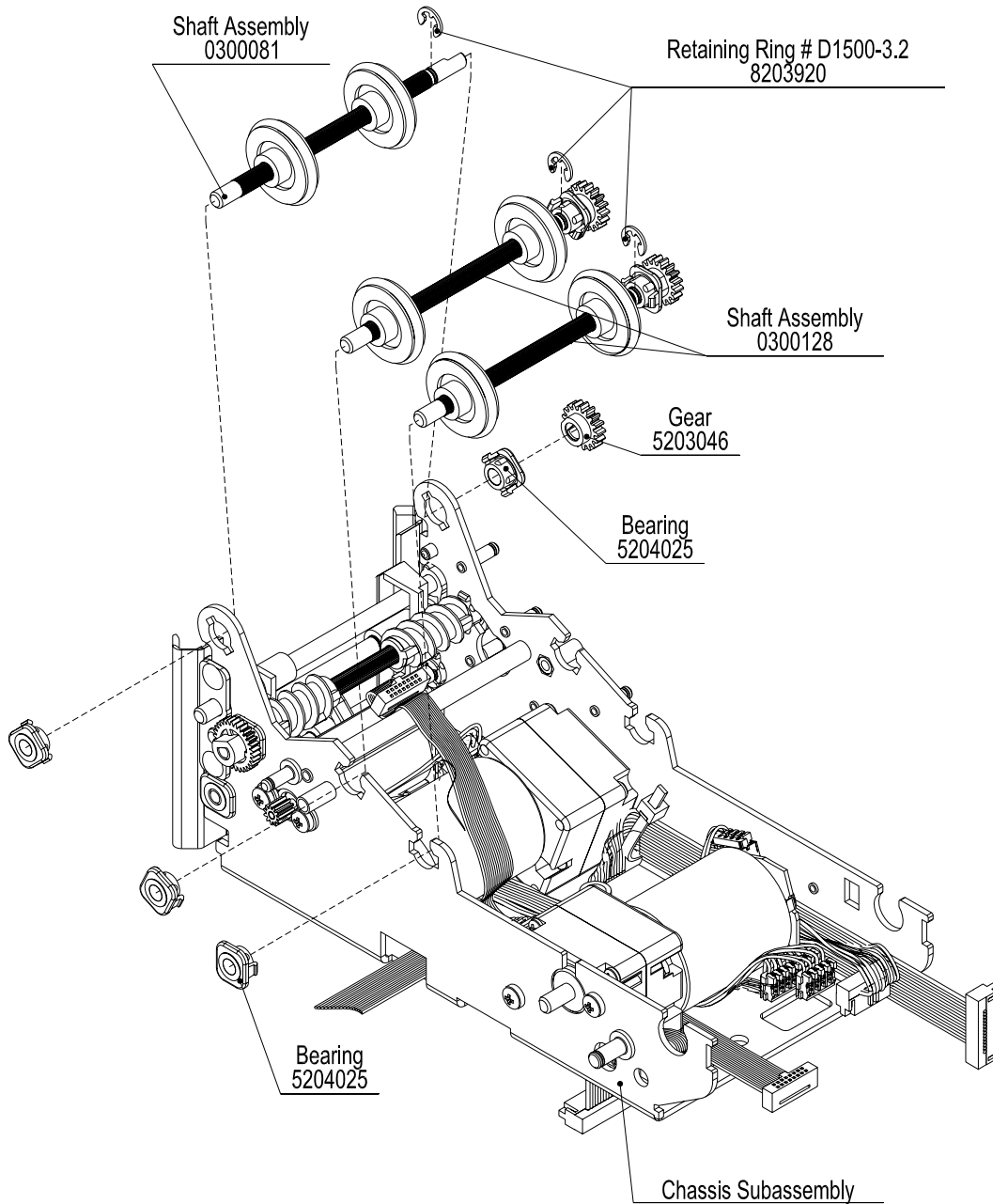
Step 3

- Remove retaining ring.
- Remove spring and follower.



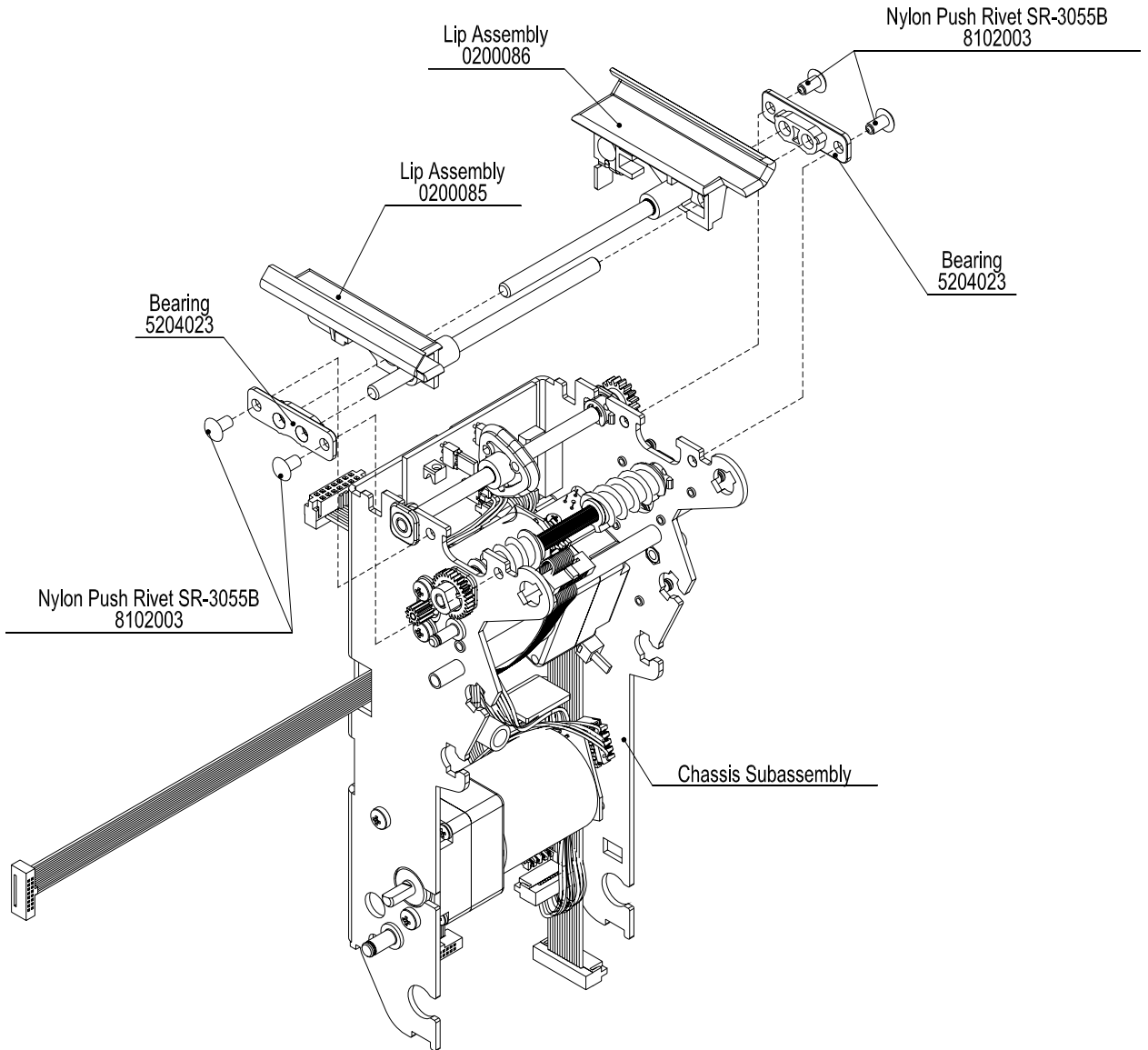
Step 4

- Remove 4 bearings.
- Remove 3 retaining rings.
- Remove gear.
- Remove 3 shaft assembly.



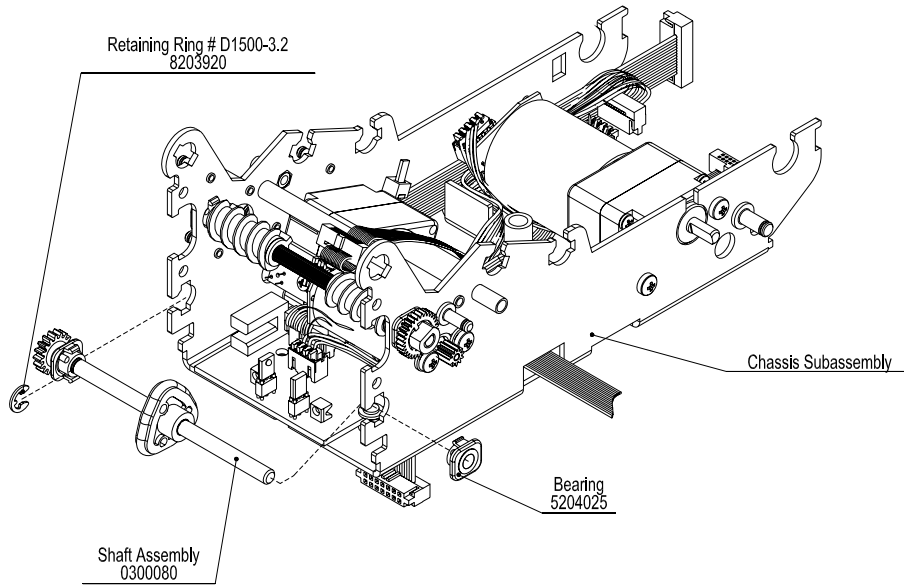
Step 5

- Remove 4 nylon push rivets.
- Remove 2 bearings.
- Remove 2 lips.



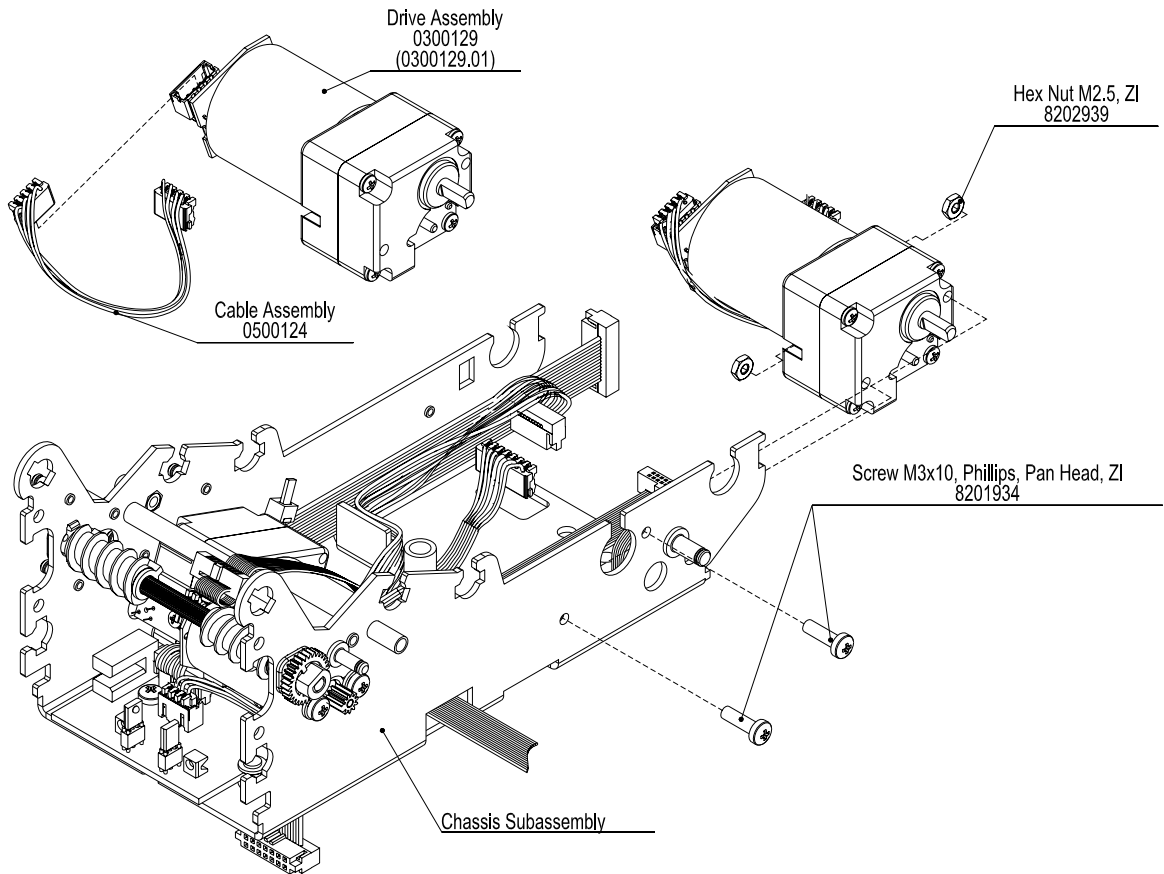
Step 6

- Remove bearing.
- Remove retaining ring.
- Remove shaft assembly.



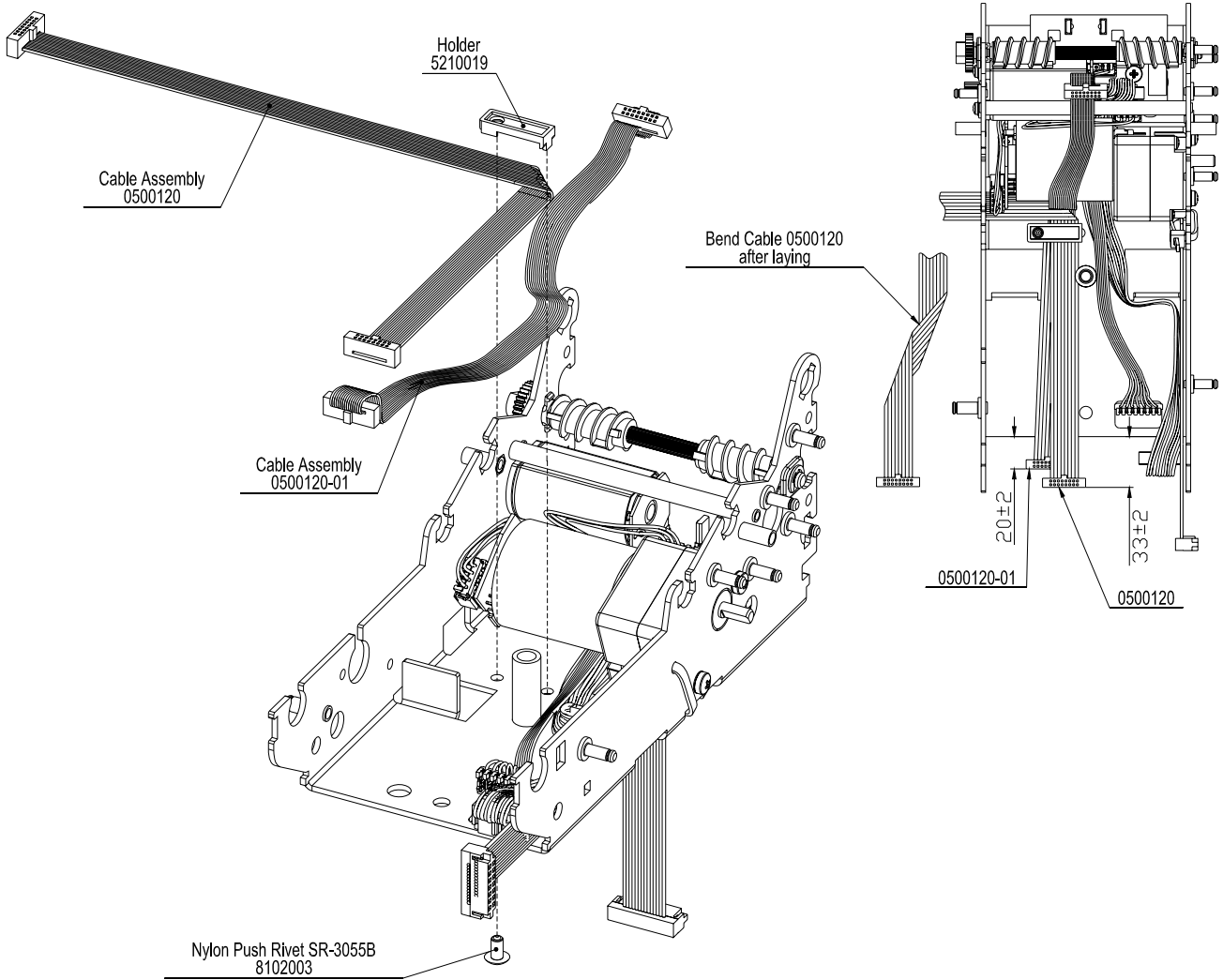
Step 7

- Remove 2 screws M3x10 and 2 hex nuts M2.5.
- Remove drive.
- Disconnect the cable



