

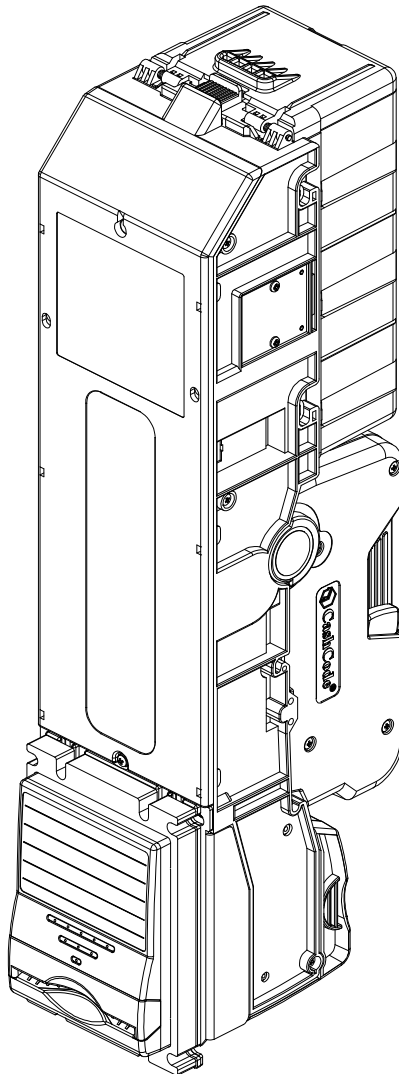


# MB

## Single width Bill Recycler

### Operation and Service Manual

#### Part 2. Testing and Repair

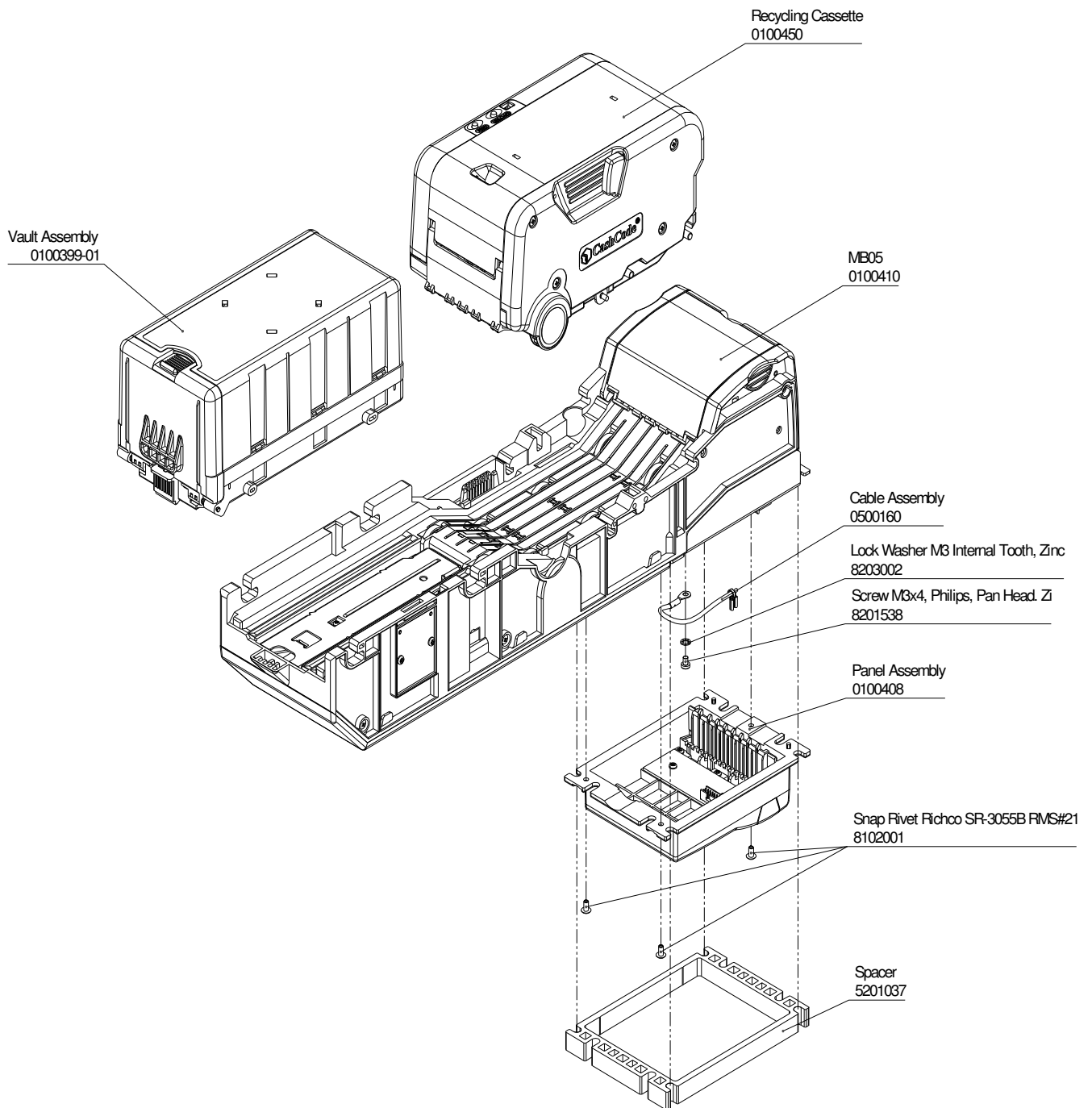


## Table of Contents

<b>Bill Recycler MB-2017</b> .....	3
<i>Whole assembly</i> .....	3
<b>MB05</b> .....	5
<i>Exploded view of MB05 Assembly (0100410)</i> .....	5
<i>Exploded view of Main Body (0100392)</i> .....	7
<i>Exploded view of Chassis Assembly (0300141)</i> .....	9
Exploded view of Facepanel Assembly (0100408) .....	11
<i>Exploded view of Upper Guide Assembly (0200158)</i> .....	12
<i>Exploded view of Lower Guide Assembly (0200157)</i> .....	13
<i>Exploded view of Outer Guide Assembly (0200153)</i> .....	14
Tools required:.....	15
Disassembly MB05.....	15
Disassembly of Main Body Assembly.....	23
Disassembly of Chassis Assembly .....	24
Disassembly of Face Panel Assembly (0100408) .....	27
Disassembly of Outer guide Assembly .....	29
Disassembly of Upper guide Assembly .....	30
Disassembly of Lower guide Assembly .....	32
<b>Recycling cassette</b> .....	33
<i>Whole Assembly</i> .....	33
<i>Exploded view of Recycling Cassette Assembly (0100384)</i> .....	34
Disassembly of Recycling Cassette (0100450) .....	37
Disassembly of Recycling Cassette (0100384) .....	41
<b>Vault</b> .....	56
<i>Exploded view of Vault Assembly (0100399 0100399-01)</i> .....	57
<i>Exploded view of Housing Assembly (0100398, 0100398-01)</i> .....	59
Disassembly of Vault Assembly (0100399, 0100399-01) .....	61
Disassembly of Housing Assembly (0100398, 0100398-01) .....	64

## BILL RECYCLER MB-2017

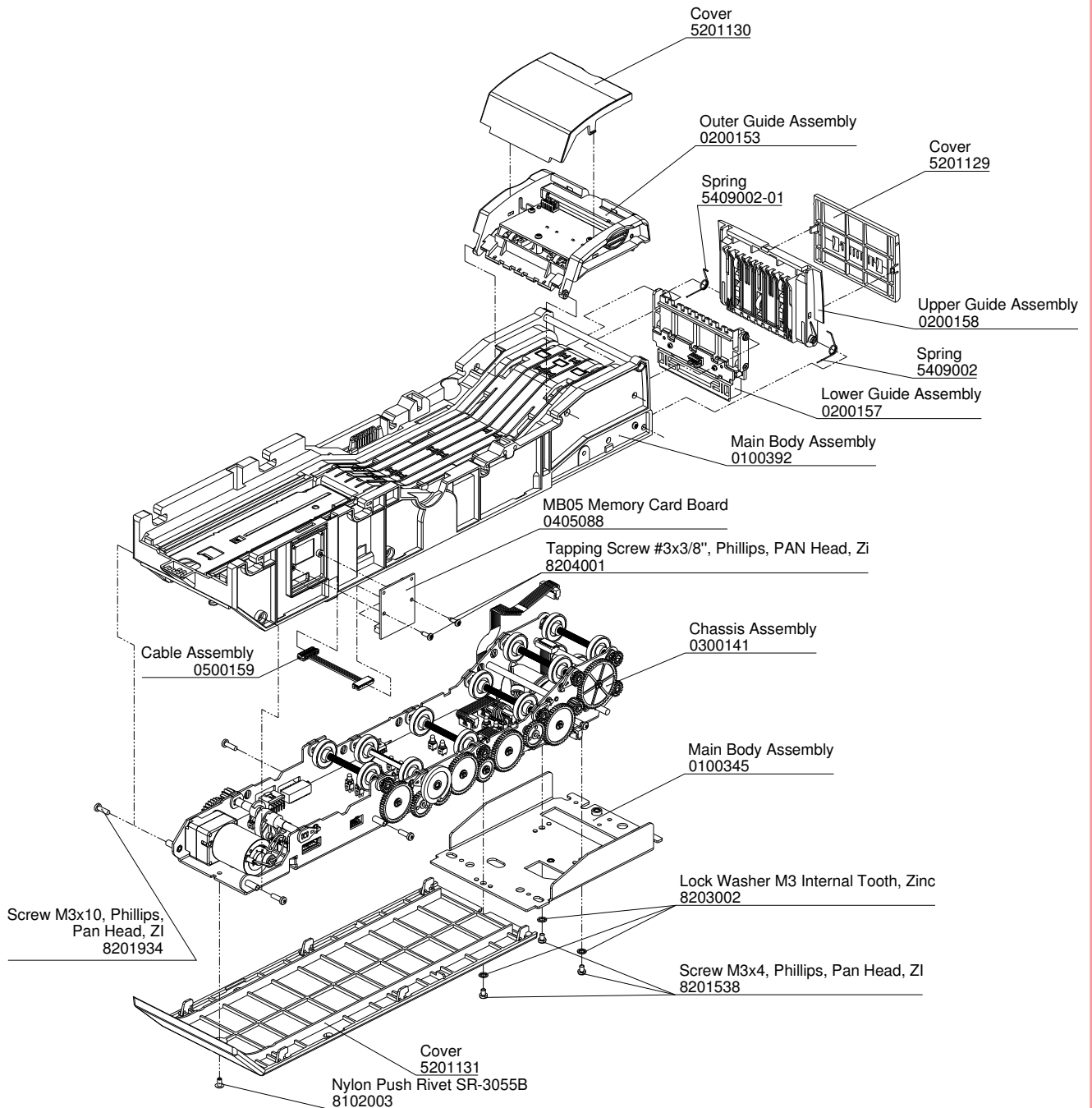
### Whole assembly



<b>Part ID #</b>	<b>Description</b>	<b>Qty</b>
0100410.01	MB05	1
0100389.01	Recycling Cassette	1
0100399-01	Vault Assembly	1
0100408.01	Panel Assembly	1
5201037	Spacer	1
0500160	Cable Assembly	1
8102001	Snap Rivet Richco	3
8203002	Lock Washer M3 Internal Tooth, Zinc	1
8201538	Screw M3x4, Phillips, Pan Head, Zi	1

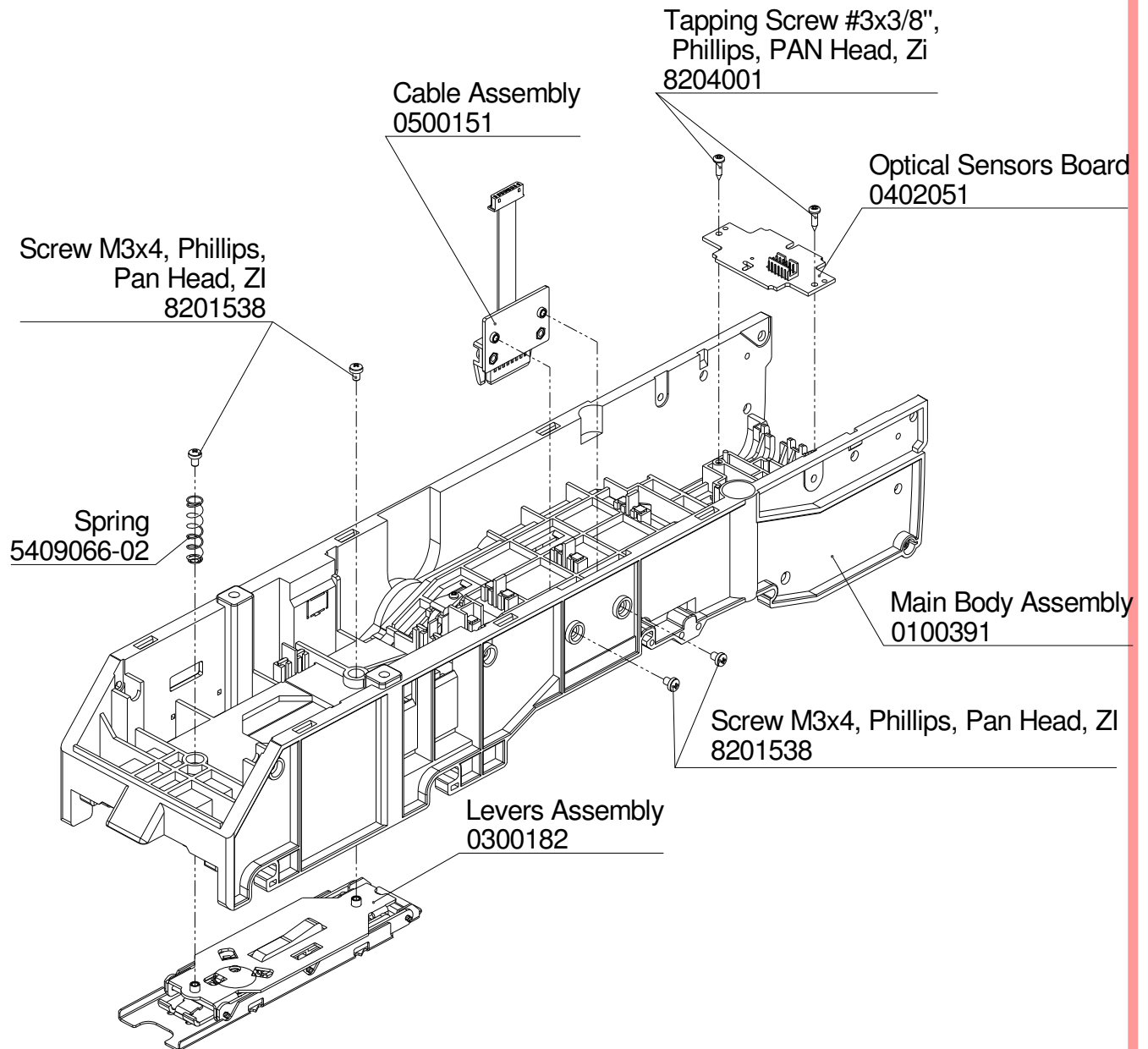
## MB05

### *Exploded view of MB05 Assembly (0100410)*



<b>Part ID</b>	<b>Description</b>	<b>Qty.</b>
0300141.01	Chassis Assembly	1
0100392	Main Body Assembly	1
0100345	Main Body Assembly	1
0200158	Upper Guide Assembly	1
0200157.01	Lower Guide Assembly	1
0200153.01	Outer Guide Assembly	1
0405088.01	Memory Card Board	1
0500159	Cable Assembly	1
0500160	Cable Assembly	1
0100408.01	Panel Assembly	1
5201129	Cover	1
5201130	Cover	1
5201131	Cover	1
5201037	Spaser	1
5409002	Spring	1
5409002-01	Spring	1
8203003	#8 Lock Washer (M4), Int/T Zn	1
8203002	Lock Washer M3 InternalTooth, Zinc	4
8102003	Nylon Push Rivet Richco SR-3055B	4
8201538	Screw M3x4, Phillips, Pan Head, ZI	4
8201934	Screw M3x10, Phillips, Pan Head, ZI	6
8201A14	Screw M4x6, Phillips, Pan Head, ZI	1
8204001	Tapping Screw #3x3/8", Phillips, PANHead, Zi 4	4

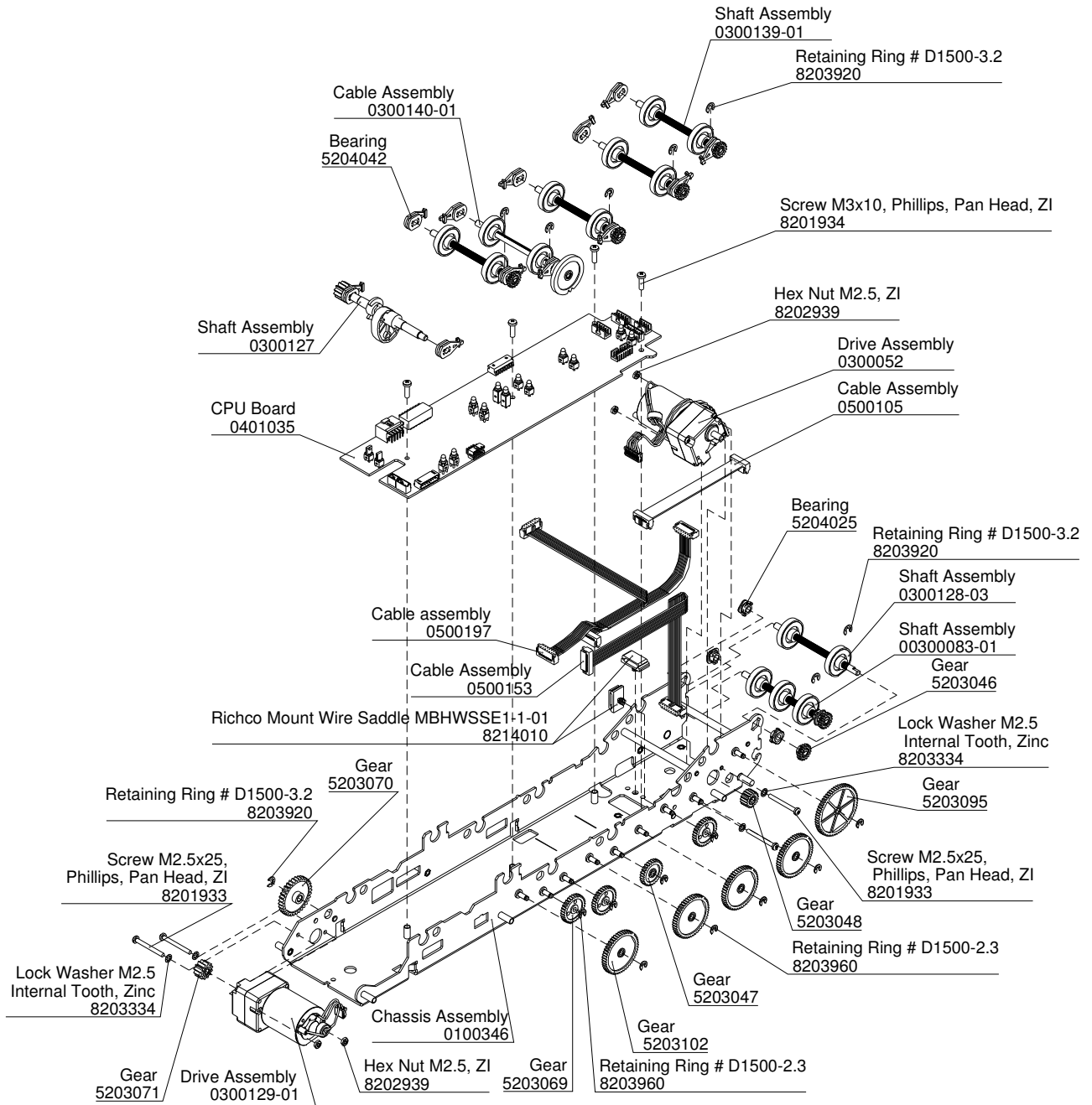
**Exploded view of Main Body (0100392)**



<b>Part ID</b>	<b>Description</b>	<b>Qty.</b>
0300182	Levers Assembly	1
0500151	Cable Assembly	1
0100391	Main Body	1
0402051.01	Optical Sensors Board	1
8201538	Screw M3x4, Phillips, Pan Head, ZI	4
8204001	Tapping Screw #3x3/8"	2
5409066-02	Spring	1

