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## 0.0: REVISIONS NOTICES

Coming soon:

- Recipe manager for KLR.5051-AB to be done.

2026-08-07:

- Added Home sensor / servo input testing procedure 9.2.8

2025-10-07:

- Bag table exploded views updated (13.14)
- New Aligner option added including wiring instruction

2025-10-03:

- Scoop exploded views updated (13.7)

2025-05-14:

- Parameter list has been updated and set in order
- Download program for stepper motor Mdrive for KLR.5051-AB 9.4.
- DIP switches KLR.5051 redone.
- KLR.5051 wire length and wire details have been added. 9.4.2
- Exploded views updated.

2024-03-07: 13.5 bottom scoop frame updated parts

2023-12-20: Updated Exploded view to include KR-STEPPER (x6). Updated the wiring of these motor 9.3.1

2023-07-27: Reworked on 9.3: Stepper motor assembly for KLR.5051 (schneiders):

- Location on the bagger
- DIP switches update according to UIM240 and UIM340 drives.

2023-04-20:

Fixed these following exploded views:

- 13.3 Infeed tunnel
- 13.3.1: Added option aligner.
- 13.4 Infeed conveyor: some parts were difficult to see on printed version (added 13.4.1 – 4)
- 13.8.1: Added nitrogen nozzle.
- 13.14.1 Added bag table belt section assembly details.
- 13.14.2 Added blower assist.
- 13.18.1: Added option starter blower.
- 13.21: Added safety guard options.
- 13.15 Added new sensor bracket.

Added 9.2.6 adjusting safety light curtain.

2022-11-25: Exploded views added. Spare parts list updated.

2022-08-24: Deep switches resolution setting for KLR.5051 (9.4.2) is now explained in more details.

2022-08-23: Clarified the wiring part of integrated stepper motor 9.4 and 9.5.

2022-07-05: Added normal wiring and on bench test for Lexium Mdrive stepper motor (9.3.2 and 9.3.2.1). Added LED indicators description (9.3.3)

2022-06-16: Mdrive motor download procedure for KLR.5051-AB (in progress)

2022-04-22: Parameters for the KLR.5051-AB

2022-04-21: New 6.2 maintenance step version. Completion of the 7.0 KLR.5051-SPARE-AB. KLR.5051-SPARE still needs to be addressed.

2022-03-21: Initial version of the 6.0 maintenance.

2022-02-22: Initial version of the 2.0 identification, 3.0 product specification, 4.0 operation and 5.0 recipe setting page.

## 1.0: SAFETY PRECAUTIONS



# CAUTION

- The Flat bread bagger is covered with a safety door. For any interventions during functioning of the machine regarding to product jam, material disfunction, cleaning, etc: operator must open the door to stop the machine assuring maximum safety and minimizing risk;
- The equipment described in this manual designed and manufactured to the highest KLR standards. Special attention made to ensure that the operation of the machine is safe and convenient;
- Even with the safety cover opened or closed, keep hands away from the working machine. Go against this notice can result in a severe injury or death;
- Always use two (2) lockout devices, one on the supply and one on the air supply when performing any maintenance or cleaning;
- If the system is linked to another machine or install onto another machine. Lock the electrical box of the other machines before performing any maintenance on this equipment. Please refer to the local regulations and laws on locking out machinery;
- When working in the electrical box. Disconnect the equipment at the source and use a lockout device to avoid any risk of danger. Make sure you also have the space required to complete the work to avoid any risk of danger.
- Any modifications with any aspect of the mechanical, safety, electrical design, design, or any parts connected with the equipment will void the warranty and liability of KLR Systems. If a change is required, you should contact KLR Systems for approval. All technical handling must be done by a qualified technician or by KLR Systems;
- KLR is not responsible for any abuse, mishandling, misuse, improper maintenance and repair by owners and users;
- Equipment must be supervised when operating;



# CAUTION

- This machine designed to be as safe as possible. Danger areas have been enclosed with guards and doors for better protection;
- Safety switches: DO NOT bypass any safety components for any reason. Violation will void all guaranties and responsibility from KLR Systems. If a safety switch is broken, the machine will not start, but the safety switch must be replaced before starting the machine;
- Safety panel (fix panel) or safety doors: As a safety, component does not try to remove or unscrew them unless it is necessary for a maintenance operation. If it is the only option, use a lockout device during this procedure and reassemble every single parts as it was when finished.
- When closing the safety door, careful about the pinch points. Make sure nobody's hands or fingers are in the way;
- When the air supply is OFF and it is required in a maintenance to move manually the bag table in order to access something. When the maintenance is over, DO NOT put the pressure back if the machine is in ready state. ALWAYS push the emergency button before putting the pressure on the machine. Go against this notice can result in equipment damage;
- When the air pressure is turned ON, the bag table may move promptly depending of what position is the bag table valve. To avoid this problem, unscrew the air regulator until it reaches 0 pressure before Turning ON the main air pressure, Then crank slowly the air supply regulator back to 80 PSI . Go against this notice can result in a severe injury or death.



## 2.0: IDENTIFICATION

### 2.1: Product brand and type designation:

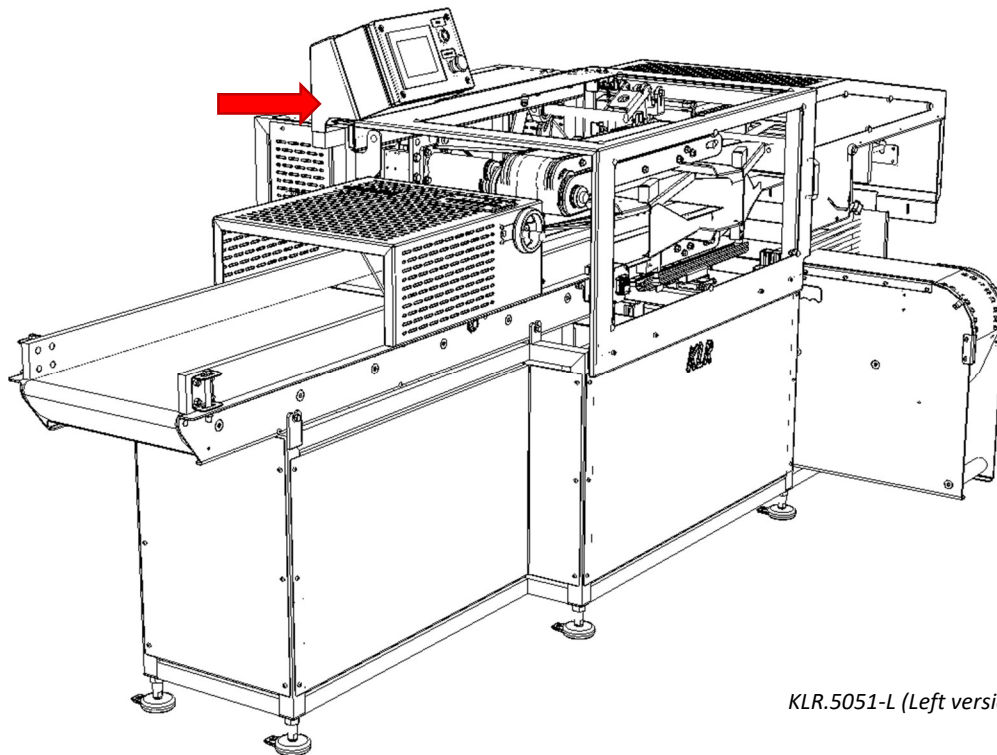
Automatic Flat Bread Bagger

Models:

- KLR.5051 (Schneider)
- KLR.5051-AB (Allen Bradley)

### Serial number and specification location:

On the support of the touch screen.



*KLR.5051-L (Left version) picture 2A*

### 2.2: Name and manufacturer contact:

KLR SYSTEMS INC. Packaging systems manufacturer

Address: 944 rue des Hérons,

City, province, Country: Saint-Pie, Québec, Canada

Zip code: J0H 1W0

Phone: 450-388-0404

Web site: <http://klrsystems.com/>

Technical support Email: [support@klrsystems.com](mailto:support@klrsystems.com)

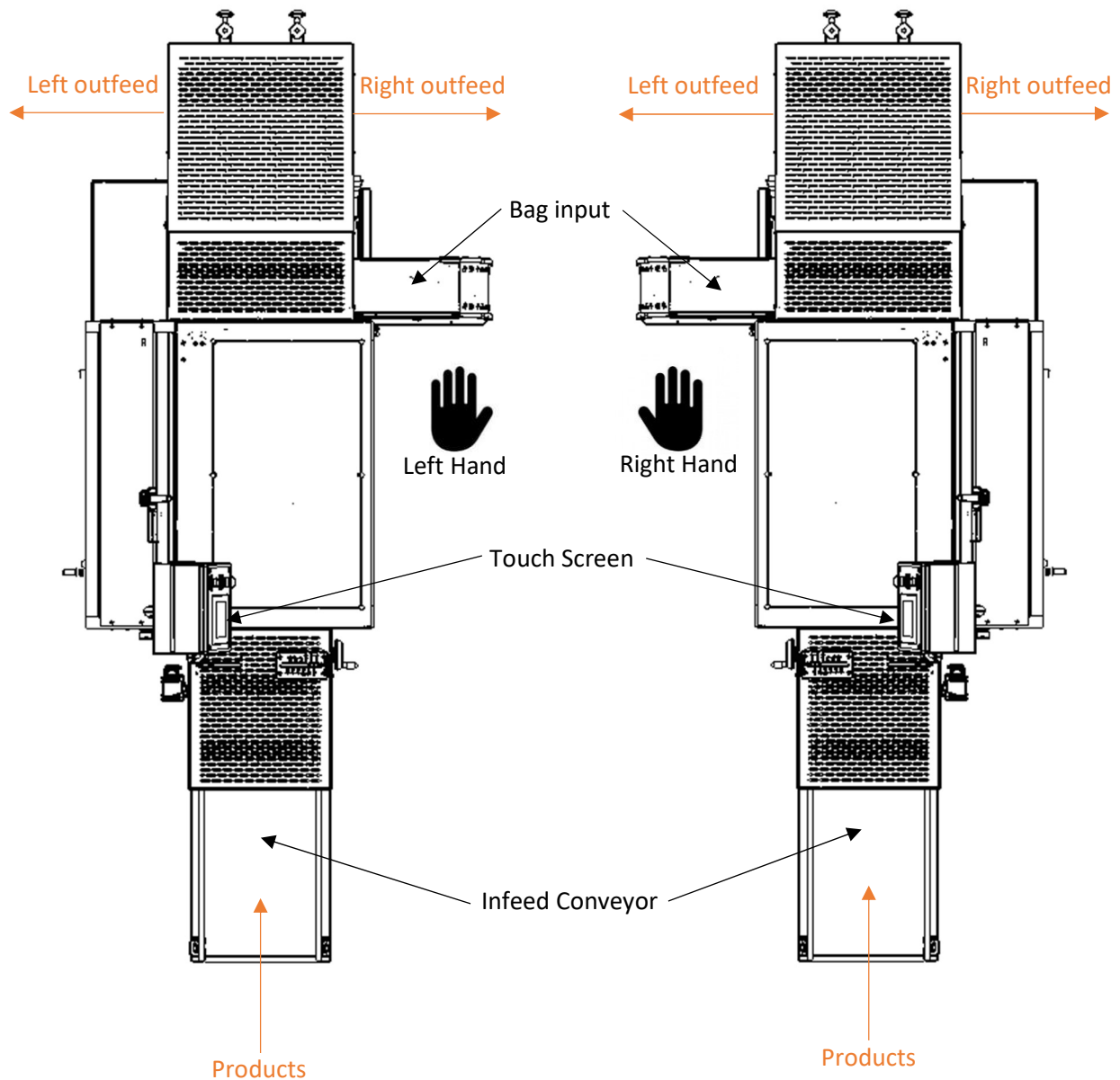
For parts order: [order@klrsystems.com](mailto:order@klrsystems.com)

## 3.0: PRODUCT SPECIFICATION

### 3.1: Right or left version

Standing on the operator side of the machine (able to work with the touch screen) and looking toward the direction of products. The hand closer to the machine tells what version (right or left).

KLR.5051 (Basic)



picture 3A

### 3.2: General functions intended use:

Equipment designed to bag flat bread.

### 3.3: Dimensions for transport

Stand alone (without outfeed conveyor)

Height: 55"

Length: 132"

Width: 57"

### 3.4: Power data – Electricity and Pneumatic

#### 3.4.1: Electricity data

See serial number specification for specific voltage since KLR offer different voltage options.

#### 3.4.2: Pneumatic data

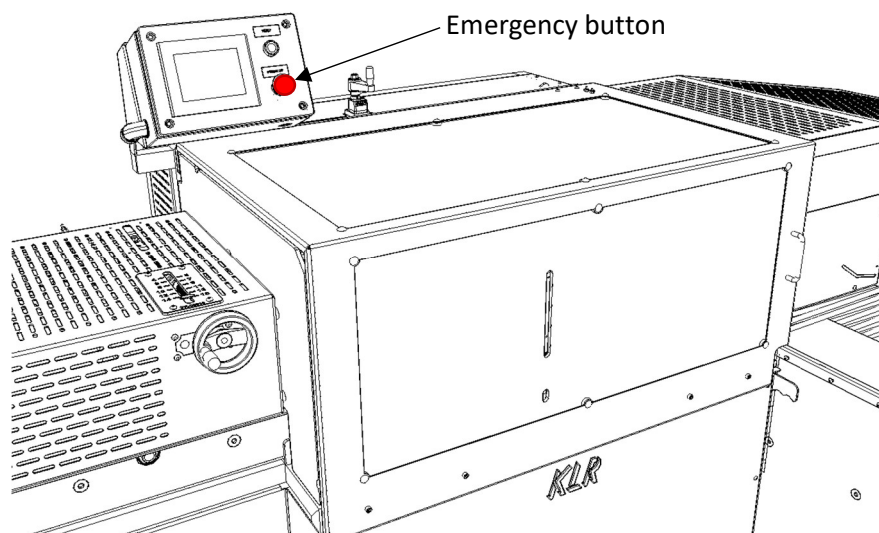
Flow: 5 CFM

Pressure: 80 PSI

### 3.5: Safety specification

#### 3.5.1: Emergency button

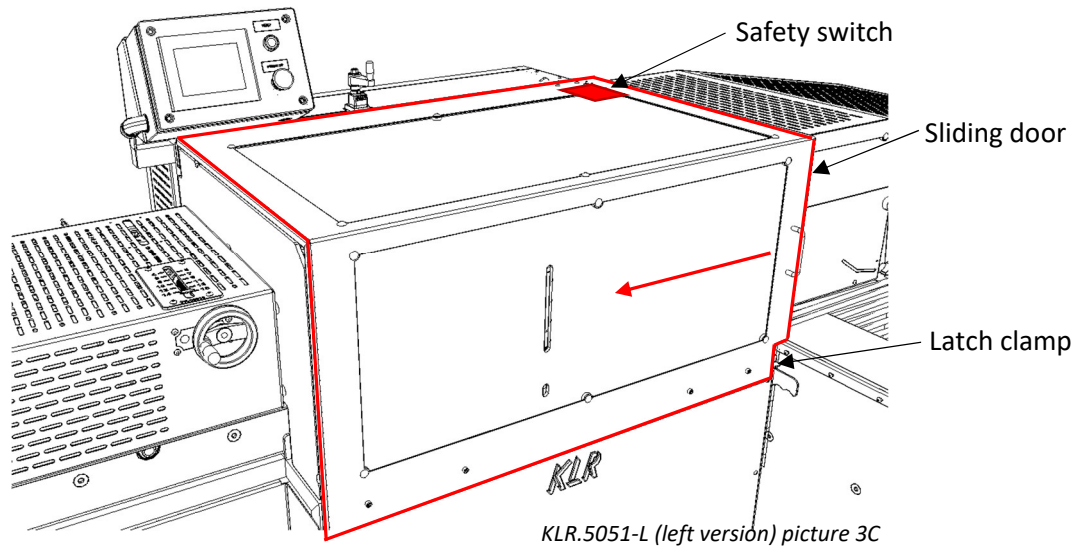
Pressing the emergency stop everything in the machine instantly. It requires a second action to reset the machine when pulled off.