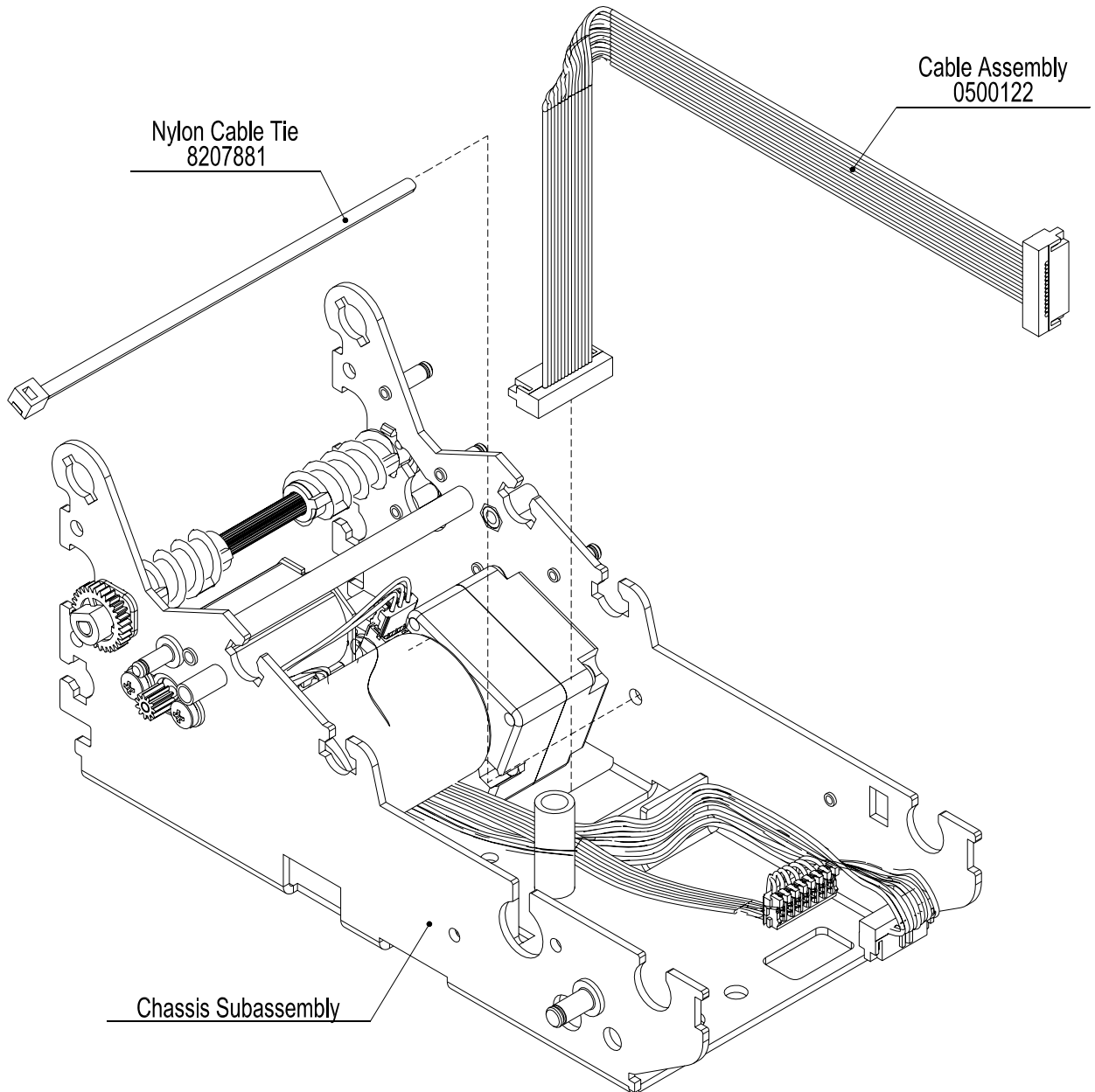
Step 8

- Remove holder.
- Disconnect the cable and remove



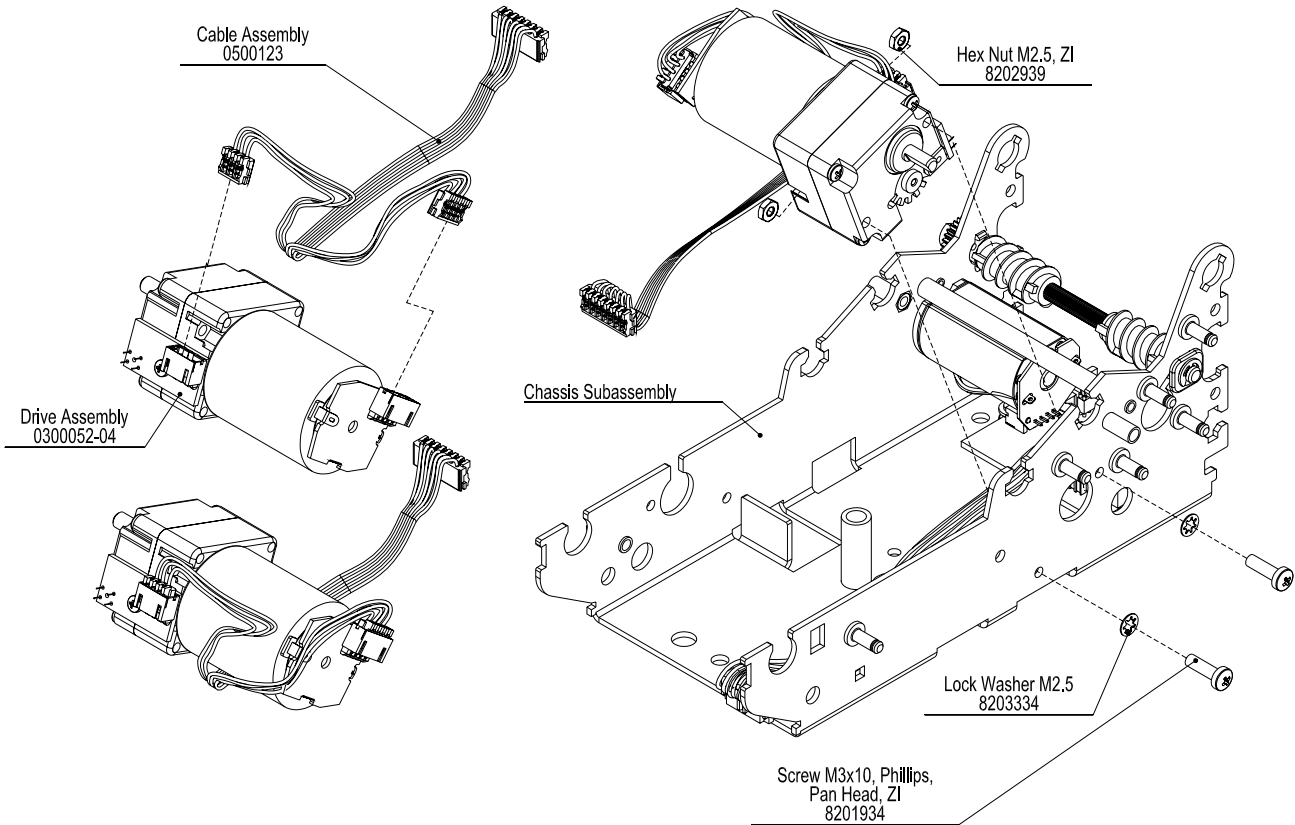
Step 9

- Disconnect the nylon cable tie and remove
- Disconnect the cable and remove



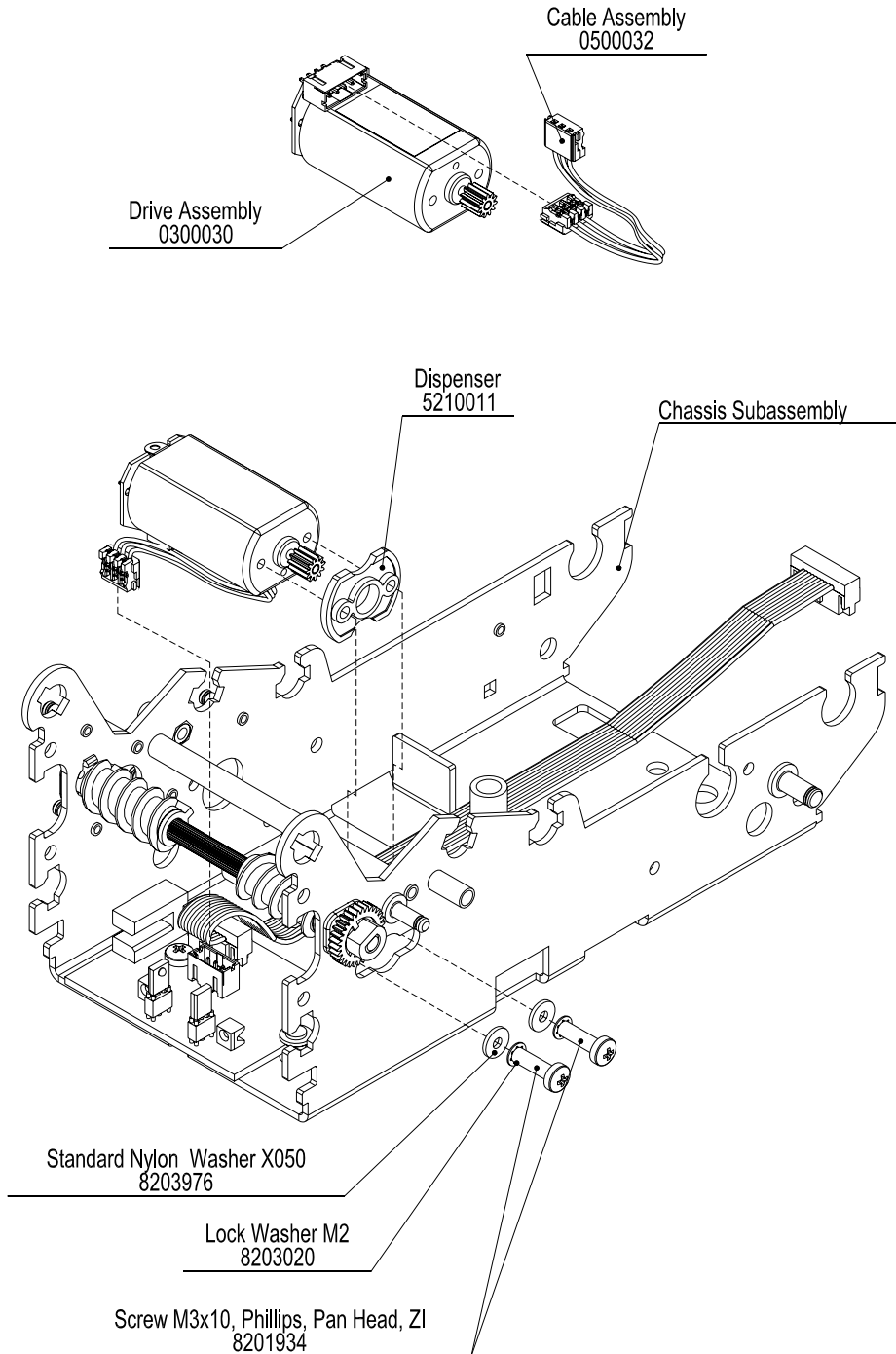
Step 10

- Remove 2 screws M3x10 and 2 hex nuts M2.5.
- Remove drive.
- Disconnect the 2 cables



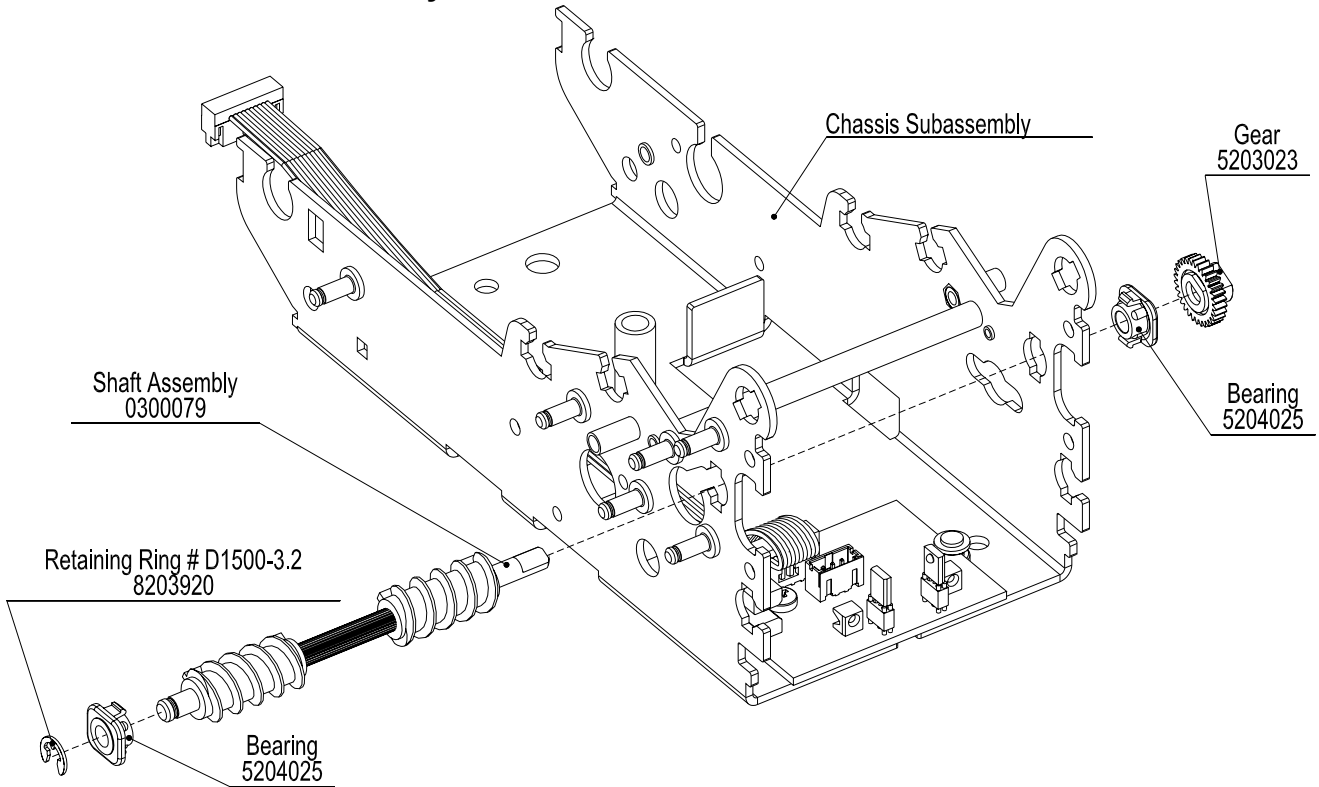
Step 11

- Remove 2 screws M3x10, 2 hex nuts M2 and 2 standard nylon washers.
- Remove drive.
- Remove dispenser.
- Disconnect the cable



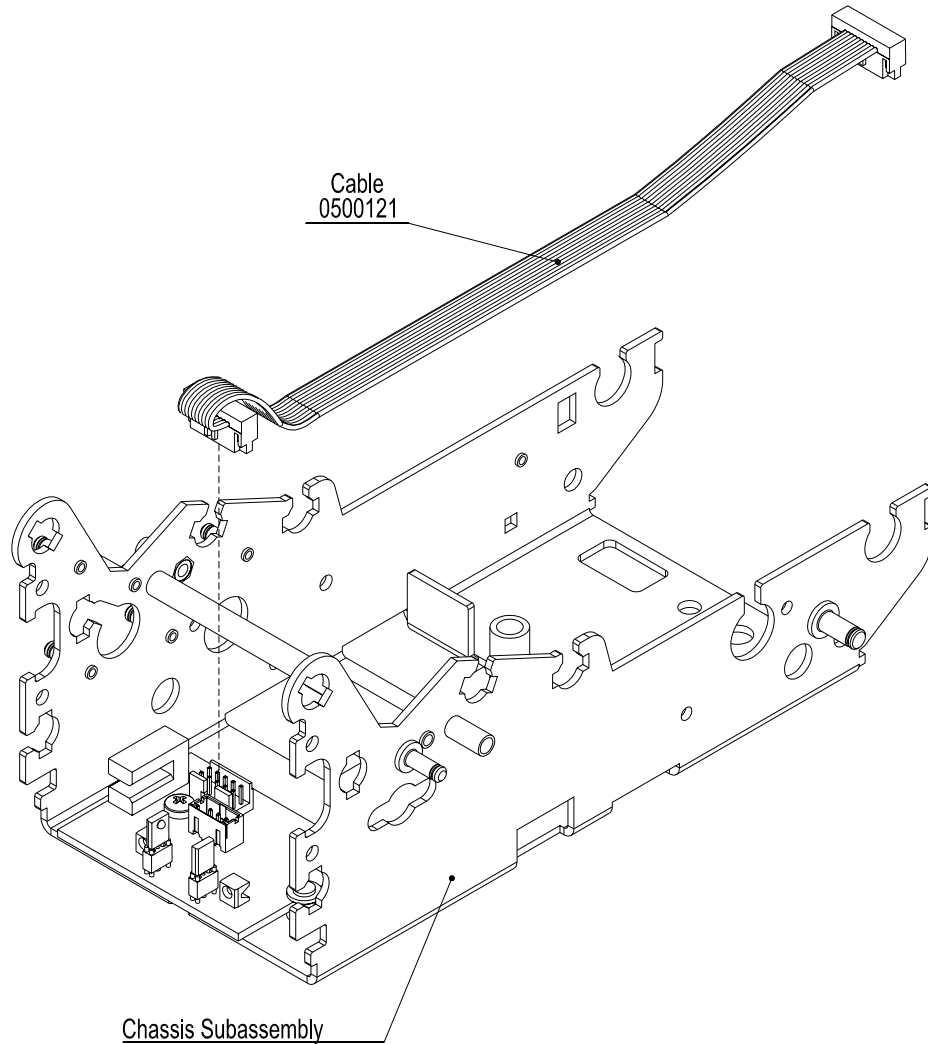
Step 12

- Remove gear.
- Remove 2 bearings.
- Remove retaining ring.
- Remove shaft assembly.