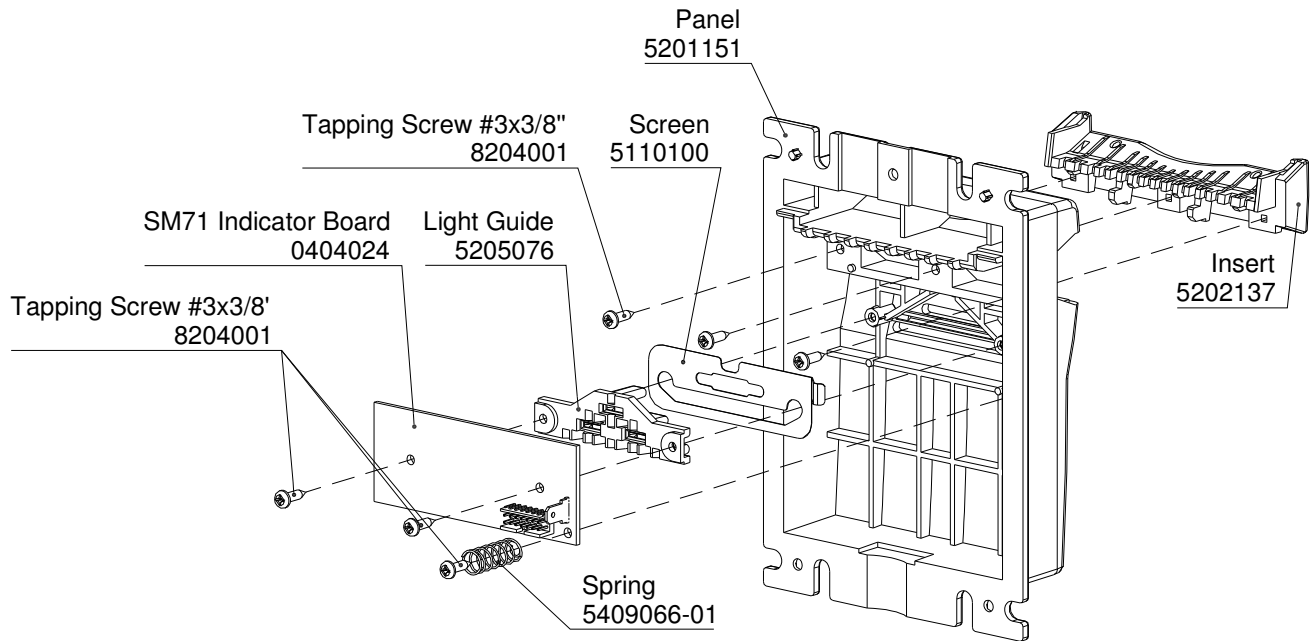


**Exploded view of Chassis Assembly (0300141)**



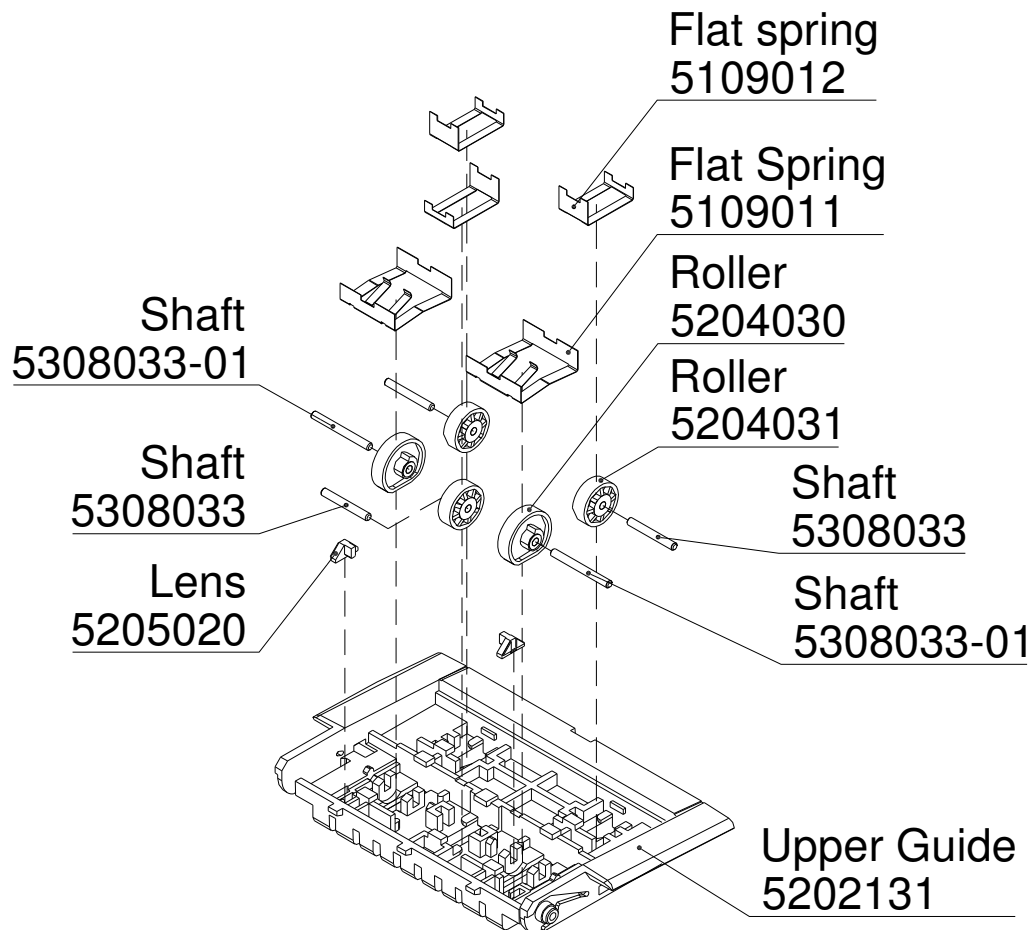
<b>Part ID</b>	<b>Description</b>	<b>Qty.</b>
0500105	Cable Assembly	1
0300052-23	Drive Assembly	1
0100346	Chassis assembly	1
0300139-01	Shaft Assembly	4
0300140-01	Shaft Assembly	1
0401035.01	CPU Board	1
0500153	Cable Assembly	1
0500197	Cable Assembly	1
0300129-01	Drive Assembly	1
0300128-03	Shaft Assembly	1
0300127	Shaft Assembly	1
0300083-01	Shaft Assembly	1
5204042-02	Bearing	6
5203102	Gear	4
5203095	Gear	1
5203071	Gear	1
5203069	Gear	3
5203070	Gear	1
5204025	Bearing	3
5203046	Gear	1
5203047	Gear	1
5203048	Gear	1
8202939	Hex Nut M2.5, ZI	4
8203334	Lock Washer M2.5Internal Tooth, Zinc	4
8203960	Retaining Ring #D1500-2.3	9
8203920	Retaining Ring #D1500-3.2	8
8214010	Richco Mount Wire Saddle MBHWSSE1-1-01	2
8201933	Screw M2.5x25, Phillips, Pan Head, ZI	4
8201934	Screw M3x10, Phillips, Pan Head, ZI	4
8412006	Lubricant Super Lube with Syncolon (PTFE)	0,5g

**Exploded view of Facepanel Assembly (0100408).**



Part ID	Description	Qty
0404024-02.01	SM71 Indicator Board	1
5201151	Panel	1
5202137	Insert	1
5205076	Light Guide	1
5110100	Screen	1
5409066-01	Spring	1
8204001	Tapping Screw #3x3/8", Phillips	6

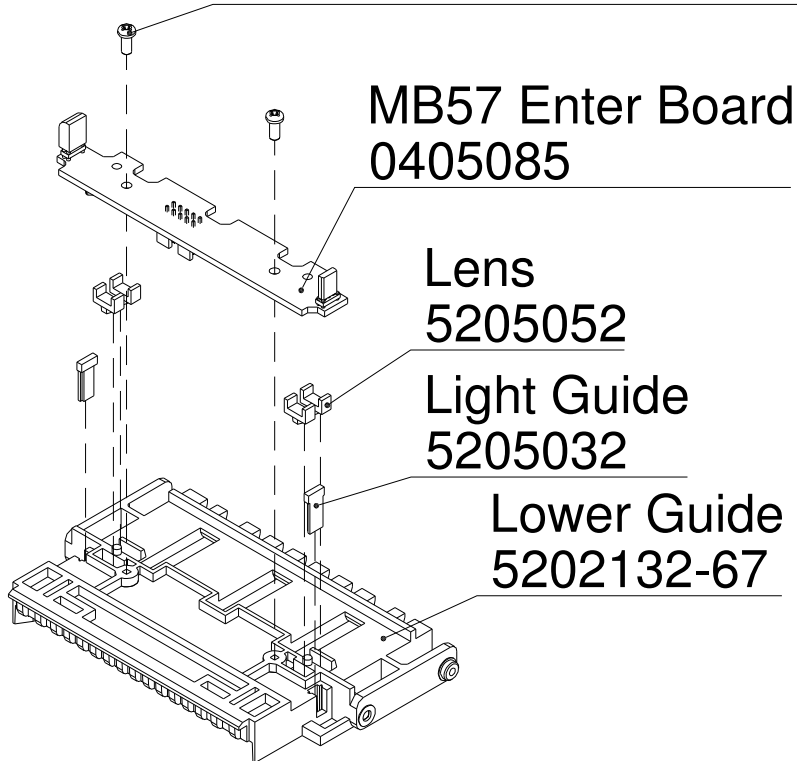
**Exploded view of Upper Guide Assembly (0200158)**



Part ID	Description	Qty.
5202131	Upper guide	1
5205020	Lens	2
5204030	Roller	2
5109011	Flat spring	2
5308033	Shaft	3
5308033-01	Shaft	2
5204031	Roller	3
5109012	Flat spring	3
8412006	Super Lube with Syncolon (PTFE)	0.3g

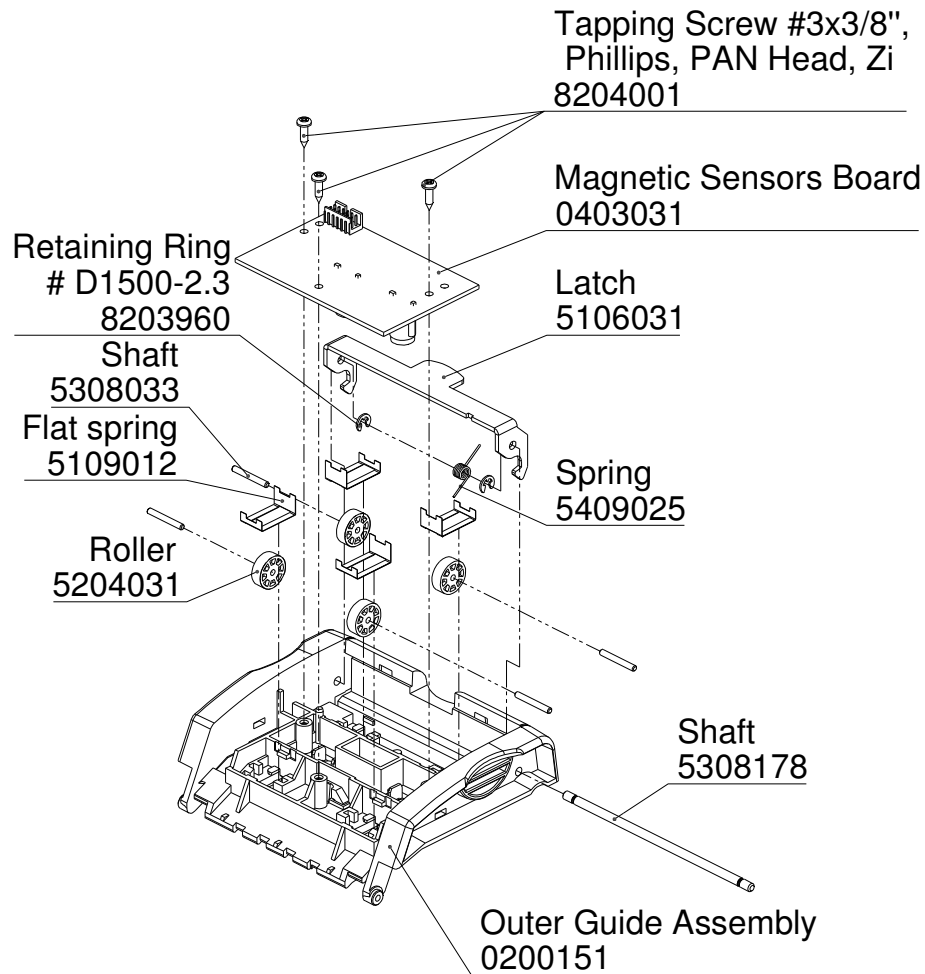
**Exploded view of Lower Guide Assembly (0200157)**

Tapping screw 2.2x5, Pan, Ph, Zinc,  
Irwin # BN13577-KA2205 blunt  
8201027



Part ID	Description	Qty.
0405085.01	MB57 Enter Board	1
5202132-67	Lower Guide	1
5205032	Light Guide	2
5205052	Lens	4
8201027	Tapping screw 2.2x5, Pan, Ph, Zinc	2

**Exploded view of Outer Guide Assembly (0200153)**



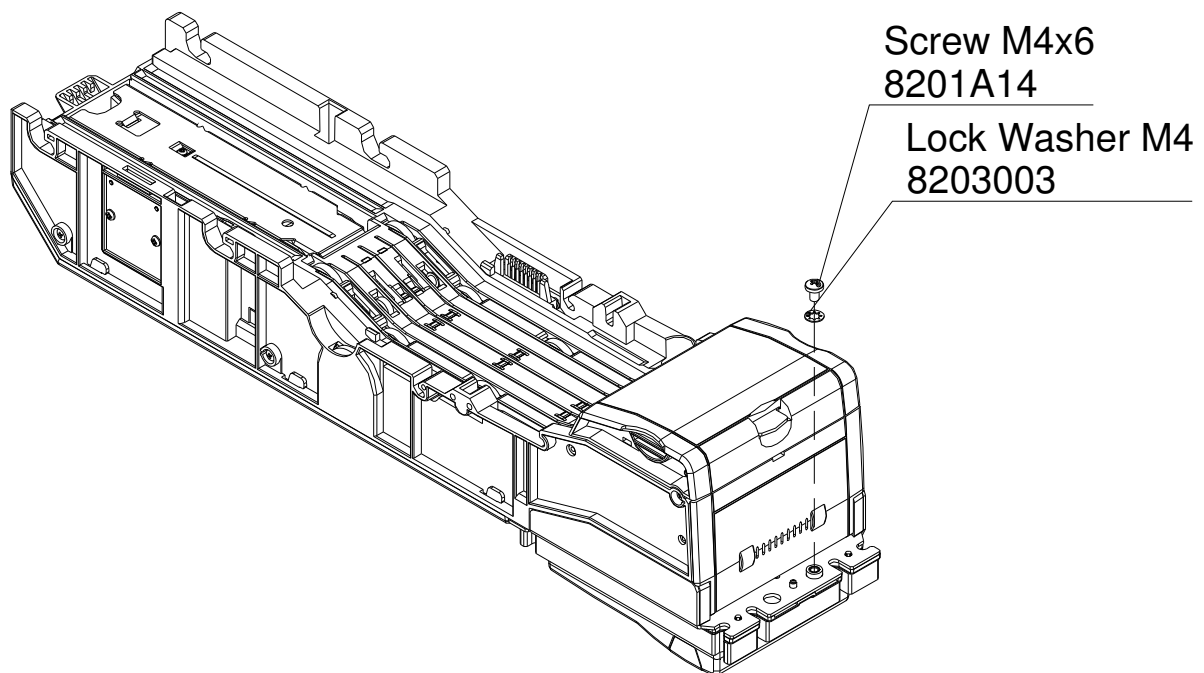
Part ID	Description	Qty.
0200152	Outer Guide	1
0403031.01	Magnetic Sensor Board	1
5106031	Latch	1
5308033	Shuft	4
5308178	Shuft	1
5204031	Roller	1
5409025	Spring	1
5109012	Flat spring	4
8203960	Retaining Ring #D1500-2.3	2
8204001	Tapping Screw #3x3/8", Phillips	3
8412006	Lubricant Super Lube	0,3g

**Tools required:**

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

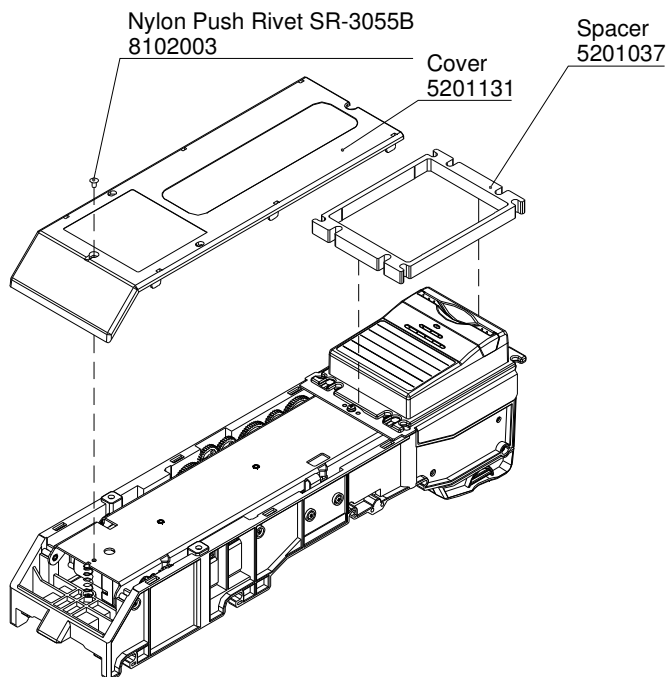
**Disassembly MB05****Step 1**

- Remove screw M4x6 and lock washer M4



## Step 2

- Remove push rivet #8102003
- Remove cover by releasing the latches
- Remove spacer



## Step 3

- Remove three push rivets #8102003
- Lift panel #0100408, disconnect cables #0500160 and #0500153
- Remove panel

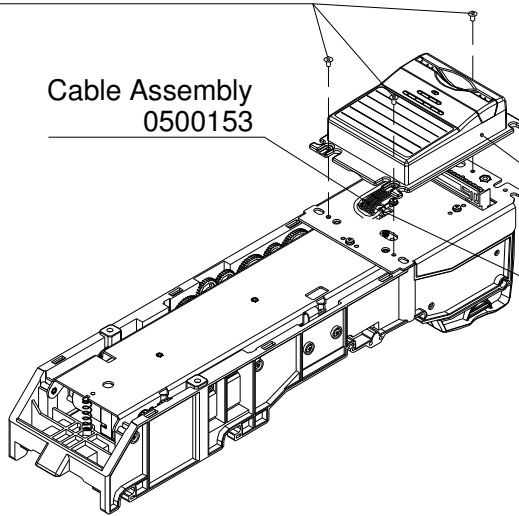


Nylon Push Rivet SR-3055B  
8102003

Cable Assembly  
0500153

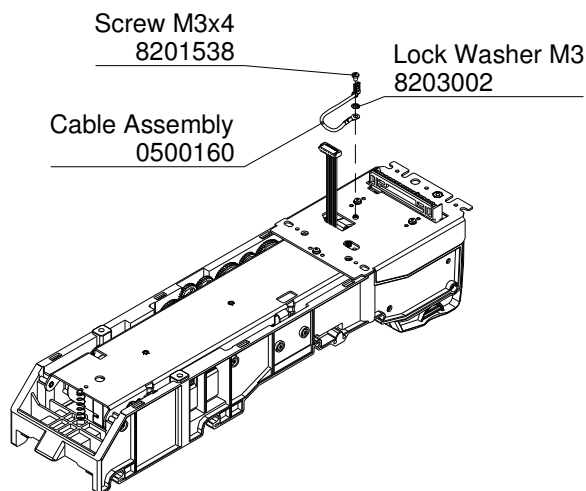
Panel Assembly  
0100408

Cable Assembly  
0500160



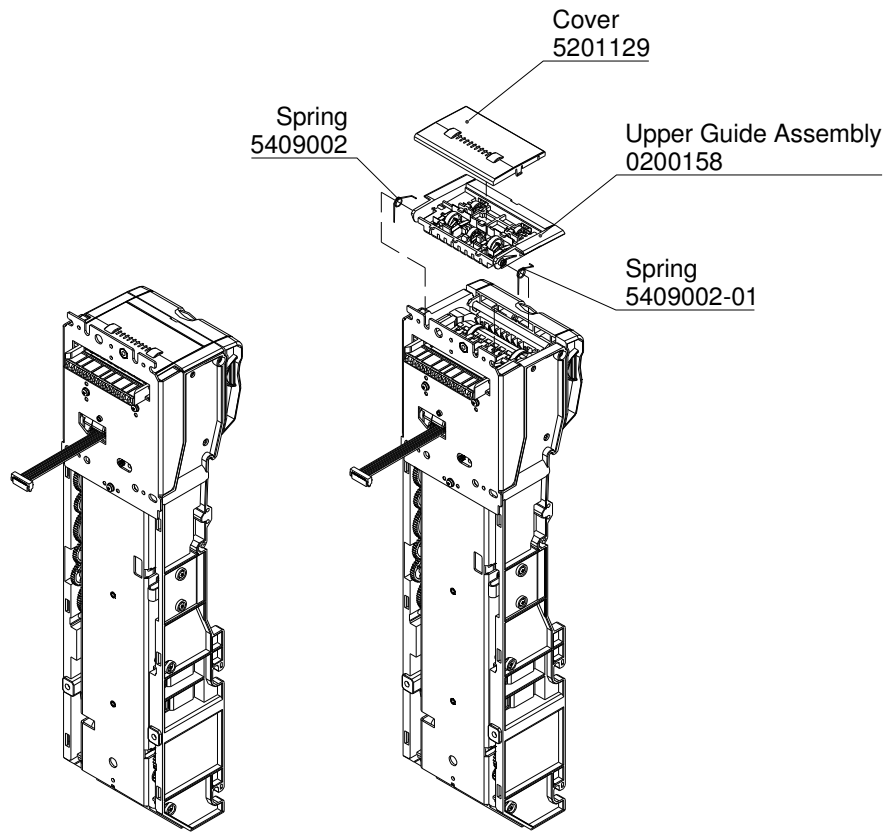
## Step 4

- Remove screw M3x4 and lock washer M3
- Remove cable #0500160



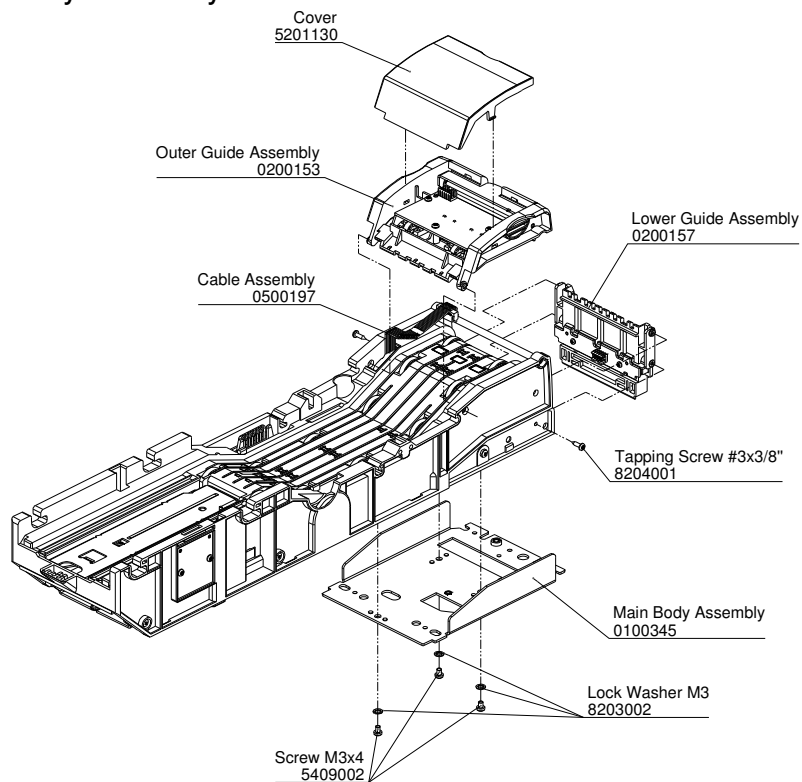
## Step 5

- Remove cover by releasing the latches
- Remove upper guide assembly and two springs