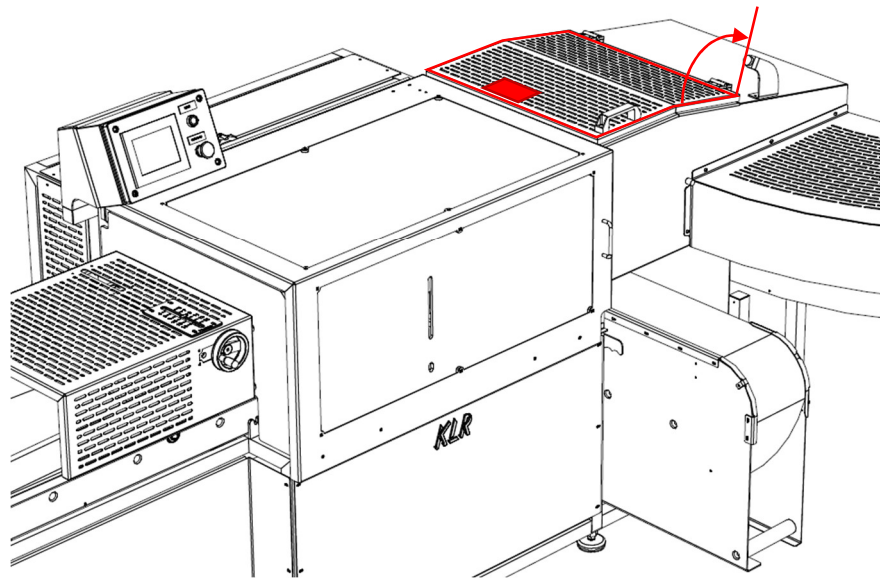
KLR.5051-L (left version) picture 3B

### 3.5.2: Sliding door

Open the sliding door during operation stop instantly all moving mechanisms including conveyors. A latch clamp prevents the door from opening unintentionally.

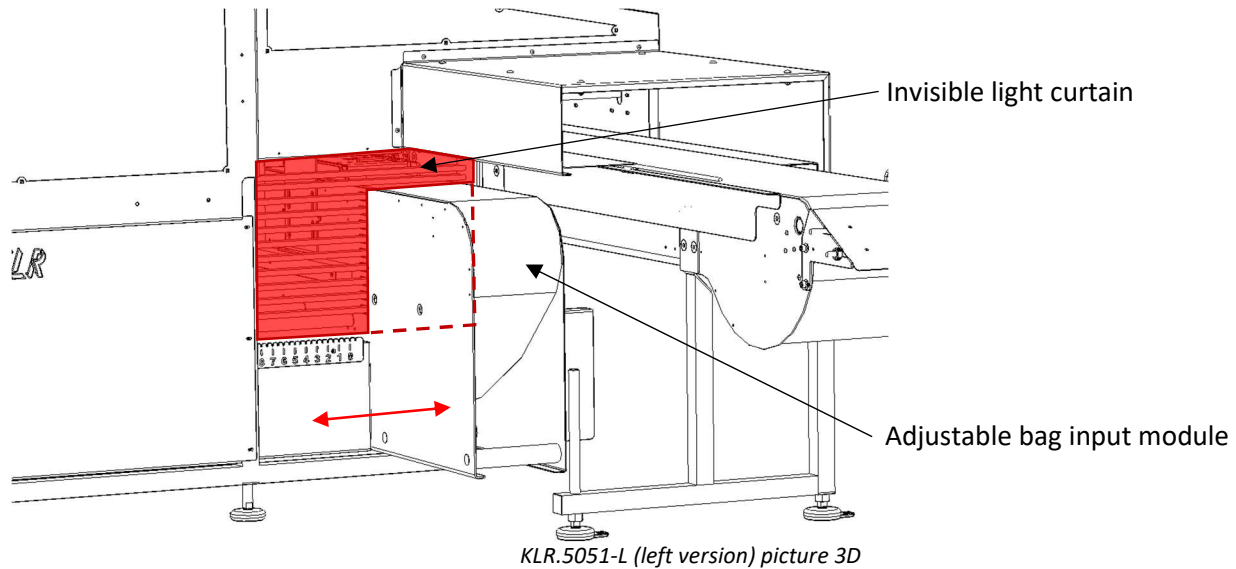


### 3.5.3: Bag table door



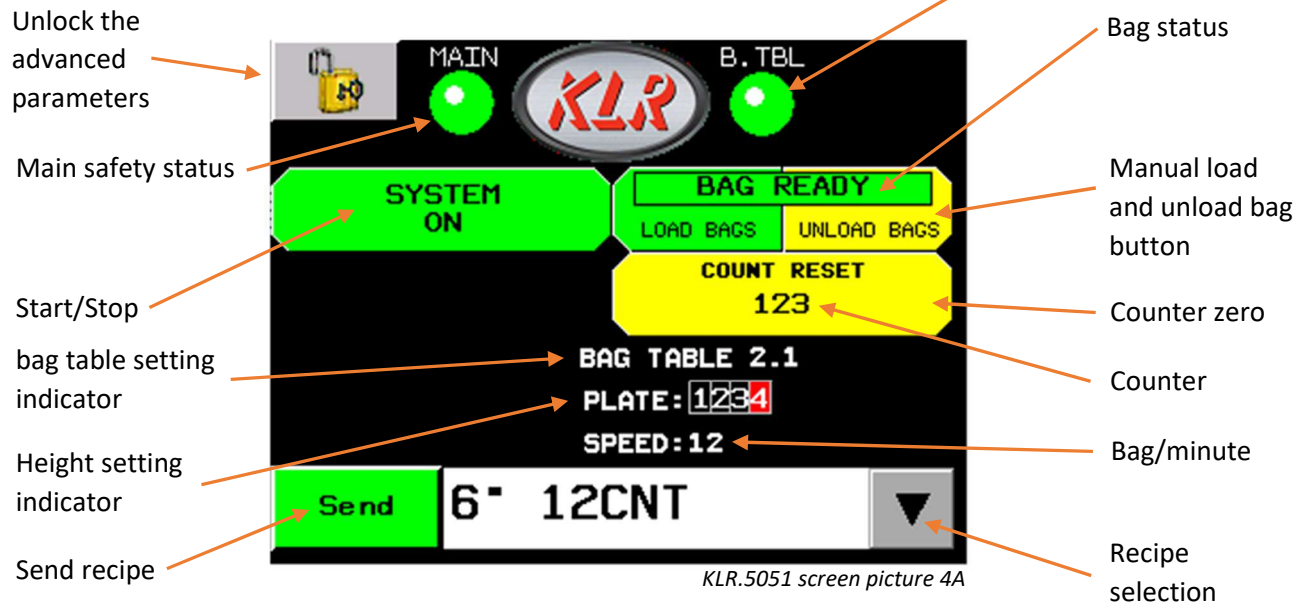
### 3.5.4: Safety light curtain (Feature removed in latest version)

Since the bag input module is adjustable from front to rear, it creates a gap. If operator passing his hand through the gap, the light curtain stops instantly the moving parts inside the machine. However, the conveyors do not stop because it does not represent a danger in that case.



## 4.0: OPERATION KLR.5051

### 4.1: Main screen (Operational mode)

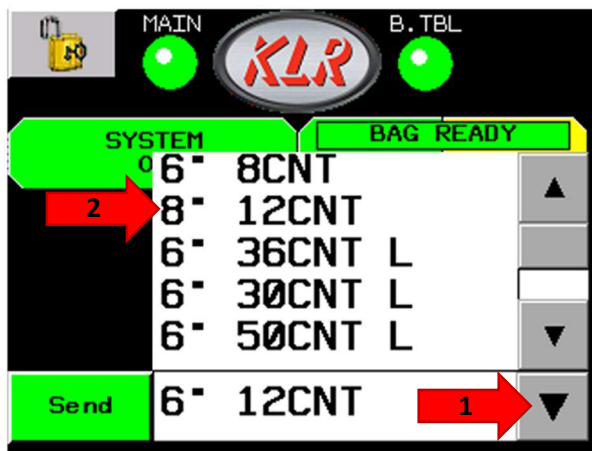


Once the power turned ON, the machine and the main page appears, follow these steps to start the bagger (refer to the "Procedure for startup" section for more information):

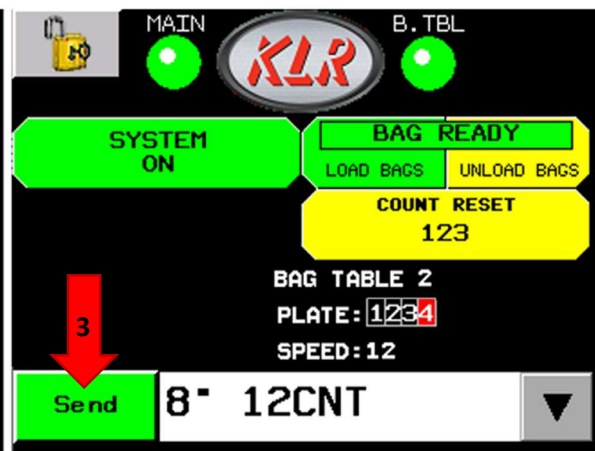
### 4.2: Procedure for start up

#### 4.2.1: Choosing recipes

Press the recipe selector (1). Select the desired product to bag (2), then press SEND (3).



KLR.5051 screen picture 4B

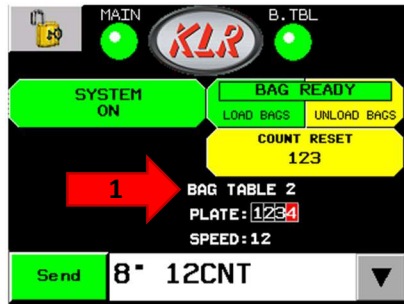


KLR.5051 screen picture 4C

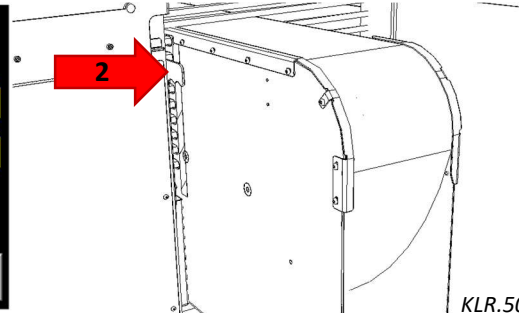


#### 4.2.2: Bag table adjustment

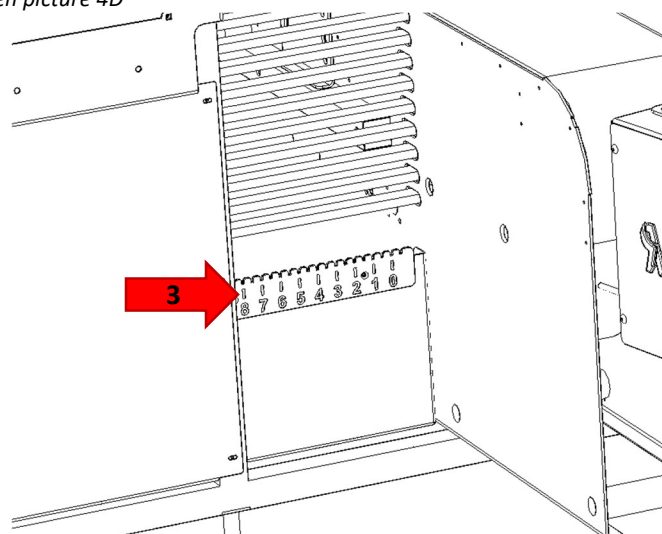
It is important to select the recipe first. See "Choosing recipe". Look at the value for BAG TABLE measurement on the display (1), Pull up the bag table latch (2) and adjust according to the measure (3). Secure with the bag table latch.



KLR.5051 screen picture 4D



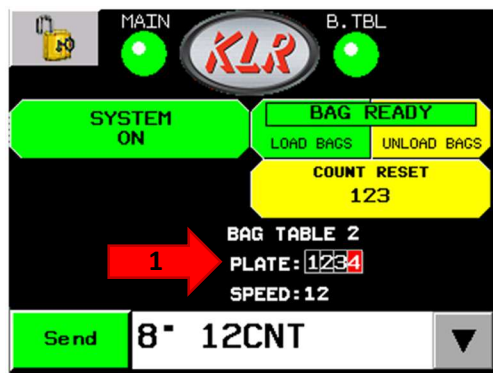
KLR.5051-L (left version) picture 4E



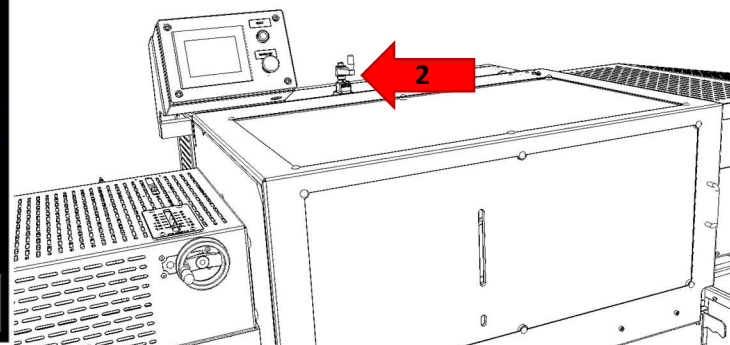
KLR.5051-L (left version) picture 4F

#### 4.2.3: Plate height adjustment

It is important to select the recipe first. See "Choosing recipe". Look at the PLATE setting (1) and adjust the top crank according to the value on the display (2).



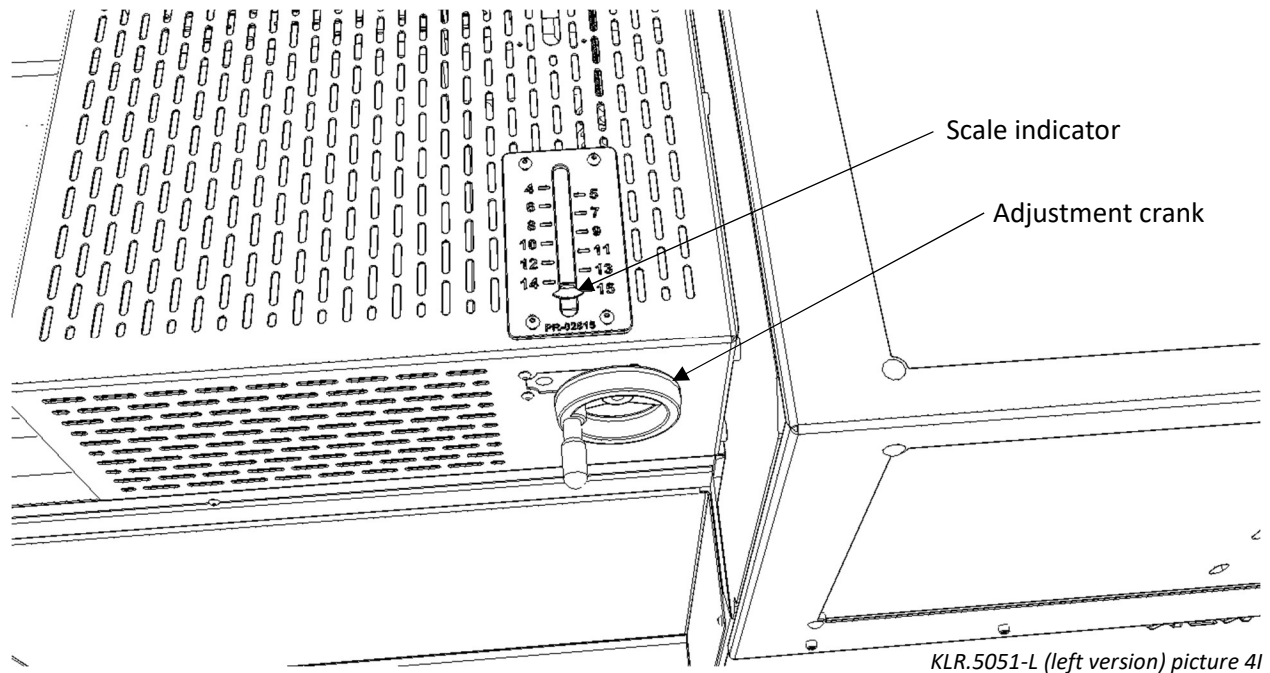
KLR.5051 screen picture 4G



KLR.5051-L (left version) picture 4H

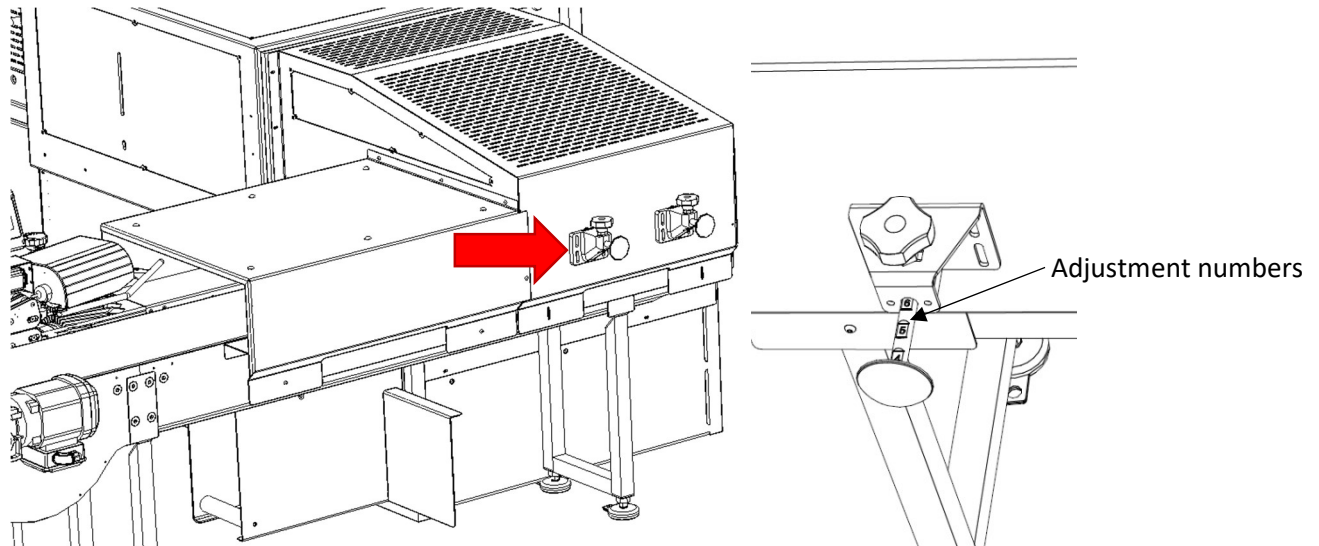
#### 4.2.4: Infeed guides adjustment

The numbers on the scale are in inches. Adjust a little bit bigger to the product size.