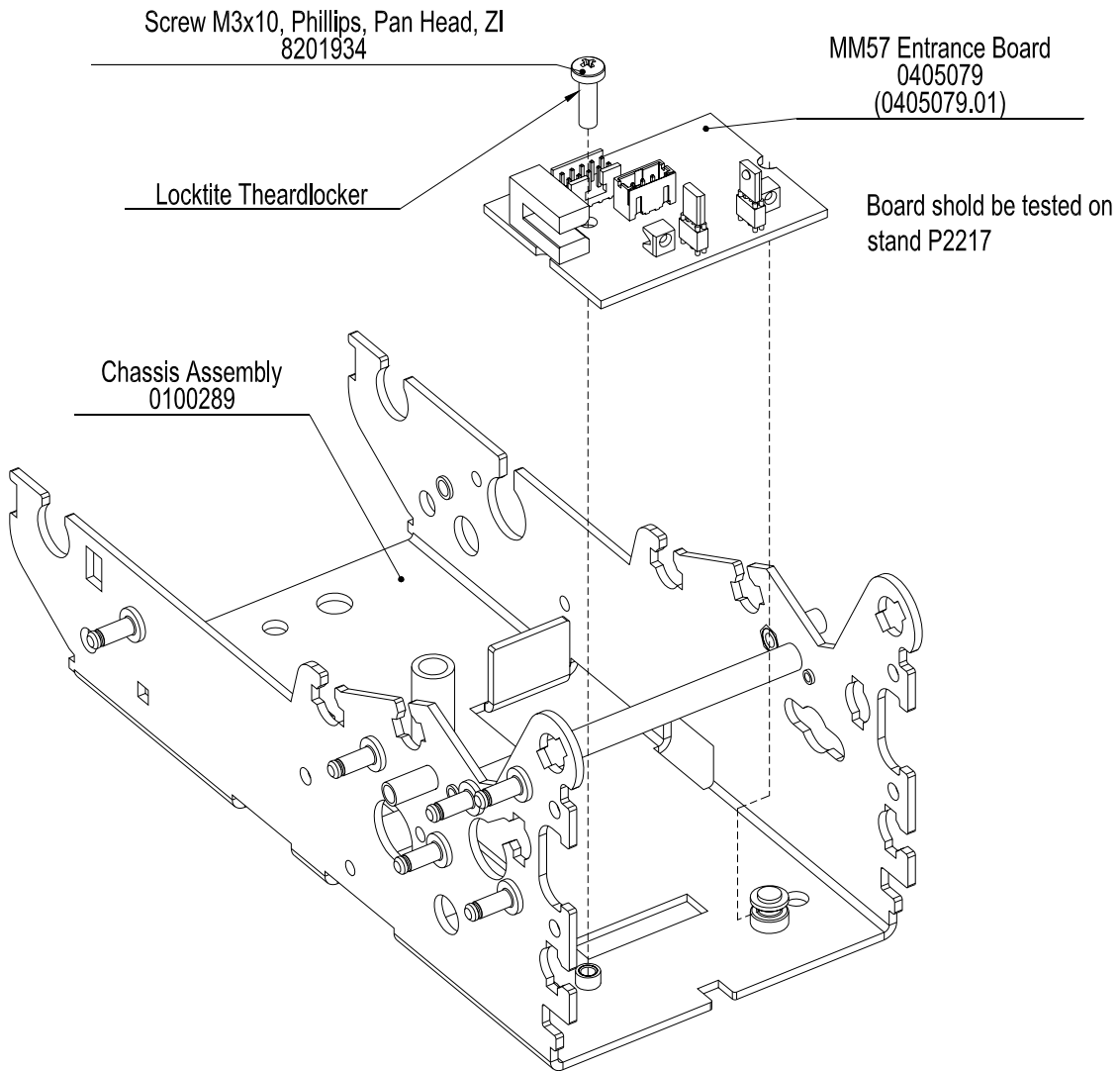
Step 13

- Disconnect the cable
- Remove cable



Step 14

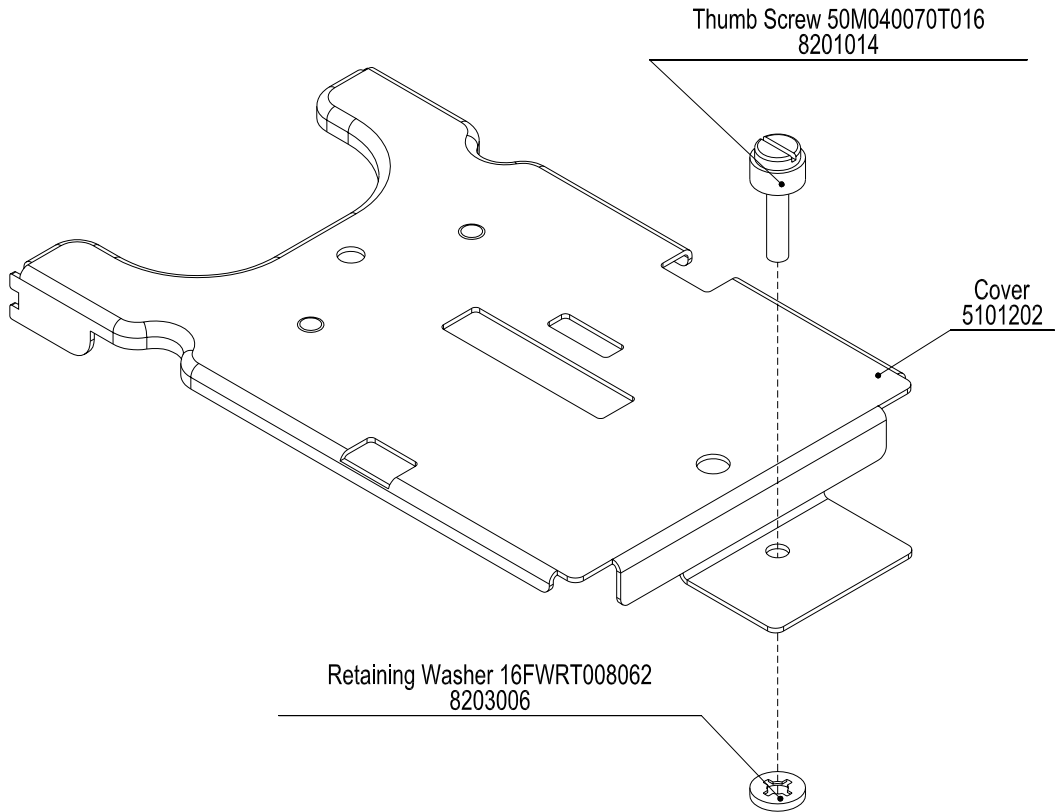
- Remove screws M3x10.
- Remove MM57 entrance board.



Disassembly of Cover (0100291).

Step 1

- Remove thumb screw.
- Remove retaining washer.

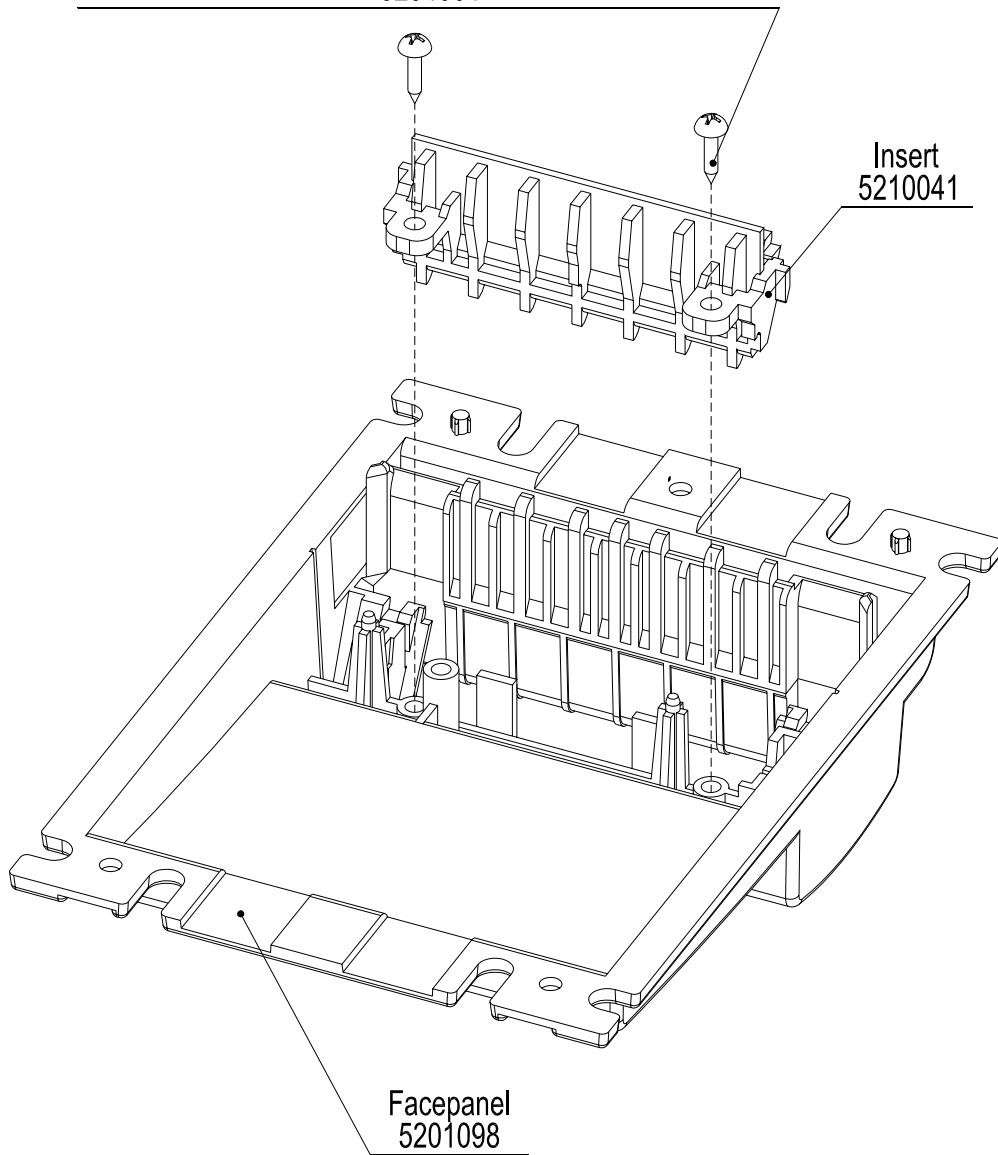


Disassembly of Facepanel Assembly (0100290).

Step 1

- Remove 2 tapping screws #3x3/8".
- Remove insert.

Tapping Screw #3x3/8", Phillips, PAN Head, Zi
8204001

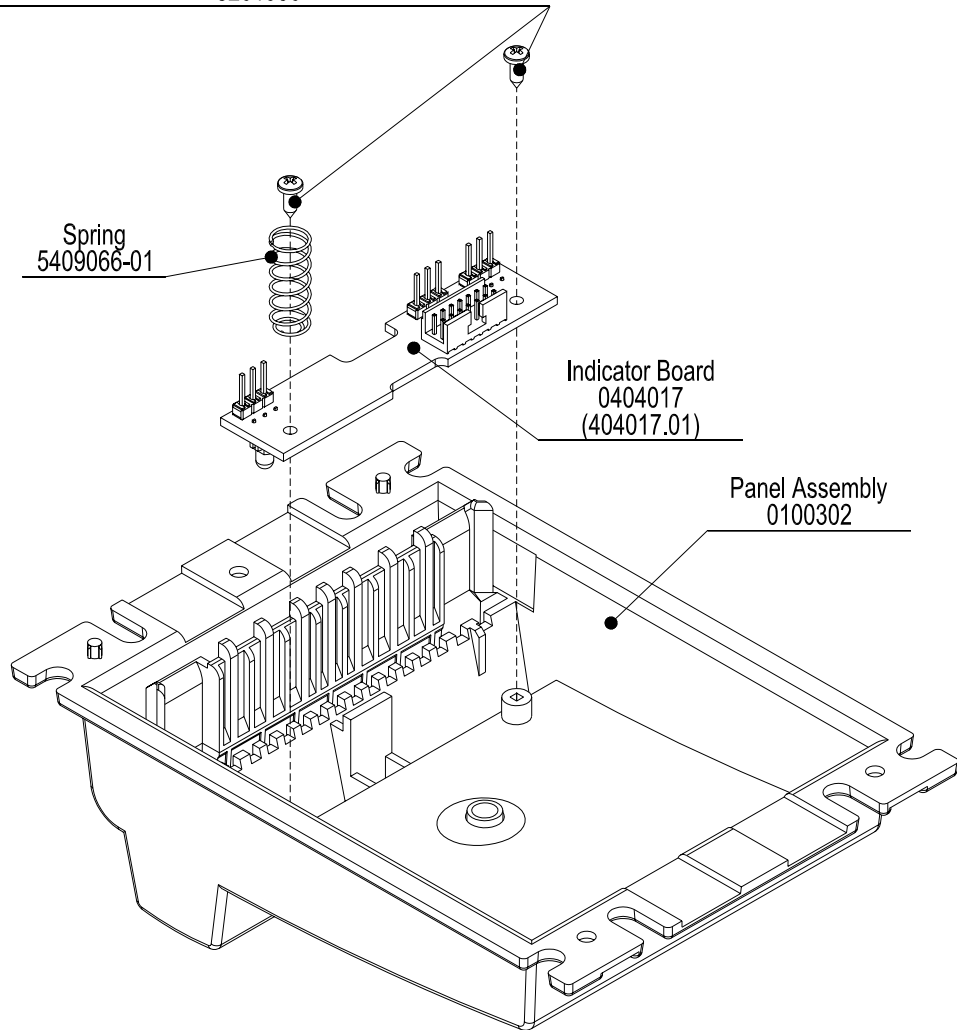


Disassembly of Facepanel Assembly (0100303).

Step 1

- Remove 2 tapping screws #3x3/8".
- Remove spring.
- Remove indicator board.

Tapping Screw #2x1/4", Phillips, PAN Head, ZI
8201930



Disassembly of Inner Guide (0200121).

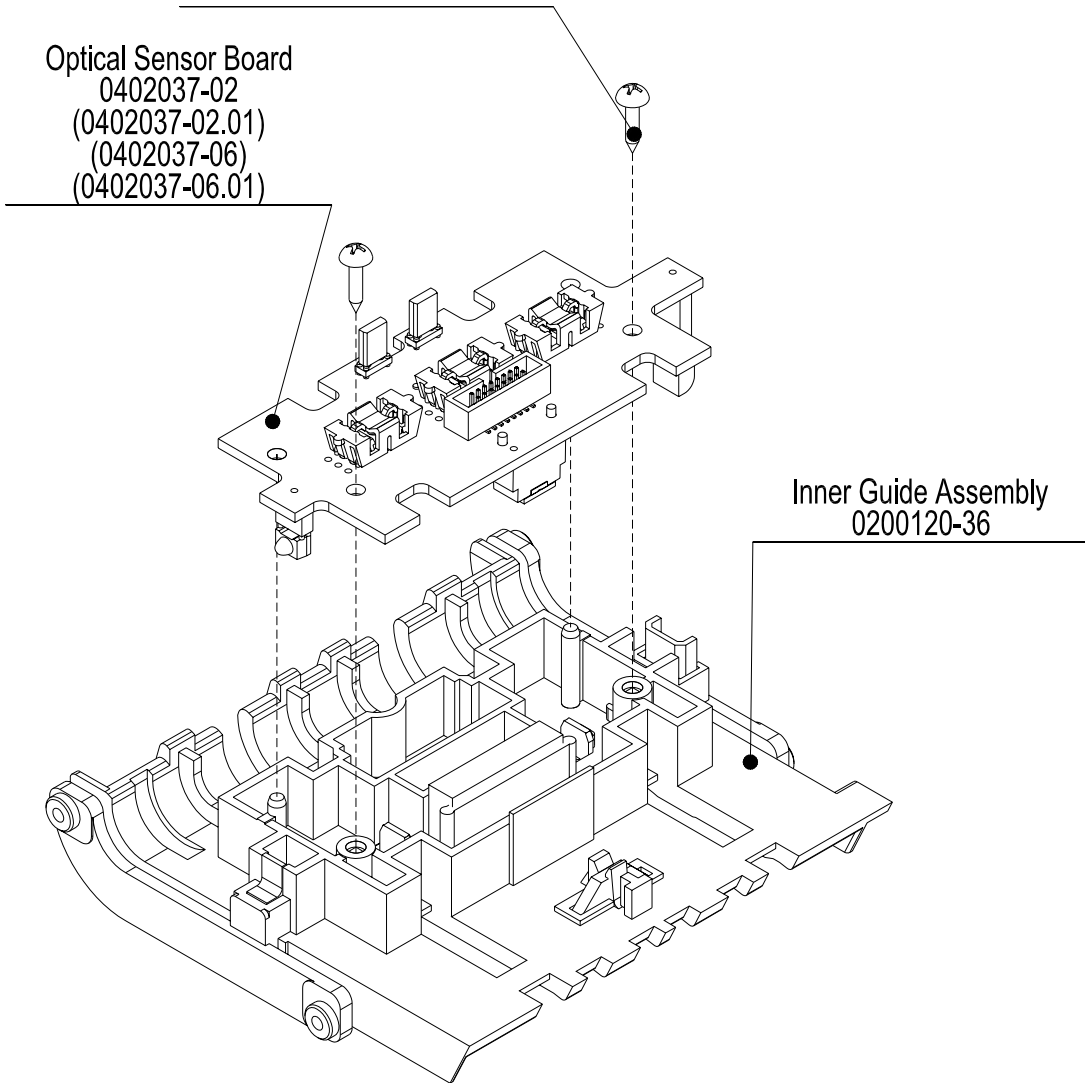
Step 1

- Remove 2 tapping screws.
- Remove optical sensor board.