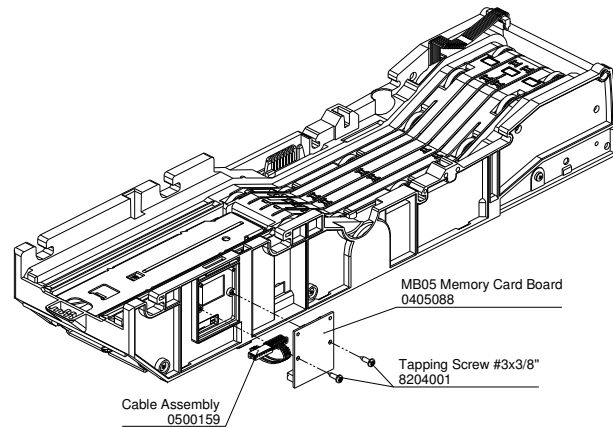
## Step 6

- Remove cover #52001130 by releasing the latches
- Disconnect cable #0500197
- Remove outer guide assembly by releasing the latches
- Remove lower guide assembly
- Remove three screws M3x6 and three washers M3
- Remove main body assembly



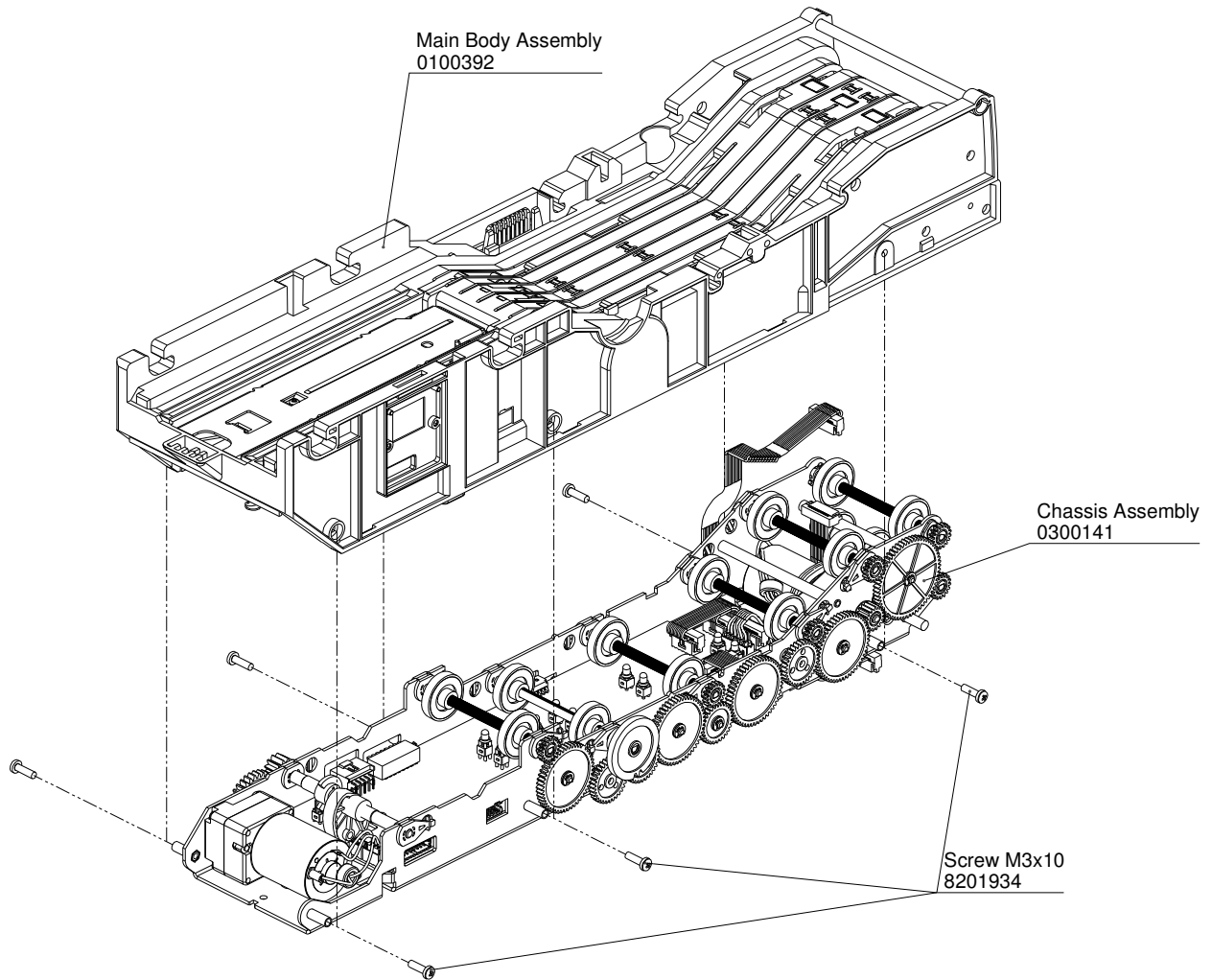
## Step 7

- Remove two tapping screws #8204001
- Remove memory card board and cable #0500159



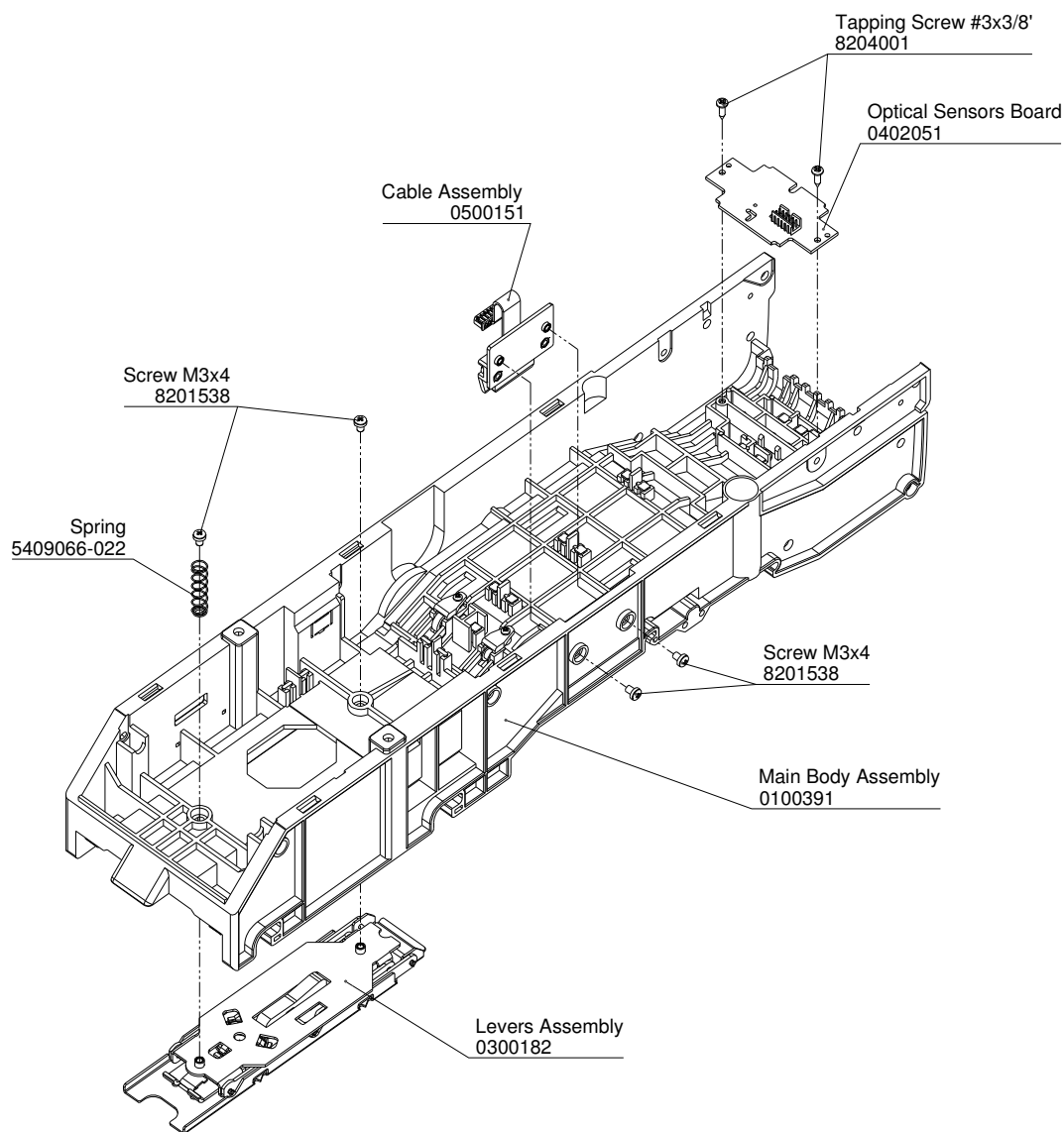
## Step 8

- Remove six screw M3x10
- Remove chassis assembly



### *Disassembly of Main Body Assembly*

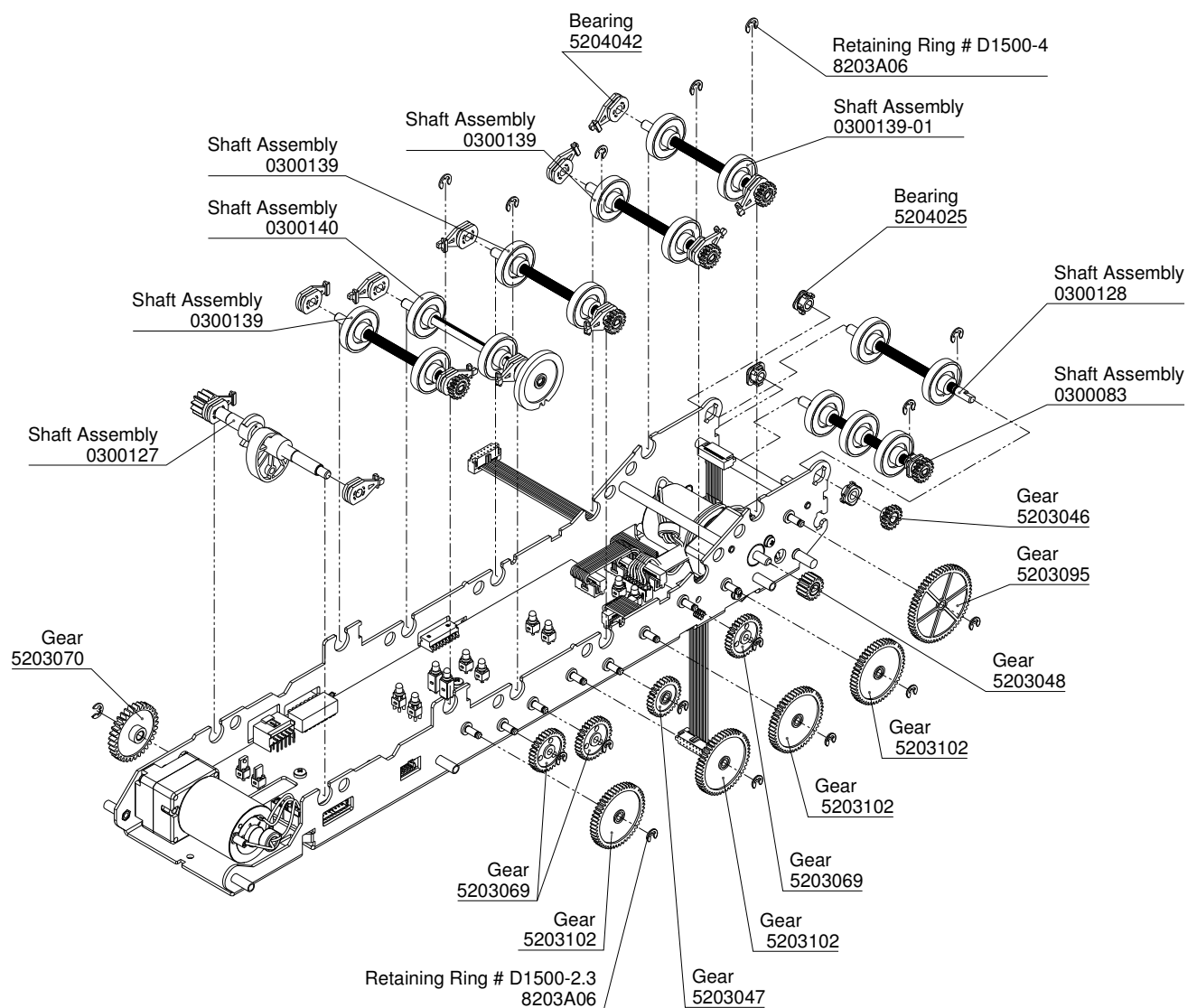
- Remove two screws M3x4 and cable assembly
- Remove two screws M3x4, lever assembly and spring
- Remove two tapping screws #3x3/8' and optical sensor board



## Disassembly of Chassis Assembly

### Step 1

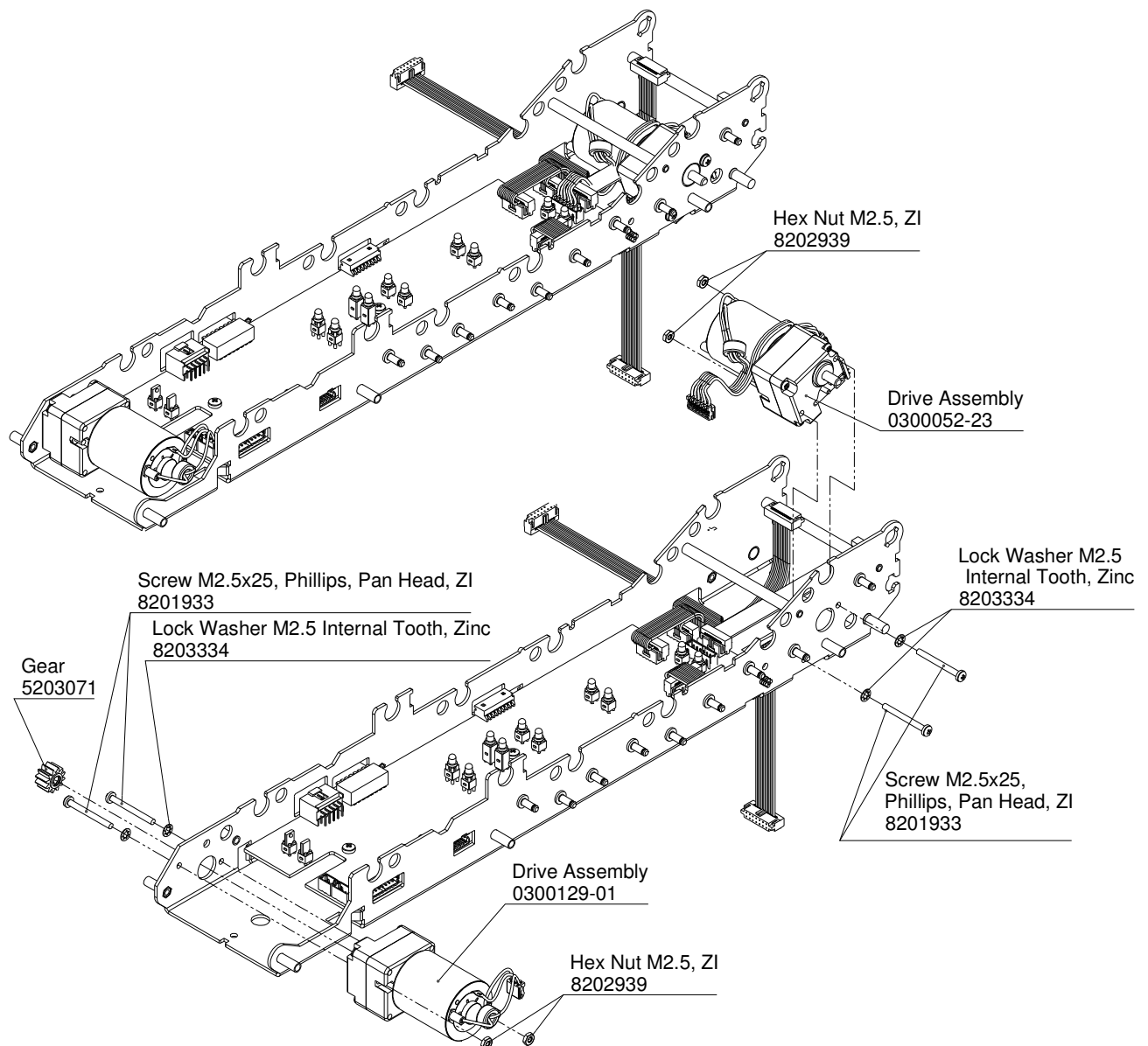
- For removal of shaft assembly previously remove bearings by pressing on the latches
  - For removal of gears previously remove retaining rings
- When assembling gears have to rotate with no resistance  
When assembling, add Super Lube with Syncolon (PTFE) lubricant to all bearings and gears





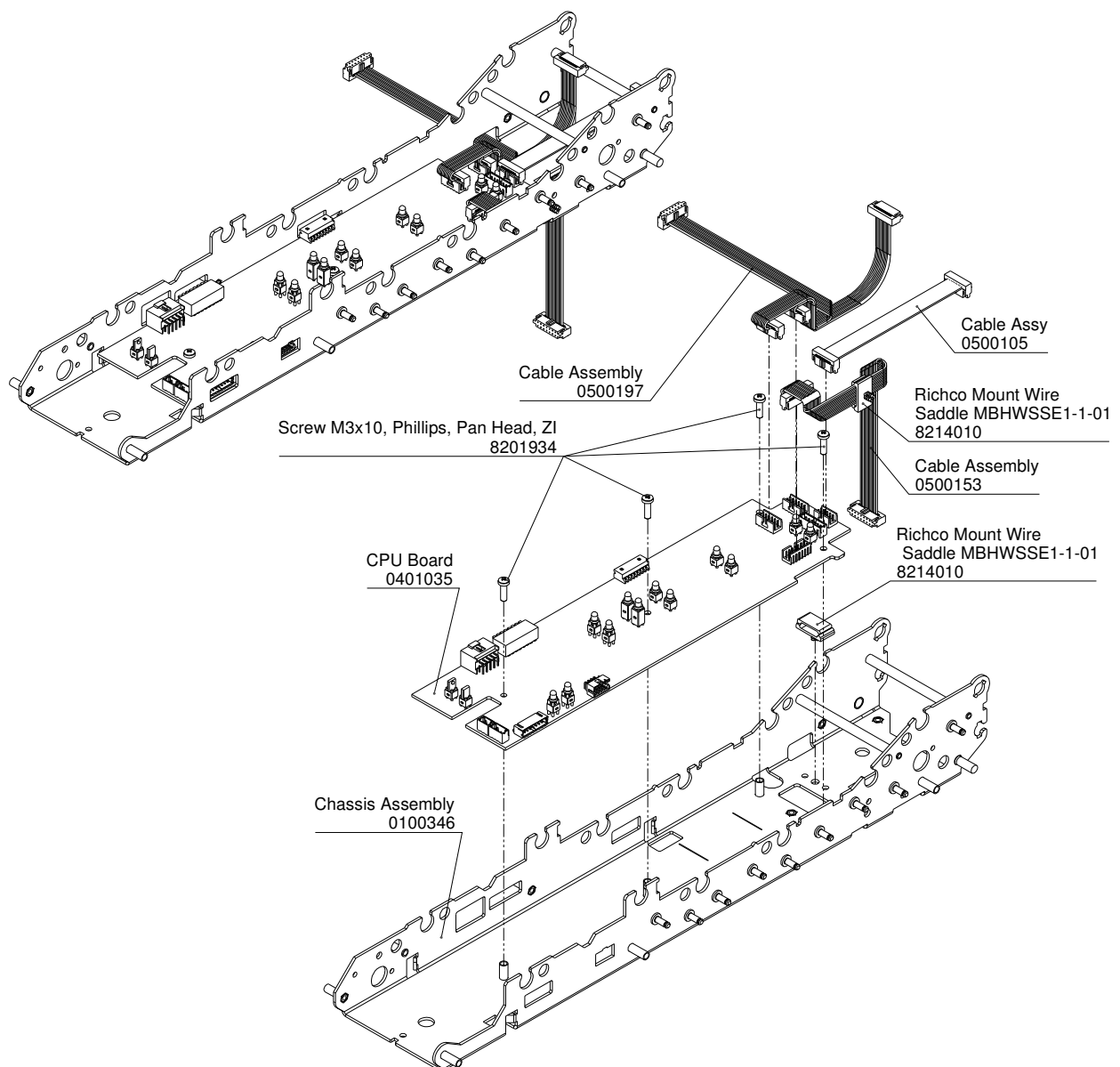
## Step 2

- Remove two screws M2.5x25, two lock washers 2.5, hex nuts M2.5
- Remove drive assembly #0300052-23
- Remove gear #5203071
- Remove two screws M2.5x25, two lock washers 2.5 and two hex nuts M2.5
- Remove drive assembly #0300129-01