#### 4.2.5: Outfeed guides adjustment

Adjust the back gauge on the outfeed conveyor so the products sit on the belt as close as possible to the bag closing machine without shifting on the side. If needed, fine tune on production. Latest version of screen (HMI) got outfeed guides adjustment reminder on the main page.



*KLR.5051-L (left version) picture 4I*



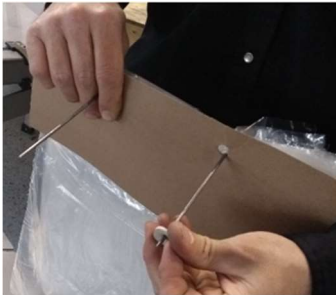
#### 4.2.6: filling bag

When there is no bag, the bag status will show NO BAG.



KLR.5051 screen picture 4K

1. Remove any cardboard and rubber retainer from the bag stack.

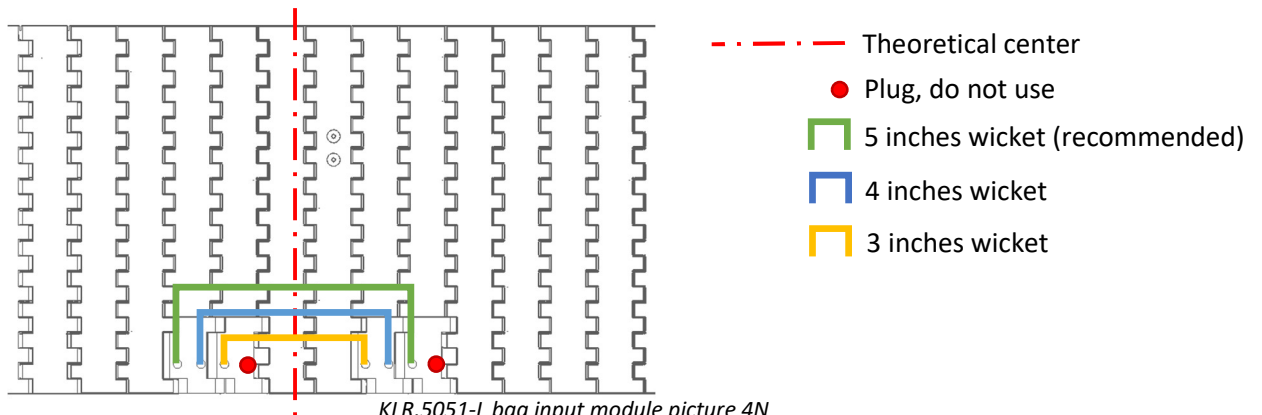


Bag picture 4L



Bag picture 4M

2. Insert wicket tips into intended holes of the bag input belt. Flatten the bags and verify under the stack for good placement. The following drawing is for a left version, A right version is a mirror of this.

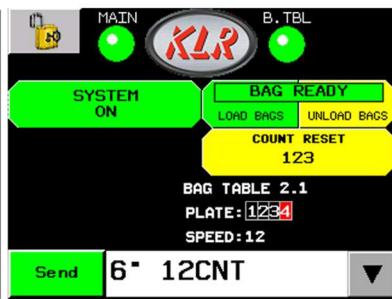


KLR.5051-L bag input module picture 4N

3. Press LOAD BAGS.



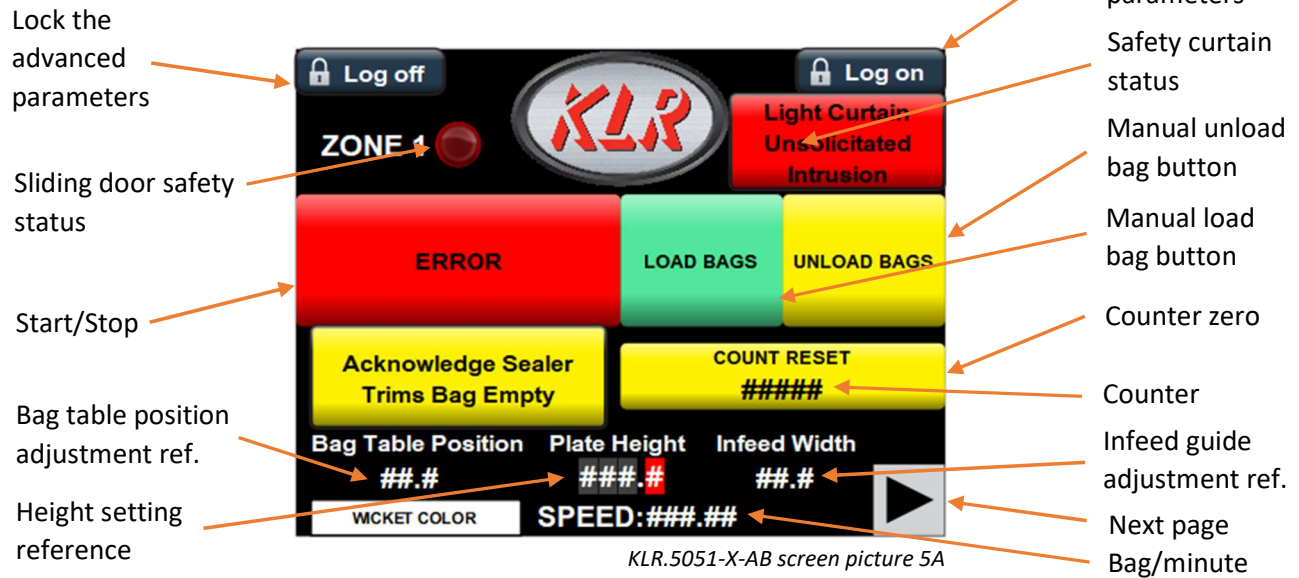
KLR.5051 screen picture 4O



KLR.5051 screen picture 4P

## 5.0: OPERATION KLR.5051-AB

### 5.1: Main screen (Operational mode)



Once the power turned ON, the machine and the main page appears, follow these steps to start the bagger (refer to the "Procedure for startup" section for more information):

### 5.2: Procedure for start up

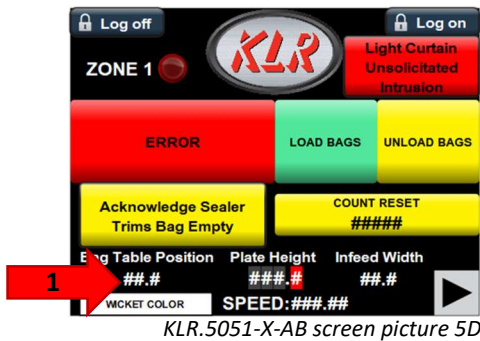
#### 5.2.1: Choosing recipes

Press next page to get to the recipe selector (1). Select the desired product to bag (2). Press SEND (3). Press left arrow (4) to get back to main screen.

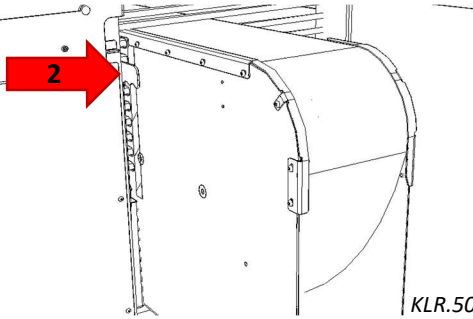


### 5.2.2: Bag table adjustment

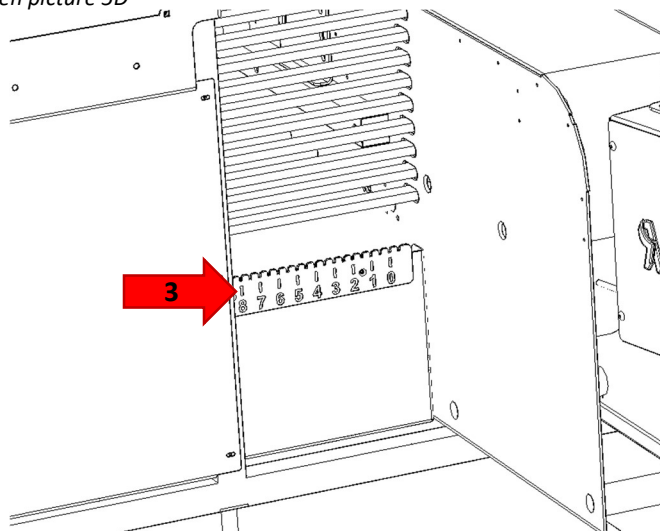
It is important to select the recipe first. See "Choosing recipe". Look at the value for BAG TABLE measurement on the display (1), Pull up the bag table latch (2) and adjust according to the measure (3). Secure with the bag table latch.



KLR.5051-X-AB screen picture 5D



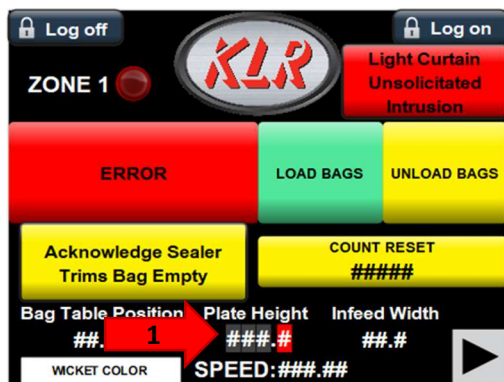
KLR.5051-L-AB (left version) picture 5E



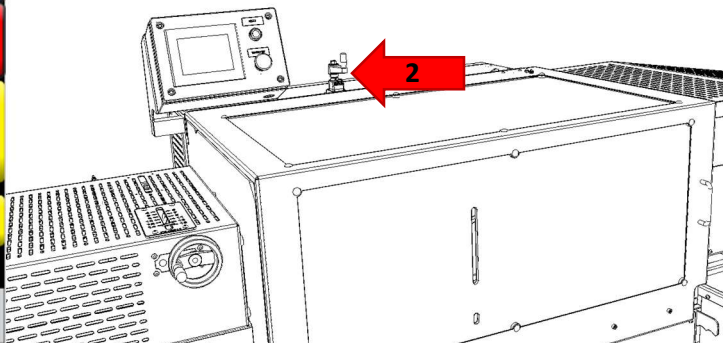
KLR.5051-L-AB (left version) picture 5F

### 5.2.3: Plate height adjustment

It is important to select the recipe first. See "Choosing recipe". Look at the PLATE setting (1) and adjust the top crank according to the value on the display (2).



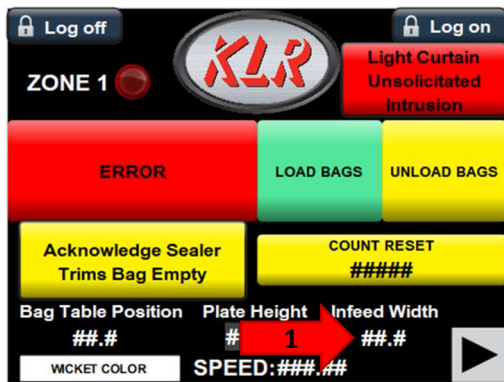
KLR.5051-L-AB (left version) picture 5G



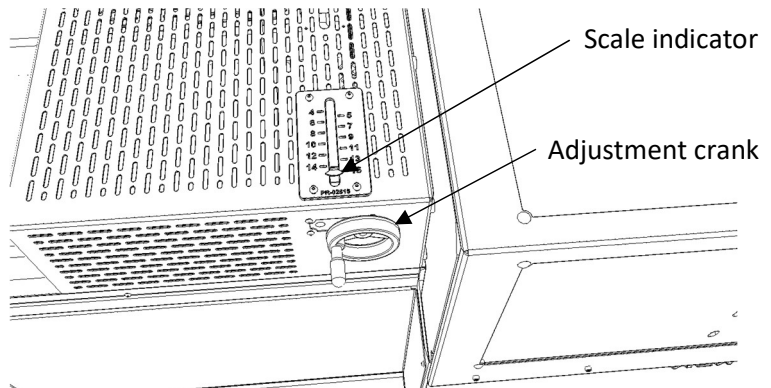
KLR.5051-L-AB (left version) picture 5H

### 5.2.4: Infeed guides adjustment

The numbers on the scale are in inches. Adjust according to the reference (1) with the adjustment crank (2).



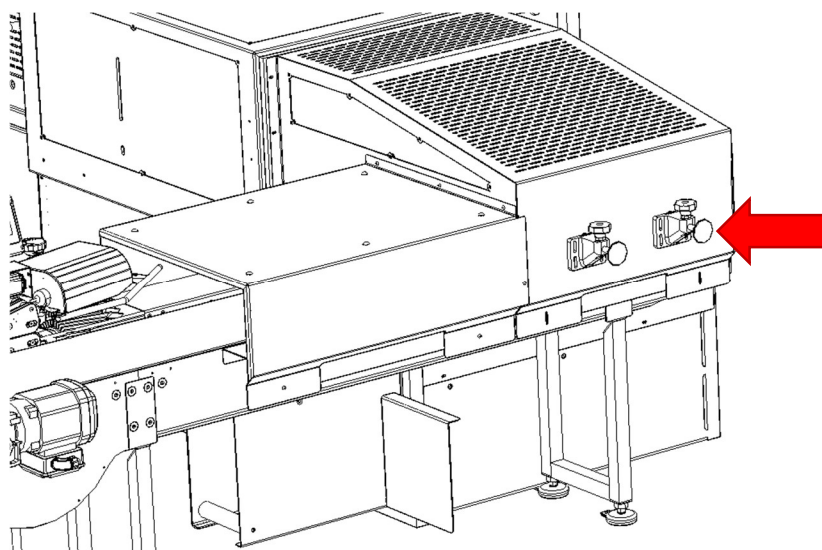
KLR.5051-X-AB screen picture 5I



KLR.5051-L-AB (left version) picture 5J

### 5.2.5: Outfeed guides adjustment

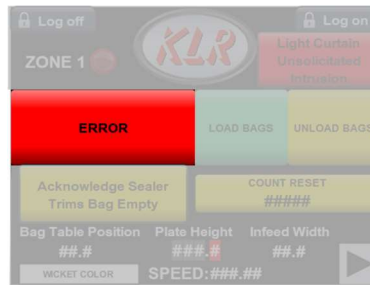
Adjust the back gauge on the outfeed conveyor so the products sit on the belt as close as possible to the bag closing machine without shifting on the side. If needed, fine tune on production.



KLR.5051-L-AB (left version) picture 5K

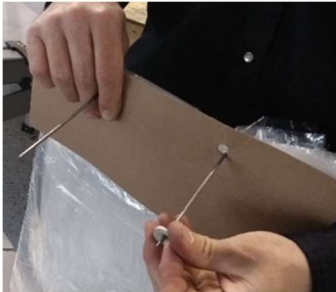
### 5.2.6: filling bag

When there is no bag, the bag status will show NO BAG.



KLR.5051-X-AB screen picture 5M

1. Remove any cardboard and rubber retainer from the bag stack.

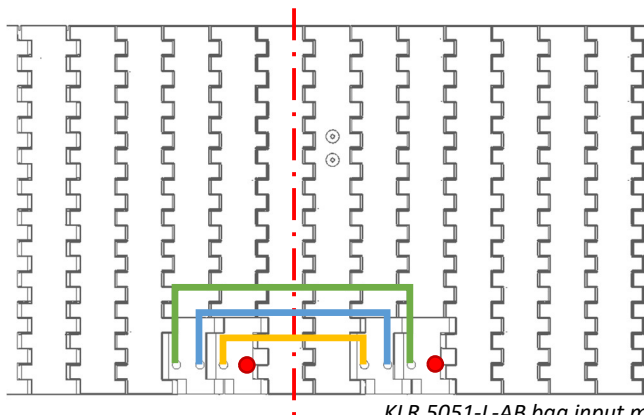


Bag picture 5O



Bag picture 5P

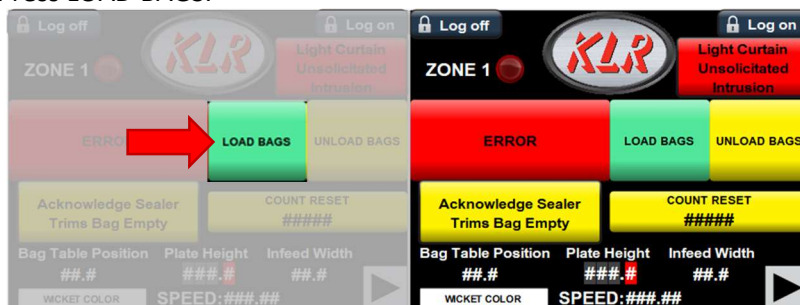
2. Insert wicket tips into intended holes of the bag input belt. Flatten the bags and verify under the stack for good placement. The following drawing is for a left version, A right version is a mirror of this.