Tapping Screw #3x3/8",
Phillips, PAN Head, Zi
8204001

Optical Sensor Board
0402037-02
(0402037-02.01)
(0402037-06)
(0402037-06.01)

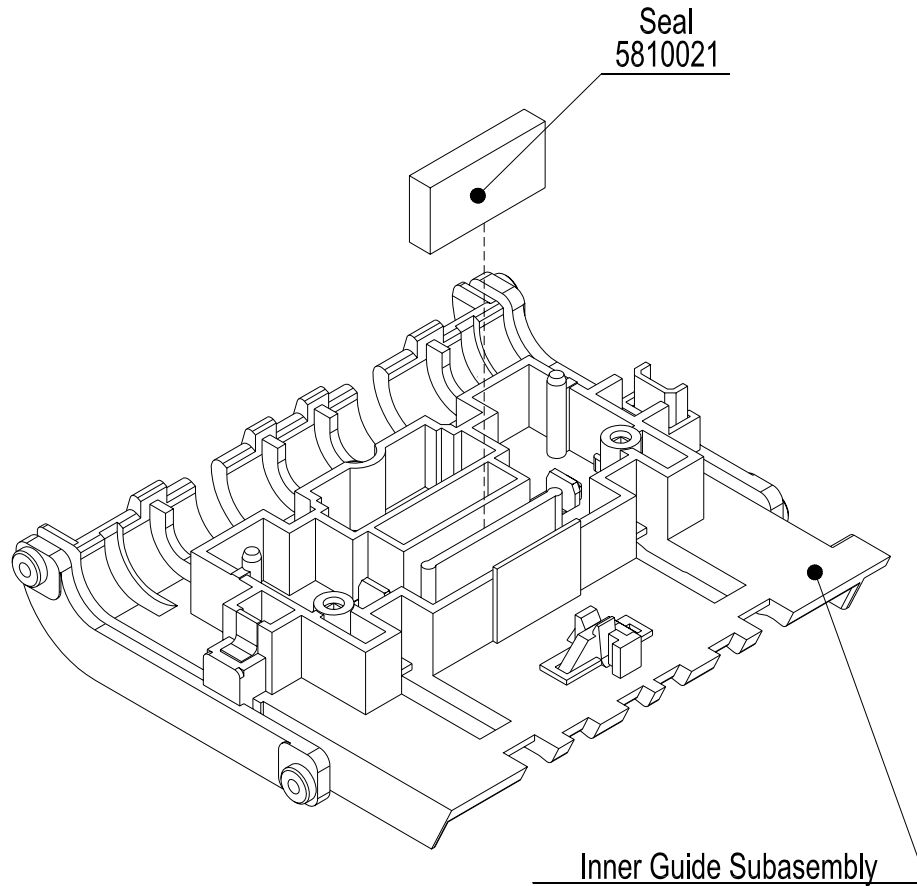
Inner Guide Assembly
0200120-36



Disassembly of Inner Guide (0200121).

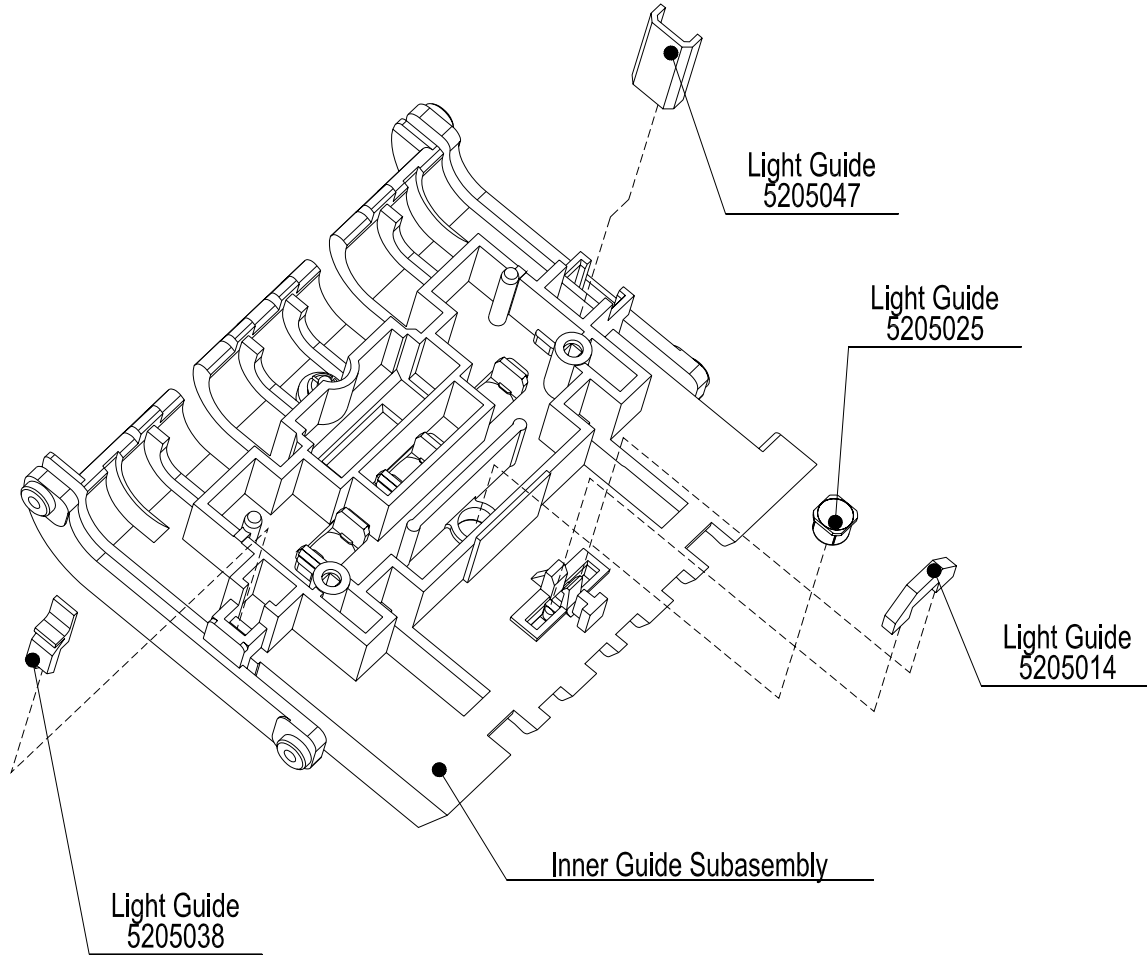
Step 1

-Remove seal.



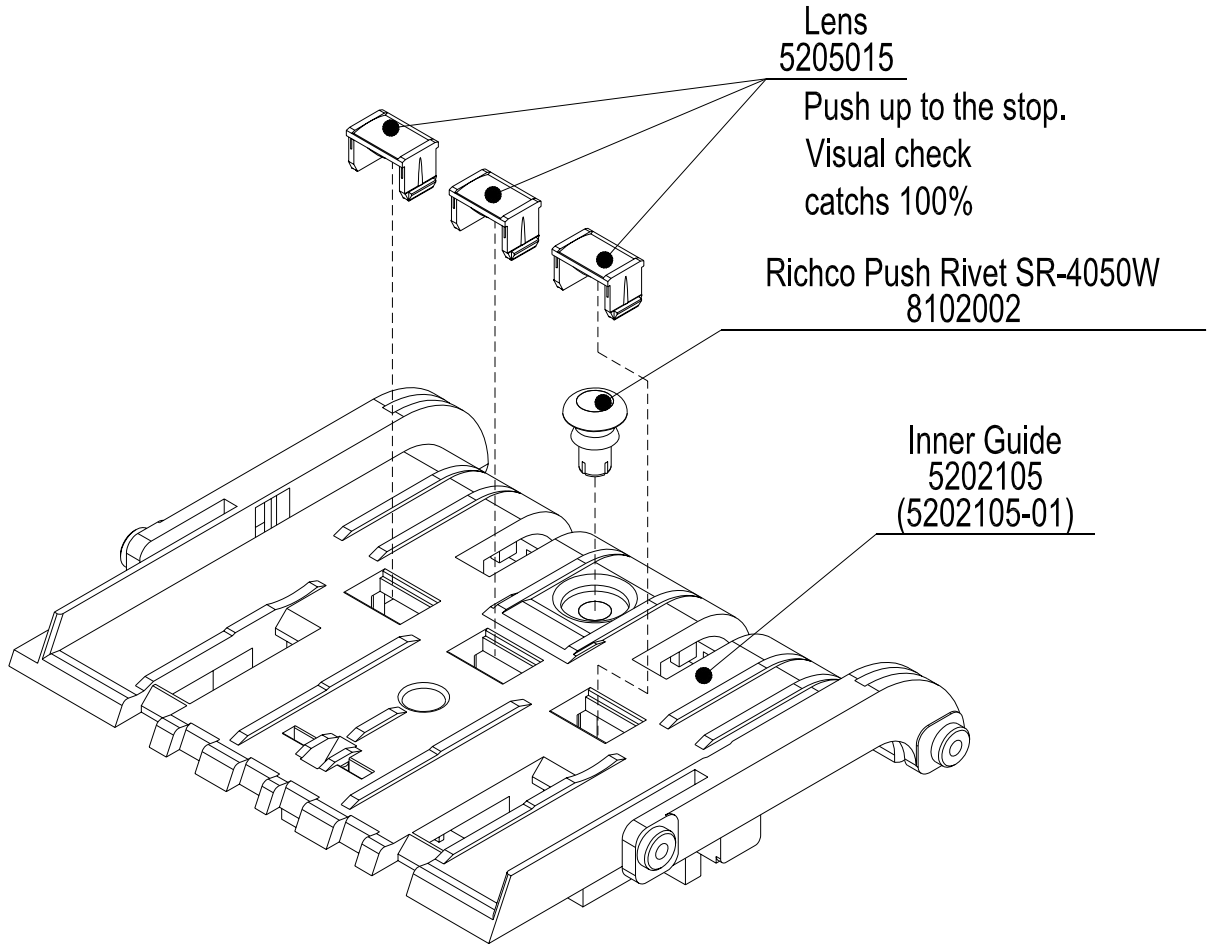
Step 2

-Remove 4 light guides.



Step 3

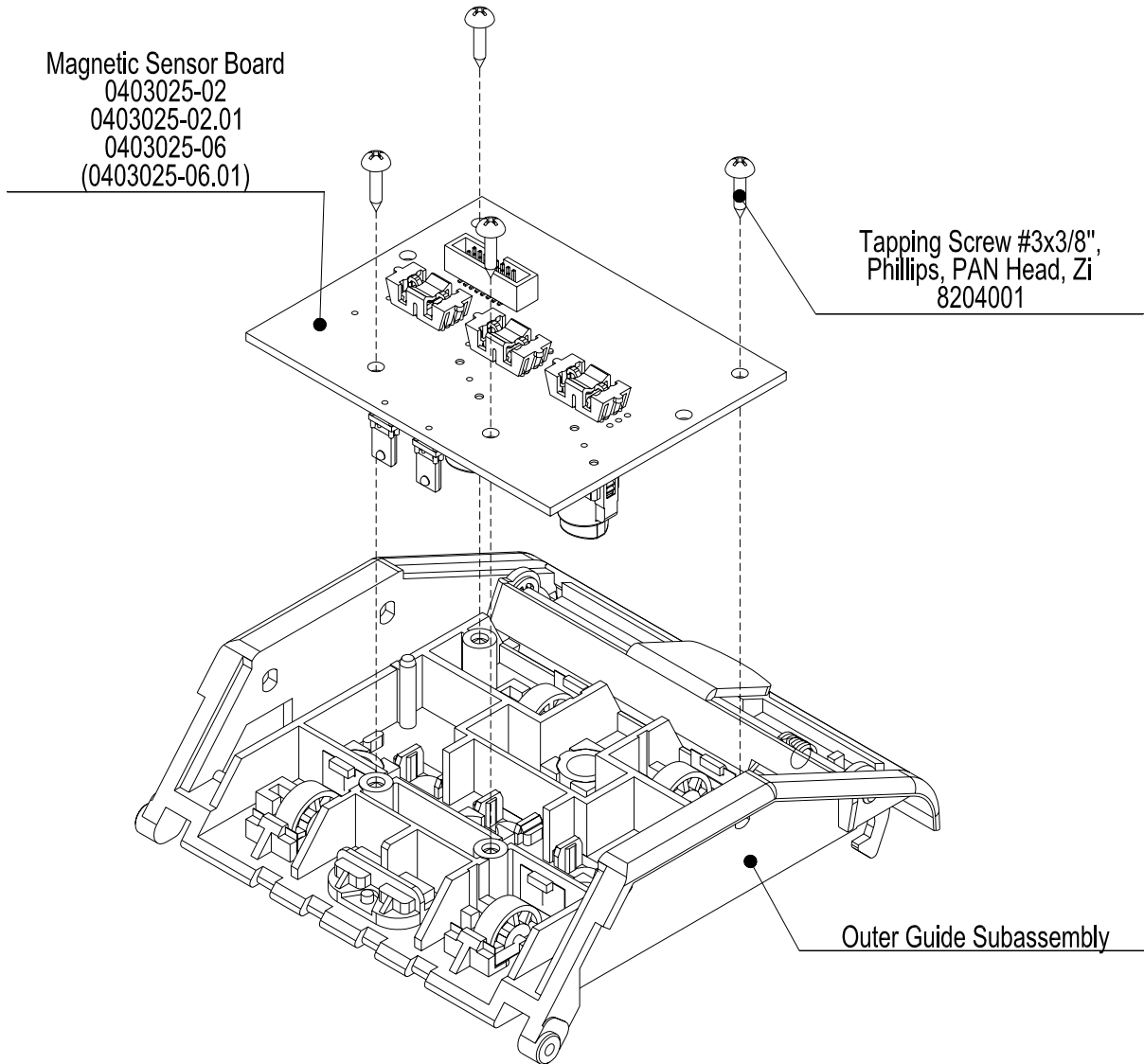
- Remove 3 lens.
- Remove richco push rivet.



Disassembly of Outer Guide (0200119).

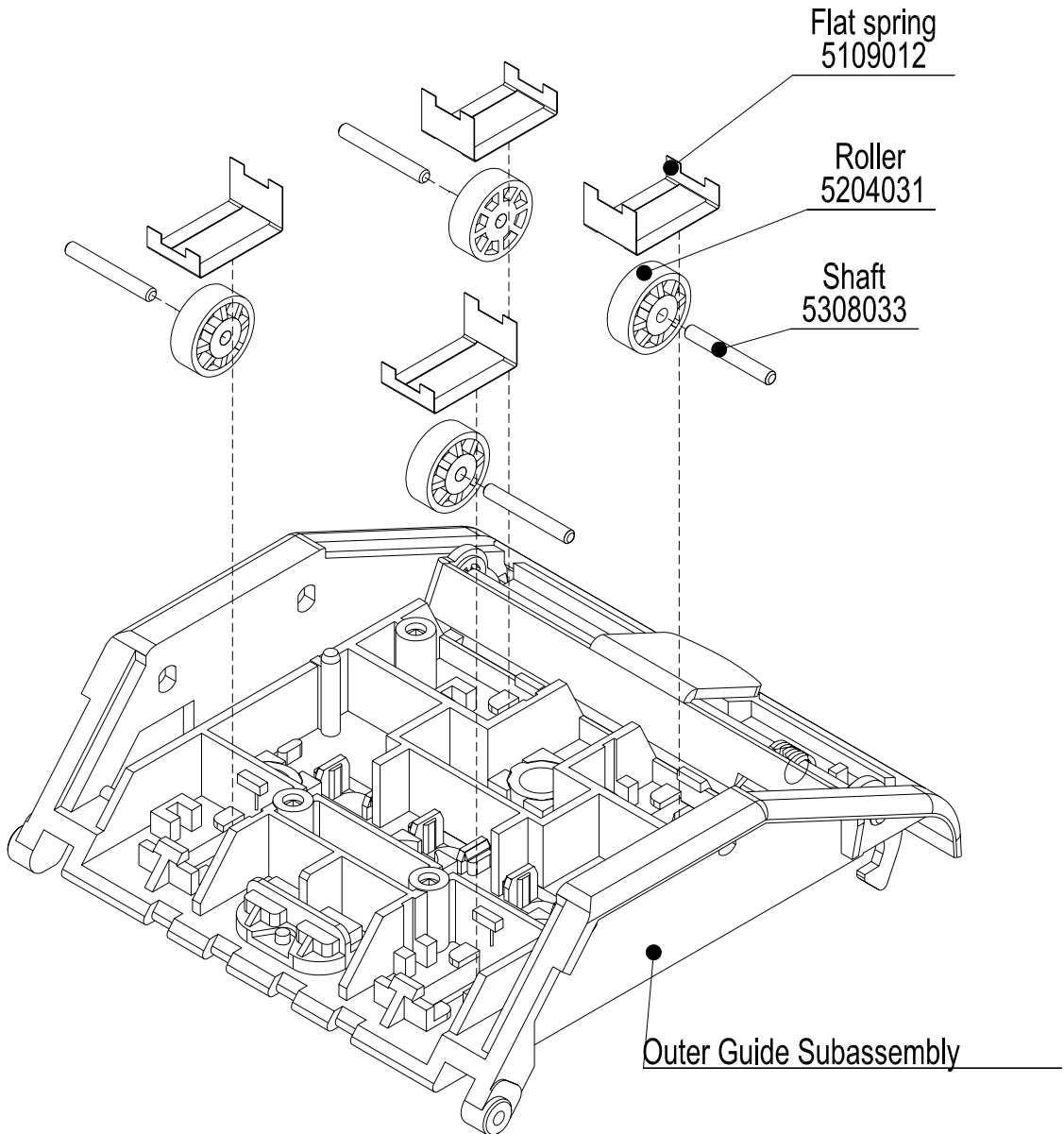
Step 1

- Remove 3 tapping screws.
- Remove magnetic sensor board.