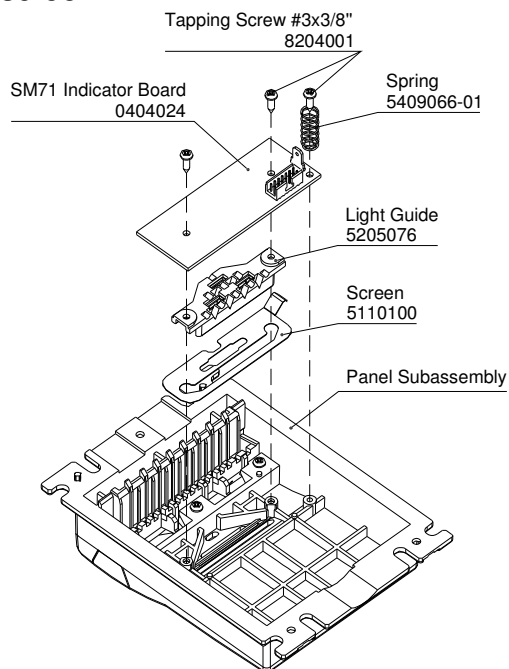
### Step 3

- Remove cable 0500197 disconnecting it from cpu board and take off from wire saddled #8214010
- Remove cable 0500105 disconnecting it from cpu board
- Remove cable 0500153 disconnecting it from cpu board and take off from wire saddled #8214010
- Remove four screw M3x8 and cpu board



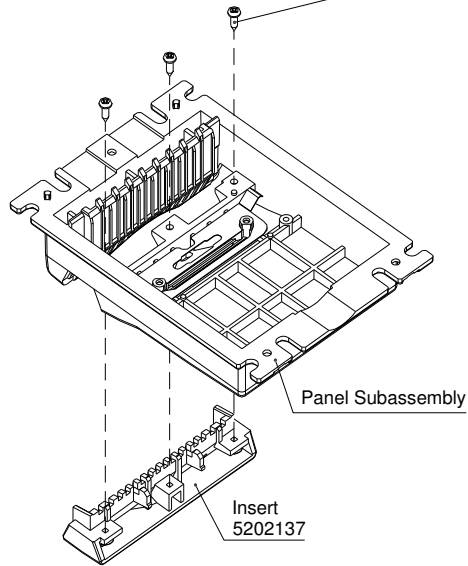
***Disassembly of Face Panel Assembly (0100408)*****Step 1**

- Remove three tapping screw #8204001, magnetic sensor board and spring
- Remove light guide and screen

**Step 2**

- Remove three tapping screw #8204001 and insert

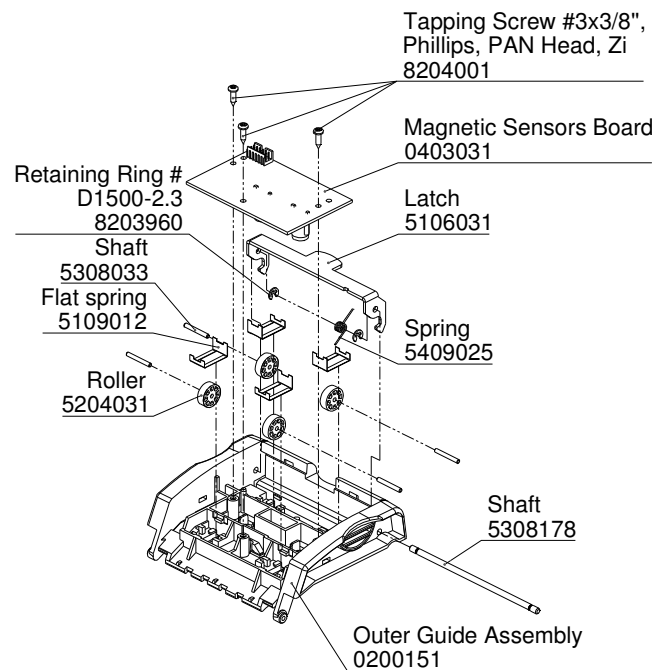
Tapping Screw #3x3/8", Phillips, PAN Head, Zi  
8204001



## Disassembly of Outer guide Assembly

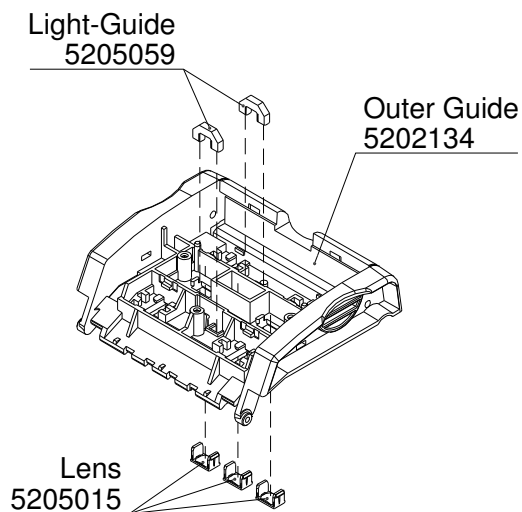
### Step 1

- Remove three tapping screw #8204001 and magnetic sensor board
- Remove two retaining rings and extract shaft, spring and latch
- Remove four flat spring and extract four rollers with shafts



### Step 2

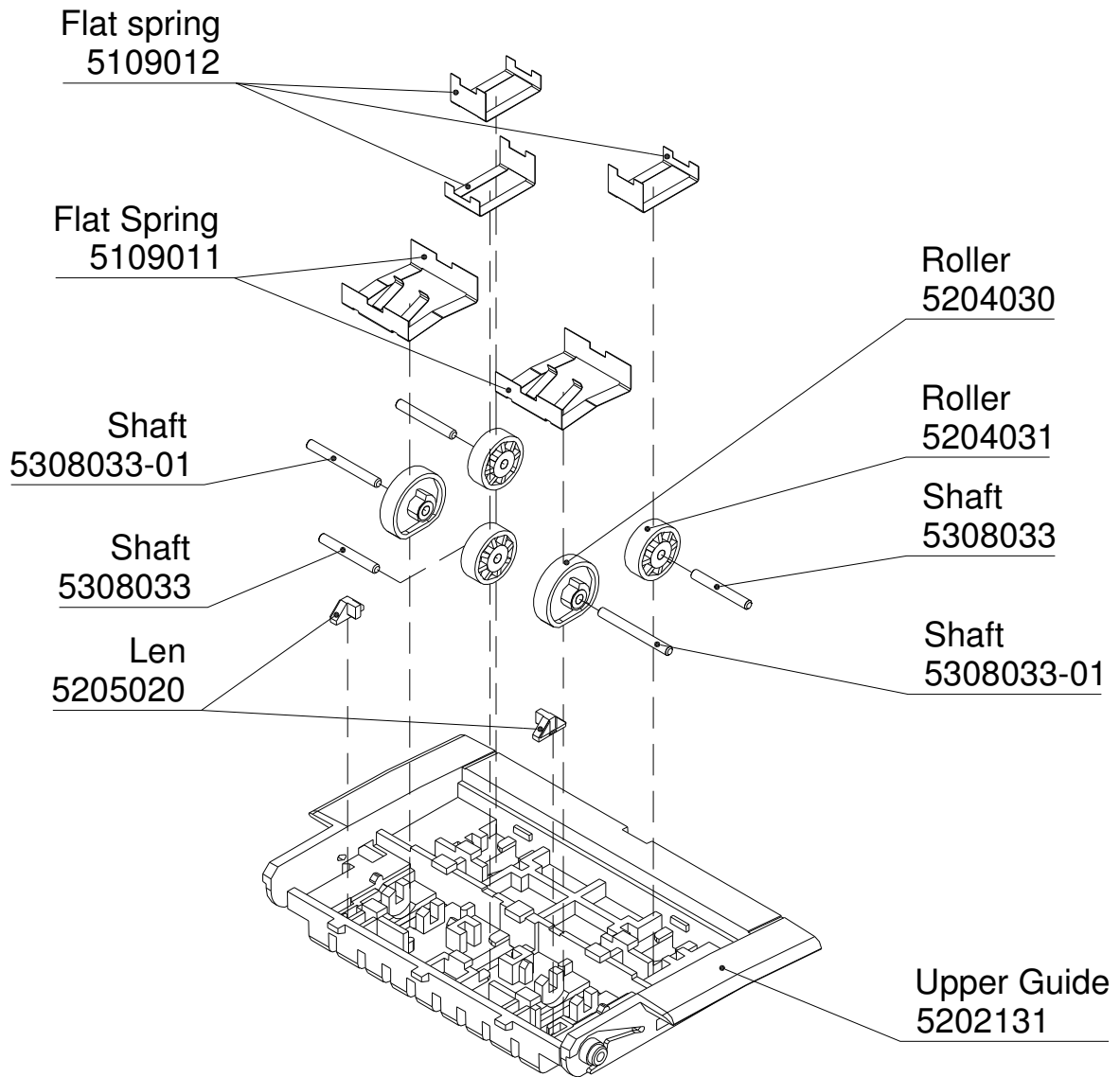
- Remove tree lens by pressing on the latches
- Remove holder and light guide



***Disassembly of Upper guide Assembly***

**Step 1**

- Remove five flat spring and extract five rollers with shafts
- Remove two lens

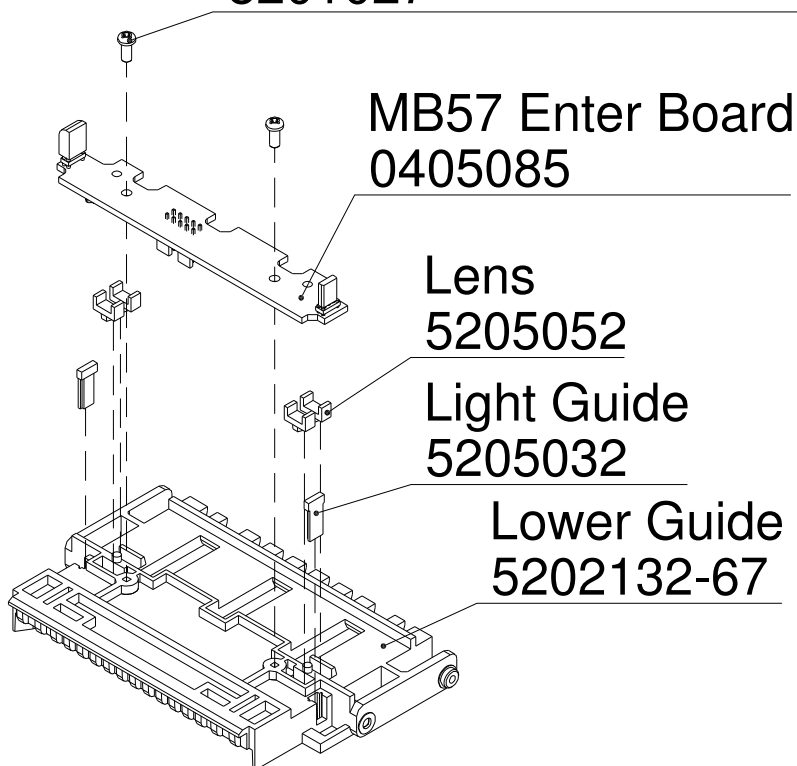


### *Disassembly of Lower guide Assembly*

#### Step 1

- Remove two tapping screw #8201027 and enter board
- Remove four lens
- Remove two light guides

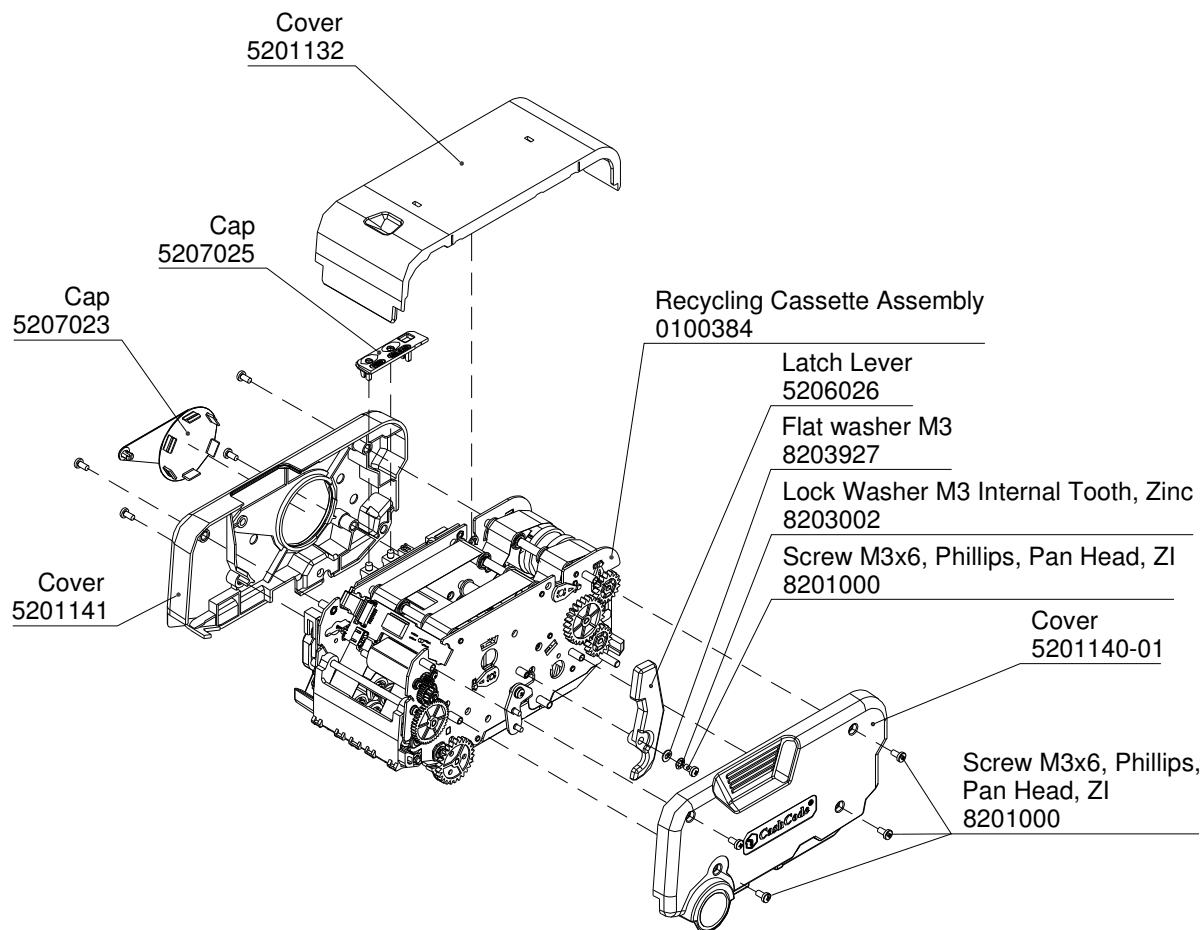
Tapping screw 2.2x5, Pan, Ph, Zinc,  
Irwin # BN13577-KA2205 blunt  
8201027





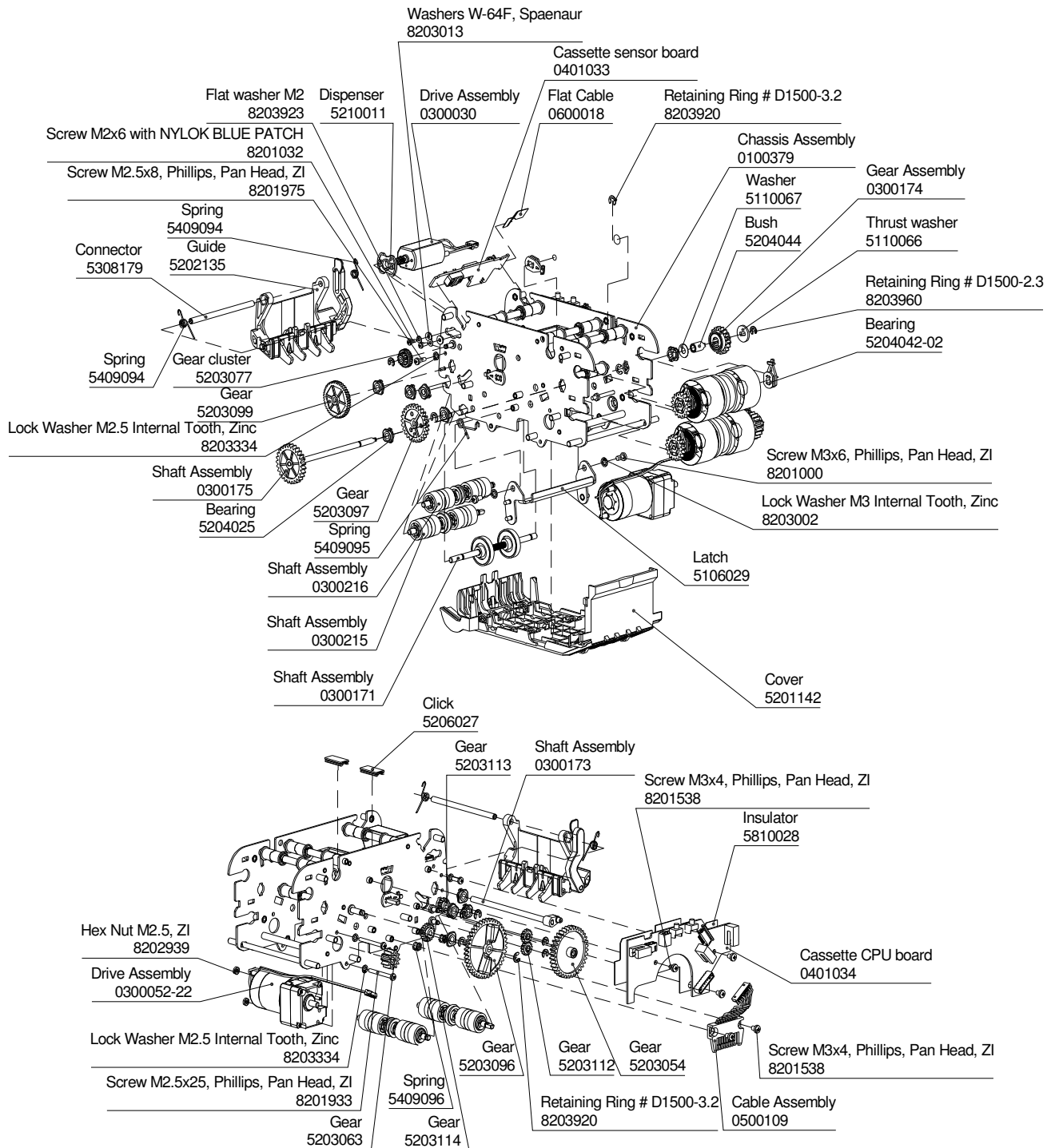
## RECYCLING CASSETTE

### Whole Assembly



Part ID	Description	Qty.
0100384.01	Recycling Cassette	1
5201132	Cover	1
5207023	Cap	1
5201140-01	Cover	1
5201141	Cover	1
5206026	Latch Lever	1
5207025	Cap	1
8203927	Flat washer M3	1
8203002	Lock Washer M3 Internal Tooth, Zi	1
8201000	Screw M3x6, Phillips, Pan Head, ZI	9
8412006	Lubricant Super Lube with Syncolon	0,1g

**Exploded view of Recycling Cassette Assembly (0100384)**



<b>Part ID</b>	<b>Description</b>	<b>Qty.</b>
0500109	Cable Assembly	1
0300052-22	Drive Assembly	1
0300030-01	Drive Assembly	1
0401040.01	Cassette CPU board	1
0401033.01	Cassette sensor board	1
0600018	Flat Cable	1
0100379	Chassis Assembly	1
0300179	Shaft Assembly	1
0300179-01	Shaft Assembly	1
0300215	Shaft Assembly	1
0300216	Shaft Assembly	1
0300170	Shaft assembly	1
0300175	Shaft Assembly	1
0300174	Gear Assembly	1
100344	Latch assembly	1
0300173	Shaft Assembly	1
0300171-01	Shaft Assembly	1
0200150	Guide assembly	1
0100383	Cover Assembly	1
5308179	Connector	1
5203096	Gear	1
5203097	Gear	1
5409094	Spring	1
5409094-01	Spring	1
5409095	Spring	1
5409096	Spring	2
5810028	Insulator	1
5206027	Click	2
5203099	Gear	1
5204042-02	Bearing	2
5204044	Bush	1
5110066	Thrust Washer	1
5110067	Washer	1
5203054	Gear	1