KLR.5051-L-AB bag input module picture 5Q

- Theoretical center
- Plug, do not use
- 5 inches wicket (recommended)
- 4 inches wicket
- 3 inches wicket

3. Press LOAD BAGS.



KLR.5051-X-AB screen picture 5R

KLR.5051-X-AB screen picture 5S



## 6.0: RECIPE SETTING PAGE KLR.5051



➤ It is possible to adjust parameters to the point of a malfunction of the packaging machine. Exercise caution when making parameter changes and make changes in small increments. See recipe manager (next page) to save your recipe and be able to keep track of your changes.

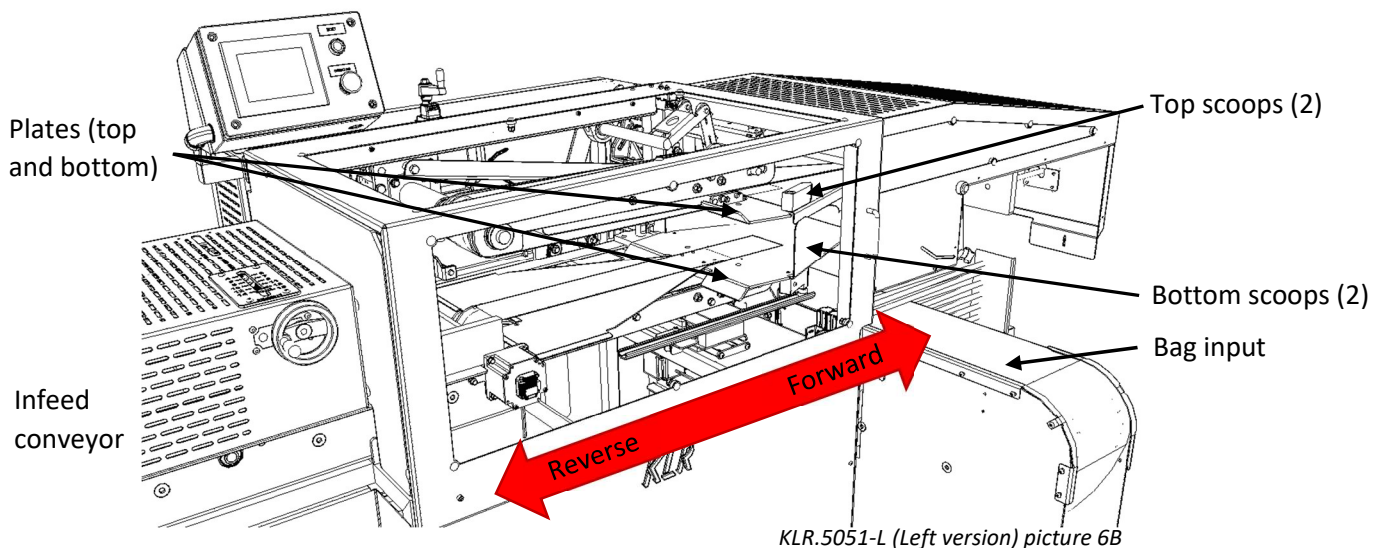
Advanced Settings must be unlocked on the Main Screen to change recipe parameters.

|                                                                                                            |      |   |
|------------------------------------------------------------------------------------------------------------|------|---|
| 6" 12CNT                                                                                                   |      | ▼ |
| UP/DOWN SPEED UP                                                                                           | 2500 | ▲ |
| UP/DOWN SPEED DOWN                                                                                         | 4500 |   |
| HEIGHT                                                                                                     | 1100 |   |
| RETRACT LIFTER UP (°)                                                                                      | 2    |   |
| RETRACT LIFTER DOWN (°)                                                                                    | 240  |   |
| RELEASE BAG (°)                                                                                            | 95   |   |
| HOLD BAG (°)                                                                                               | 290  | ▼ |
| <div style="display: flex; justify-content: space-around;"> <span>◀ Send</span> <span>Save ▶</span> </div> |      |   |

KLR.5051 screen picture 6A

### 6.1: Definitions of functions and acronyms

This figure below will be used to describe couple next parameters. Keep in mind that picture features a full options machine. General parts remain the same concept through all the machines. With parameters that only available with certain options will not be visible from the display. In this document, all parameters are explained in the same order of the touch screen.



KLR.5051-L (Left version) picture 6B

#### 6.1.2: Acronyms

**Fwd:** The bagging cycle can be split into two different actions, forward and reverse. "Fwd" Stand for forward movement. See picture above.

**Rev:** The bagging cycle can be split into two different actions, forward and reverse. "Rev" Stand for reverse movement. See picture above.

**Deg:** Stand for degree. A bagging start at 0deg and end at 360deg thus create a pattern cycle. The machine has an intern clock that keep cycling thought 360 degrees, which every action is made during that period.

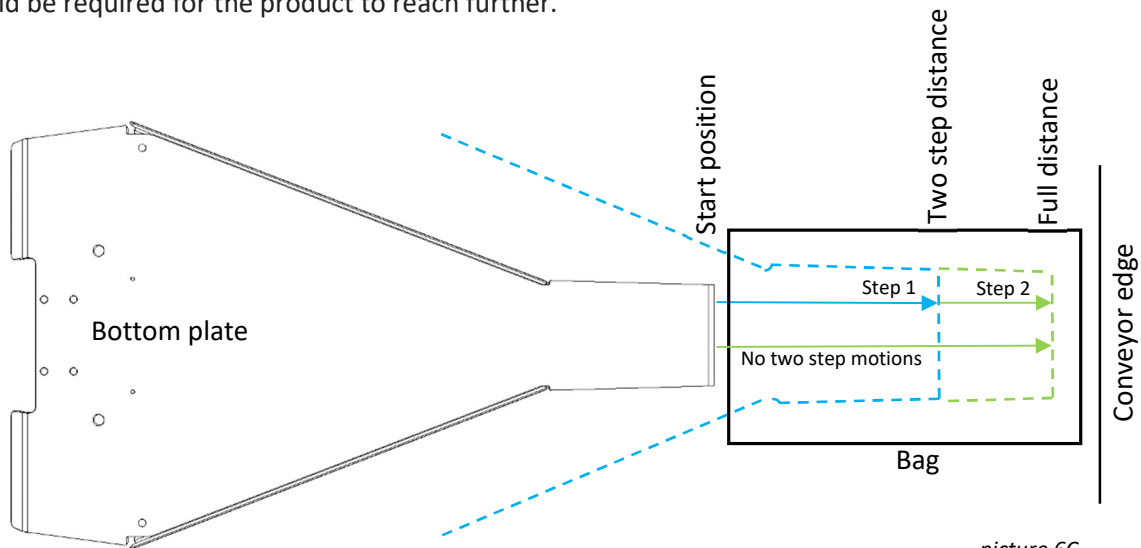
**ABS:** Stand for absolute. The actual value or measurement nonrelative to another value.

**In:** Inches measurement

**Ms:** millisecond. One thousandth of a second.

### 6.1.3: Two step motions

Used when the bags are small, and the plate need to travel further to deposit the bagged product on a conveyor. In other words, step 1 (in blue) would be required to bag properly, and step 2 (in green) would be required for the product to reach further.

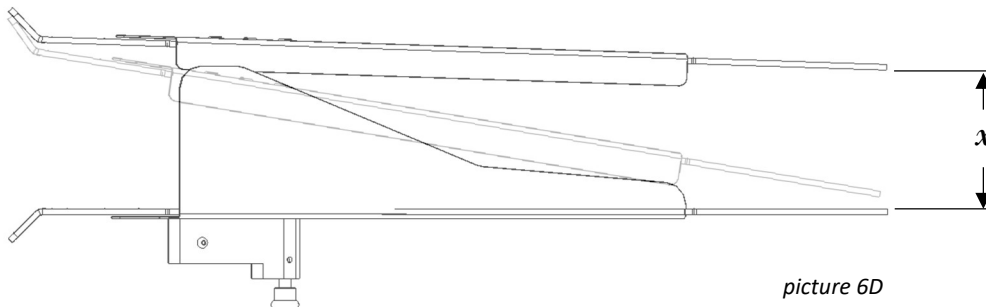


picture 6C

## 6.2: Definitions of parameters

### 6.2.1: Height

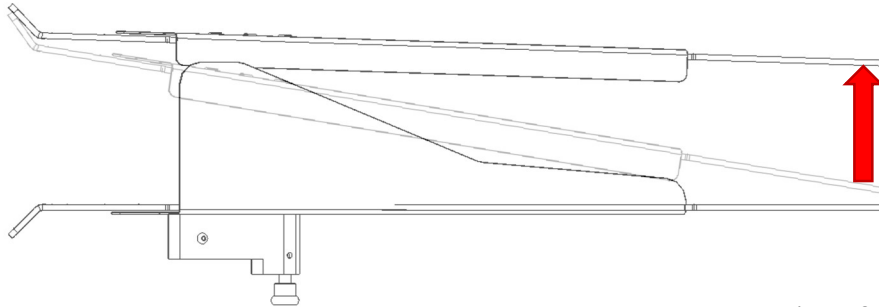
Value given to "the retract lifter motor" to raise the top plate at the height value during the bagging sequence. The value is associated to the thickness of the product stacks. The higher the value is, the bigger it will raise. A too low value will create a slack in the chain when the product is leaving the retract belt.



picture 6D

### 6.2.2: Retract lifter up (°)

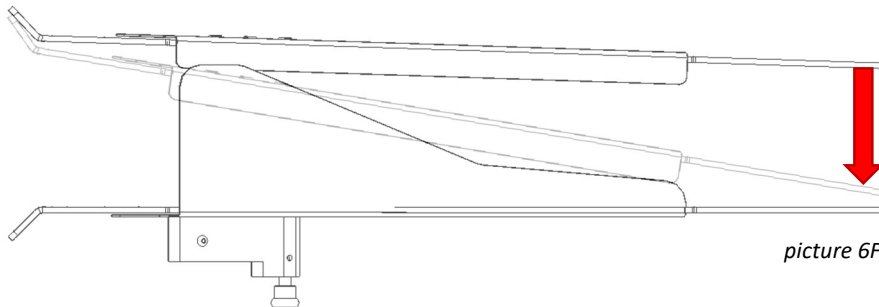
It reacts in relation of the parameter "**Height**". Between 0 and 360°, this value requests the retract lifter to start raising at that moment during one cycle. Raise the value will make it raise later. The speed and acceleration are managed by the controller. A too high value will create a slack in the chain in the middle of the cycle. Keep in mind the retract lifter need to fully raise and fully lower during 360°: make sure the retract lifter has finished his movement before requesting to lower.



picture 6E

### 6.2.3: Retract lifter down (°)

It reacts in relation of the parameter "**Height**". Between 0 and 360°, this value requests the retract lifter to start lowering at that moment during one cycle. Raise the value will make it raise later. The speed and acceleration are managed by the controller. A too high value will create a slack in the chain in the middle of the cycle. Keep in mind the retract lifter need to fully raise and fully lower during 360°: make sure the retract lifter has finished his movement before requesting to lower.

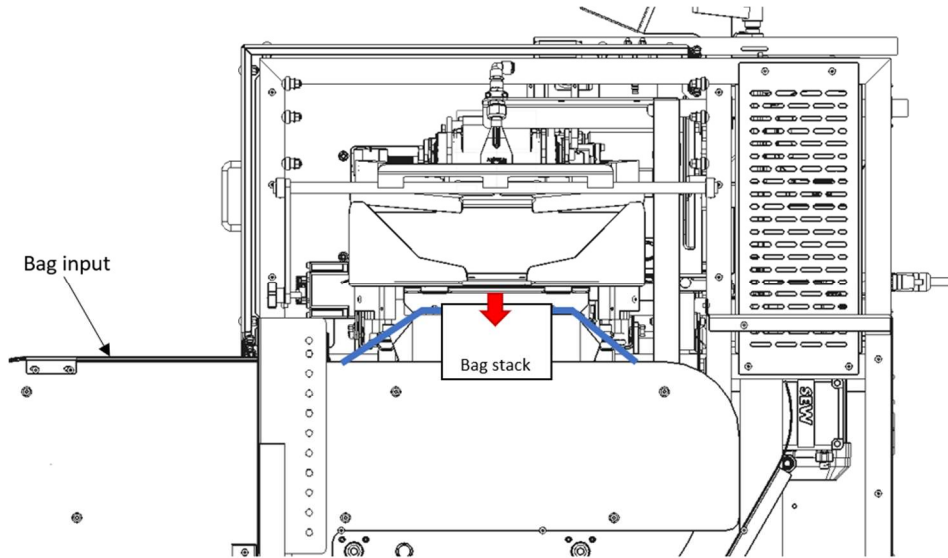


picture 6F



#### 6.2.4: Release bag (°)

The value is in degree, which is between 0° and end at 360°. The bag lifter will release the bag at that setting. If the bag tail has tearing or there are bag portion left under the bag holder, lower that value (may be release distance as well). On the other hands, if you have cuts on top of the bag caused by the belts, you might lower too quickly.



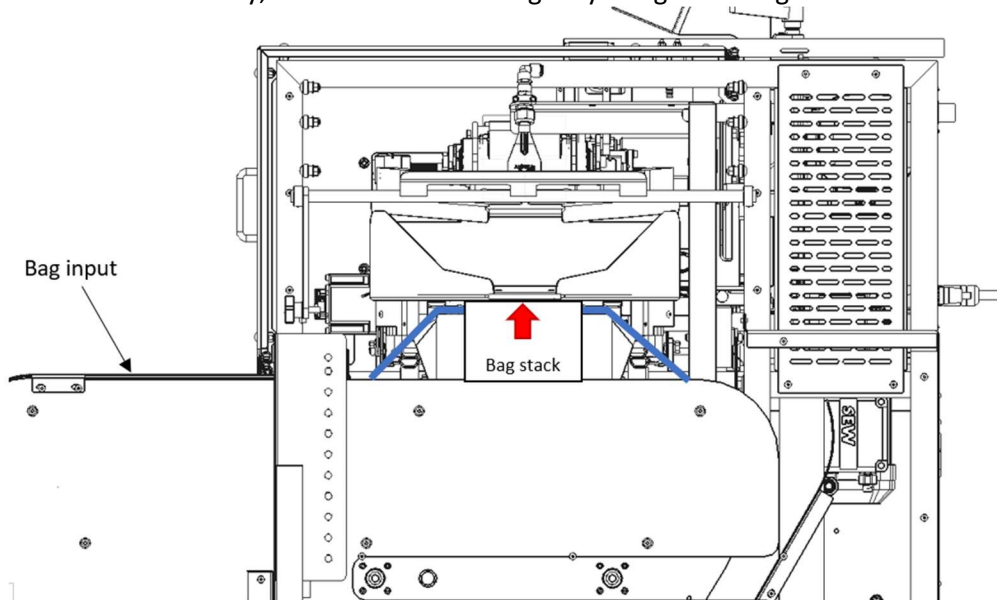
KLR.5051-L (Left version) picture 6G

#### 6.2.5: Bag release distance

On releasing the bag, this value tells how low it needs to be. See picture 6G.

#### 6.2.6: Hold bag (°)

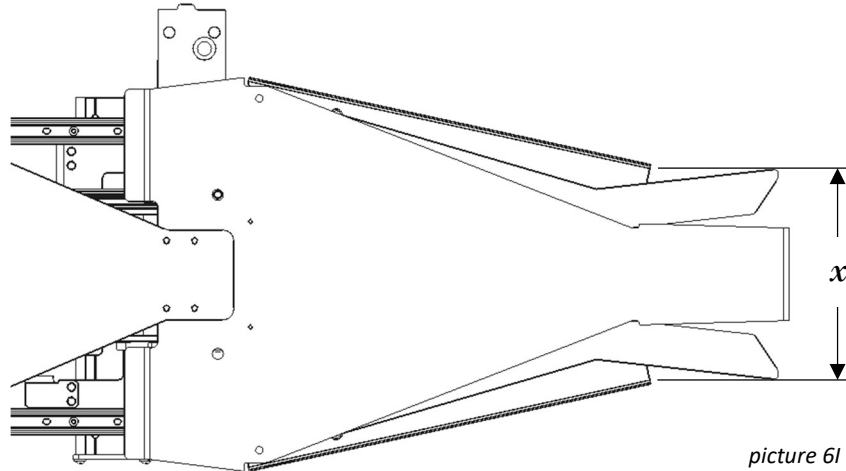
The value is in degree, which is between 0° and end at 360°. The bag lifter will hold the bags at the setting. If the value is too early, the belts while turning may bring some bags with it on the way back.