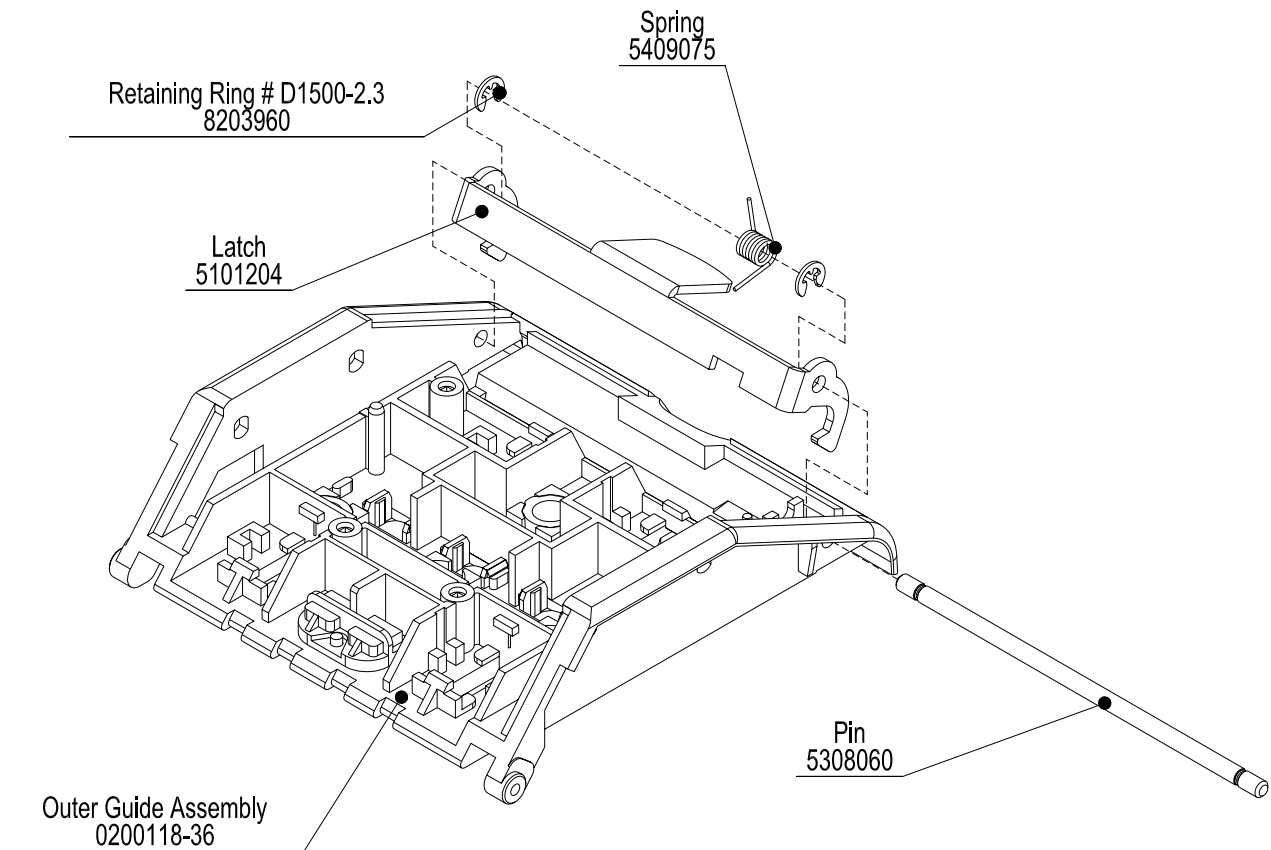
Step 2

- Remove 4 flat springs.
- Remove 4 rollers with shafts.
- Remove 4 shafts.

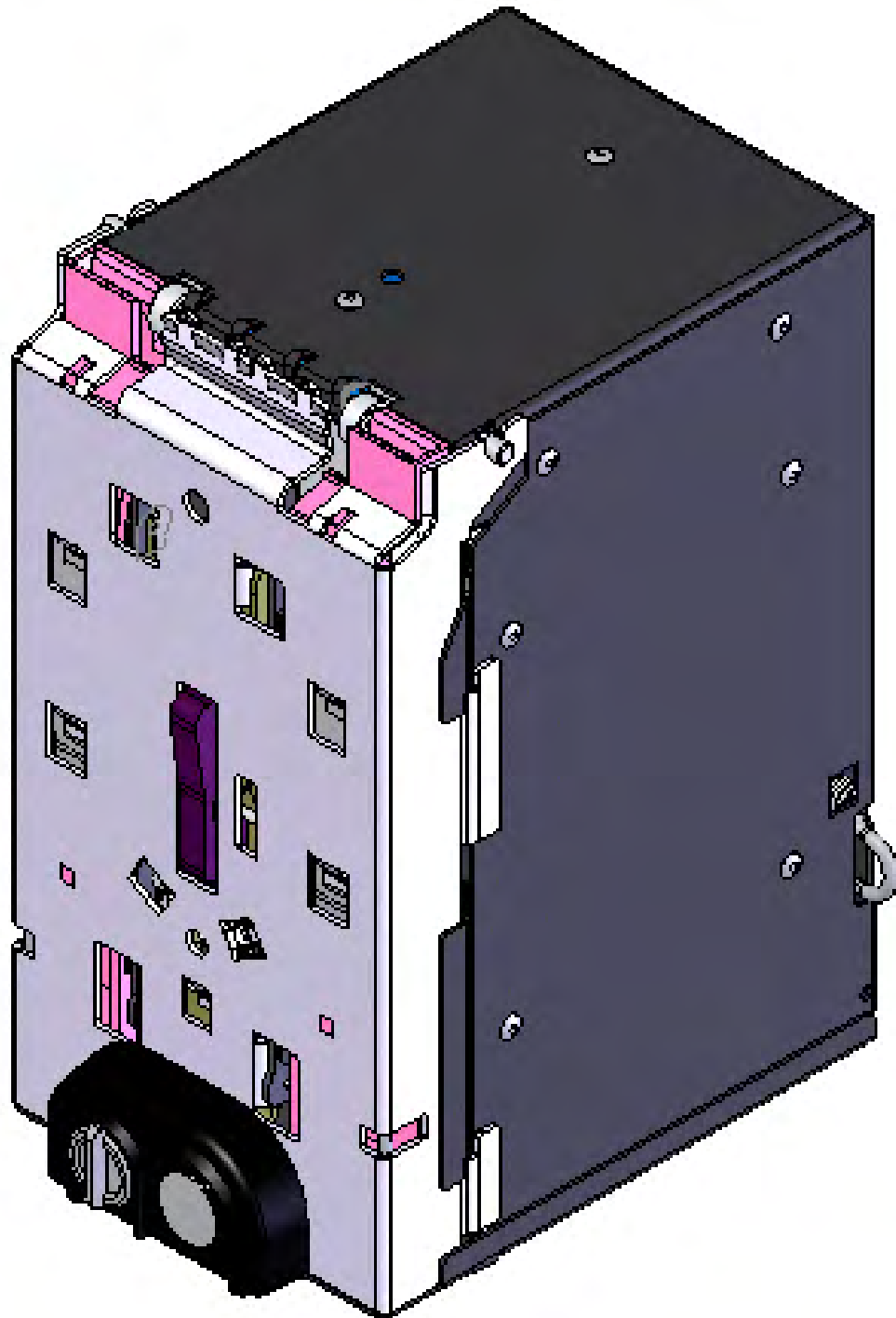


Step 3

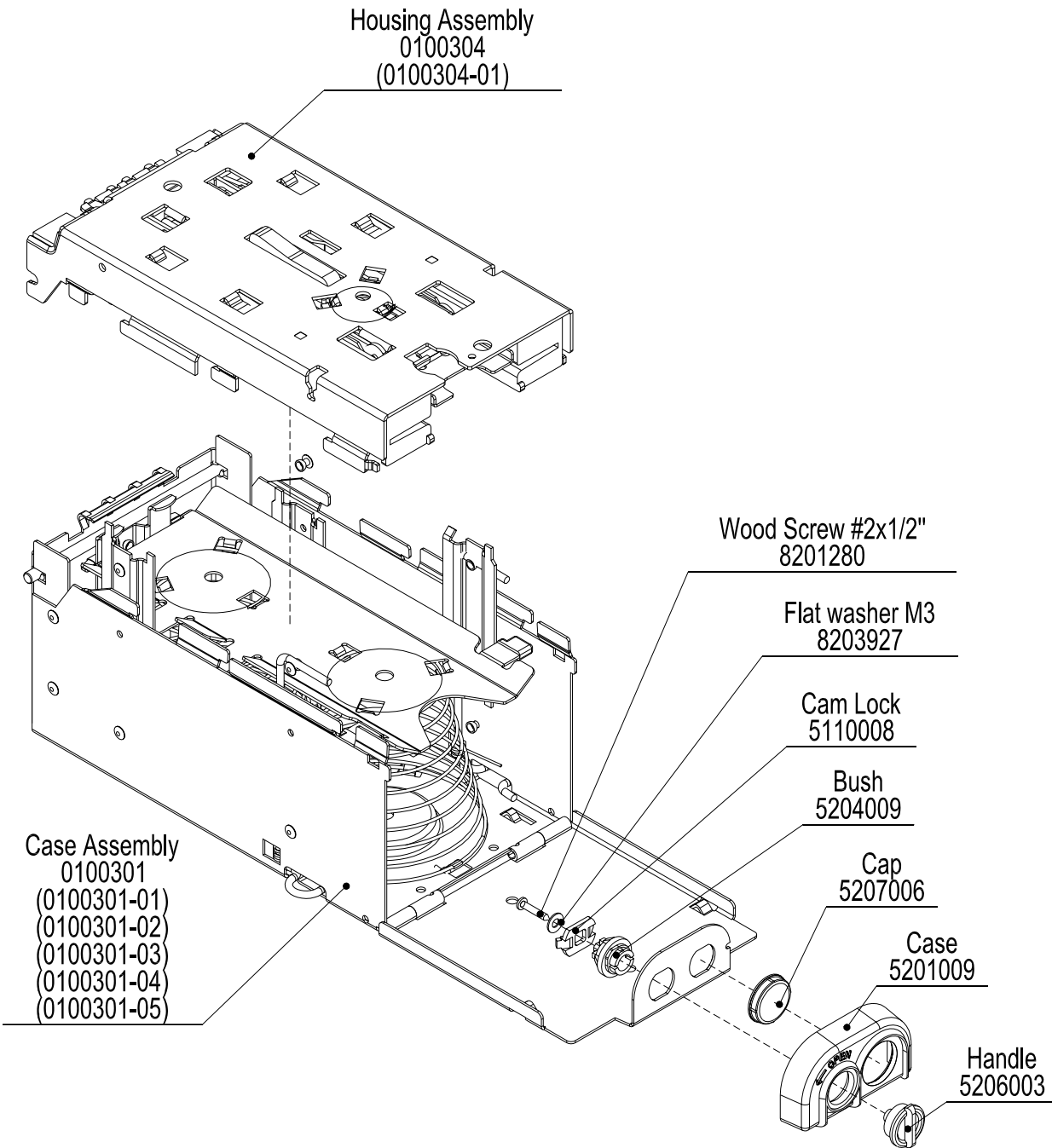
- Remove 2 retaining rings.
- Remove pin.
- Remove spring.
- Remove latch.



VAULT



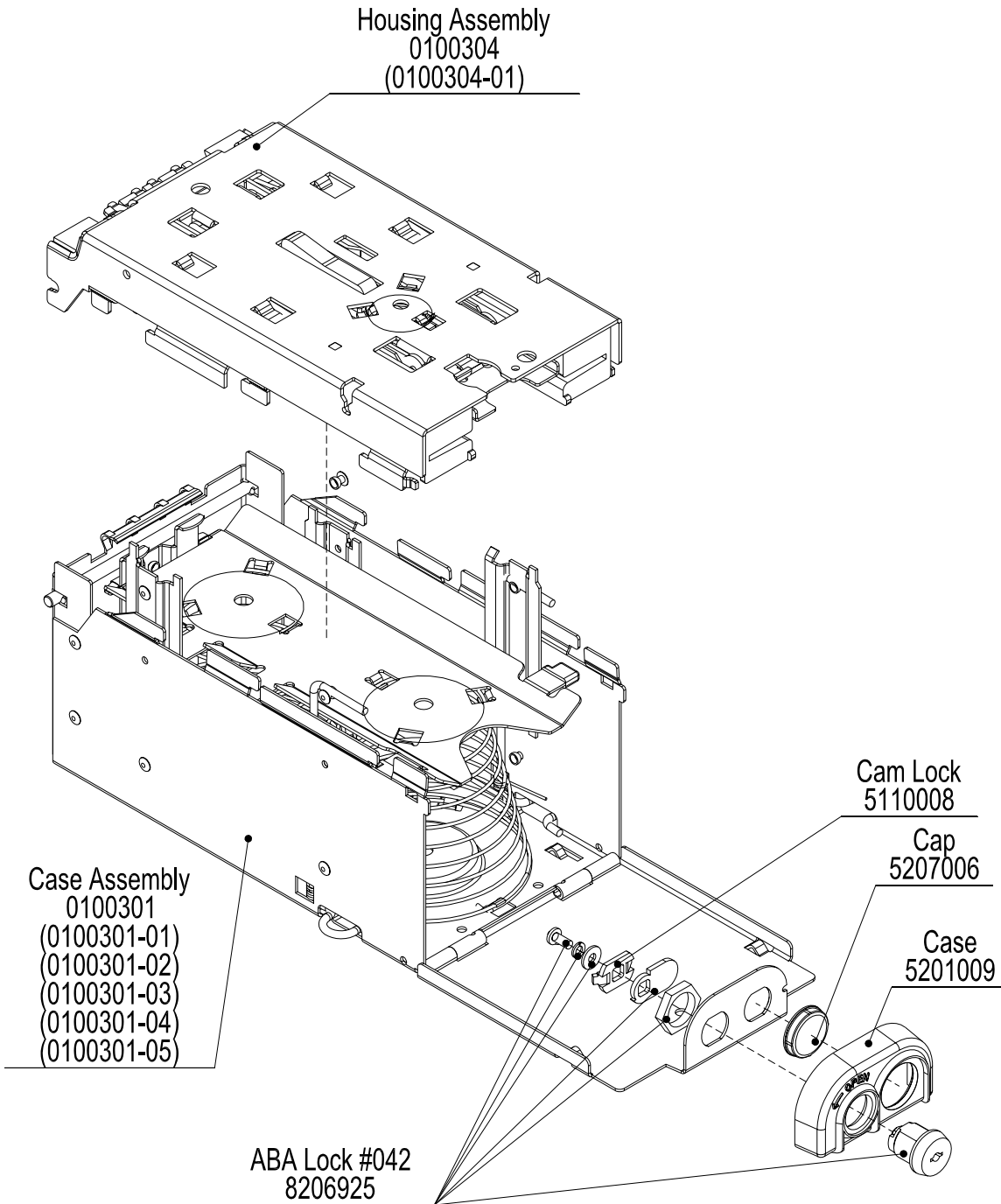
Exploded view of Vault Assembly (0100228 ... 0100228-05).



LIST OF SPARE PARTS AND ASSEMBLY FOR Vault Assembly (0100288 ... 0100288-05).

Item	Part ID #	Part/Assembly Name	Quantity per assembly					
			0100288	0100288-01	0100288-02	0100288-03	0100288-04	0100288-05
1	0100304	Housing Assembly	1	1	1	-	-	-
1	0100304-01	Housing Assembly	-	-	-	1	1	1
2	0100301	Case Assembly	1	-	-	-	-	-
2	0100301-01	Case Assembly	-	1	-	-	-	-
2	0100301-02	Case Assembly	-	-	1	-	-	-
2	0100301-03	Case Assembly	-	-	-	1	-	-
2	0100301-04	Case Assembly	-	-	-	-	1	-
2	0100301-05	Case Assembly	-	-	-	-	-	1
3	5201009	Case	1	1	1	1	1	1
4	5207006	Cap	1	1	1	1	1	1
5	5110008	Cam Lock	1	1	1	1	1	1
6	5204009	Bush	1	1	1	1	1	1
7	5206003	Handle	1	1	1	1	1	1
8	8203927	Flat washer M3	1	1	1	1	1	1
9	8201280	Wood Screw #2x1/2"	1	1	1	1	1	1

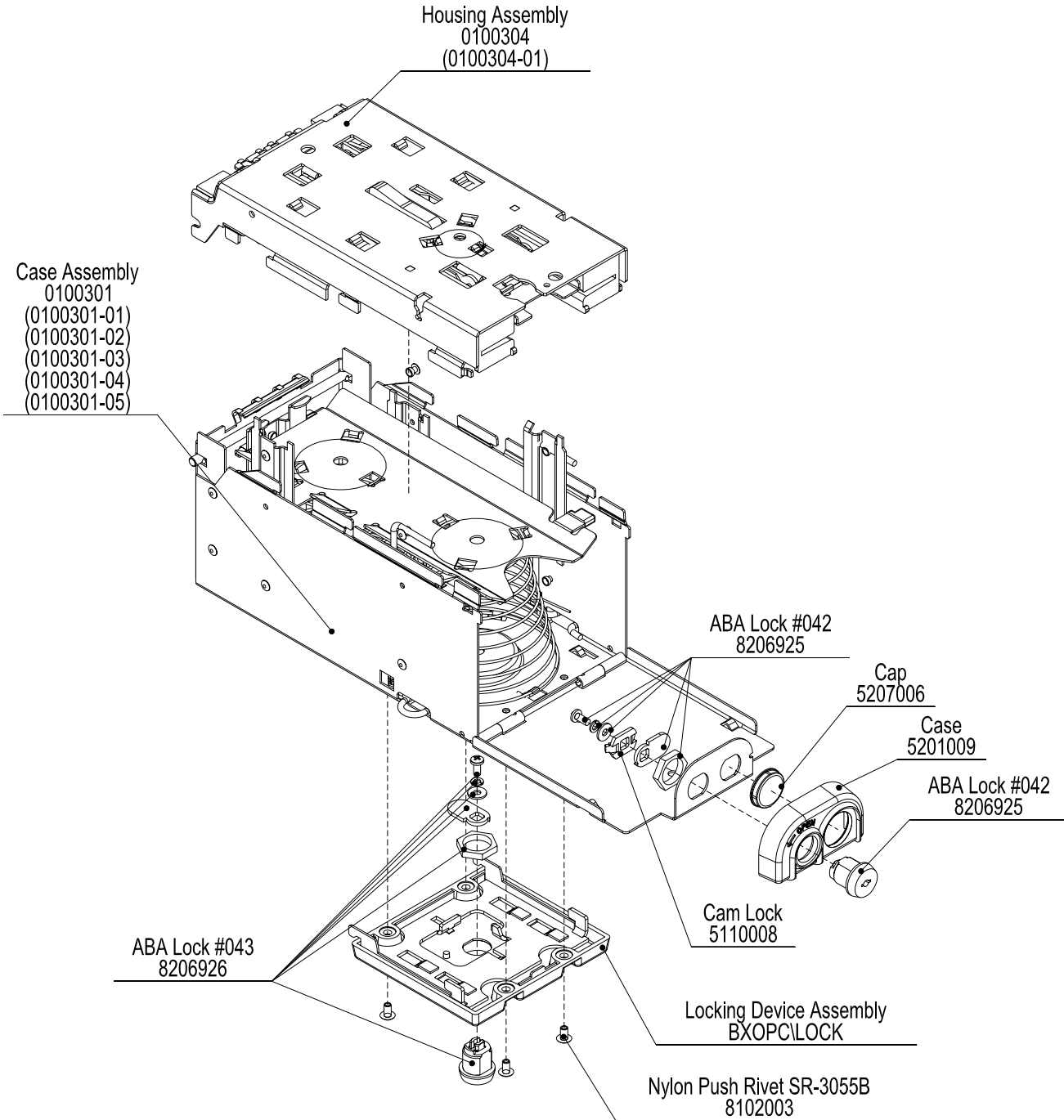
Exploded view of Vault Assembly (0100228-06 ... 0100228-11).