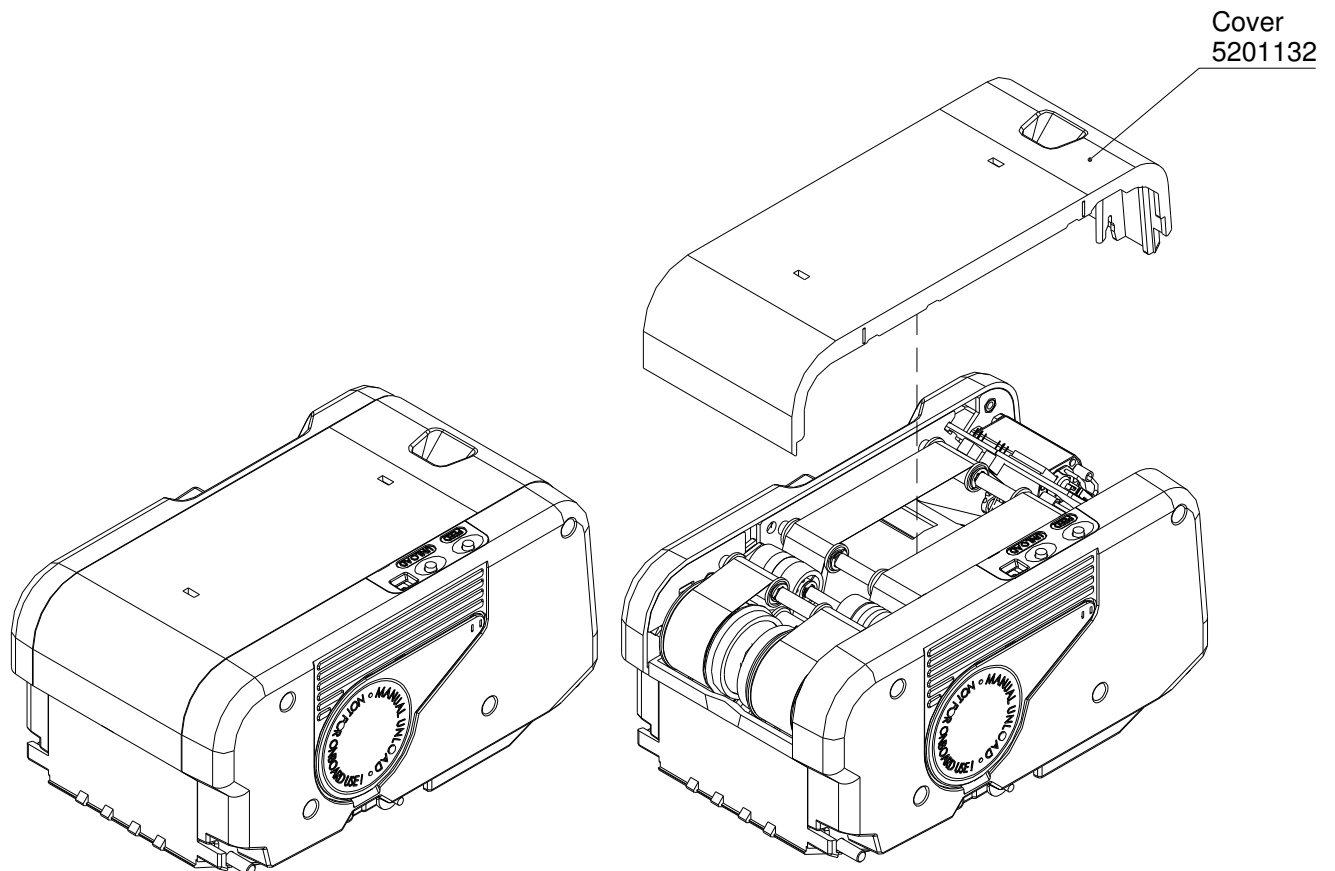
<b>Part ID</b>	<b>Description</b>	<b>Qty.</b>
5203063	Gear	1
5210011	Dispenser	1
5203077	Gear cluster	1
5204025	Bearing	10
5203112	Gear	2
5203113	Gear	1
5203114	Gear	1

<b>Part ID</b>	<b>Description</b>	<b>Qty.</b>
8202939	Hex Nut M2.5, ZI	2
8203013	Washers W-64F, Spaenaur	2
8203923	Flat washer M2	2
8203334	Lock Washer M2.5 Internal Tooth, Zinc	4
8203002	Lock Washer M3 Internal Tooth, Zinc	2
8203960	Retaining Ring # D1500-2.3	4
8203920	Retaining Ring # D1500-3.2	7
8201032	Screw M2x6 with NYLOK BLUE	2
8201016	Screw M2.5x8, Phillips, Pan Head, ZI	2
8201933	Screw M2.5x25, Phillips, Pan Head, ZI	2
8201538	Screw M3x4, Phillips, Pan Head, ZI	5
8201000	Screw M3x6, Phillips, Pan Head	2
8412006	Lubricant Super Lube with Syncolon	0,5g

**Disassembly of Recycling Cassette (0100450)**

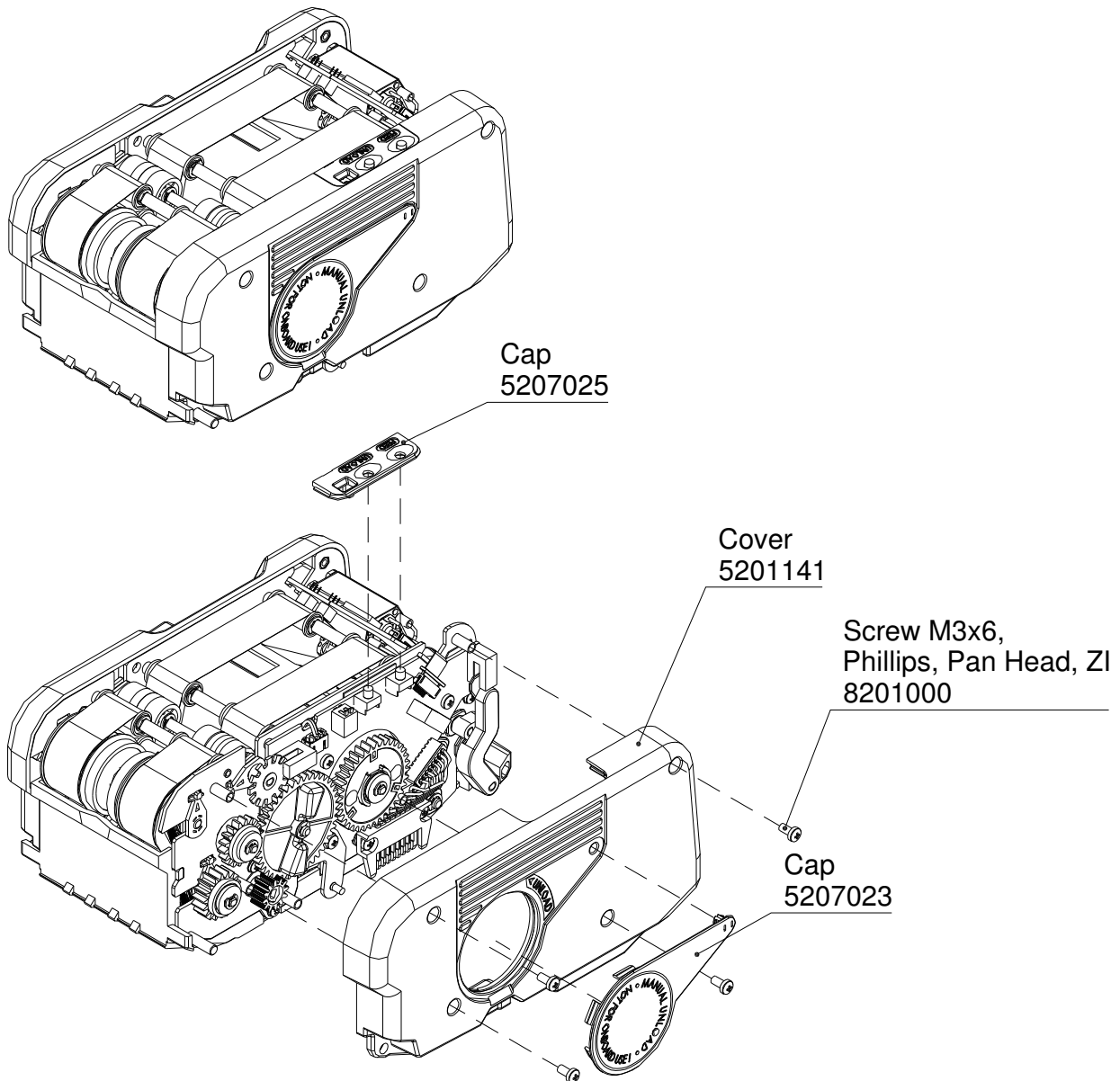
**Step 1**

- Remove cover by releasing the latches



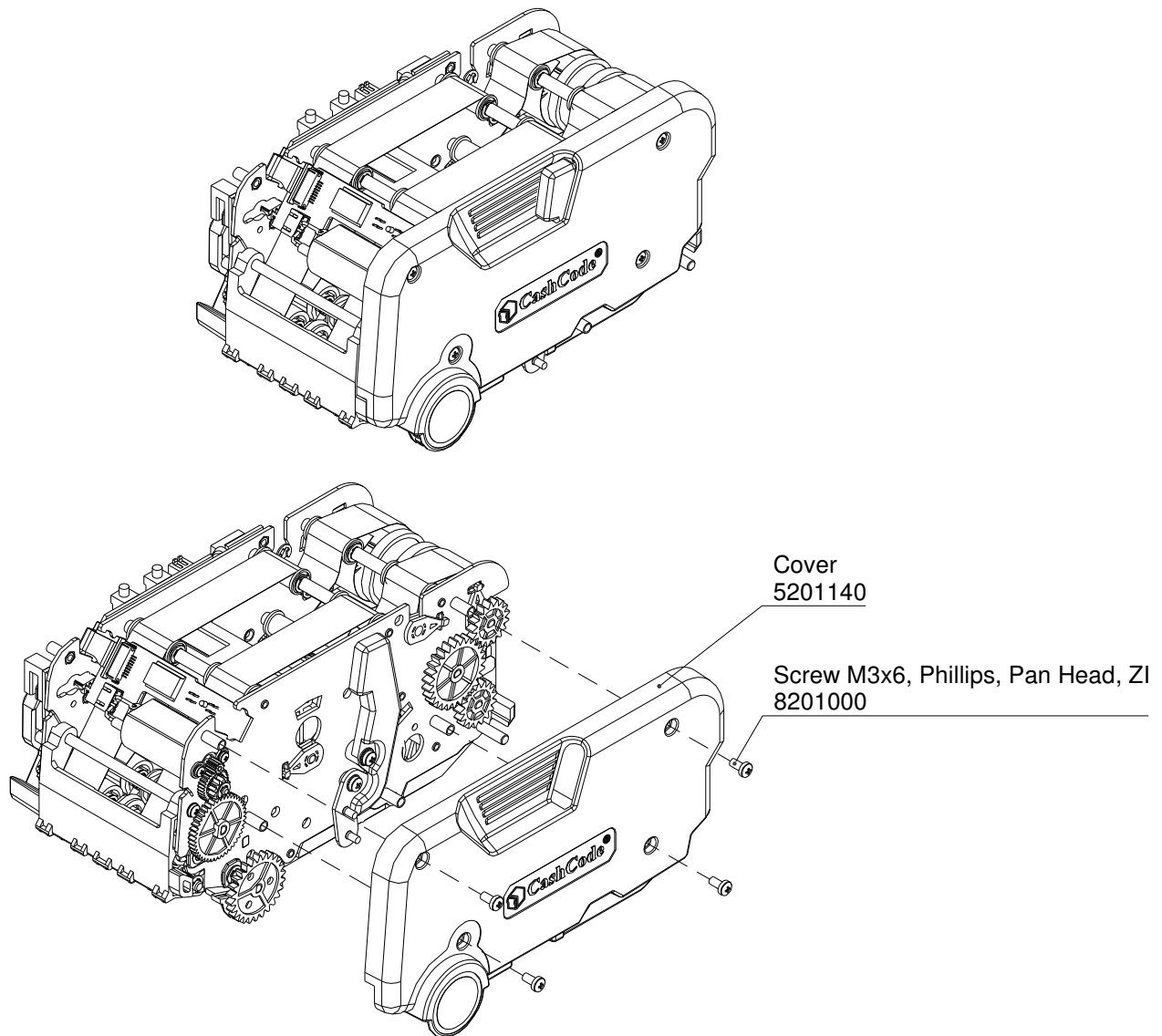
## Step 2

- Remove cap #5207023 by releasing the latches
- Remove cap #5207025 by releasing the latches
- Remove four screws M3x6
- Remove cover #5201141



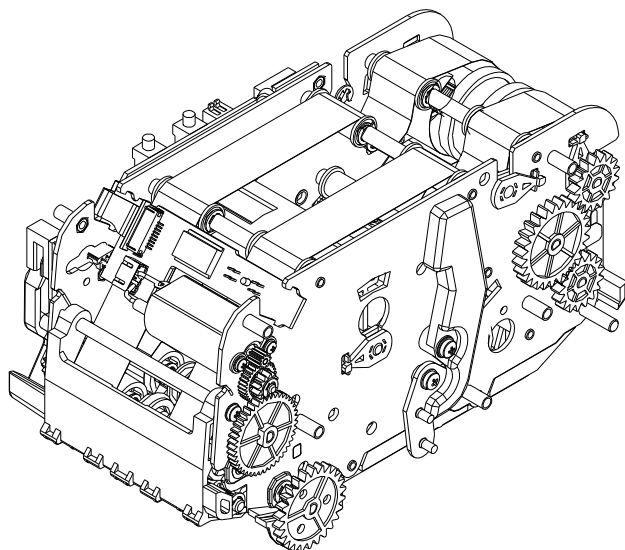
### Step 3

- Remove four screws M3x6
- Remove cover #5201140



### Step 4

- Remove screw M3x6, flat washer M3 and lock washer M3
- Remove latch lever



Recycling Cassette Assembly  
0100384

Latch Lever  
5206026

Flat washer M3  
8203927

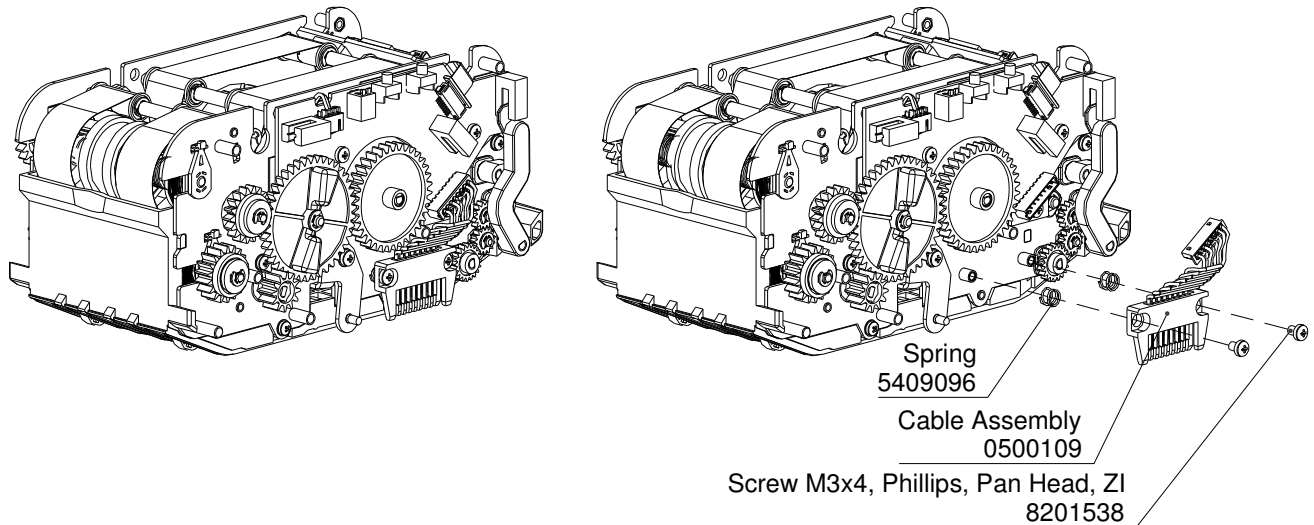
Lock Washer M3 Internal Tooth, Zinc  
8203002

Screw M3x6, Phillips, Pan Head, ZI  
8201000

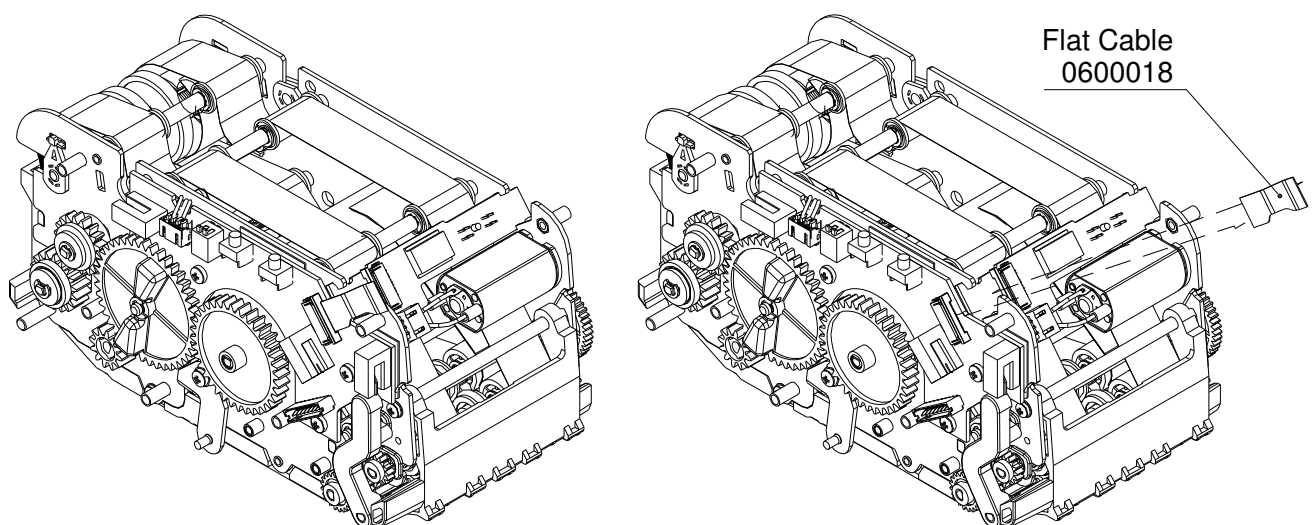


**Disassembly of Recycling Cassette (0100384)****Step 1**

- Disconnect cable #0500109 from board
- Remove two screw M3x4 and two springs #5409096
- Remove cable #0500109

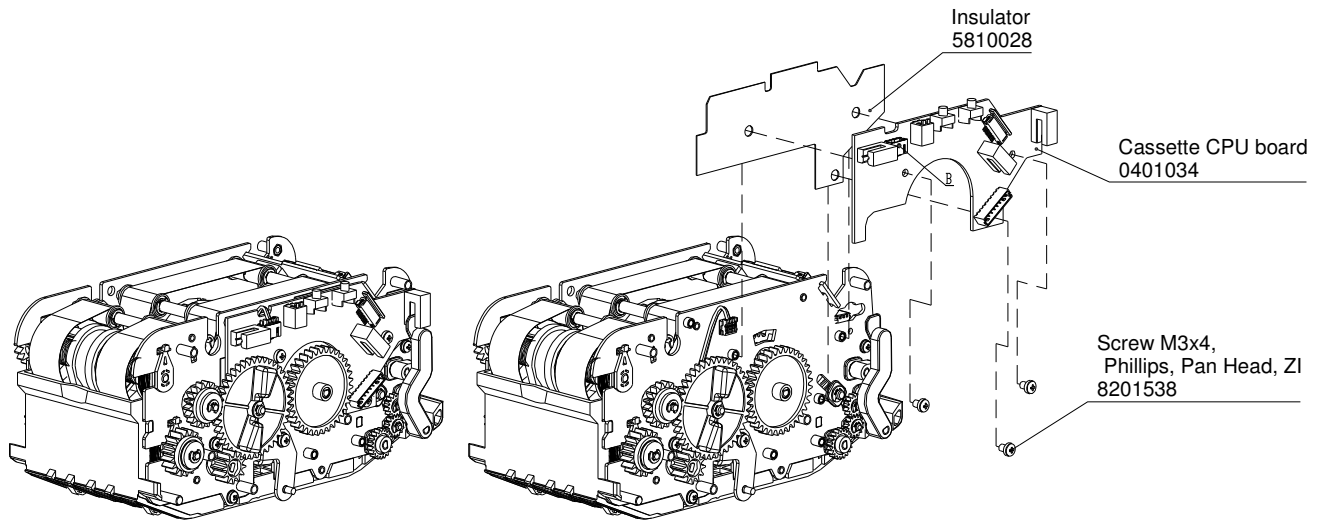
**Step 2**

- Disconnect flat cable #0600018 from boards
- Remove flat cable #0600018



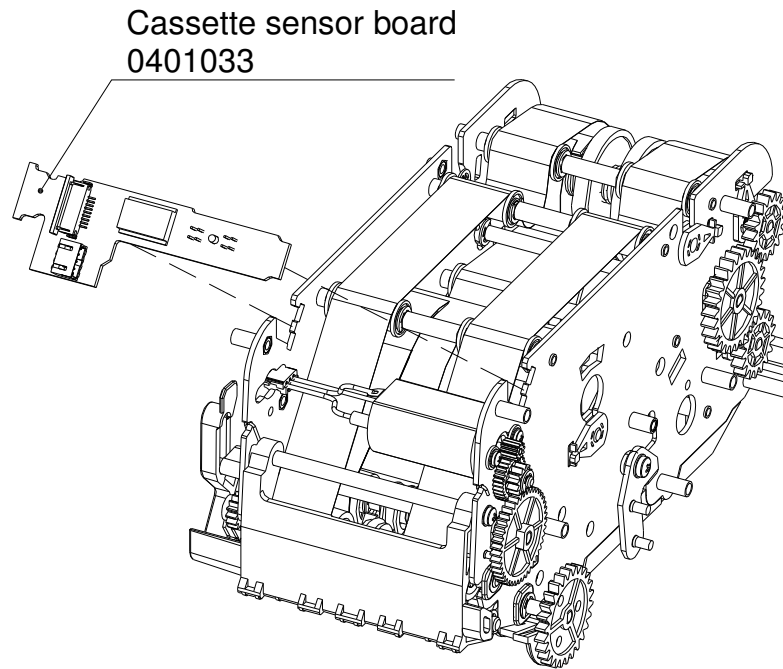
### Step 3

- Disconnect cassette CPU board from cable
- Remove tree screw M3x4
- Remove cassette CPU board and insulator