KLR.5051-L (Left version) picture 6H

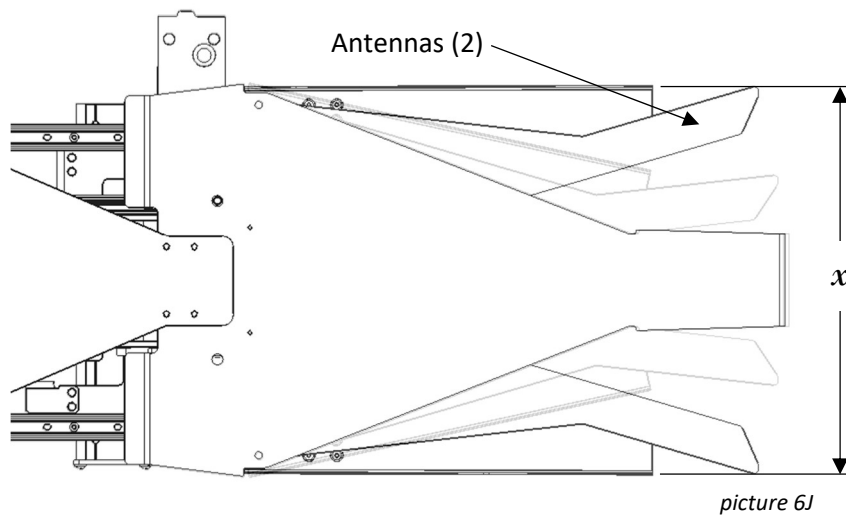
### 6.2.7: Scoop opening (Unit)

This value tells the scoop how wide it needs to open. The value is a unit and should be set a bit bigger than the product size. Only the bottom scoops are controlled, the top ones will be opened by the product itself. In the test page, the scoop opening can be tested to measure the real size.



### 6.2.8: Scoop opening 2 (Unit)

This value tells the scoop how wide it needs to open on the second step. The second step of the scoop is intended to flatten the bag with the "antenna" after the product went into the bag since the bag is larger than the product. Value should be close to the bag width.



### 6.2.9: Open scoop FWD (°)

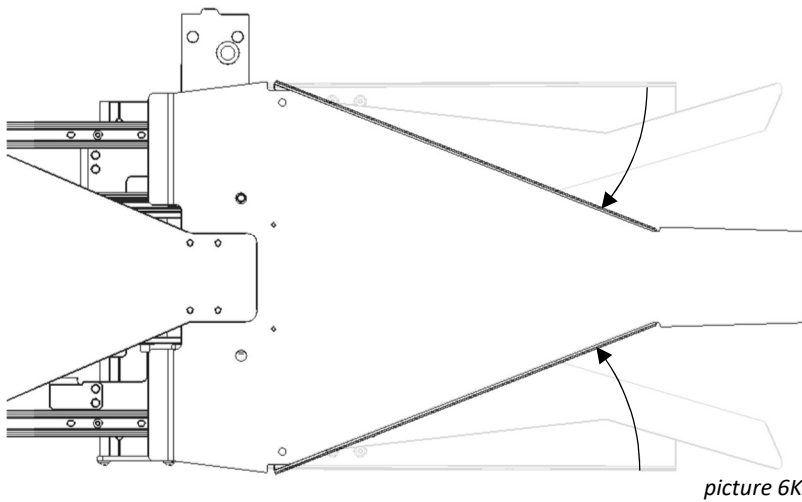
The value is in degree, which a bagging cycle starts at 0° and end at 360°. On the way forward, this value tells when to open the scoop. See picture 6I

### 6.2.10: Open scoop FWD 2 (°)

The value is in degree, which a bagging cycle starts at 0° and end at 360°. On the way forward, this value tells when to open the scoop. See picture 6J.

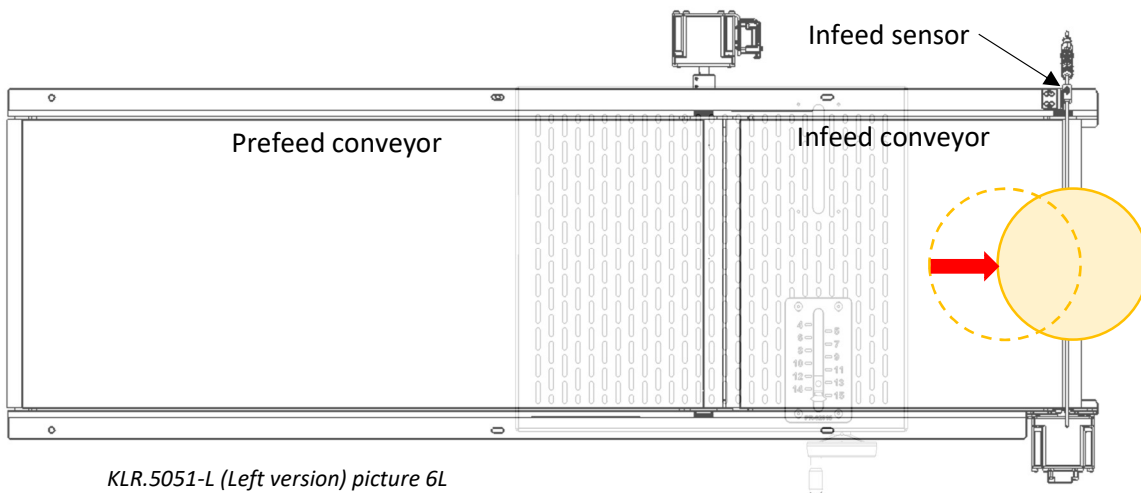
### 6.2.11: Close scoop (°)

The value is in degree, which a bagging cycle starts at 0° and end at 360°. On the way back, this value tells when to close the scoop. Must be higher than "open scoop Fwd".



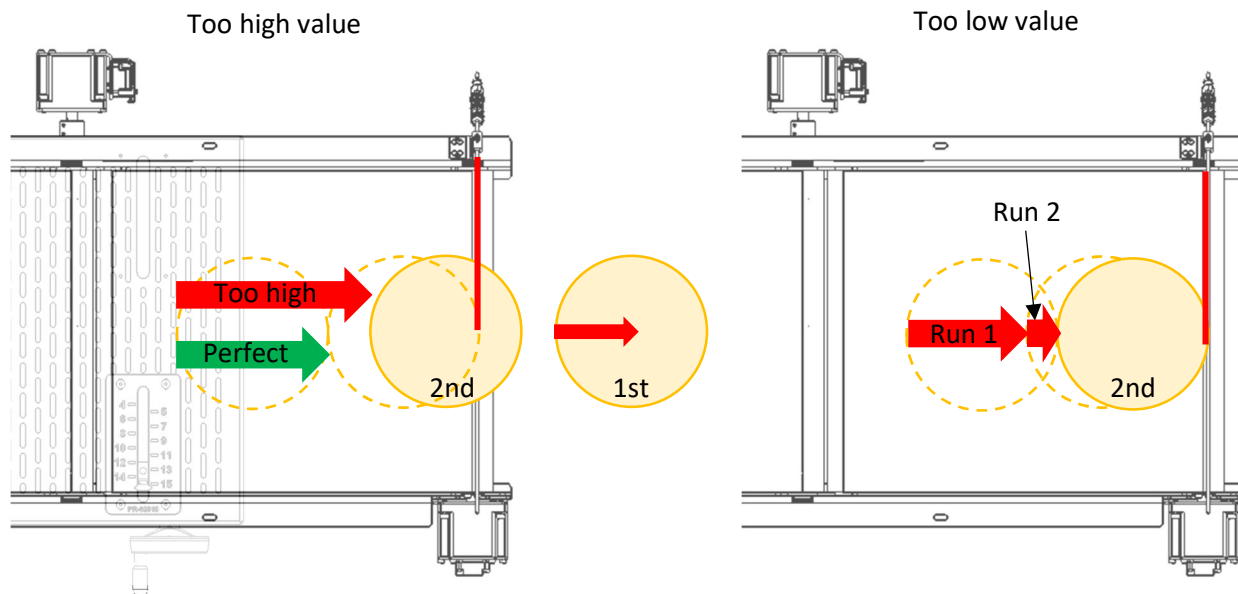
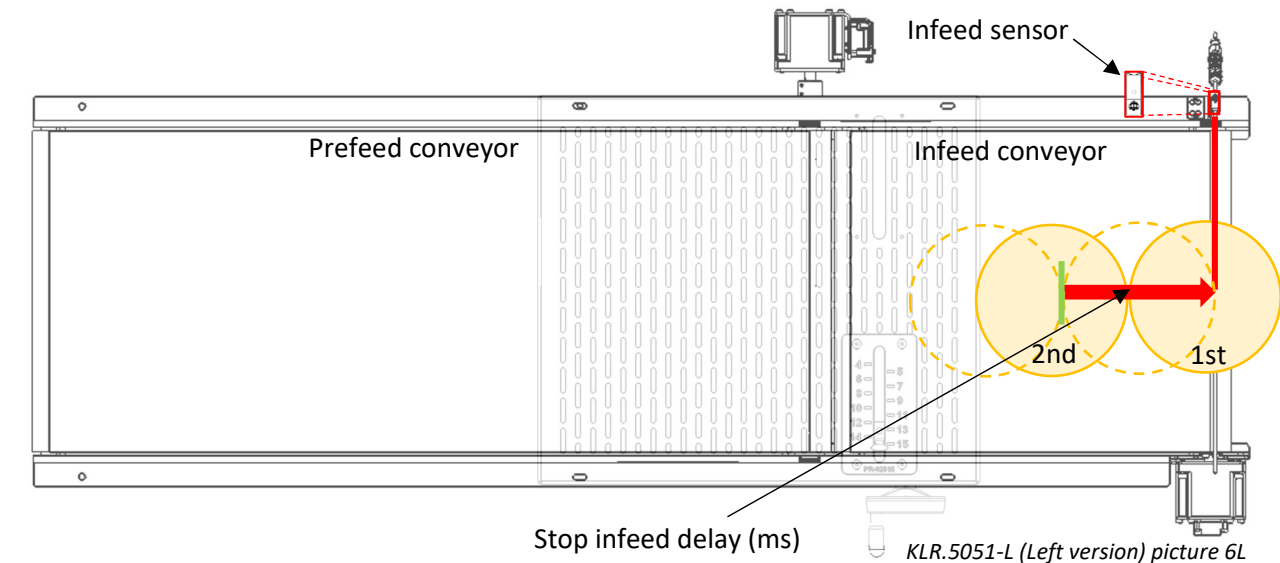
### 6.2.12: Product launch (°)

The value is in degree, which a bagging cycle is between 0° and end at 360°. When the plates have traveled back to their 0 position, the machine waits this value before starting back the infeed conveyor, so the product at the same time. If there is no product waiting, the infeed conveyor would still run.



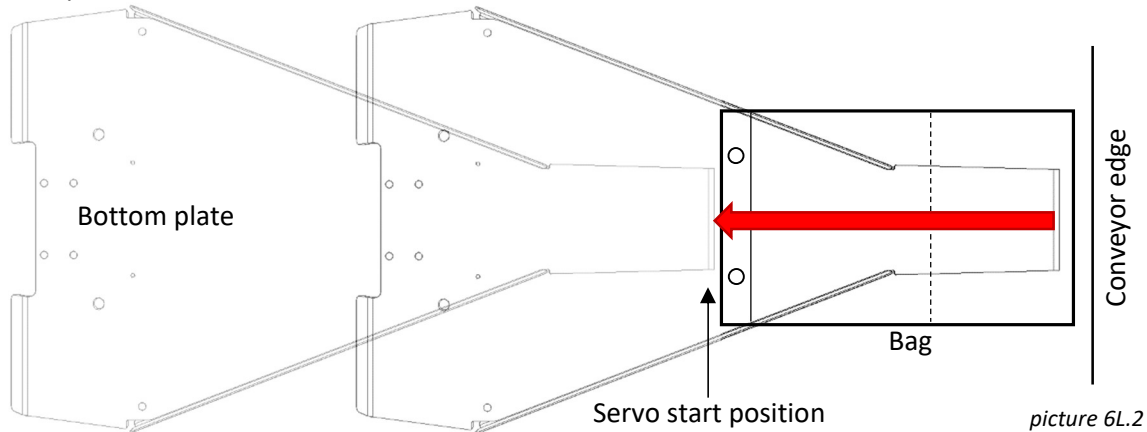
### 6.2.13: Stop infeed delay (ms)

After the first product has been launched, the infeed conveyor to stop at the second product to avoid bagging a double product. The Stop Infeed Delay in milliseconds is to determine how long the product takes to transition into the retract system. It may also coincide with the beginning of the second product. In a certain way, it is the measure the product diameter, but in time relative to the speed of the conveyor. Therefore, if the speed of the infeed conveyor changes, the stop infeed delay need to change also.



#### 6.2.14: Plate return (°)

The value is in degree. The Retract systems (plate) only move forward at 0° but return at the Plate return value in degree (°). The parameter basically tells when to bring back the retract system to servo start position.



#### 6.2.15: Speed plate FWD (forward)

Speed in inches per seconds of the plates when moving forward in the bag. Raise the number to raise the speed. Most of the recipe will be between 2000 and 6000. The goal is: when the plate has reached the destination, the product should arrive just after.

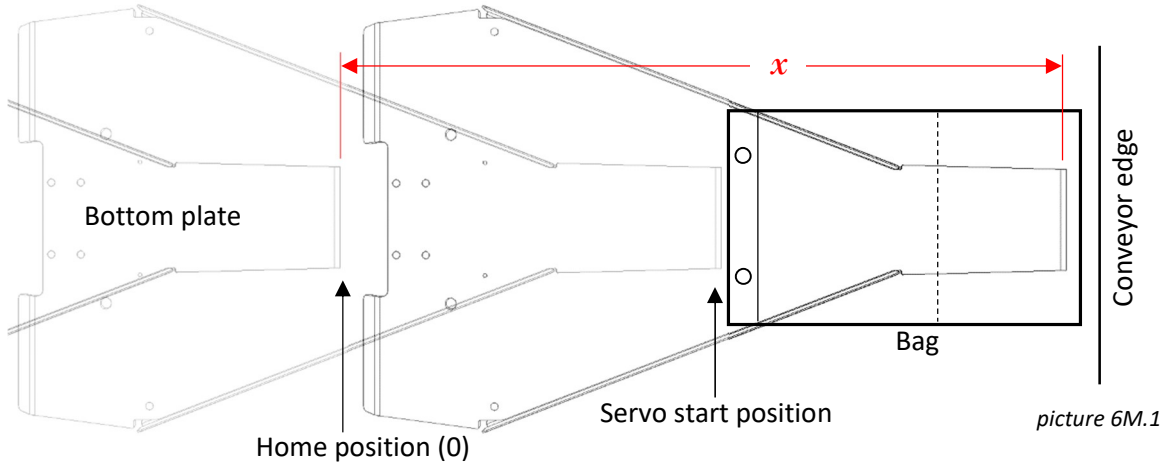
Changing this parameter may required to revisit other parameters. Check: retract belt speed and delay plates (ms).

#### 6.2.16: Speed plate REV (reverse)

Speed in inches per seconds of the plates when moving in reverse (back) in the bag sequence. Used specially to retract quick enough from the bag, to be ready to receive the next product. The value should be rather high but can be lowered down to save on the mechanic side when the package per minute is low.

### 6.2.17: Full distance (in) (absolute)

Distance in inches where the mechanism at the end of forward movement. The value must be set according to where to deposit the product onto the outfeed conveyor. Typically set so the product sits on the edge of the conveyor to get closed or sealed.