LIST OF SPARE PARTS AND ASSEMBLY FOR Vault Assembly (0100288-06 ... 0100288-11).

Item	Part ID #	Part/Assembly Name	Quantity per assembly					
			0100288-06	0100288-07	0100288-08	0100288-09	0100288-10	0100288-11
1	0100304	Housing Assembly	1	1	1	-	-	-
1	0100304-01	Housing Assembly	-	-	-	1	1	1
2	0100301	Case Assembly	1	-	-	-	-	-
2	0100301-01	Case Assembly	-	1	-	-	-	-
2	0100301-02	Case Assembly	-	-	1	-	-	-
2	0100301-03	Case Assembly	-	-	-	1	-	-
2	0100301-04	Case Assembly	-	-	-	-	1	-
2	0100301-05	Case Assembly	-	-	-	-	-	1
3	5201009	Case	1	1	1	1	1	1
4	5207006	Cap	1	1	1	1	1	1
5	5110008	Cam Lock	1	1	1	1	1	1
6	8206925	ABA Lock #042	1	1	1	1	1	1

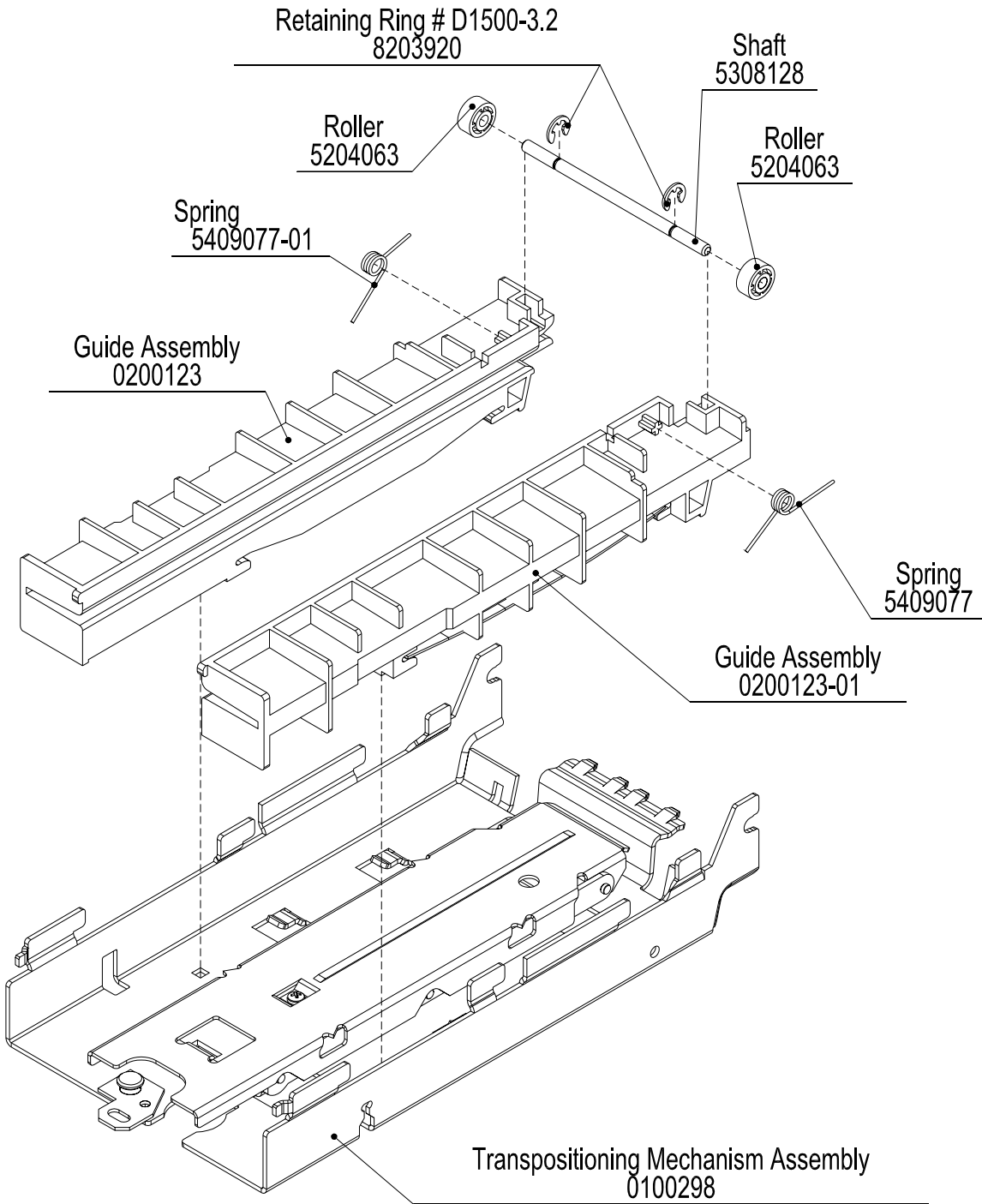
Exploded view of Vault Assembly (0100228-12 ... 0100228-17).



LIST OF SPARE PARTS AND ASSEMBLY FOR Vault Assembly (0100288-12 ... 0100288-17).

Item	Part ID #	Part/Assembly Name	Quantity per assembly					
			0100288-12	0100288-13	0100288-14	0100288-15	0100288-16	0100288-17
1	0100304	Housing Assembly	1	1	1	-	-	-
1	0100304-01	Housing Assembly	-	-	-	1	1	1
2	0100301	Case Assembly	1	-	-	-	-	-
2	0100301-01	Case Assembly	-	1	-	-	-	-
2	0100301-02	Case Assembly	-	-	1	-	-	-
2	0100301-03	Case Assembly	-	-	-	1	-	-
2	0100301-04	Case Assembly	-	-	-	-	1	-
2	0100301-05	Case Assembly	-	-	-	-	-	1
3	BXOPC\LOCK	Locking Device Assembly	1	1	1	1	1	1
4	5201009	Case	1	1	1	1	1	1
5	5207006	Cap	1	1	1	1	1	1
6	5110008	Cam Lock	1	1	1	1	1	1
7	8206925	ABA Lock #042	1	1	1	1	1	1
8	8206926	ABA Lock #043	1	1	1	1	1	1
9	8102003	Nylon Push Rivet SR-3055B	4	4	4	4	4	4

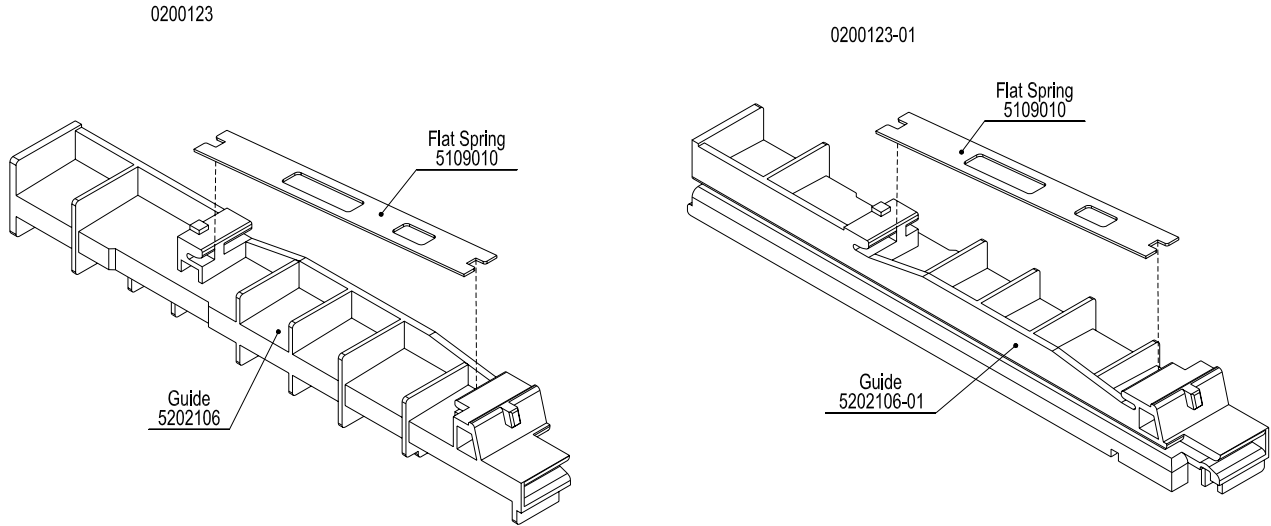
Exploded view of Housing Assembly (0100304).



LIST OF SPARE PARTS AND ASSEMBLY FOR Housing Assembly (0100304).

Item	Part ID #	Part/Assembly Name	Quantity per assembly		
			0100304	0100304-01	0100304-02
1	0200123	Guide Assembly	1	1	1
2	0200123-01	Guide Assembly	1	1	1
3	0100298	Transpositioning Mechanism Assembly	1	1	1
4	5308128	Shaft	1	1	1
5	5409077	Spring	1	1	1
6	5409077-01	Spring	1	1	1
7	5204063	Roller	2	2	2
8	5308020	Standoff	-	-	1
9	5110002	Tab	-	1	-
10	8210323	Open end POP Rivet PD1328	-	1	-
11	8203920	Retaining Ring # D1500-3.2	2	2	2

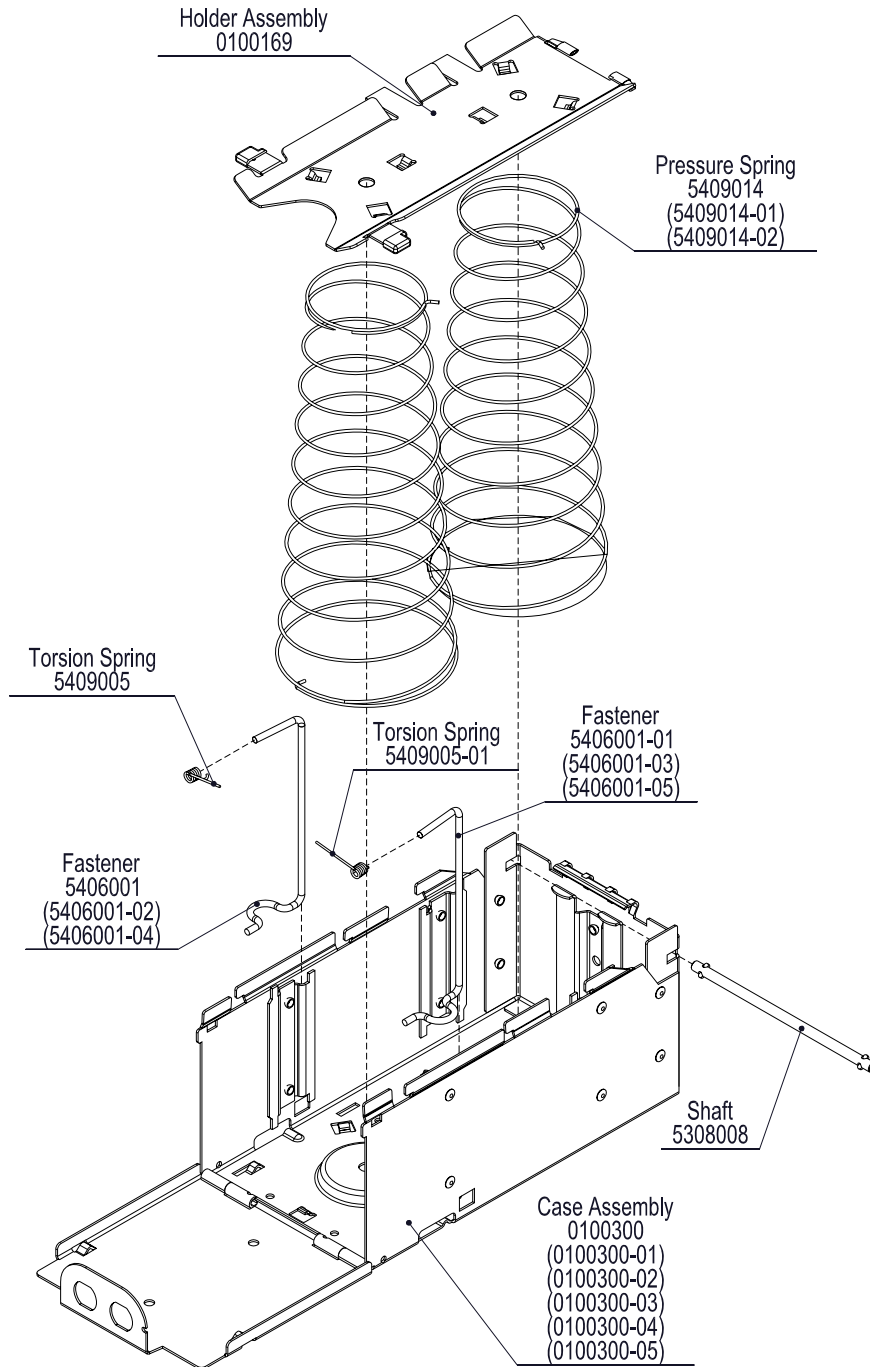
Exploded view of Guide Assembly (0200123).



LIST OF SPARE PARTS AND ASSEMBLY FOR Guide Assembly (0200123).

Item	Part ID #	Part/Assembly Name	Quantity per assembly	
			0200123-01	0200123
1	5202106	Guide	-	1
2	5202106-01	Guide	1	-
3	5109010	Flat Spring	1	1

Exploded view of Case Assembly (0100301).



LIST OF SPARE PARTS AND ASSEMBLY FOR Case Assembly (0100301).