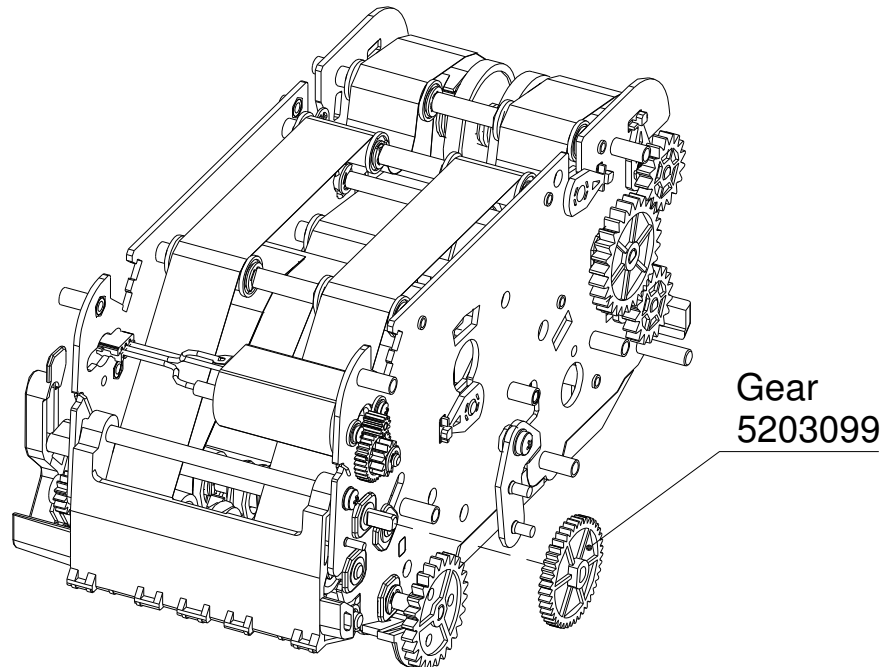
### Step 4

- Remove cassette sensor board



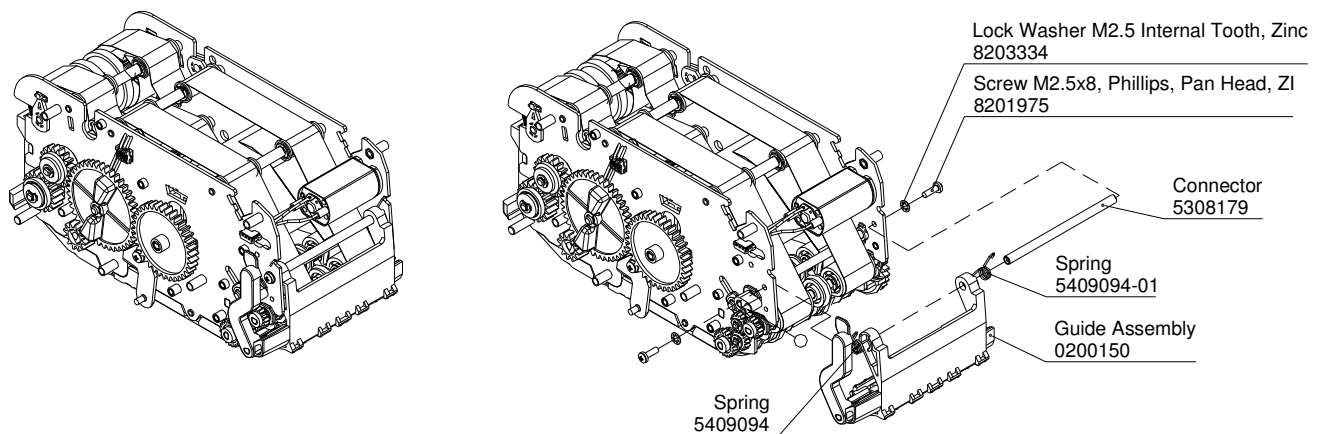
### Step 5

- Remove gear #5203099



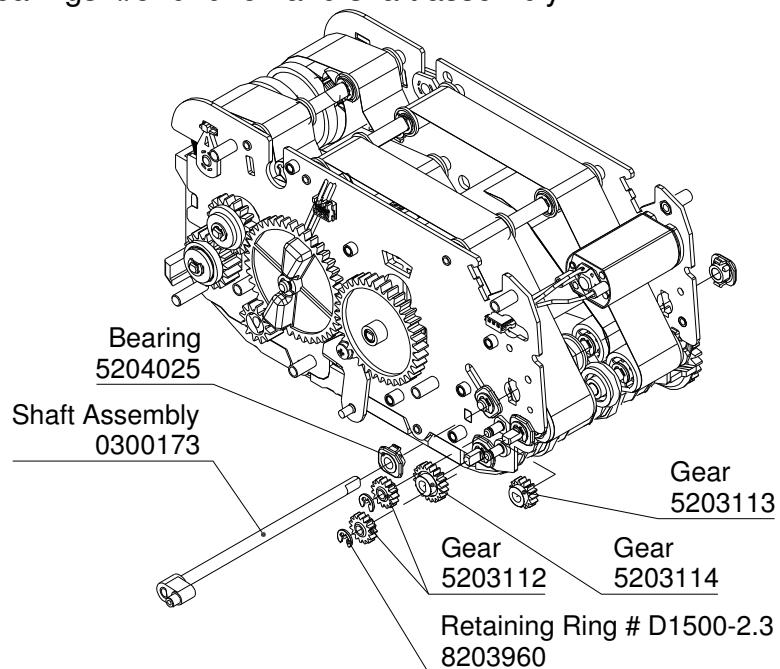
### Step 6

- Remove screw M2.5x8 and lock washer M2.5
- Remove connector #5308179 and springs
- Remove guide #0200150



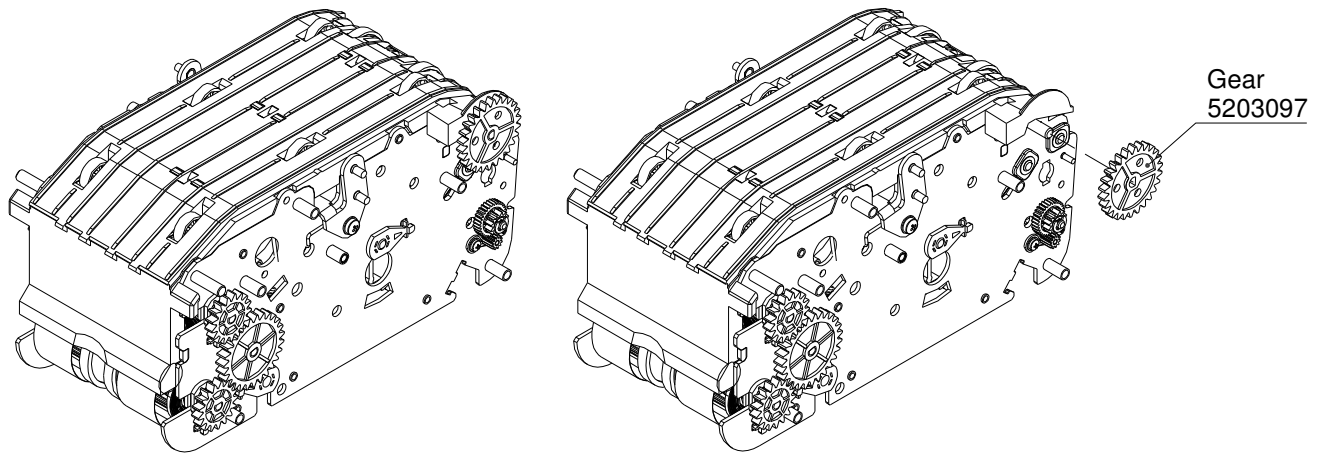
## Step 7

- Remove two retaining rings and two gears #5203112
- Remove gears #5203113 and ##5203114
- Remove two bearings #5204025 and shaft assembly



## Step 8

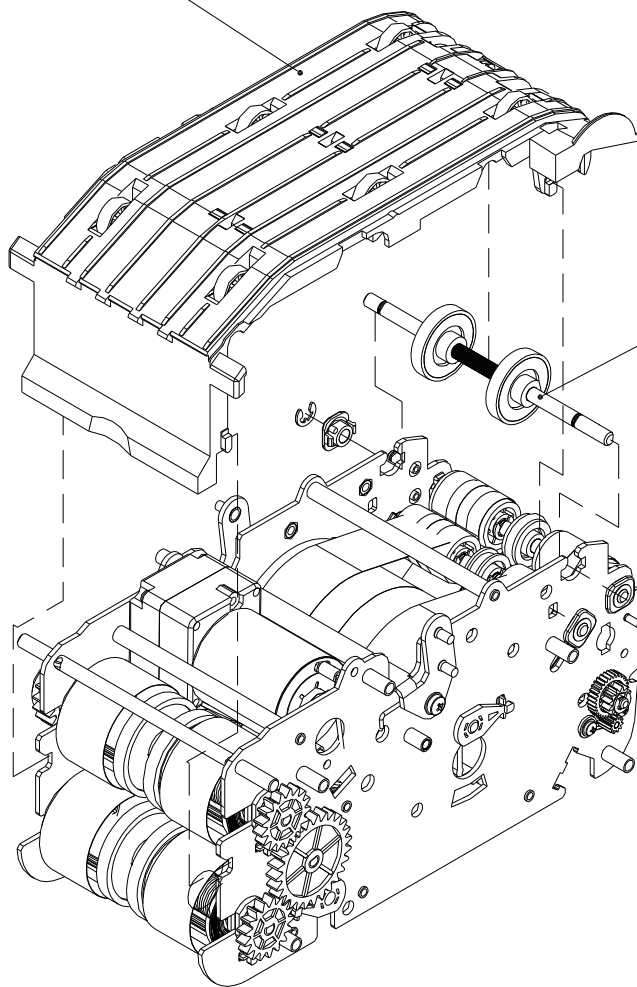
- Remove gear #5203097



### Step 9

- Remove cover assembly by releasing the latches
- Remove two retaining rings and two bearings #5204025
- Remove shaft assembly

Cover Assembly  
0100383



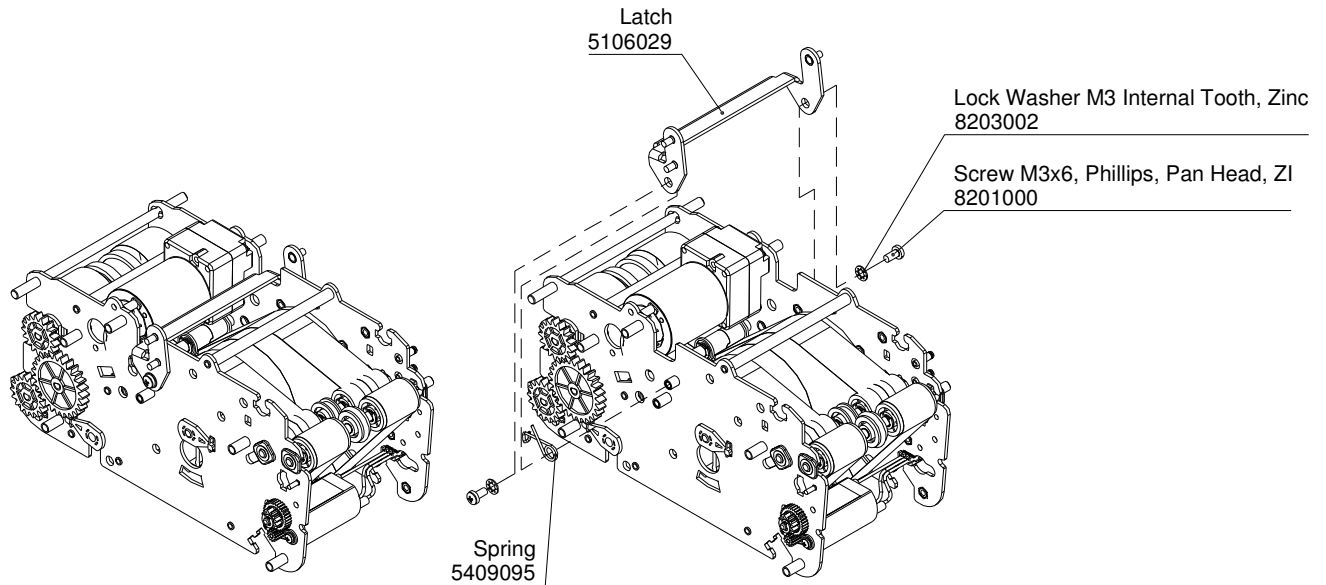
Shaft Assembly  
0300171

Bearing  
5204025

Retaining Ring # D1500-3.2  
8203920

## Step 10

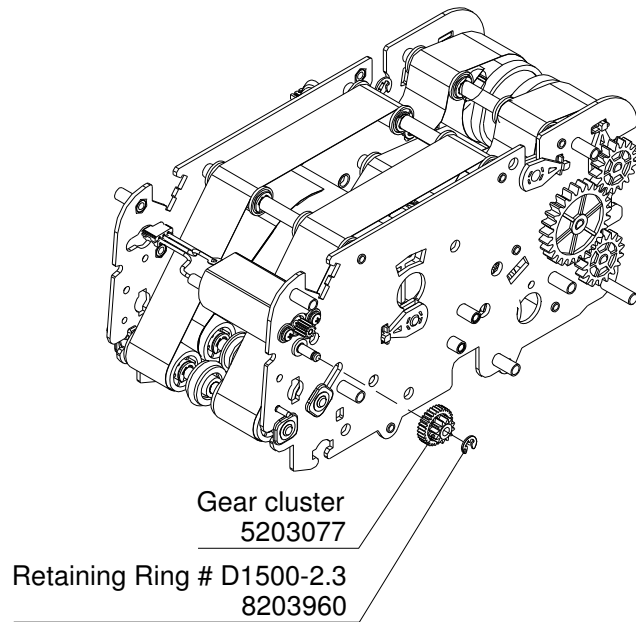
- Remove two screws M3x6, lock washer M3 and spring
- Remove latch assembly



## Step 11

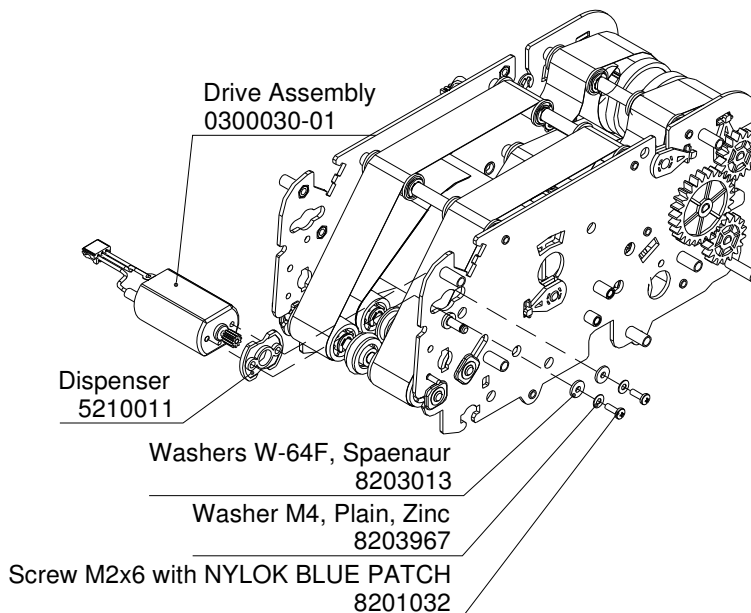
- Remove retaining ring and gear #5203077





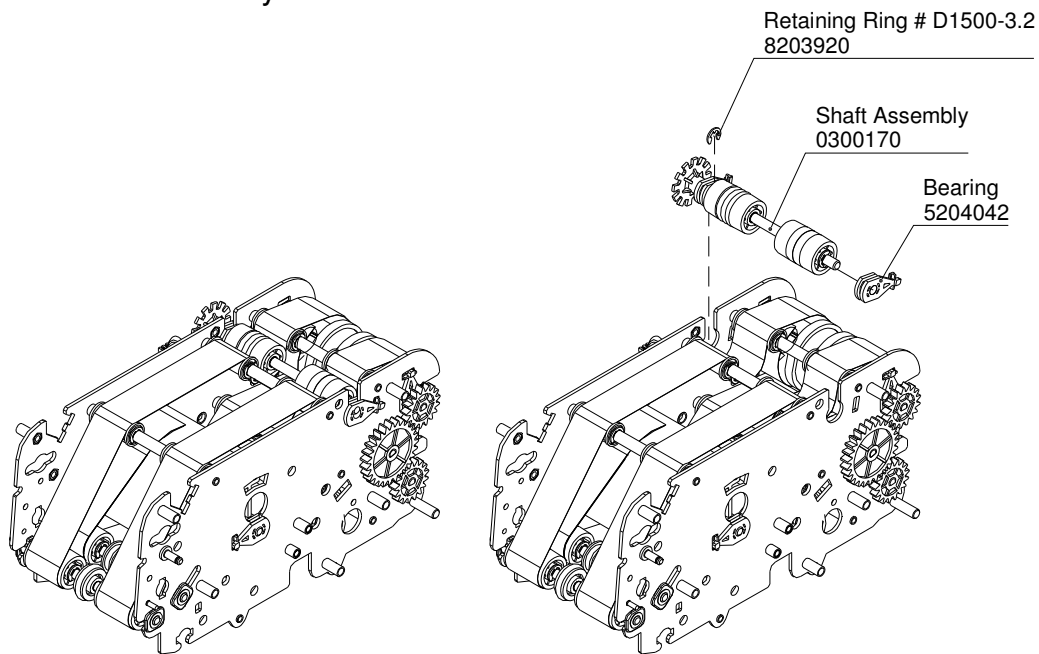
## Step 12

- Remove two screws M2x6, two flat washer M2 and two washers W-64F
- Remove drive assembly #0300030-01 and dispenser #521001



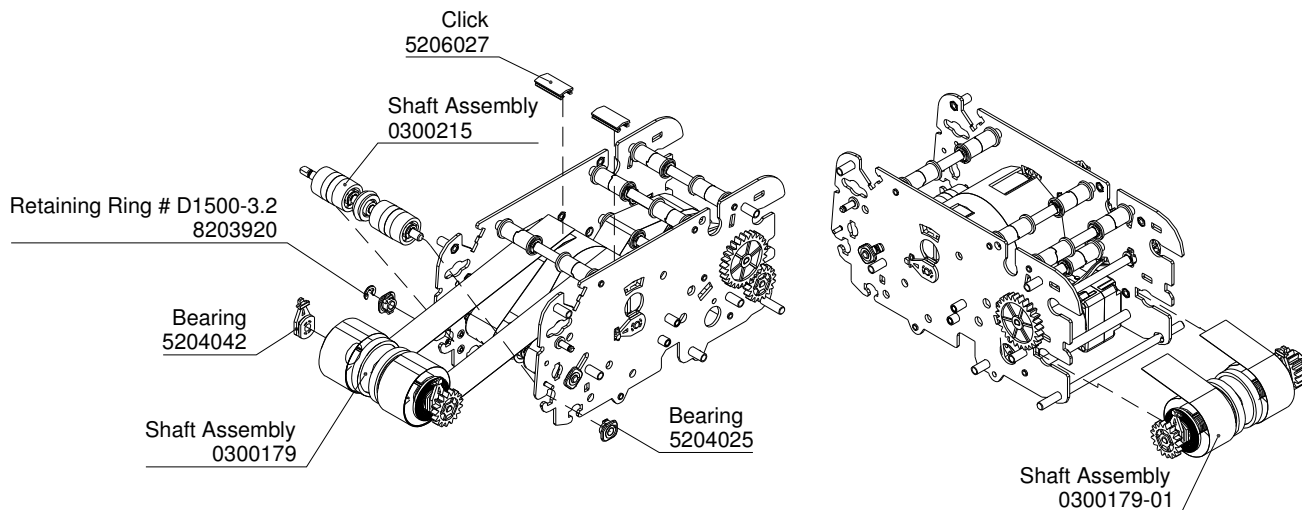
## Step 13

- Remove retaining ring and bearing
- Remove shaft assembly



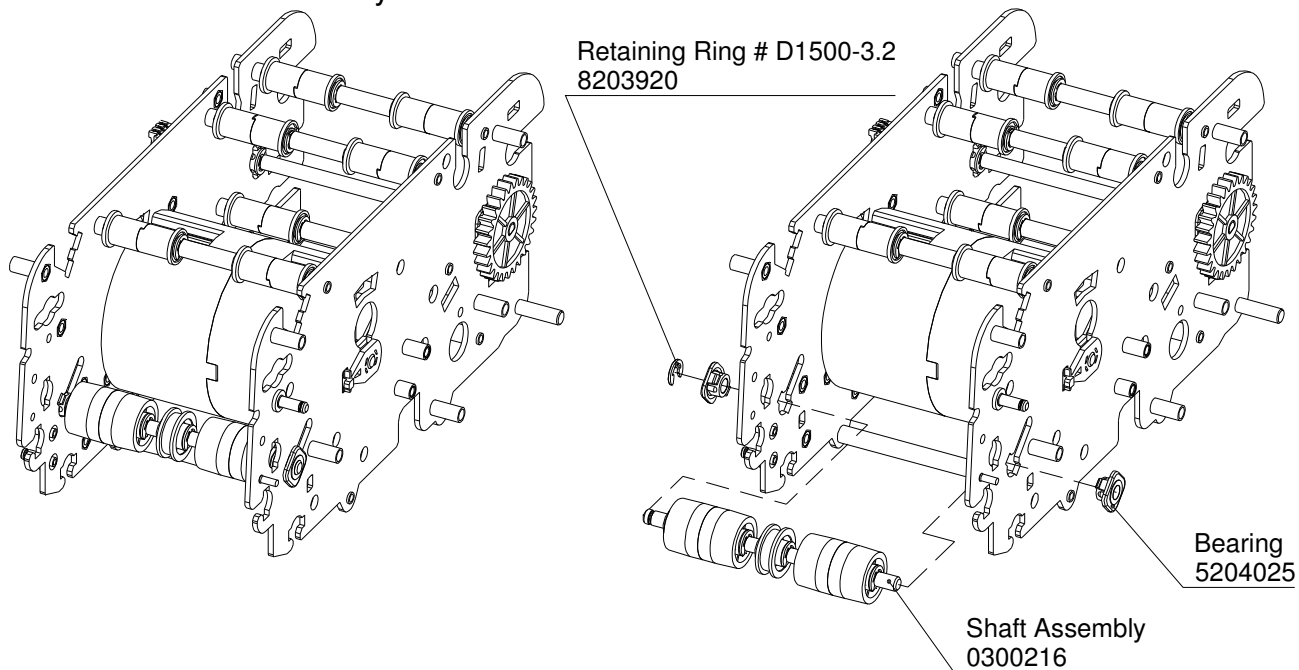
## Step 14

- Remove bearing #5204042
- Remove two clicks and shaft assembly #0300179
- Remove retaining ring and two bearing #5204025
- Remove shaft assembly #0300215
- Remove shaft assembly #0300179-01