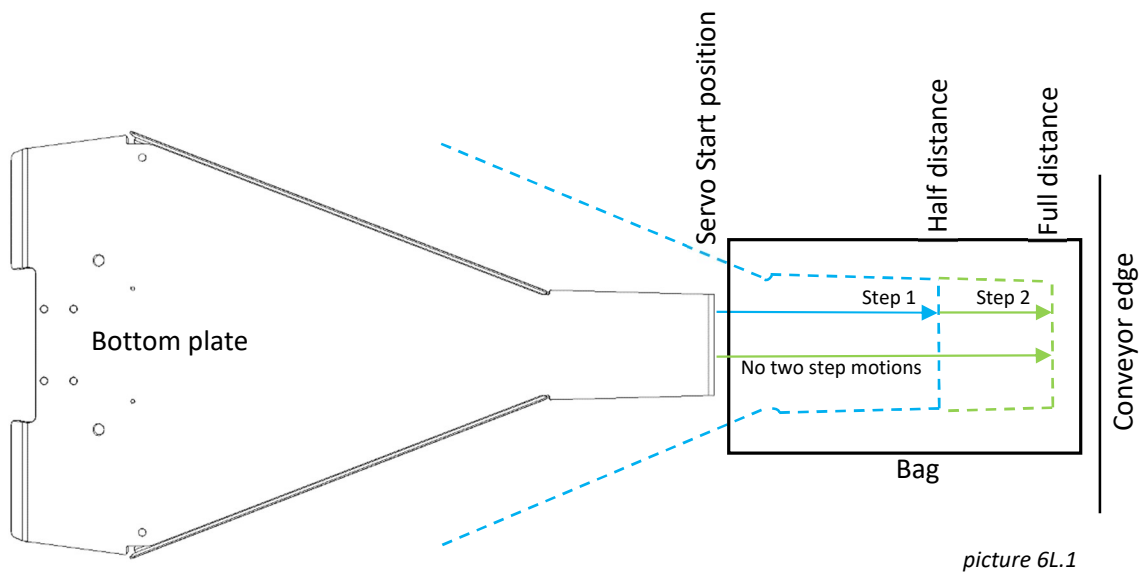


### 6.2.18: Half distance (in) (absolute)

This is the parameter that set the first step position in inches. See picture 6L.1. To cancel two step motion, insert same value than Full distance.

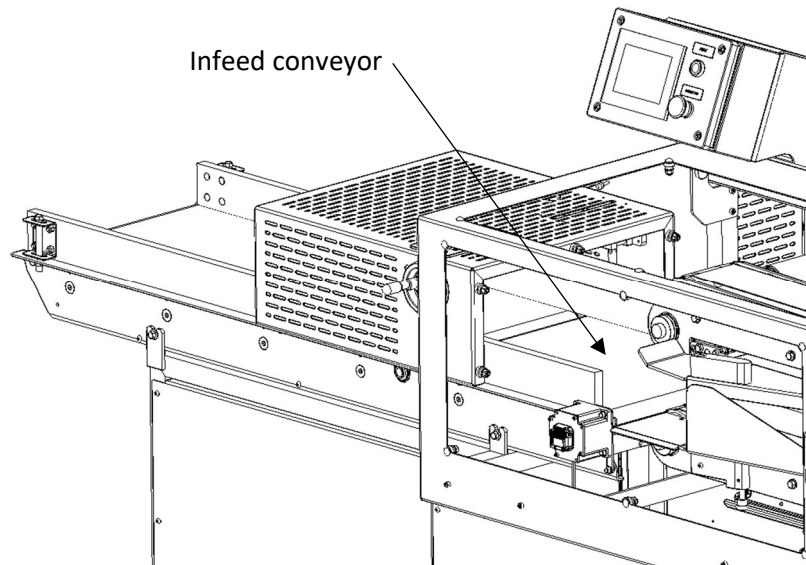
### 6.2.19: Half restart (°)

When set to 0, the function is disabled, and the machine will skip the first step and go to the full distance. But as long that there is a lower value then the full distance, the machine will do a 2 step motions each cycle. See two step motions definitions for more information.



### 6.2.20: Infeed speed

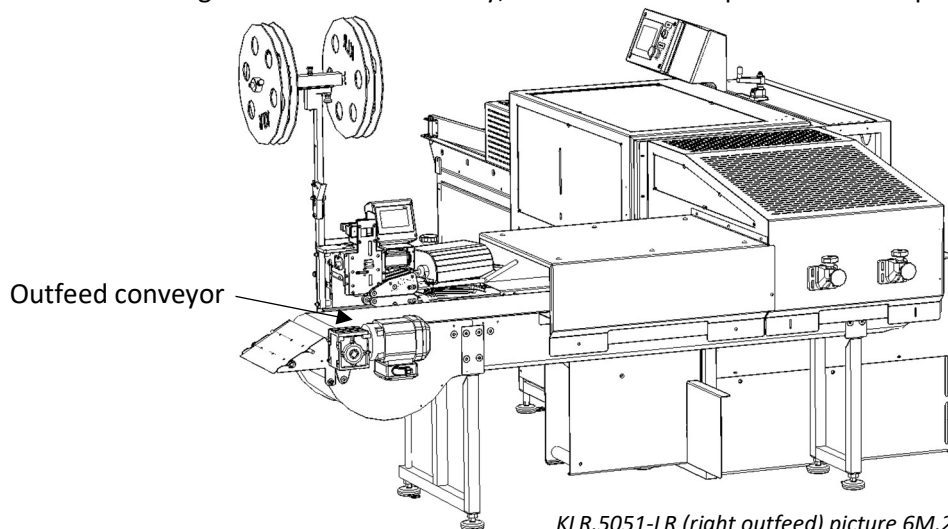
Setting is in pulse per minutes. Raise the number to raise the speed. If the speed needs to be changed, verify that the machine creates double products. In that case, increase "Stop infeed delay (ms)".



*KLR.5051-L (Left version) picture 6L*

### 6.2.21: Outfeed speed

Speed in hertz of the outfeed conveyor. Set this value to create a certain gap in between each product to facilitate the bag closer machine. Usually, sealer method requires a slower speed than a clip method.

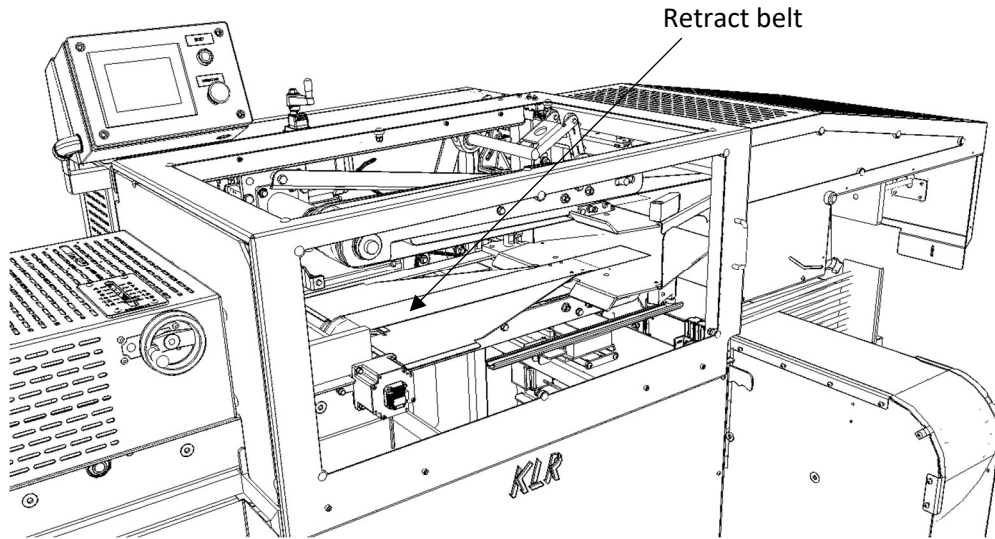


*KLR.5051-LR (right outfeed) picture 6M.2*



### 6.2.22: Retract belt speed

Speed of the retract belt in hertz. Raise the number to raise the speed. A speed too high would make the product arrives before the moment the scoops open. On the other hand, a speed too low would not let the product enough momentum to reach the bottom of the bag. Change this parameter will affect the efficiency of Open scoop Fwd (deg) and Up/down Speed up (Retract lifter). It will require an adjustment of these two setting as well.

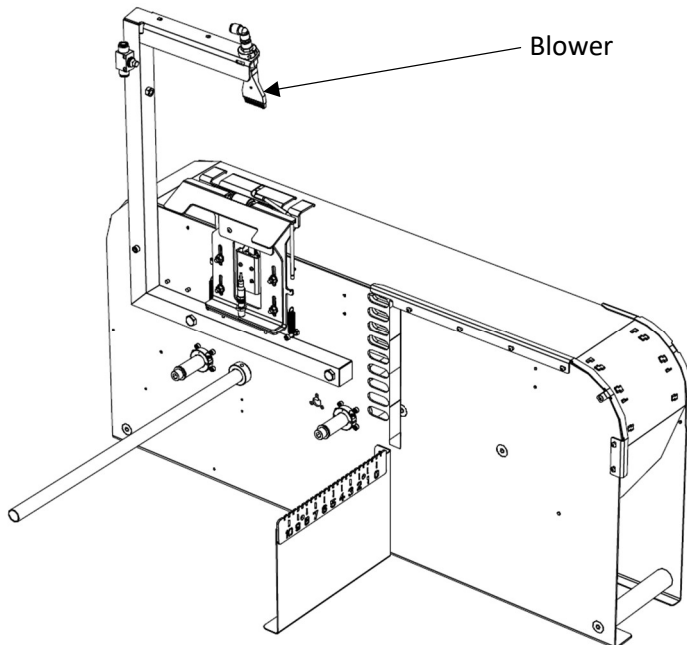


### 6.2.23: Start bag blower (°)

Moment in degrees (°) the main blower turns ON.

### 6.2.24: Stop bag blower (°)

Moment in degrees (°) the main blower turns OFF.

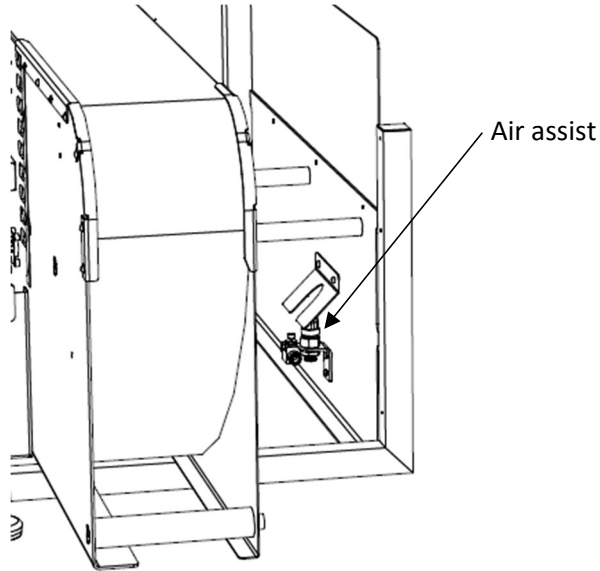


**6.2.25: Start air assist (°)**

Moment in degrees (°) the air assist turns ON. To disable it, insert the same value than stop air assist.

**6.2.26: Stop air assist (°)**

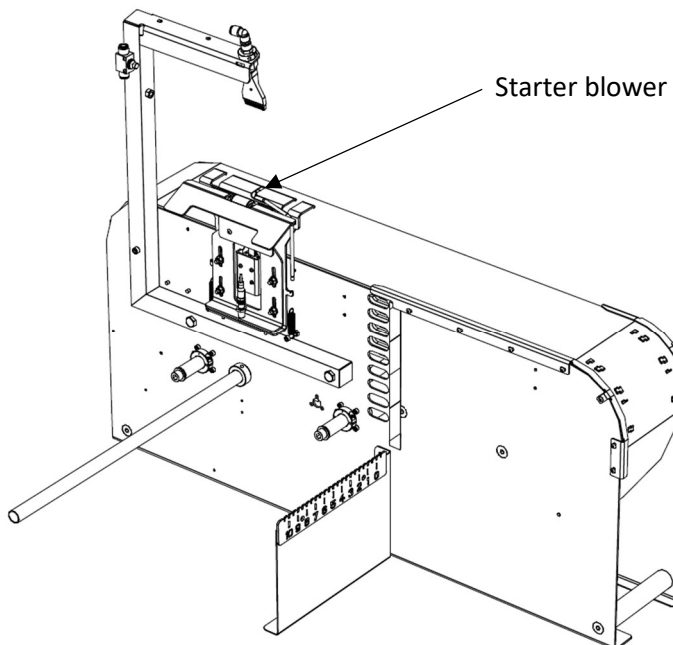
Moment in degrees (°) the air assist turns OFF.

**6.2.27: Start starter blower (°)**

Moment in degrees (°) the Starter blower turns ON. To disable it, insert the same value than stop starter blower

**6.2.28: Stop starter blower (°)**

Moment in degrees (°) the Starter blower turns OFF.



### 6.2.29: Bag flatner option (ON/OFF)

Flattener is an option dedicated to flatten properly the bag before it goes into a sealer device. It helps getting rid of wrinkles on the seal.

### 6.2.30: Delay flatner (ms)

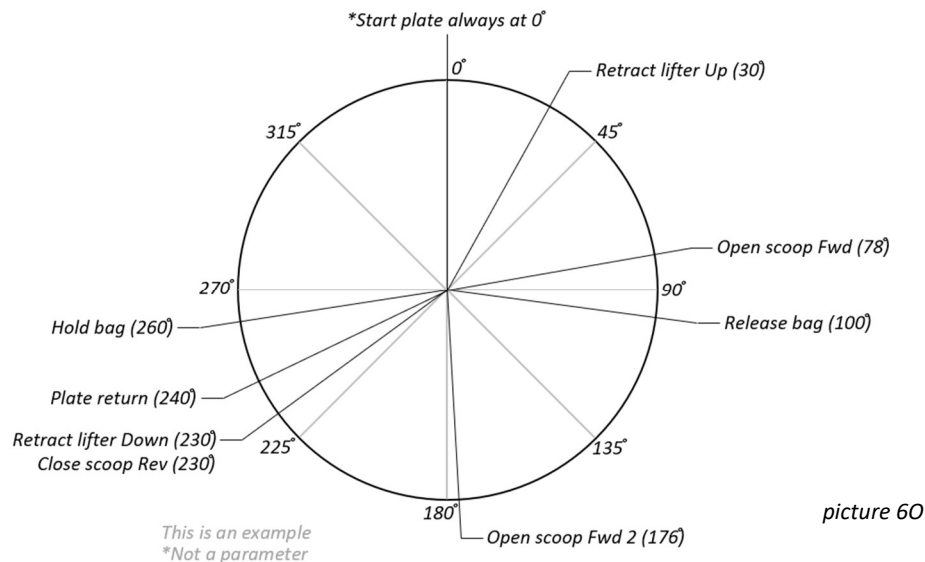
The parameter set the machine to start the blower after the product landed onto the conveyor. The value is in milliseconds.

### 6.2.31: Time flatner (ms)

After the start of the flattener blower, this is how long it remains ON.

### 6.2.32: Pack per minutes

This parameter is configuring the speed of the intern degree clock which relate to every parameter set in degrees. Take note that raising the number make it quicker but does not necessarily make the bagger bag quicker. When changing "Pack per minute", All the parameters that refer to SPEED might need to be readdressed.

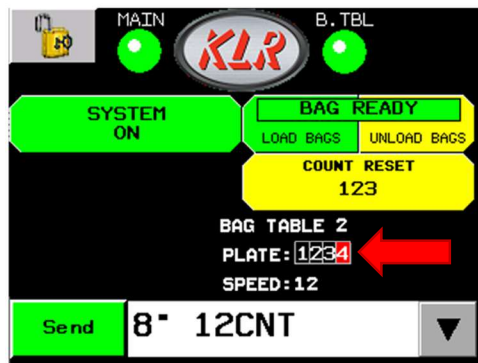


### 6.2.33: Delay stop Outfeed

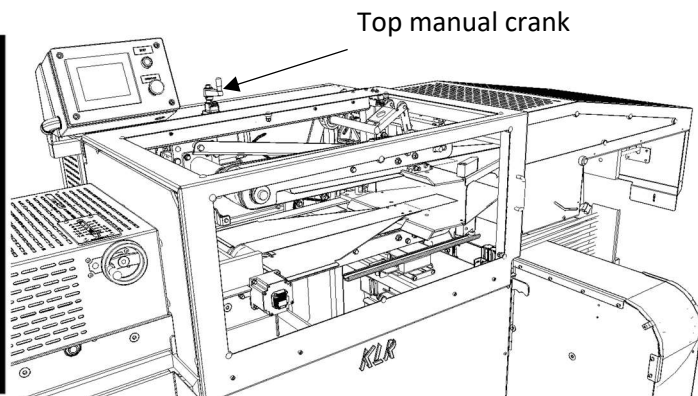
This value should be set to the time it takes for a product to travel from the point it lands on the conveyor until it is completely sealed. This depends on how far the sealer or closing machine is from the bagger. When stopping the bagger using the system OFF button on the screen, the outfeed conveyor will continue running for that set amount of time. This prevents the conveyor from stopping in the middle of a sealing process.

### 6.2.34: Plate height

This is the adjustment communicated to operators of the machine via the touch screen. They can look at the value which translate to the crank display, and they can perform a manual adjustment on it.