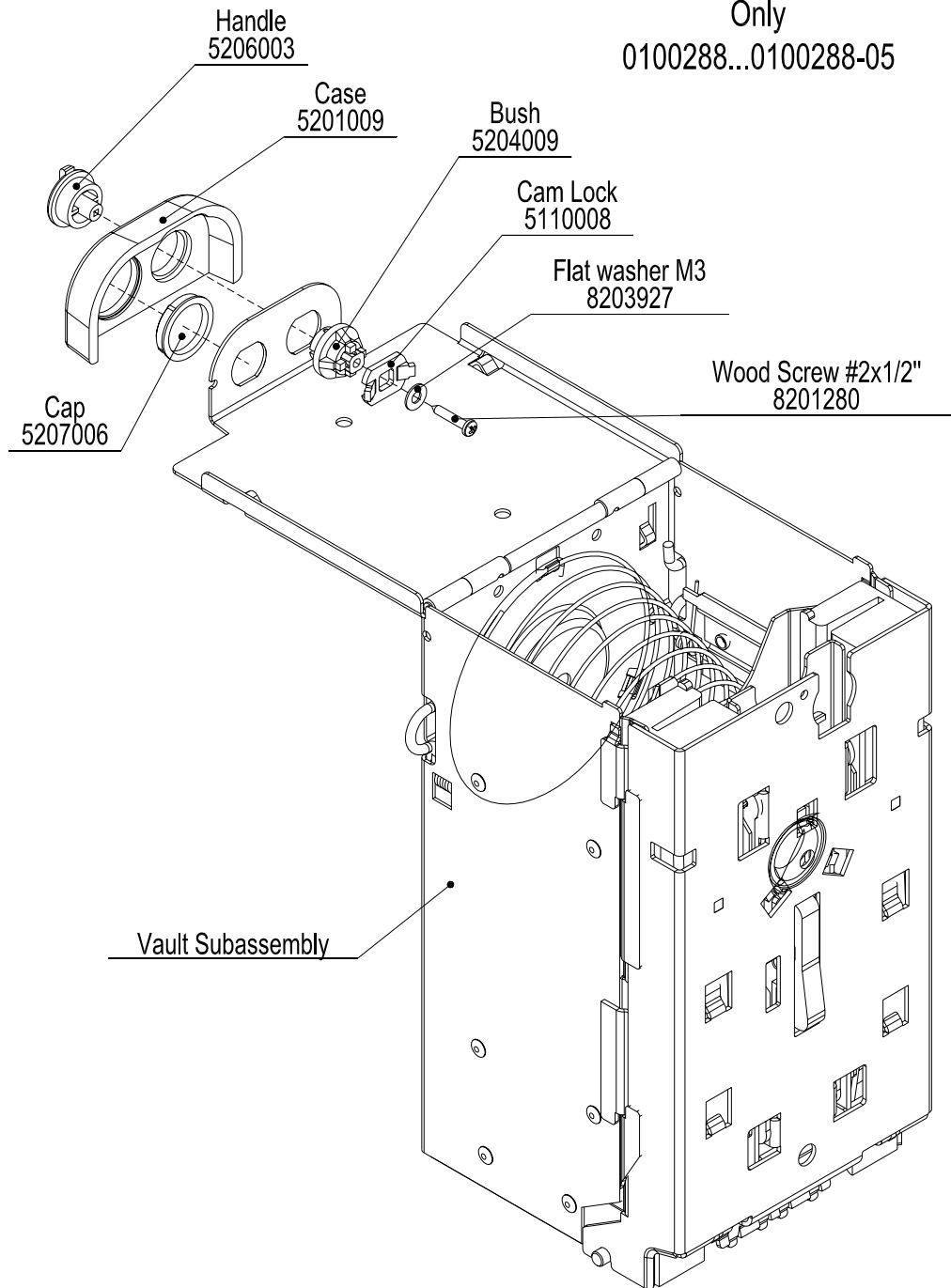
Item	Part ID #	Part/Assembly Name	Quantity per assembly					
			0100301	0100301-01	0100301-02	0100301-03	0100301-04	0100301-05
1	0100300	Case Assembly	1	-	-	-	-	-
1	0100300-01	Case Assembly	-	1	-	-	-	-
1	0100300-02	Case Assembly	-	-	1	-	-	-
1	0100300-03	Case Assembly	-	-	-	1	-	-
1	0100300-04	Case Assembly	-	-	-	-	1	-
1	0100300-05	Case Assembly	-	-	-	-	-	1
2	0100169	Holder Assembly	1	1	1	1	1	1
3	5406001	Fastener	1	-	-	1	-	-
4	5406001-01	Fastener	1	-	-	1	-	-
3	5406001-02	Fastener	-	1	-	-	1	-
4	5406001-03	Fastener	-	1	-	-	1	-
3	5406001-04	Fastener	-	-	1	-	-	1
4	5406001-05	Fastener	-	-	1	-	-	1
5	5409005	Torsion Spring	1	1	1	1	1	1
6	5409005-01	Torsion Spring	1	1	1	1	1	1
7	5308008	Shaft	1	1	1	1	1	1
8	5409014	Pressure Spring	2	-	-	2	-	-
8	5409014-01	Pressure Spring	-	2	-	-	2	-
8	5409014-02	Pressure Spring	-	-	2	-	-	2

Disassembly of Vault Assembly (0200119).

Step 1. Only 0100288...0100288-05

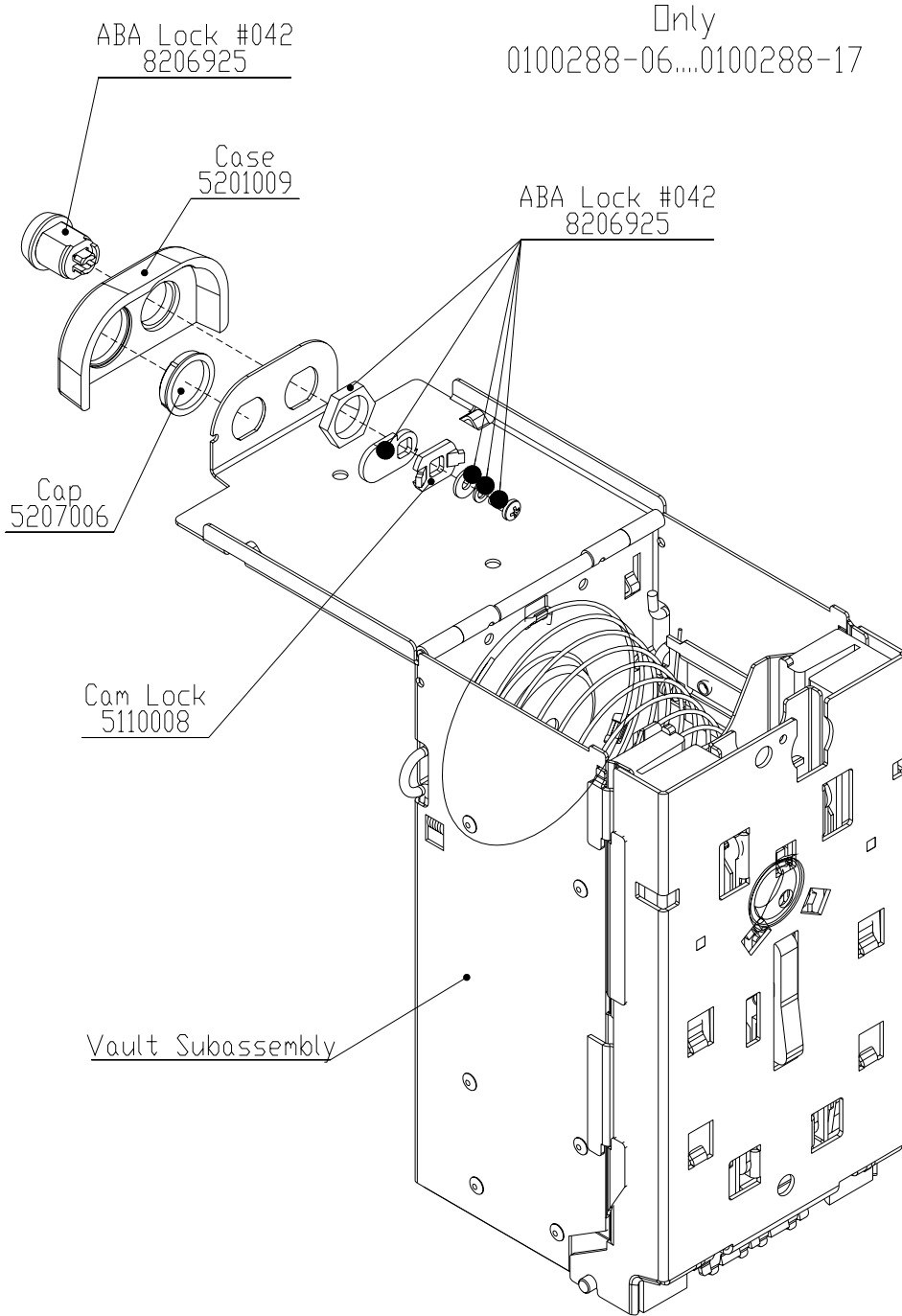
- Remove wood screw and flat washer.
- Remove cam lock.
- Remove bush , case, cap, handle.

Only
0100288...0100288-05



Step 2. Only 0100288-06...0100288-017

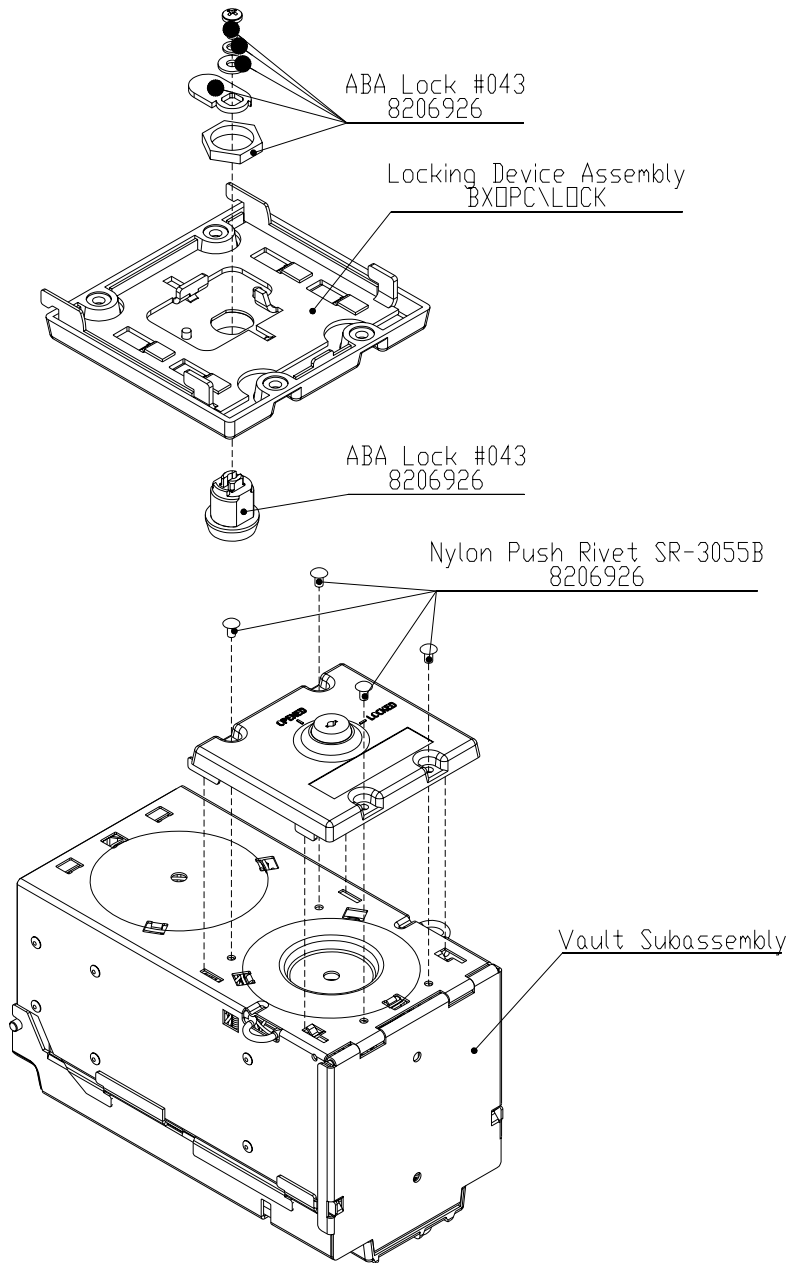
- Remove aba lock and cam.
- Remove case and cap.



Step 3. Only 0100288-06...0100288-17

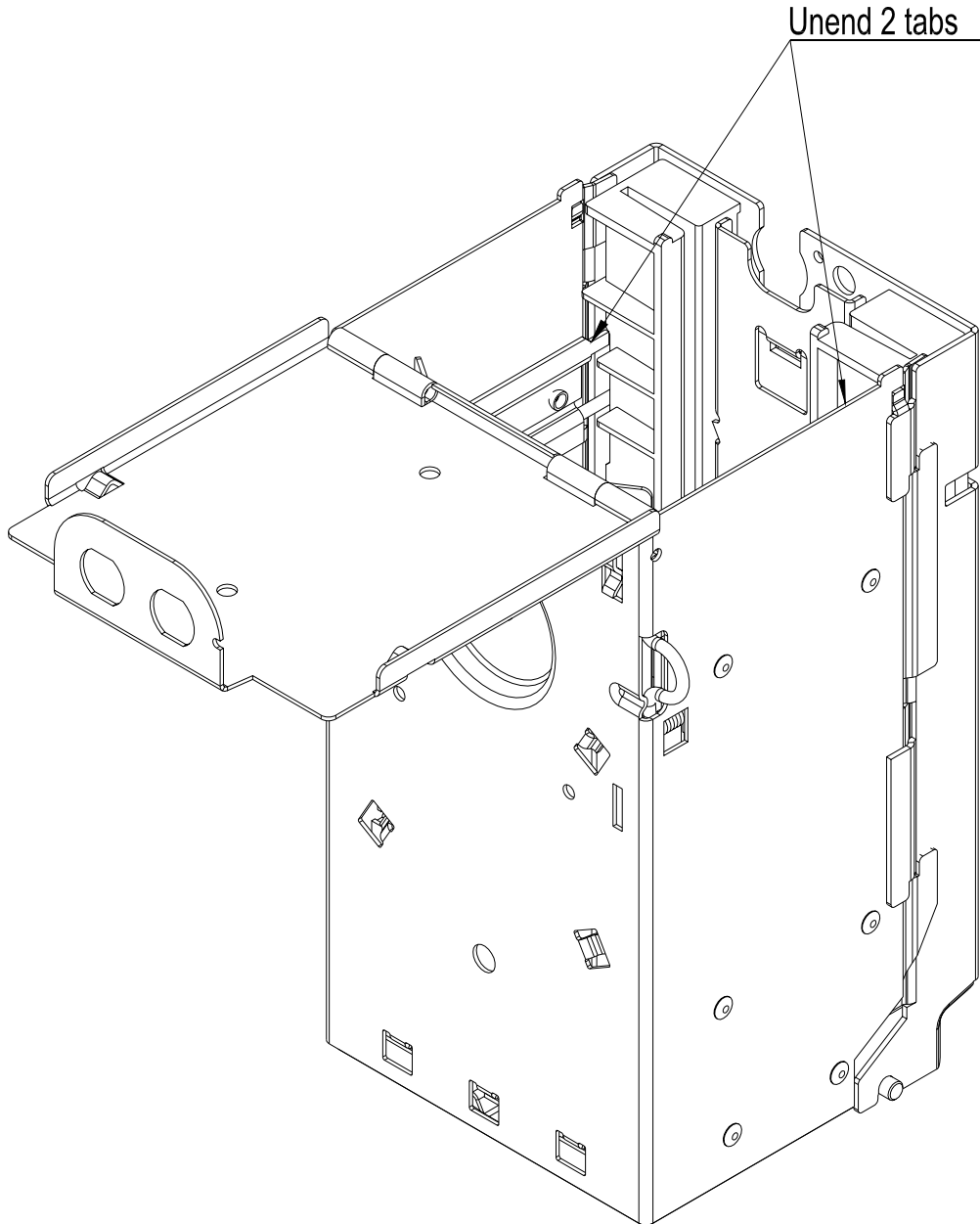
- Remove 4 nylon push rivets.
- Remove aba lock and locking device.