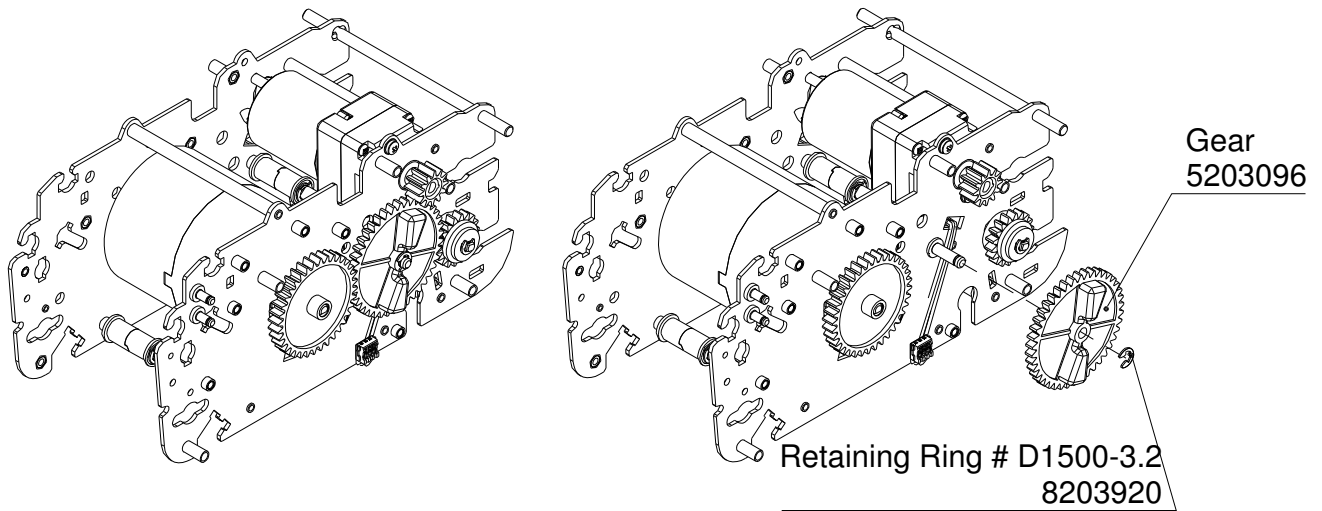
### Step 15

- Remove retaining ring and two bearing #5204025
- Remove shaft assembly #0300216



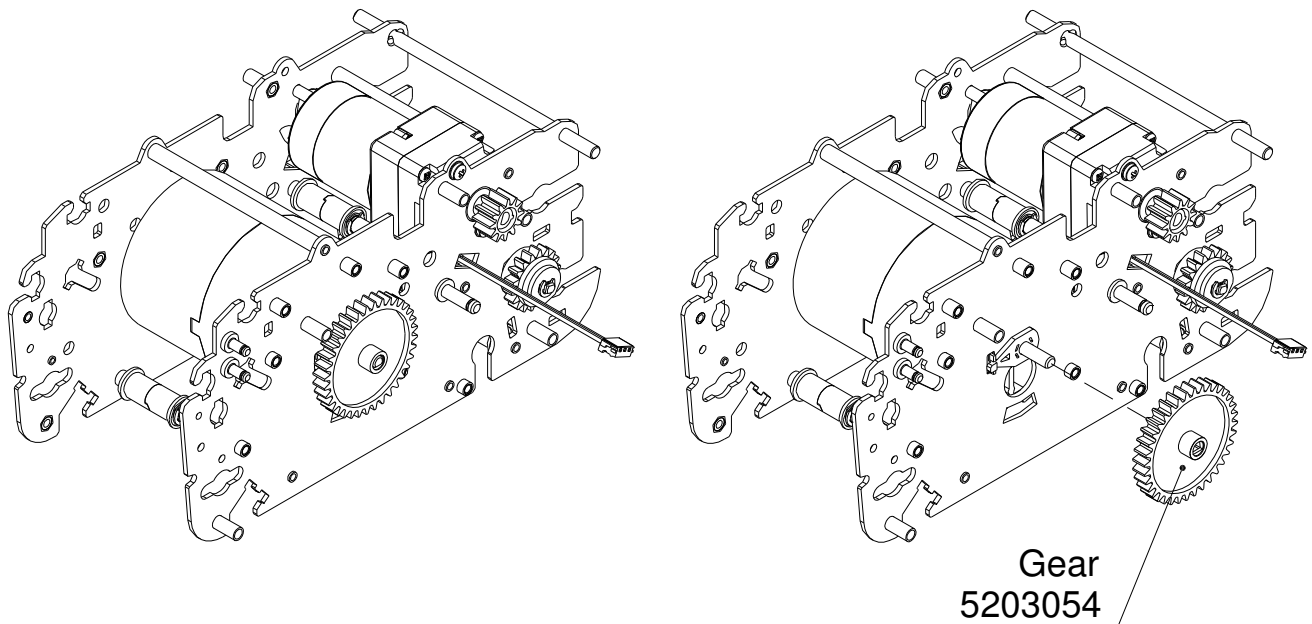
### Step 16

- Remove retaining ring and gear



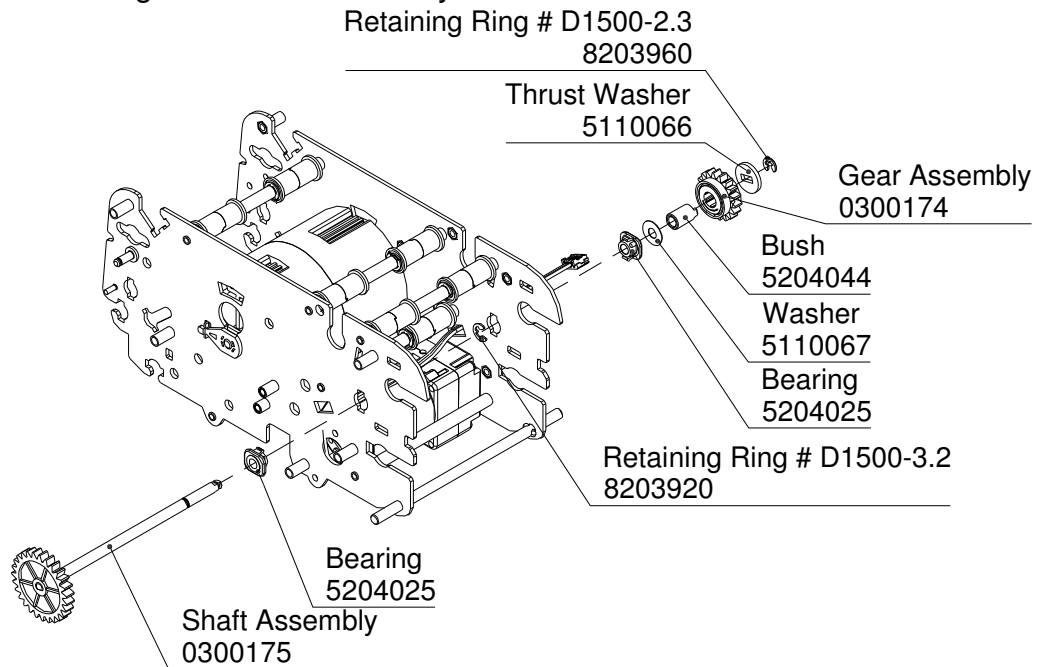
### Step 17

- Remove gear



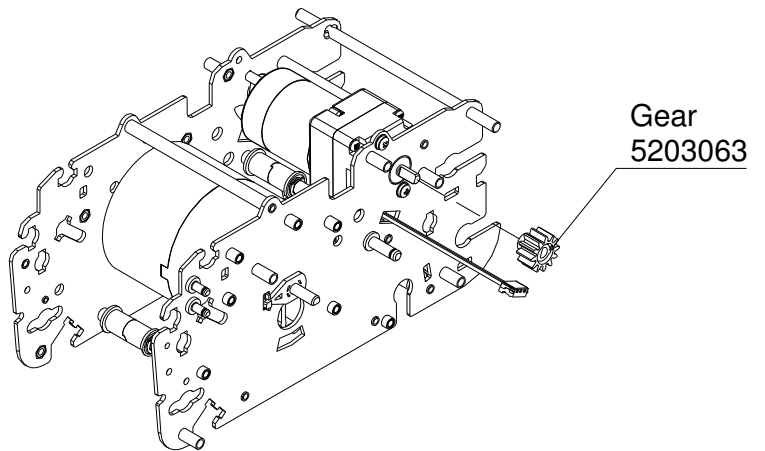
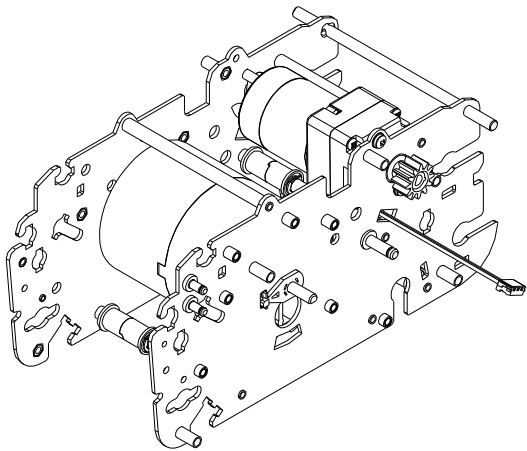
### Step 18

- Remove retaining ring and thrust washer
- Remove gear #0300174, bush and washer
- Remove bearings and shaft assembly



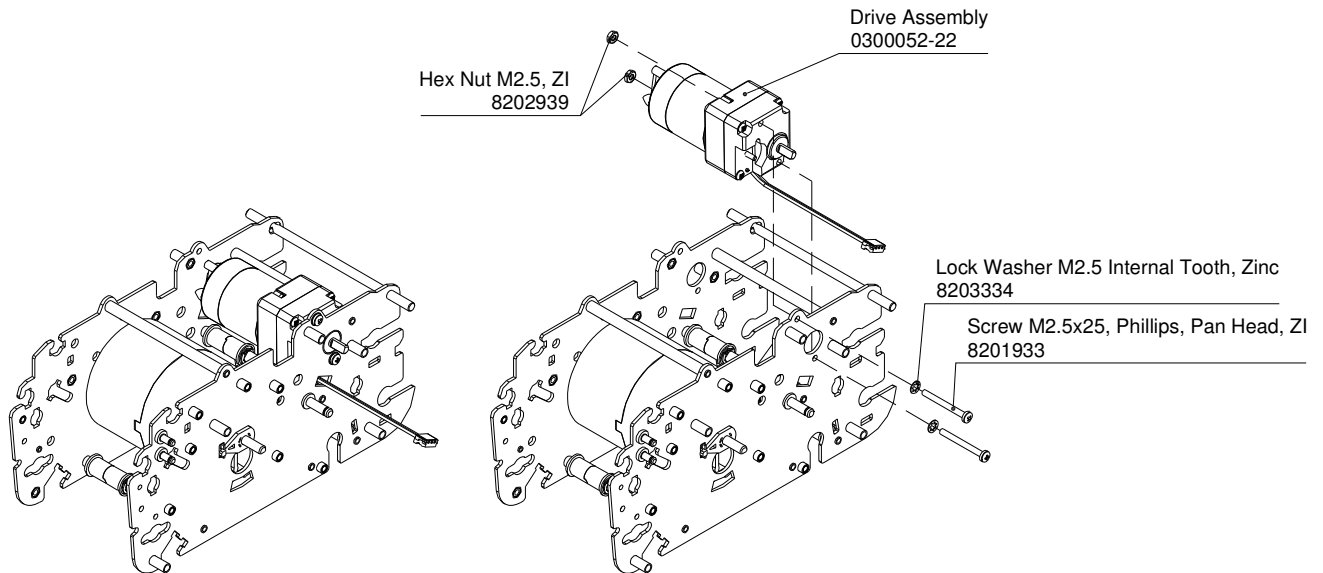
### Step 19

- Remove gear

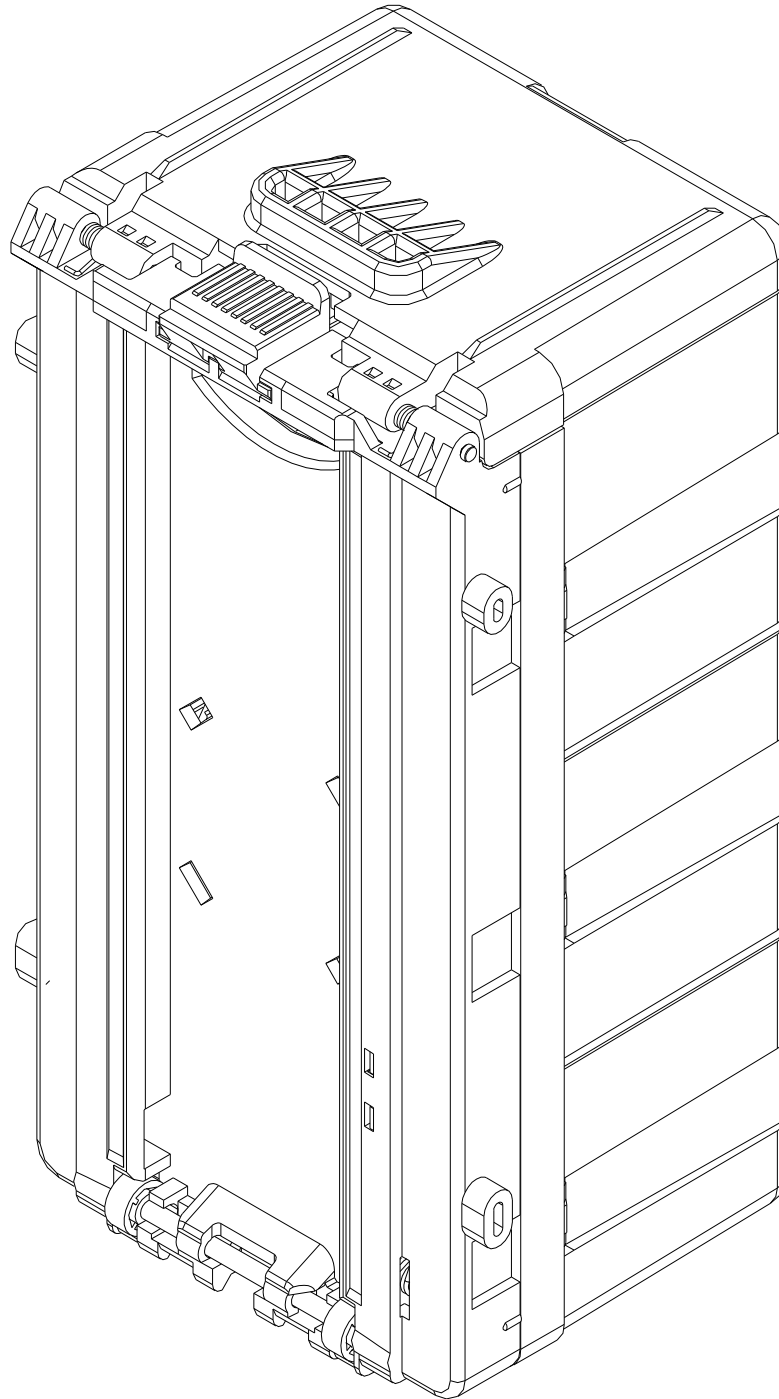


## Step 20

- Remove two screws M2.5x25, two hex nut and two lock washers
- Remove drive assembly

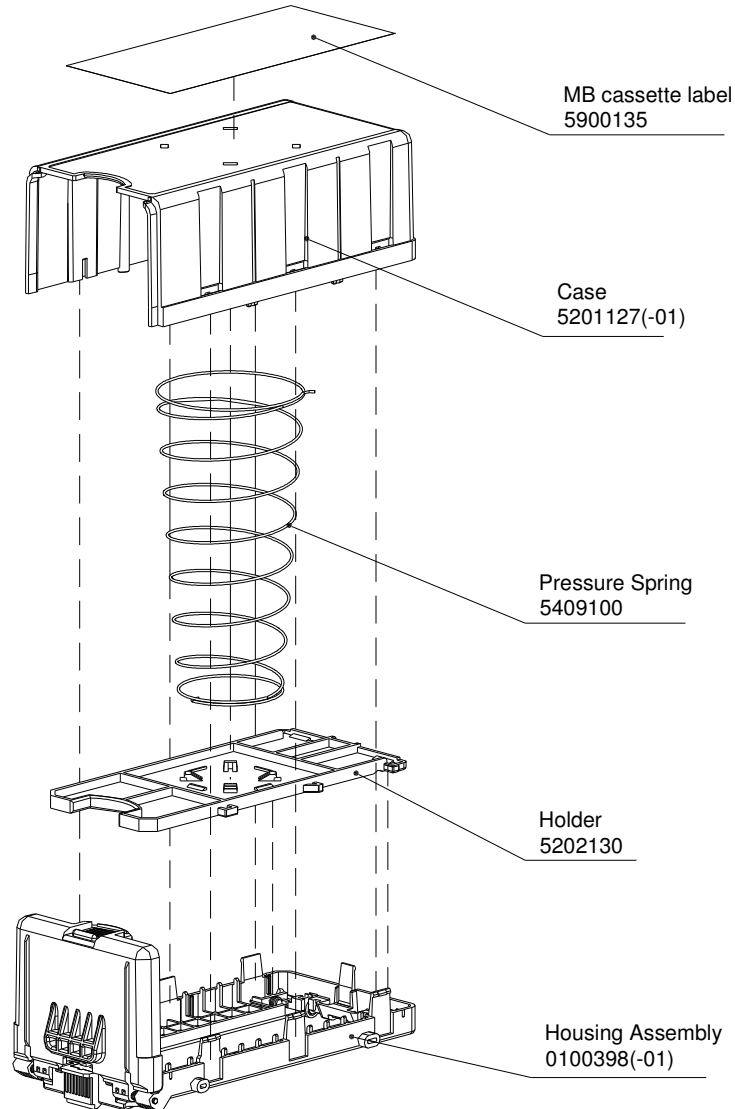


**VAULT**



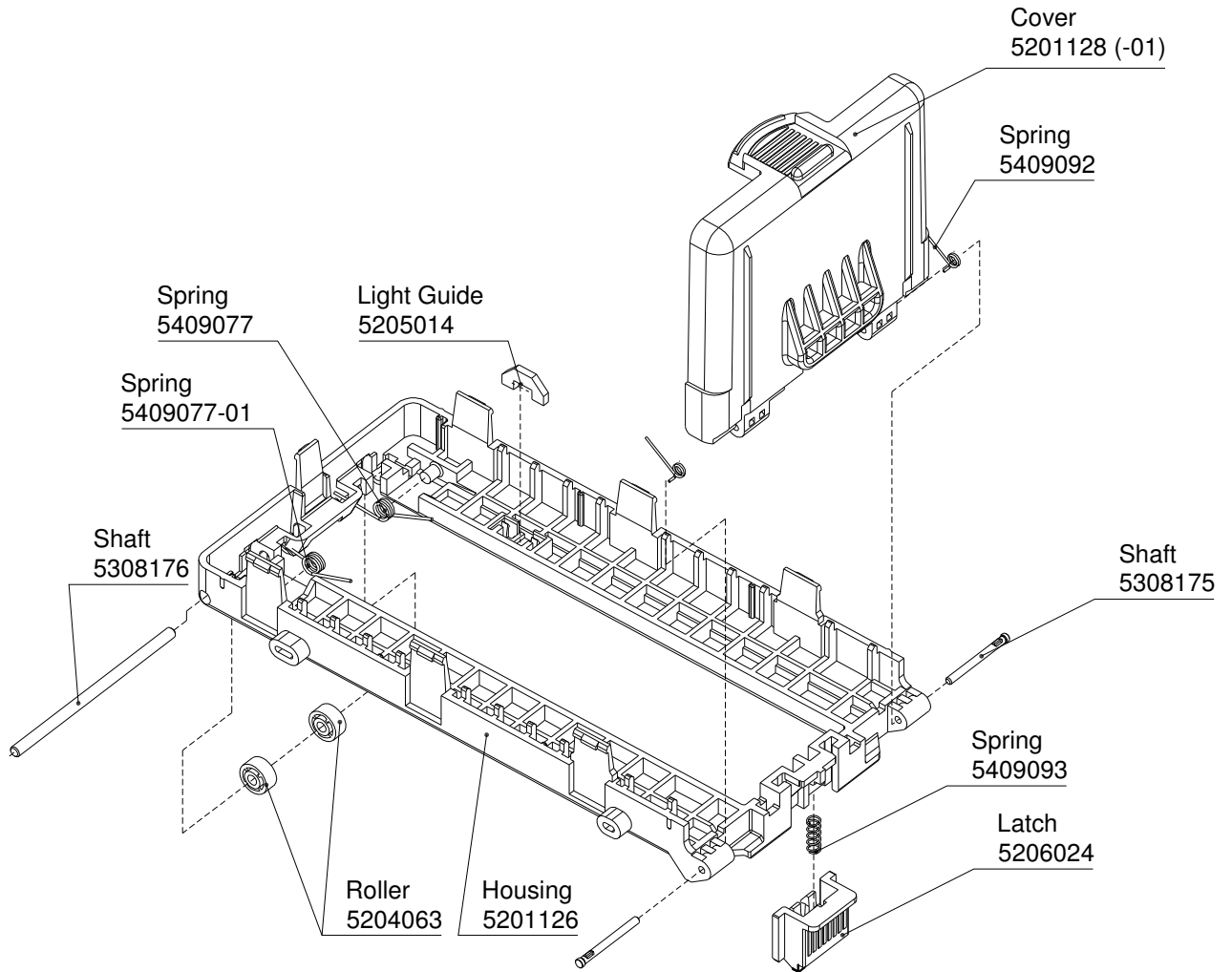


*Exploded view of Vault Assembly (0100399 0100399-01).*



<b>Part ID #</b>	<b>Description</b>	<b>0100399</b>	<b>0100399-01</b>
0100398	Housing Assembly	1	
0100398-01	Housing Assembly		1
5202130	Holder	1	1
5201127	Case	1	
5201127-01	Case		1
5409100	Pressure Spring	1	1
5900135	MB cassette label	1	1