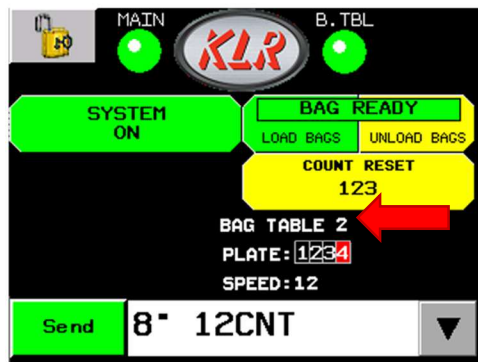
KLR.5051 screen picture 6R



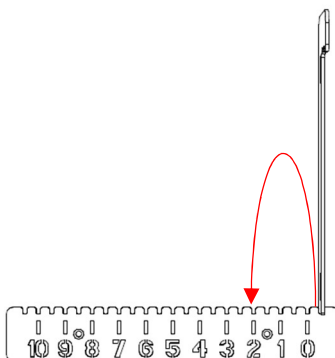
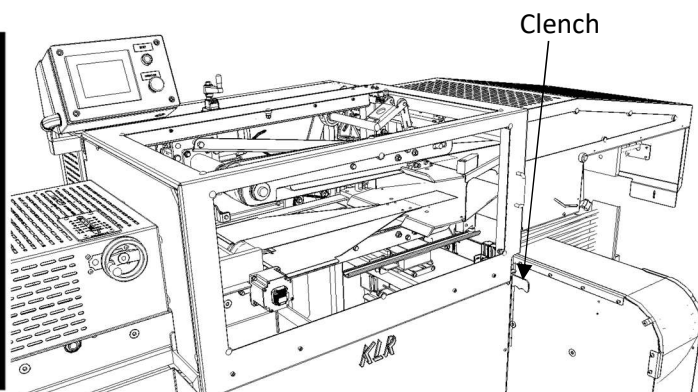
KLR.5051-L (Left version) picture 6S

### 6.2.35: Bag table position

Value appearing on the main screen according to that recipe. Value to communicate to the operators on change over.



KLR.5051 screen picture 6T



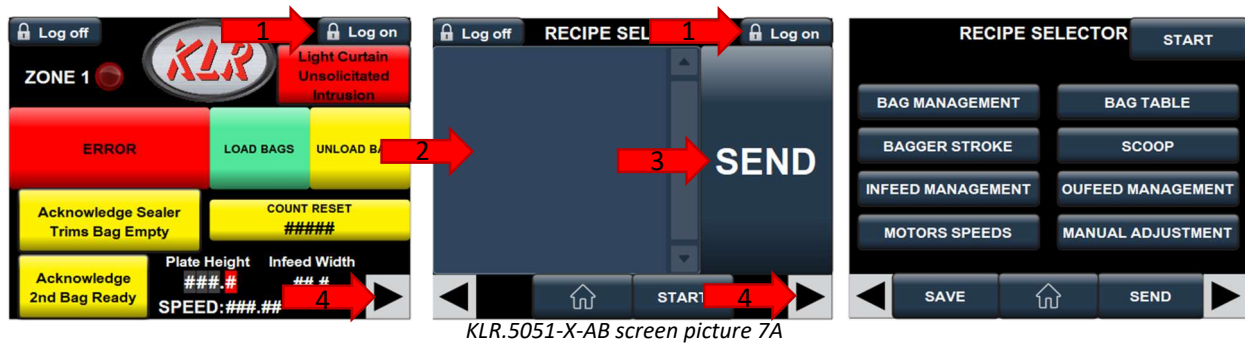
## 7.0: RECIPE SETTING PAGE KLR.5051-AB



➤ It is possible to adjust parameters to the point of a malfunction of the packaging machine. Exercise caution when making parameter changes and make changes in small increments. See recipe manager for KLR.5051-AB to save your recipe and be able to keep track of your changes.

### 7.1: Unlock advance parameters

Advanced Settings must be unlocked by pressing Log on (1), select the recipe desired to be modified (2) and press SEND (3). press to the arrows (4) until the third page. From now one, every parameter changed will affect the recipe previously selected.

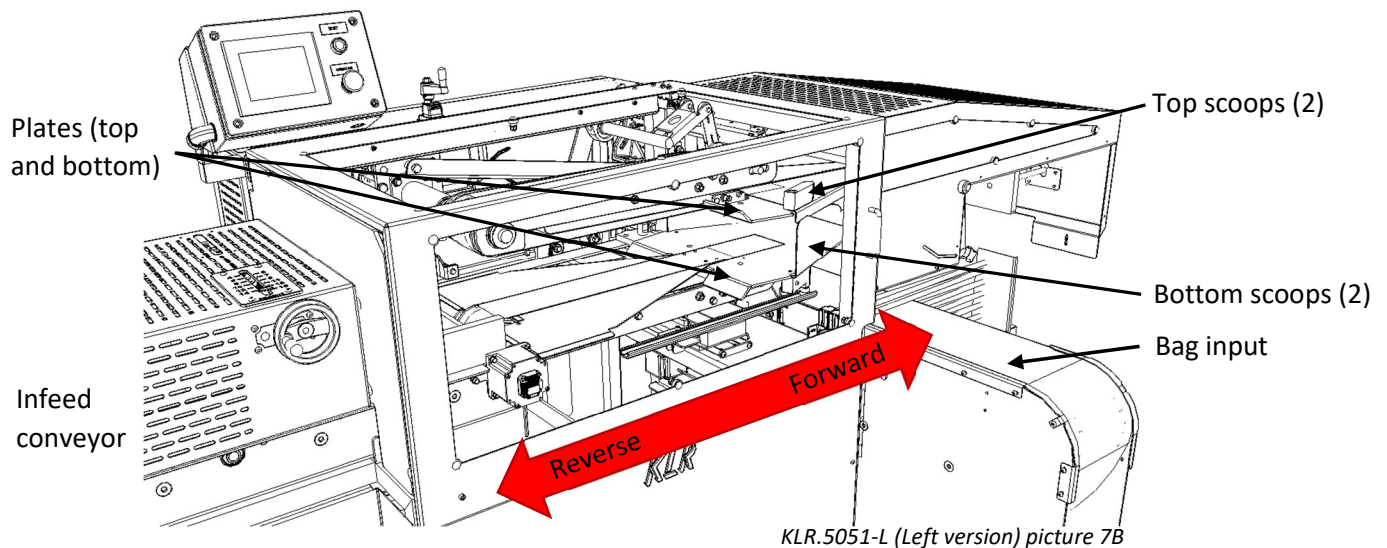


When a parameter is modified, it is important to SAVE and SEND:

- to make it permanent and remains this way on power cycle: press SAVE.
- to make the machine acknowledge the new changed recipe and start using it: press SEND.

### 7.2: Definitions of functions and acronyms

This figure below will be used to describe couple next parameters. Keep in mind that picture features a full options machine. General parts remain the same concept through all the machines. With parameters that only available with certain options will not be visible from the display. In this document, all parameters are explained in the same order of the touch screen.



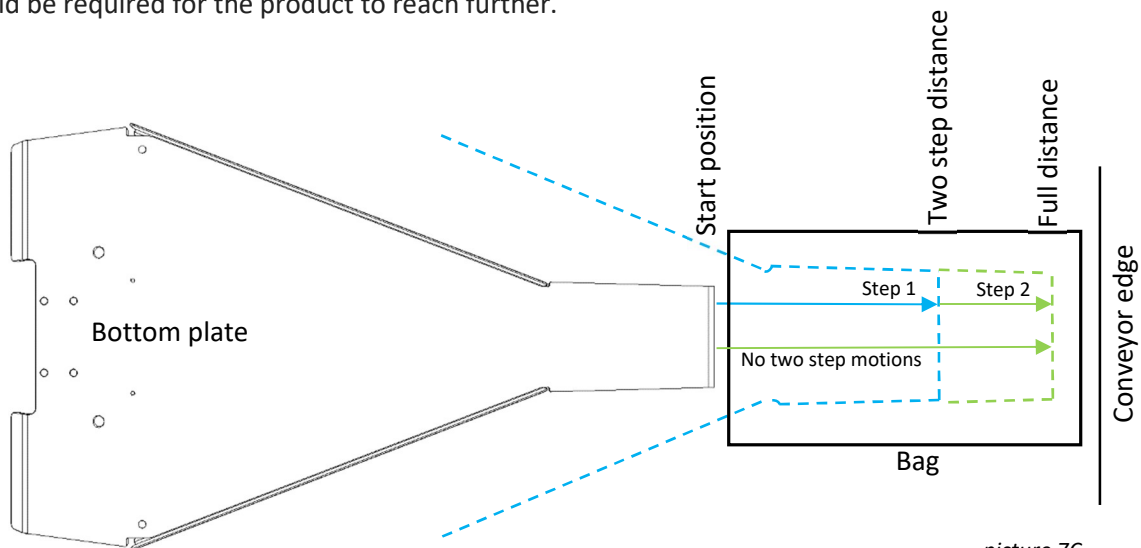


### 7.2.2: Acronyms

| Acronyms   | Description                                                                                                                                                                                                    |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fwd</b> | The bagging cycle can be split into two different actions, forward and reverse. "Fwd" Stand for forward movement. See picture above.                                                                           |
| <b>Rev</b> | The bagging cycle can be split into two different actions, forward and reverse. "Rev" Stand for reverse movement. See picture above.                                                                           |
| <b>Deg</b> | Stand for degree. A bagging start at 0deg and end at 360deg thus create a pattern cycle. The machine has an intern clock that keep cycling thought 360 degrees, which every action is made during that period. |
| <b>ABS</b> | Stand for absolute. The actual value or measurement nonrelative to another value.                                                                                                                              |
| <b>In</b>  | Inches measurement                                                                                                                                                                                             |
| <b>Ms</b>  | millisecond. One thousandth of a second.                                                                                                                                                                       |

### 7.2.3: Two step motions

Used when the bags are small, and the plate need to travel further to deposit the bagged product on a conveyor. In other words, step 1 (in blue) would be required to bag properly, and step 2 (in green) would be required for the product to reach further.



picture 7C

### 7.3: Bag management

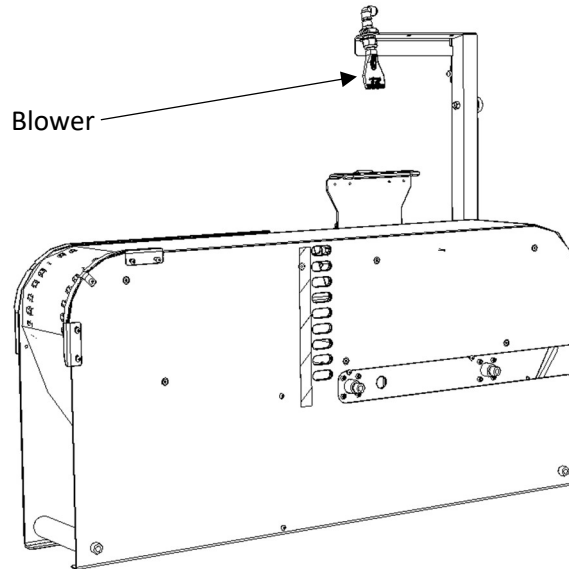
To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press Bag management.



KLR.5051-X-AB screen picture 7D

### Stop blower (deg)

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the machine when to stop the blower according to this intern clock. Make sure it is long enough so the retract systems can enter the bag before shutting the blower.



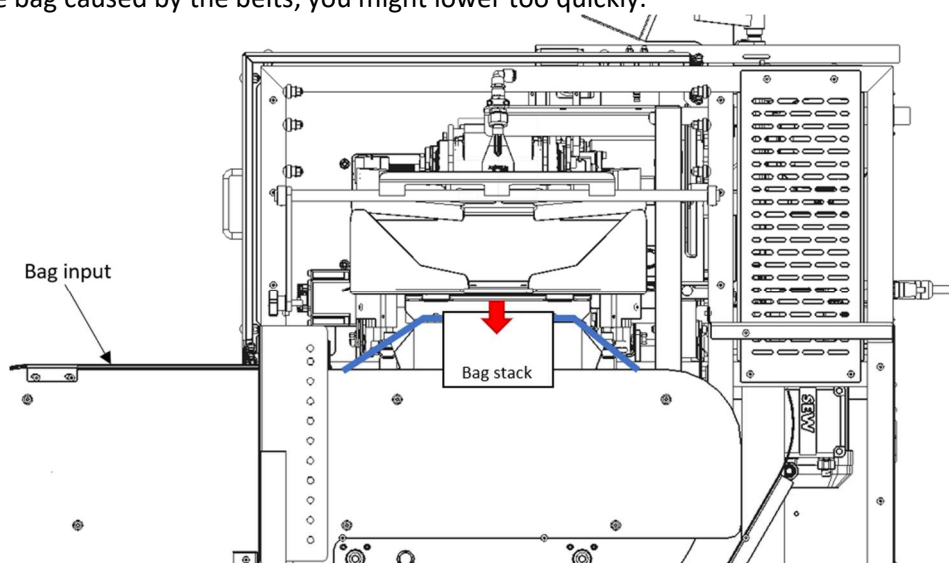
*Bag input module (Left version) picture 7E*

### Restart blower (deg)

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the machine when to stop the blower according to this intern clock. The value must be bigger than "Stop blower". The blower will not start if there is no product ready to be bagged.

### Release bag (deg)

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. The bag lifter will release the bag at that setting. If the bag tail has tearing, lower that value. On the other hands, if you have cuts on top of the bag caused by the belts, you might lower too quickly.

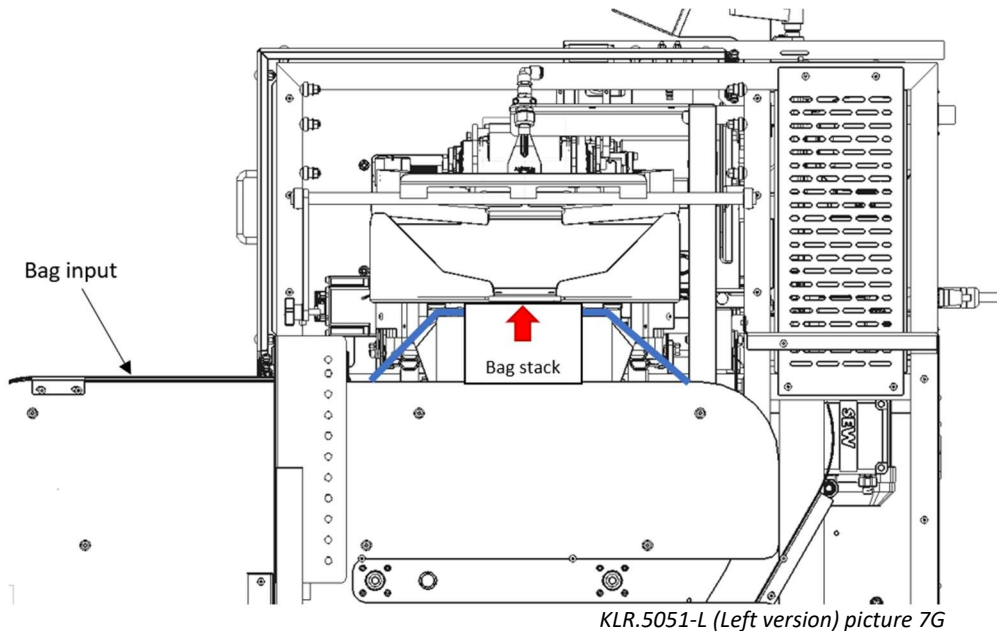


*KLR.5051-L (Left version) picture 7F*



### Hold bag (deg)

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. The bag lifter will hold the bags at the setting. If the value is too early, the belts while turning will bring some bag with it on the way back.



### Check for product (deg)

On the way reverse (back), the machine will go check if a product is already waiting to be bagged. If there is in fact one ready, it will for example: allowed blower to start, keep the retract belt ongoing. the value of "Check for product" will determine when to check.

### 7.4: Bagger stroke

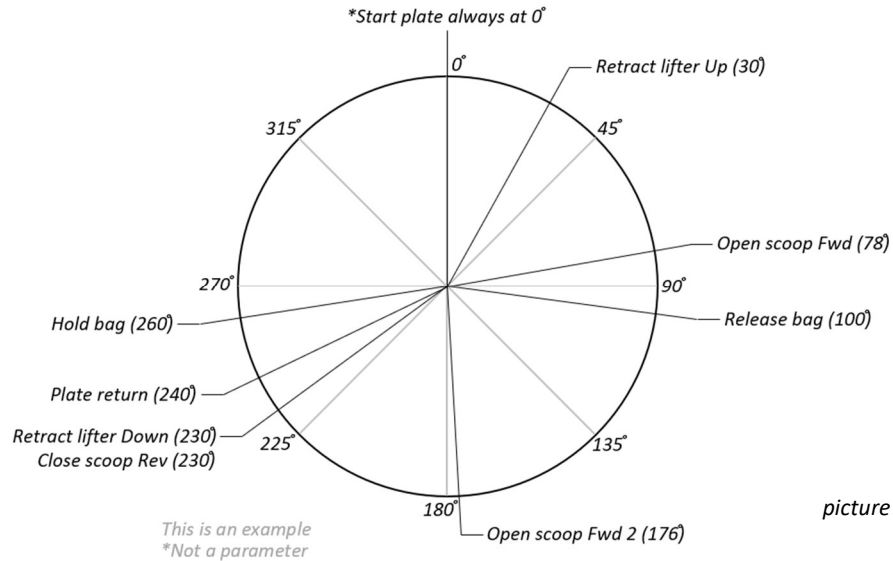
To reach bag management, the machine must be unlocked with a valid username and password. See "Unlock advanced parameters". Press Bag management.