Only
0100288-12...0100288-17



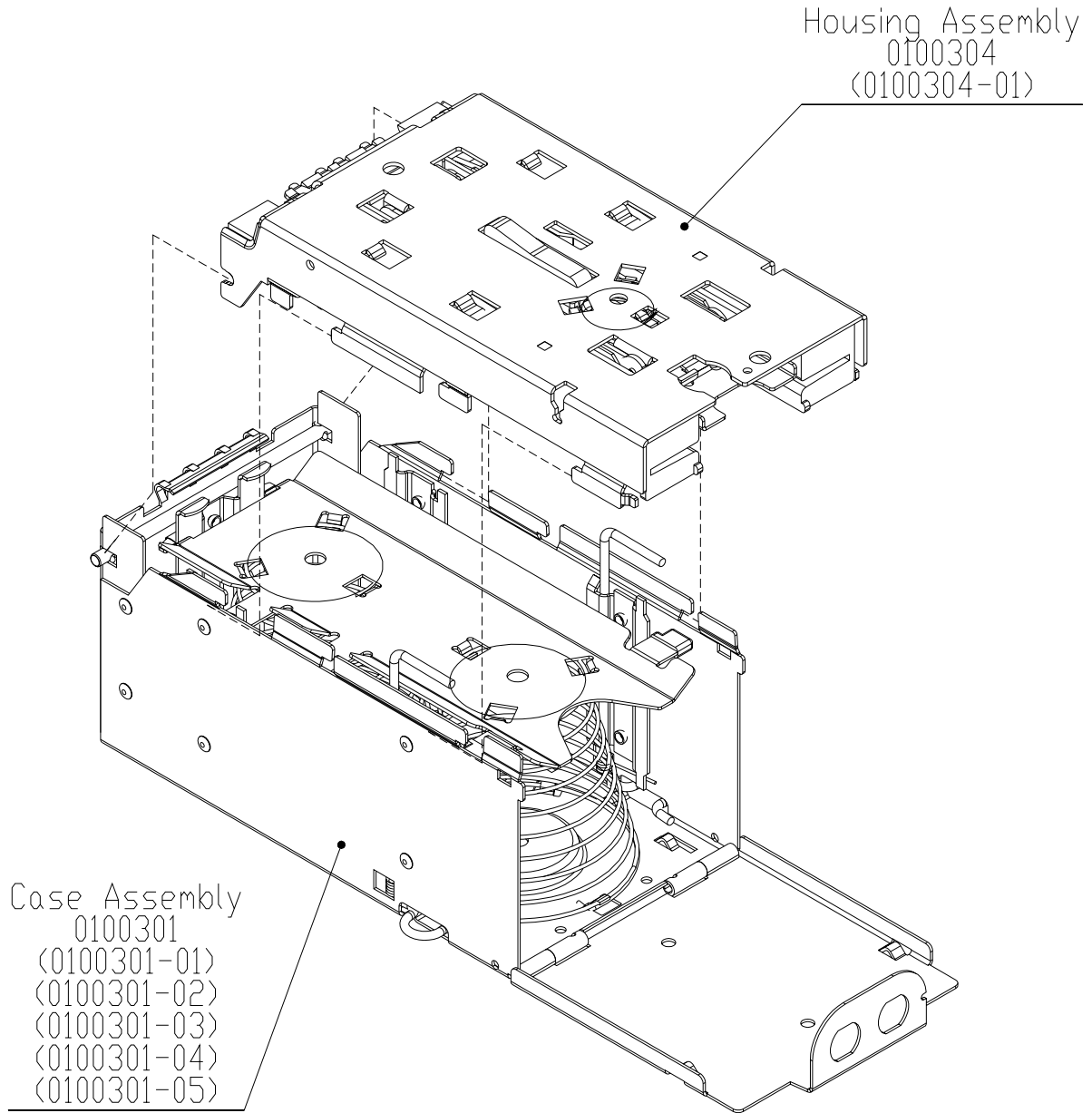
Step 4

- unbend 2 tabs



Step 5

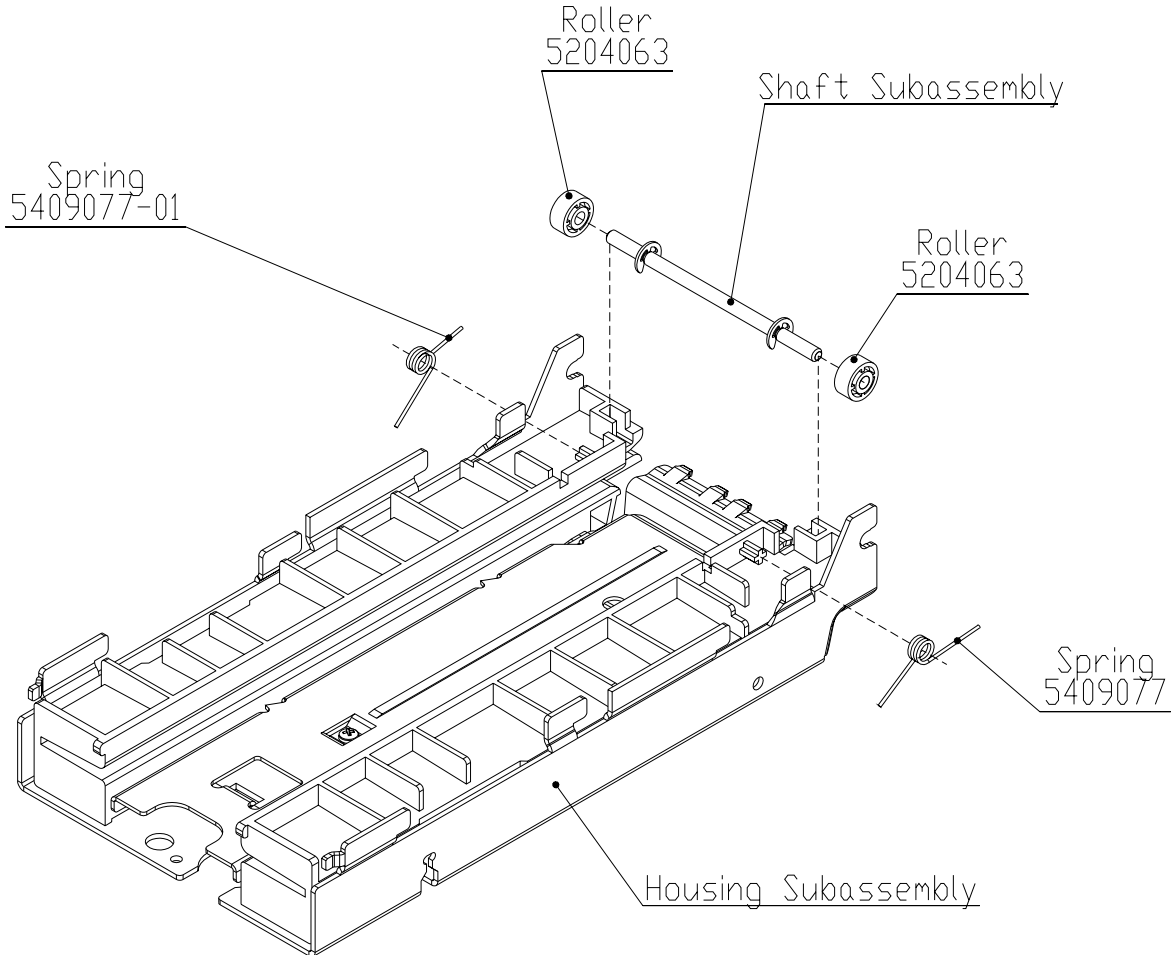
-Remove housing.



Disassembly of Housing Assembly (0100304).

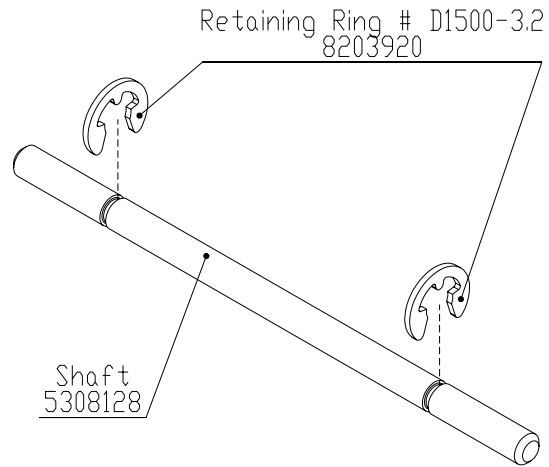
Step 1

- Remove shaft assembly and 2 rollers.
- Remove 2 springs.



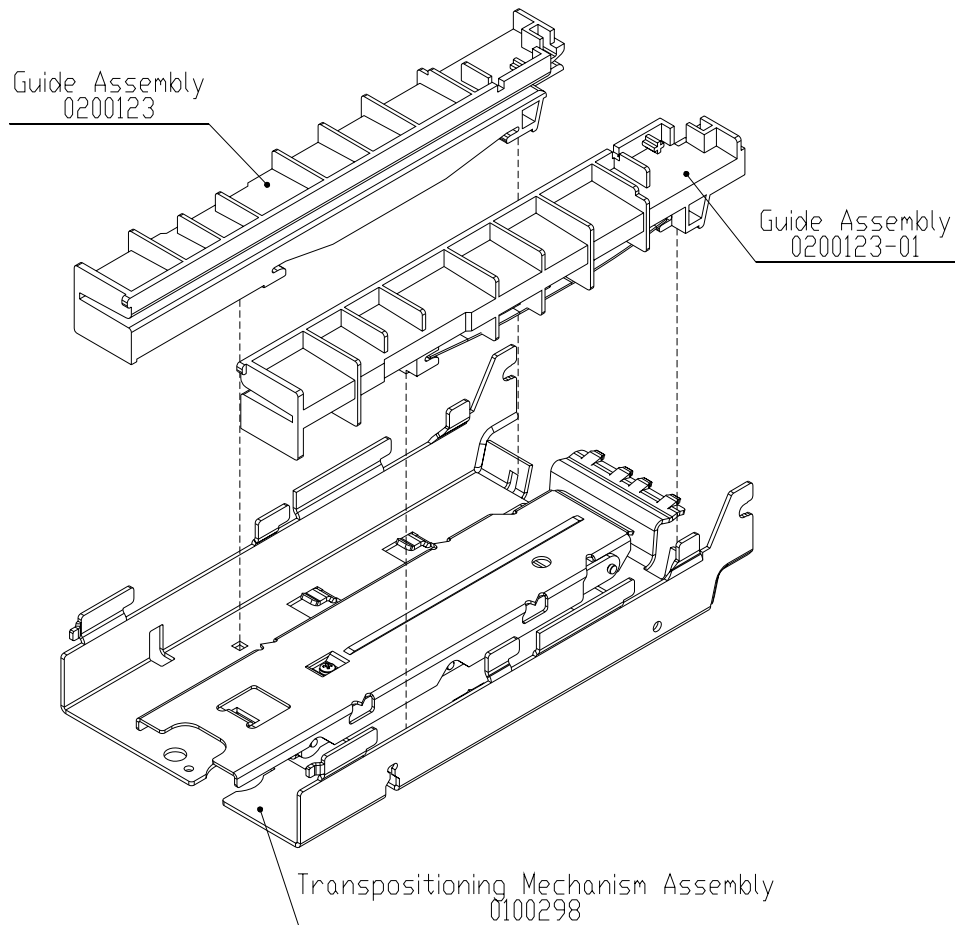
Step 2

-Remove 2 retaining rings.



Step 3

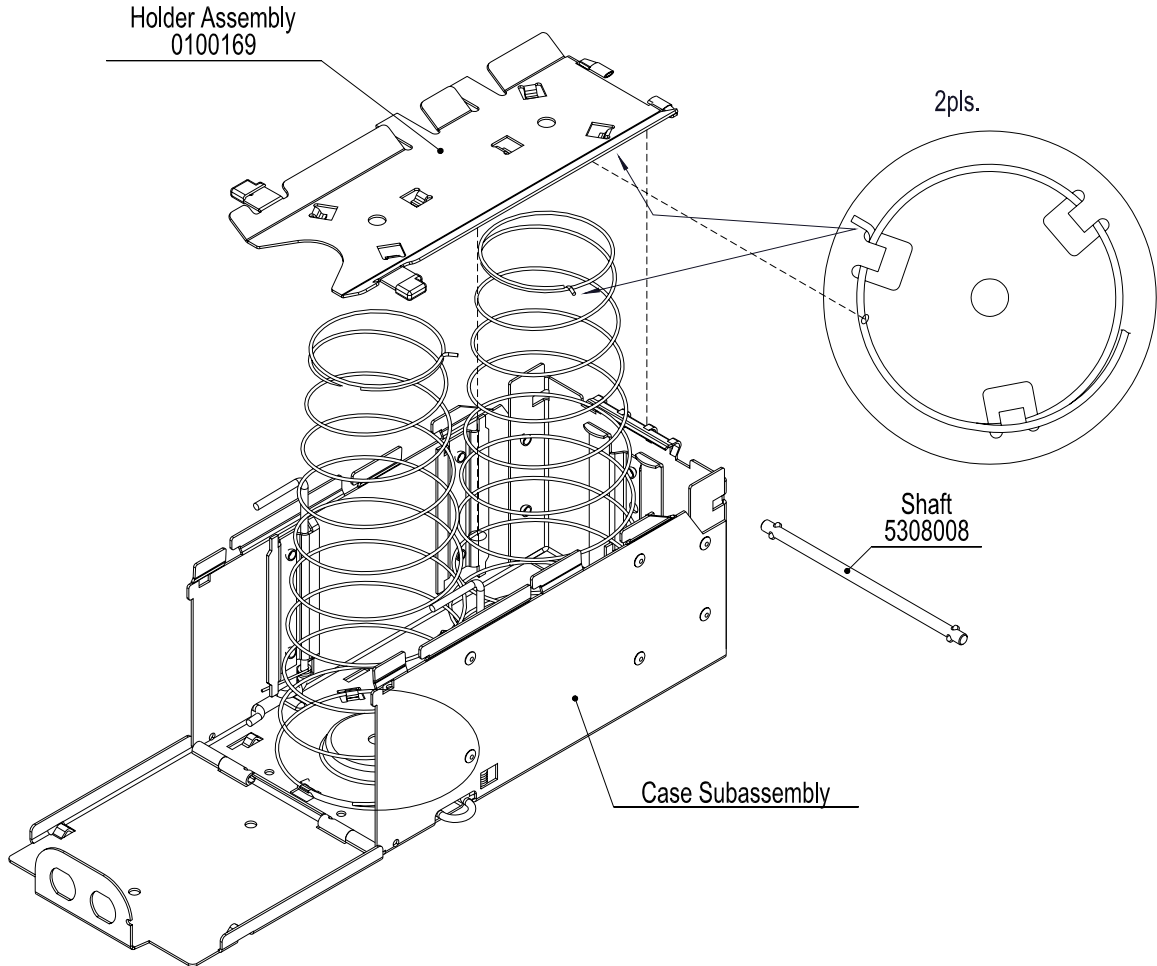
-Remove 2 guide assemblies.



Disassembly of Case Assembly (0100301).

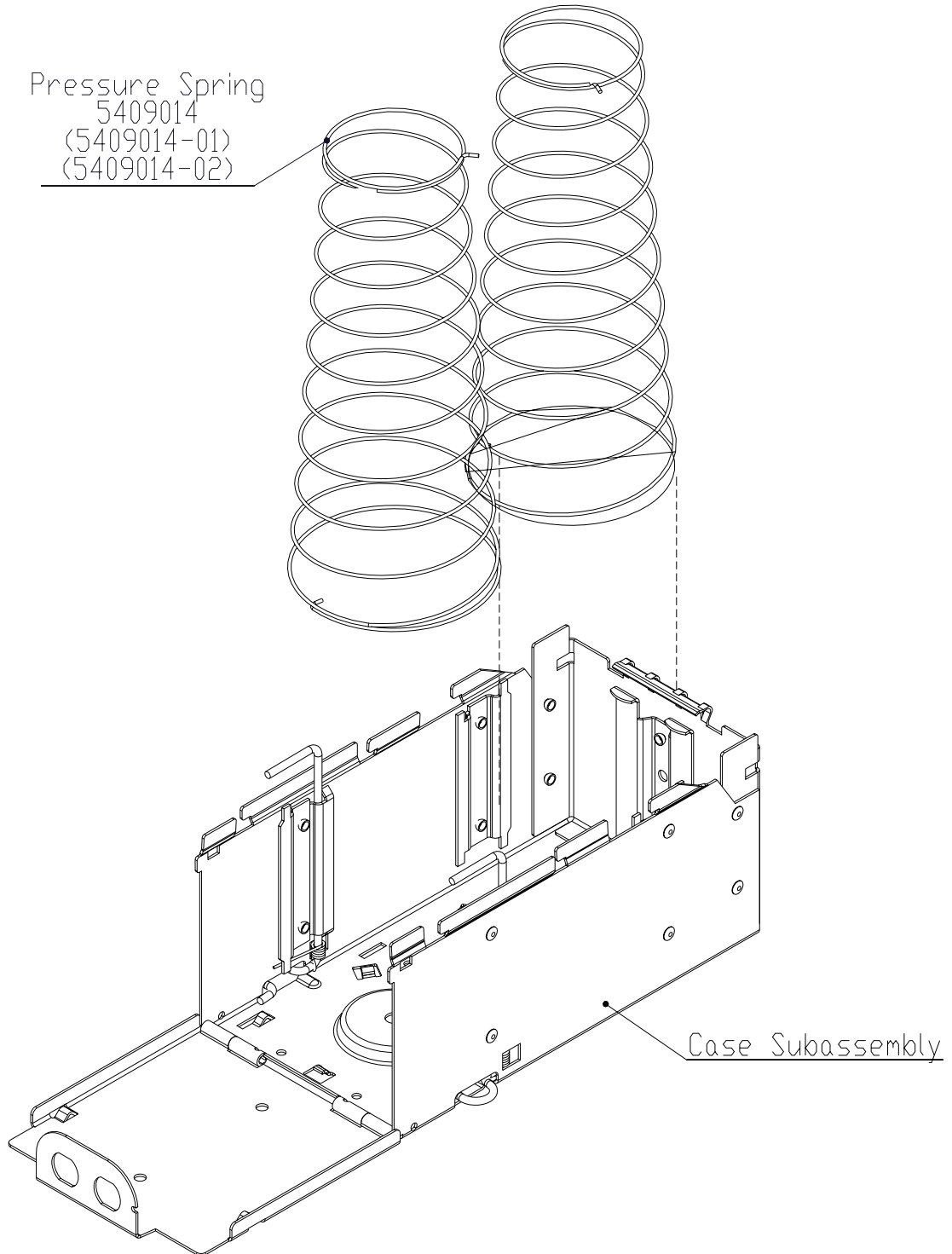
Step 1

- Remove shaft.
- Remove holder assembly.



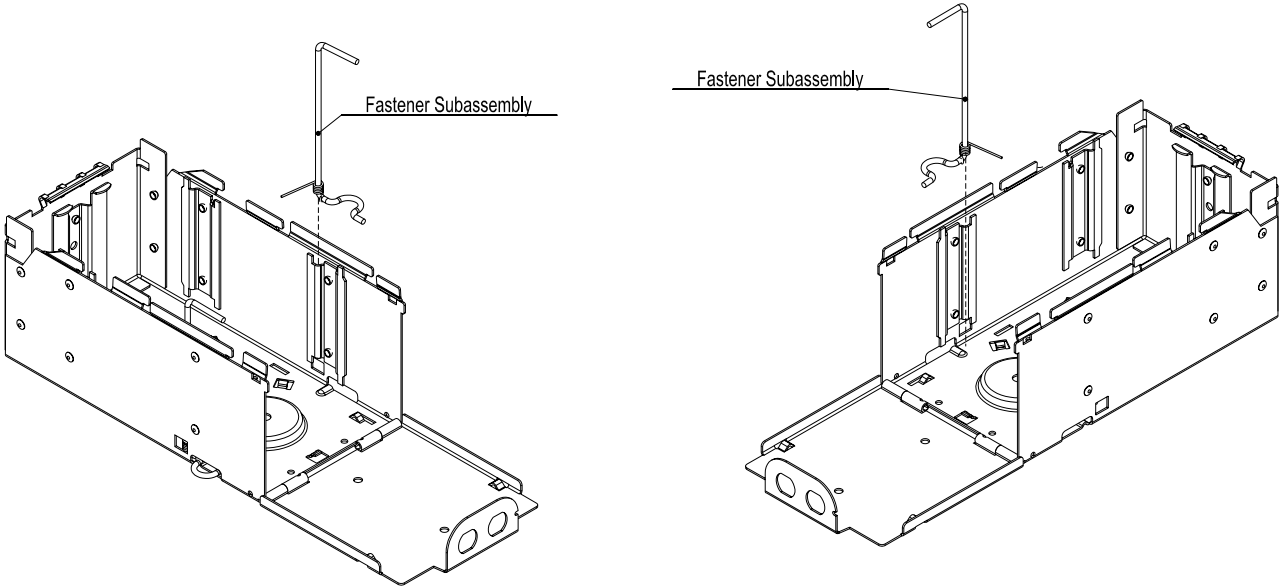
Step 2

-Remove 2 pressure springs.



Step 3

-Remove 2 fasteners subassemblies.



Step 4

-Remove 2 torsion springs.