*Exploded view of Housing Assembly (0100398, 0100398-01).*

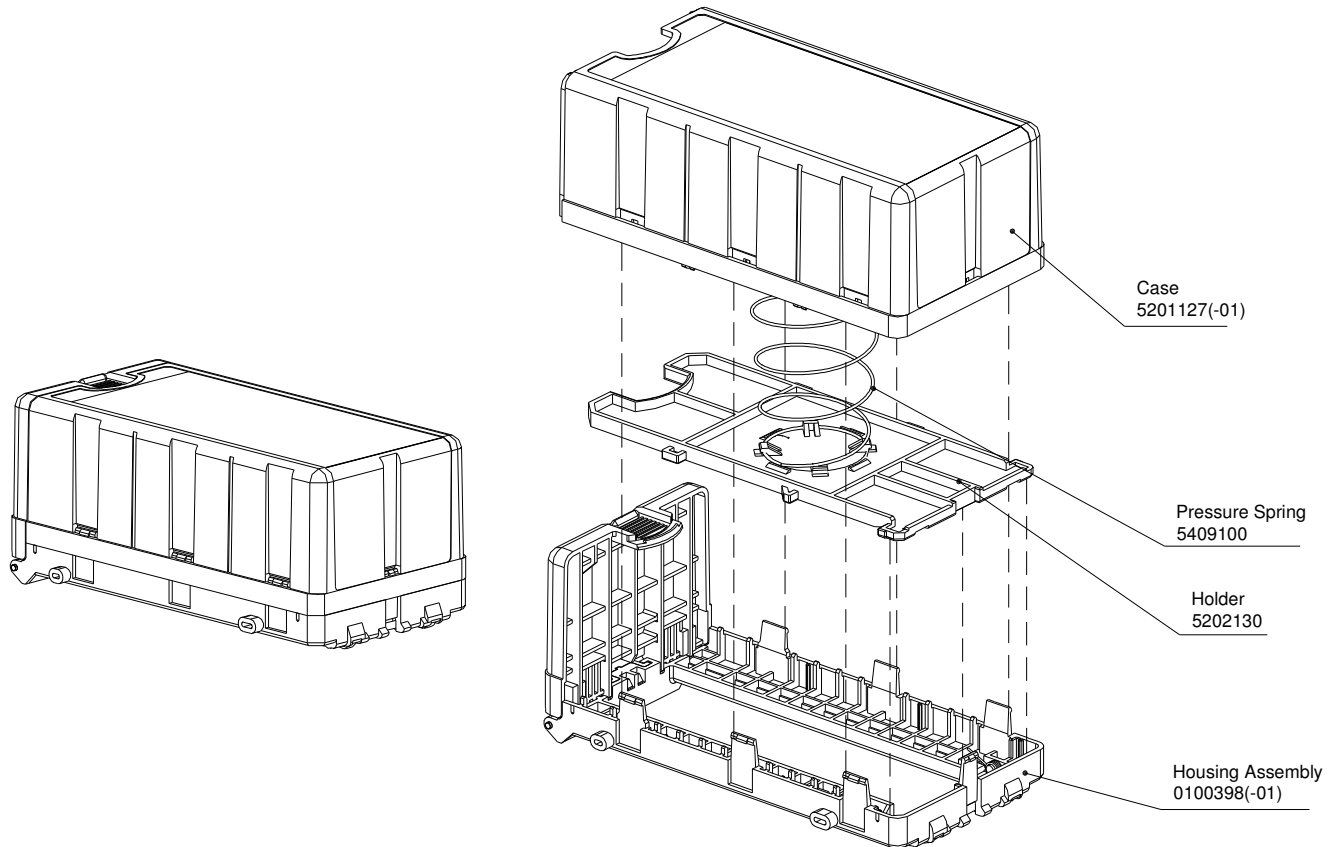


<b>Part ID #</b>	<b>Description</b>	<b>0100398</b>	<b>0100398-01</b>
5409092	Spring	2	2
5308175	Shaft	2	2
5201126	Housing	1	1
5308176	Shaft	1	1
5409093	Spring	1	1
5206024	Latch	1	1
5201128	Cover	1	
5201128-01	Cover		1
5409077-01	Spring	1	1
5409077	Spring	1	1
5204063	Roller	2	2
5205014	Light Guide	1	1

*Disassembly of Vault Assembly (0100399, 0100399-01)*

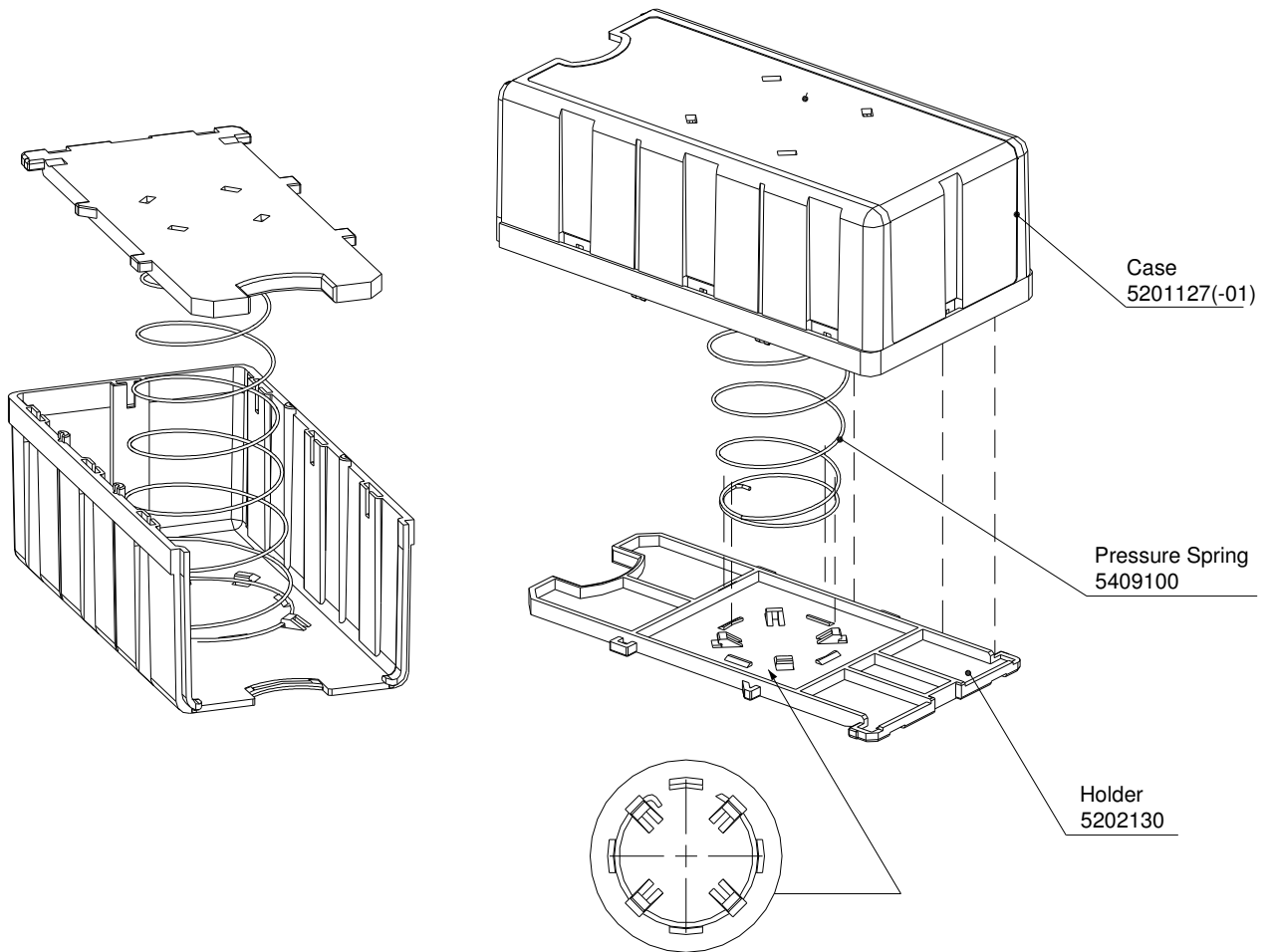
**STEP 1**

- Remove case with holder and pressure spring by releasing the latches



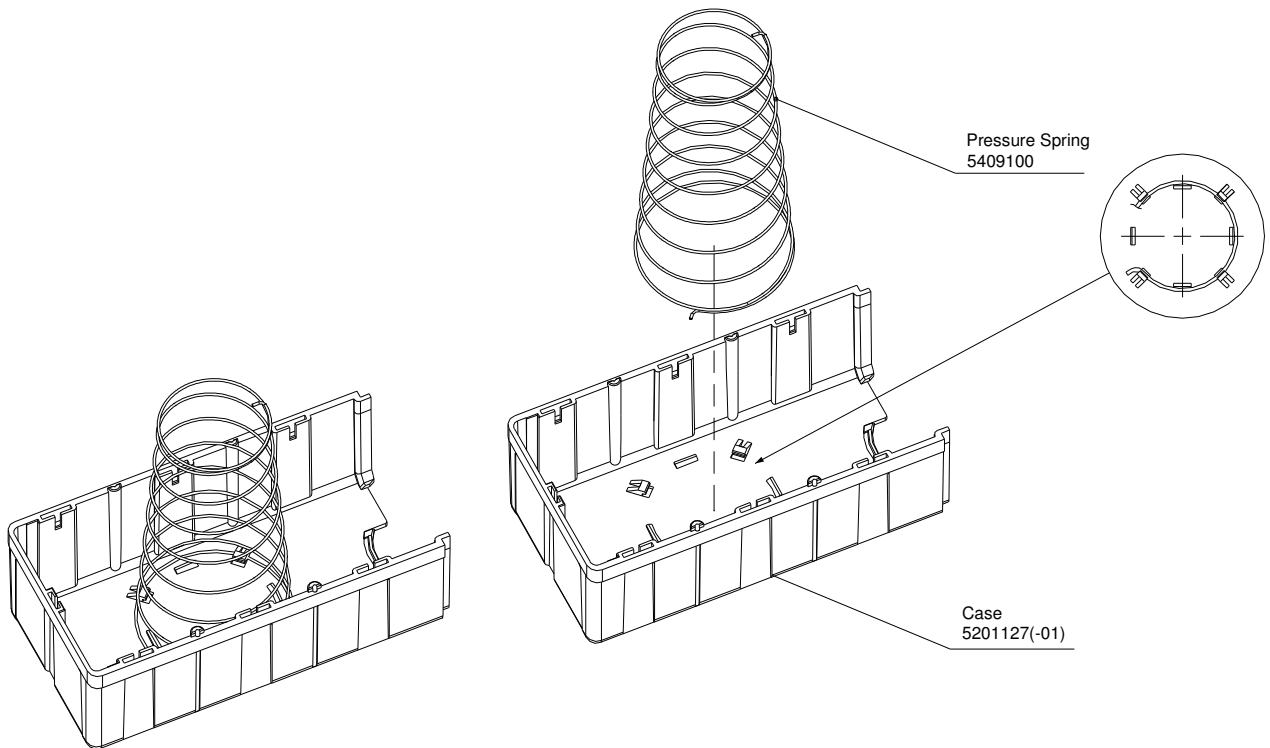
## STEP 2

- Remove holder



### STEP 3

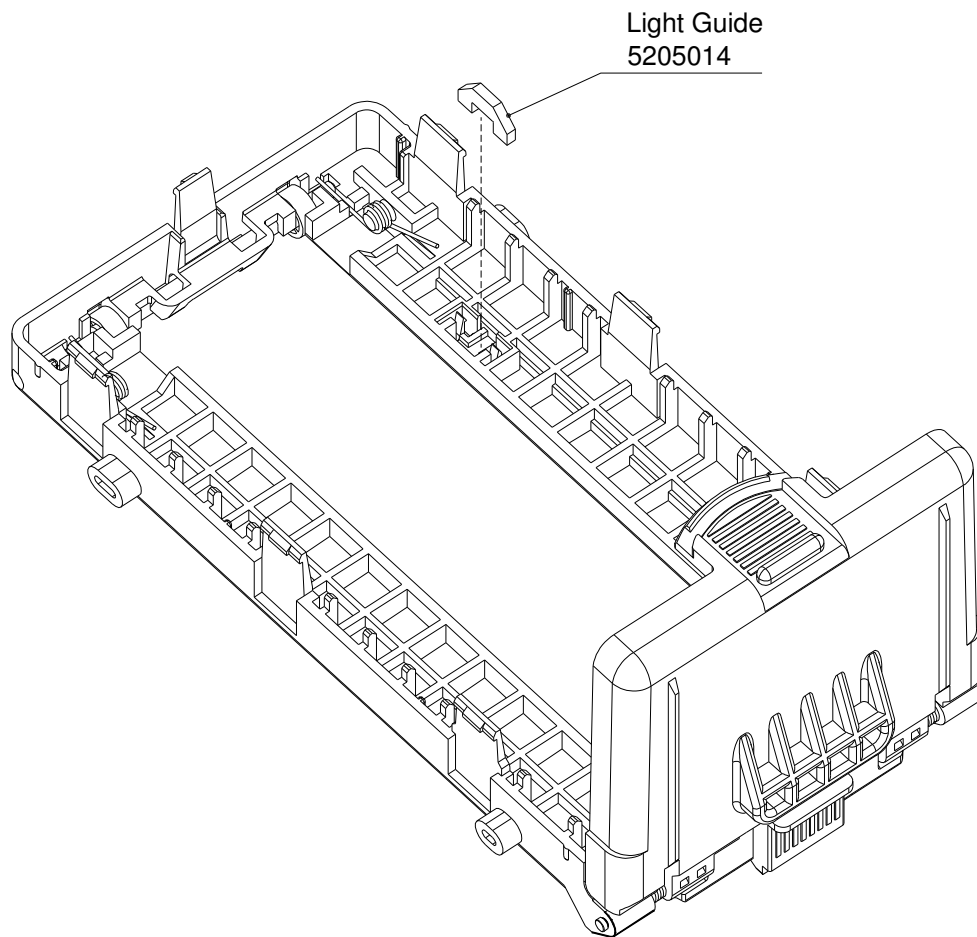
- Remove pressure spring



*Disassembly of Housing Assembly (0100398, 0100398-01)*

**STEP 1**

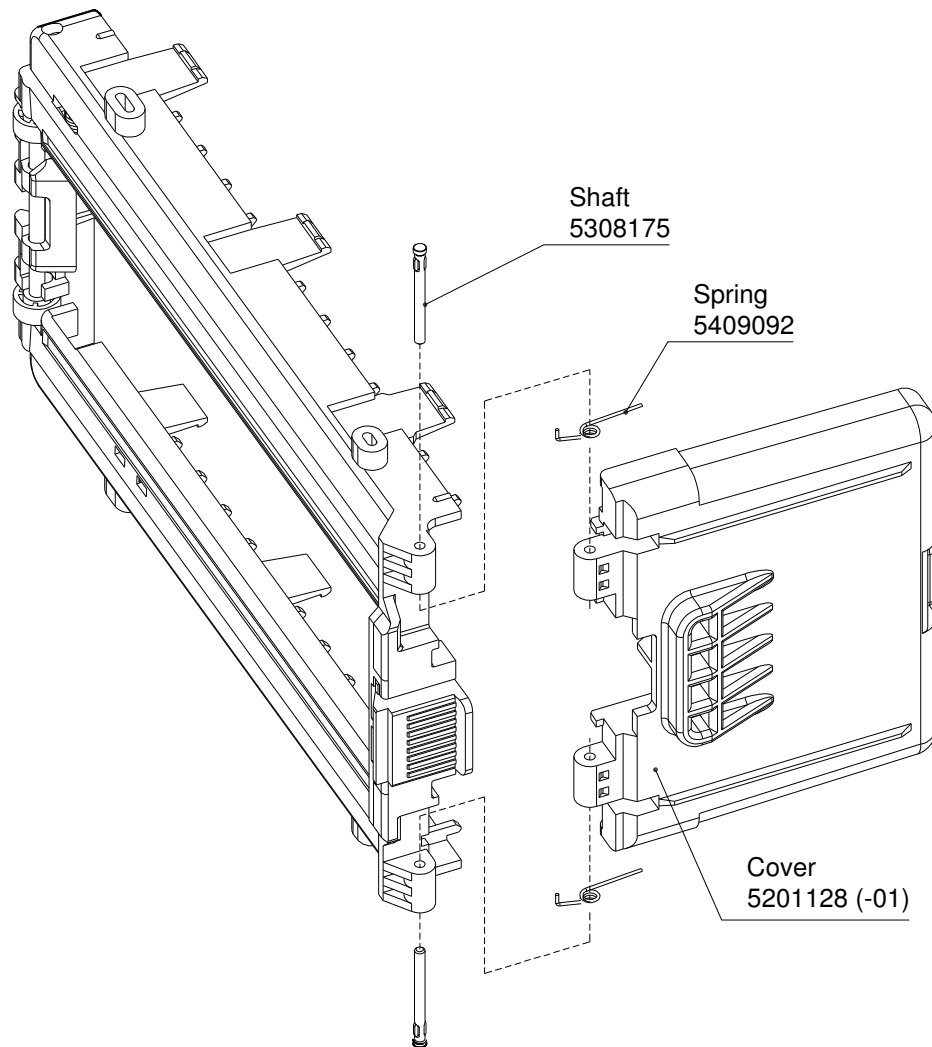
- Remove light guide





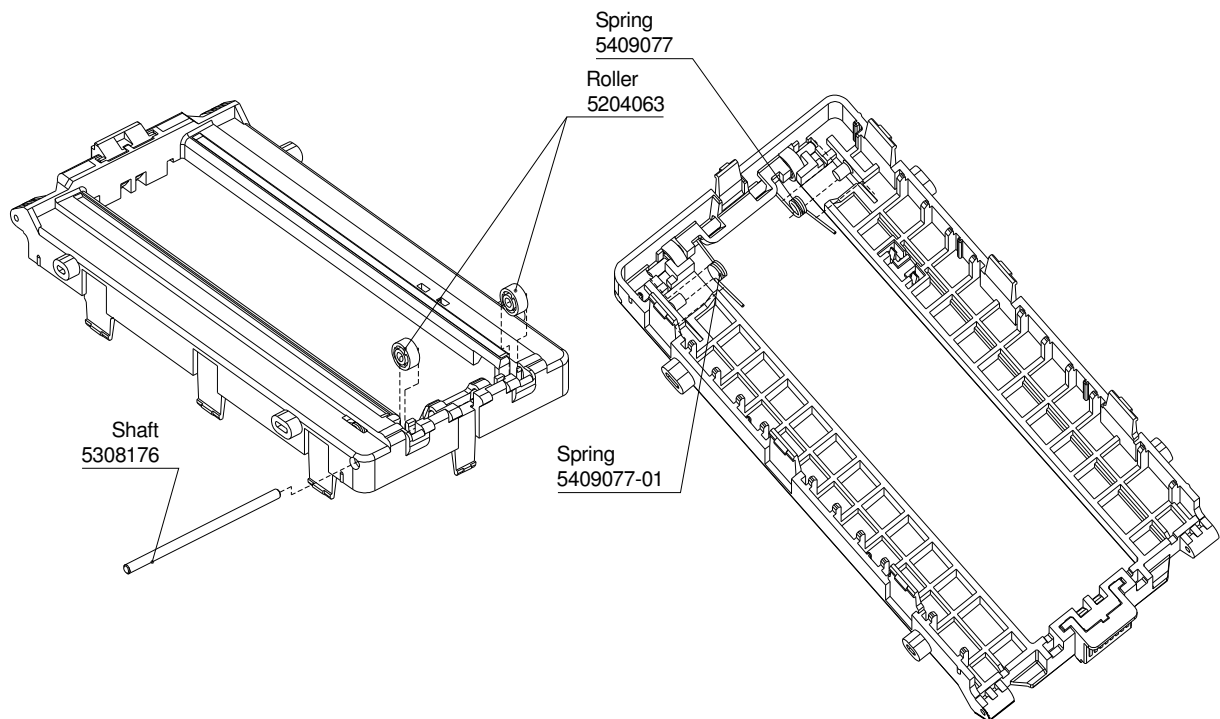
## STEP 2

- Pull out two shafts
- Remove cover and two springs



### STEP 3

- Pull out shaft
- Remove two spring and two roller



## STEP 4

- Remove latch by releasing the catches