KLR.5051-X-AB screen picture 7H

### Pack per minute

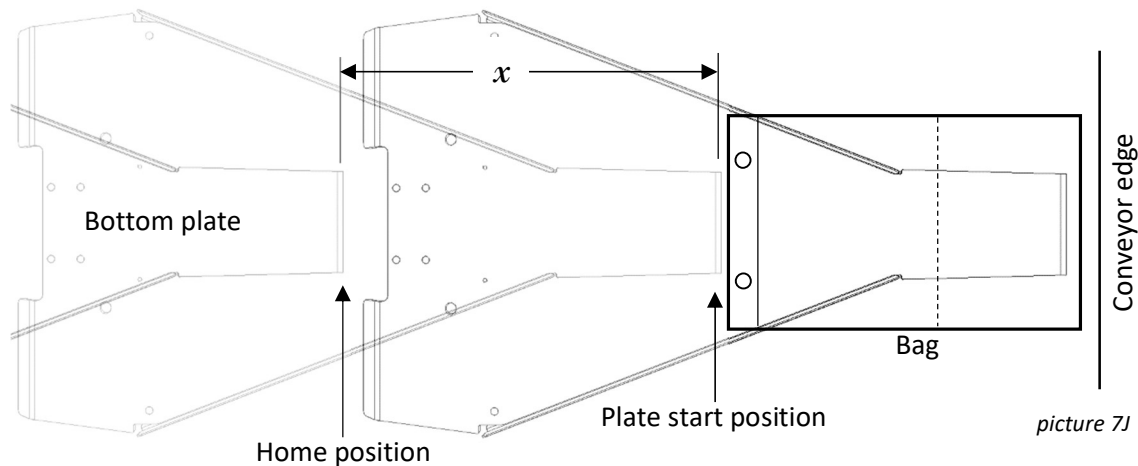
This parameter is configuring the speed of the intern degree clock which relate to every parameter set in degrees. Take note that raising the number make it quicker but does not necessarily make the bagger bag quicker. When changing "Pack per minute", All the parameters that refer to SPEED might need to be readdressed.



picture 71

### Plate start position (in)

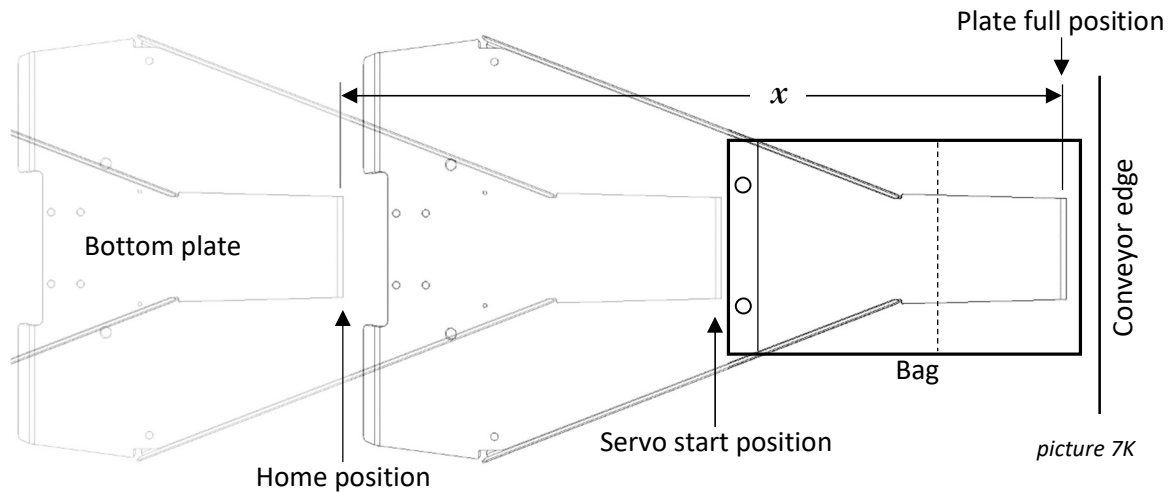
The bag table must always be adjusted so the tail of the bag is close to the conveyor. The parameter is used to set a different 0 position (or waiting position) to eliminate useless movement of the mechanism. Make sure it is not too far so the blower cannot inflate the bag properly



picture 71

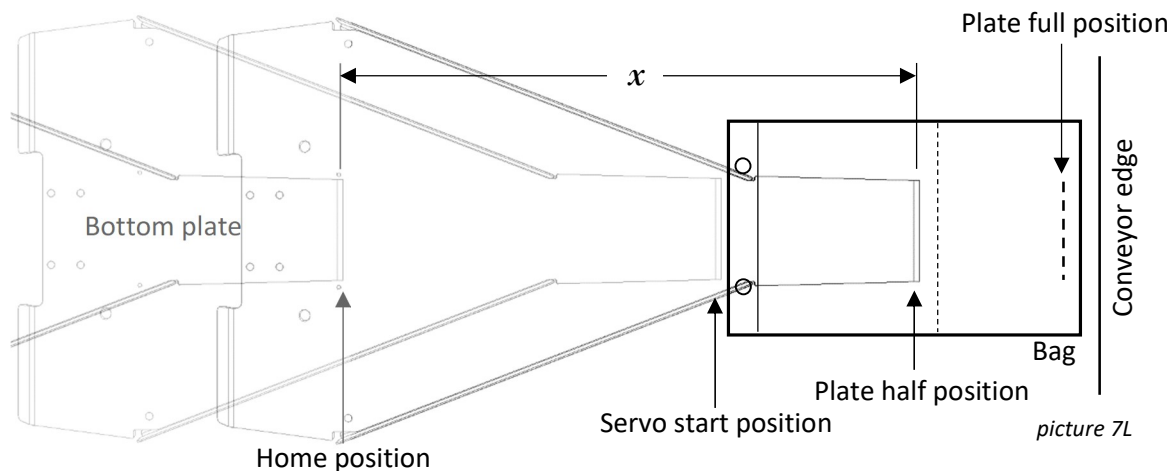
### Plate full position (in) ABS

Distance in inches where the mechanism at the end of forward movement. The dimension the value must be set according to where to deposit the product onto the outfeed conveyor. Typically set so the product sits on the edge of the conveyor to get closed or sealed.



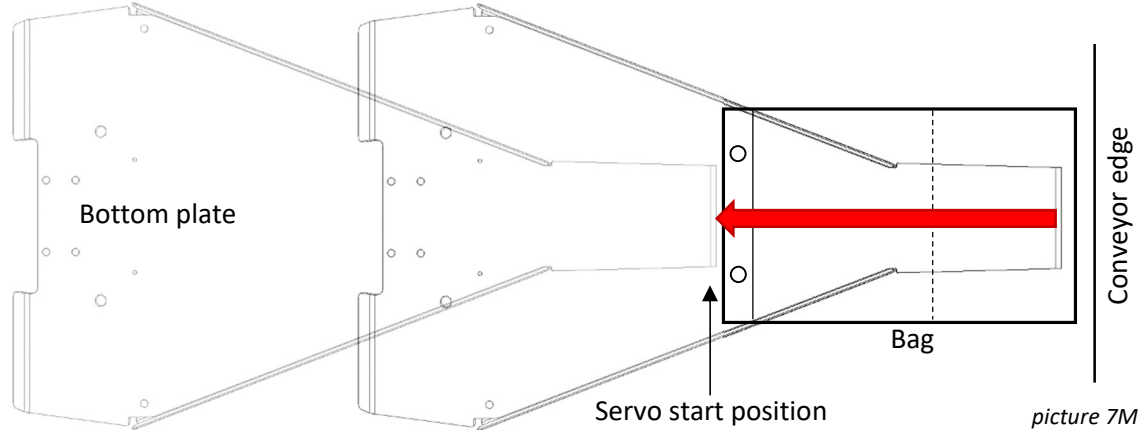
### Plate half position (in) ABS

Distance in inches where the mechanism at the end of the first step movement. See "**two step motions**" for more information. The plate half position is the first position the retract system will go. The objective is: as soon as it reaches this location, open scoops and right after that the product comes in the bag. Typically set so the scoop opens nicely on the edge of the bag.



**Plate return (deg)**

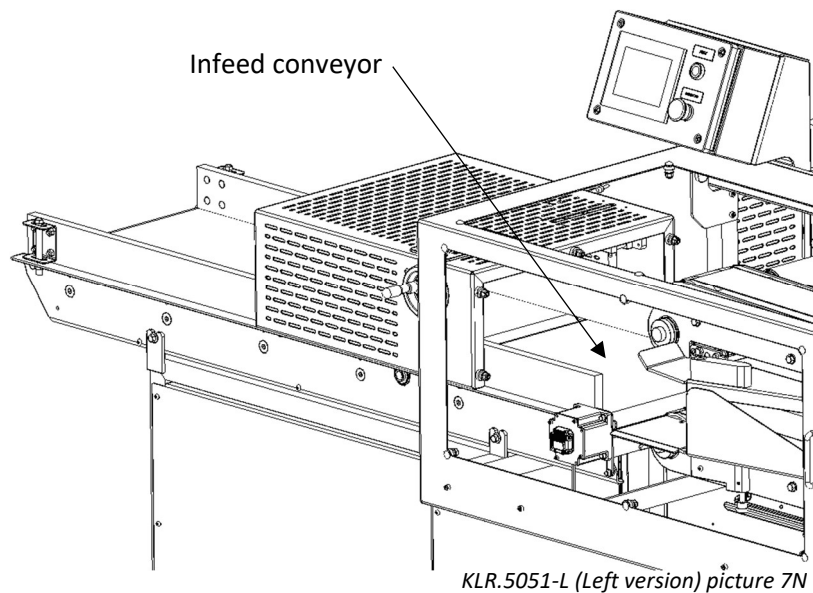
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. The parameter basically tells the machine how long to stay fully extended (full distance).

**Two step angle (deg)**

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. It is the time which the retract system stop waiting in the half position (first step) and proceed to the full distance (second step).

**Infeed launch next product (deg)**

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. When the retract system is on the way back, this parameter stand for when the machine is allowed to send the next product.



## 7.5: Infeed management

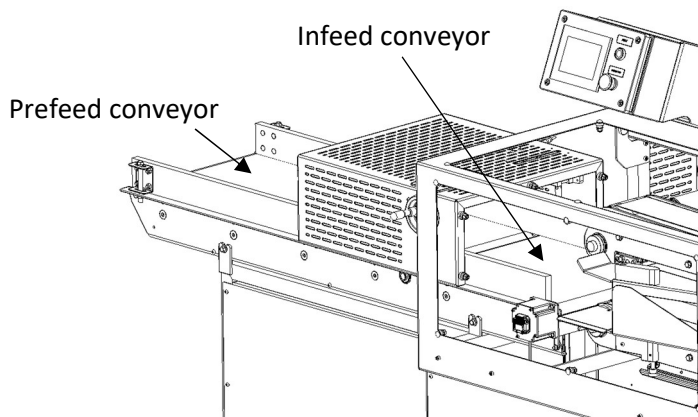
To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press Infeed management.



KLR.5051-X-AB screen picture 70

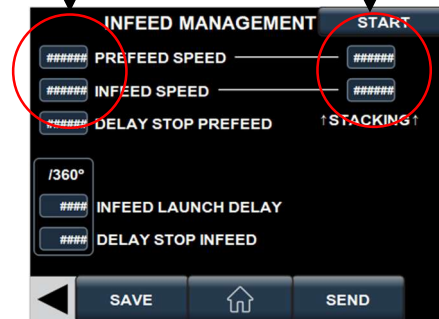
### Prefeed speed and Infeed speed

Speed of the prefeed and infeed conveyor respectively. There are two speed which this conveyor will use: Regular and stacking. Regular speed is active most of the time with normal operation. On the other hand, stacking speed will be active on bag change or when another machine in the line tells the bagger to prepare to stop via interlock. Stacking speed will then create a buffer.



KLR.5051-L screen picture 7P

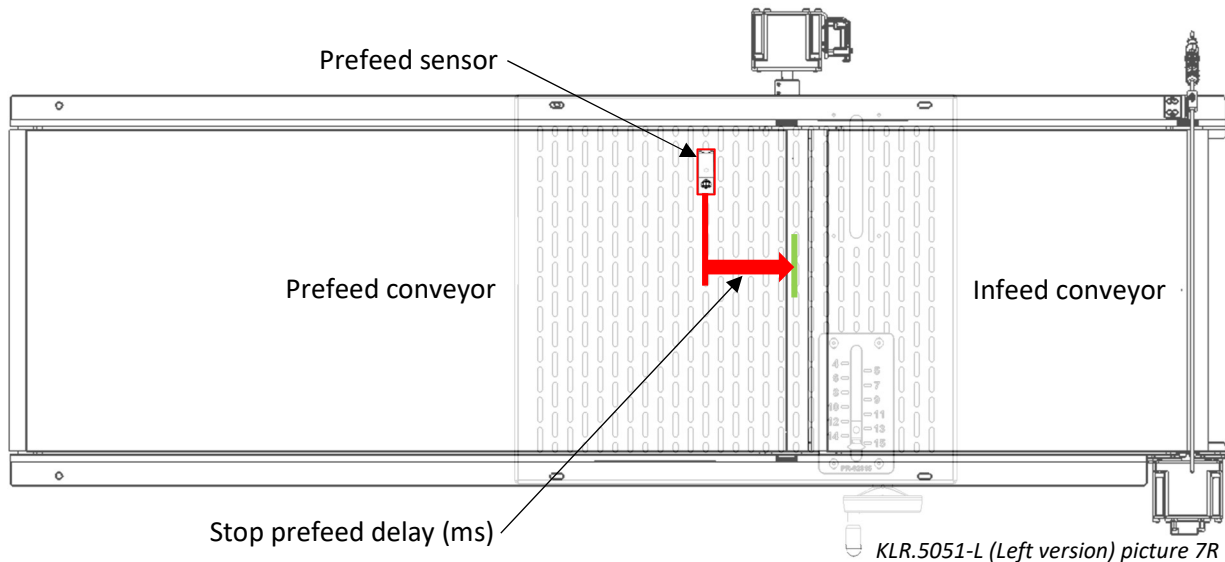
Regular speed      Stacking speed



KLR.5051-X-AB screen picture 7Q

### Stop prefeed delay (ms)

It is the time the prefeed conveyor takes to stop when a product triggers the sensor located on the prefeed conveyor. From the time the sensor sees a product (red line) until it reaches the end of the infeed belt (infeed must stop when the product reaches green line). The position of that sensor is subject to change from a machine to another.

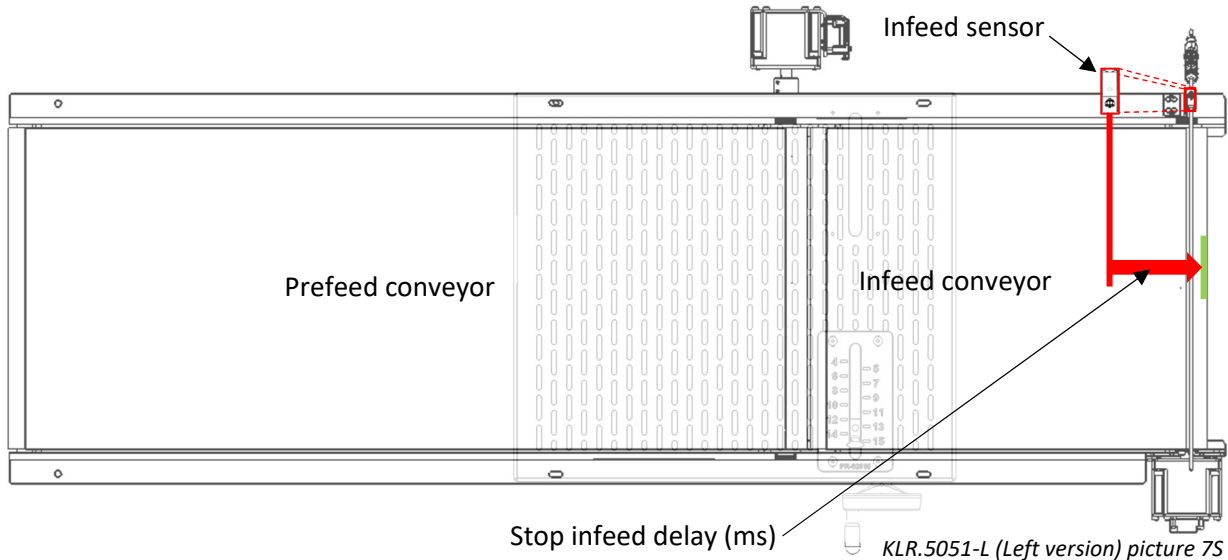


### Infeed launch delay

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. Unlike **Infeed launch next product** is for when the machine is allowed to send the next product, **Infeed launch delay** is the parameter that sending the next product.

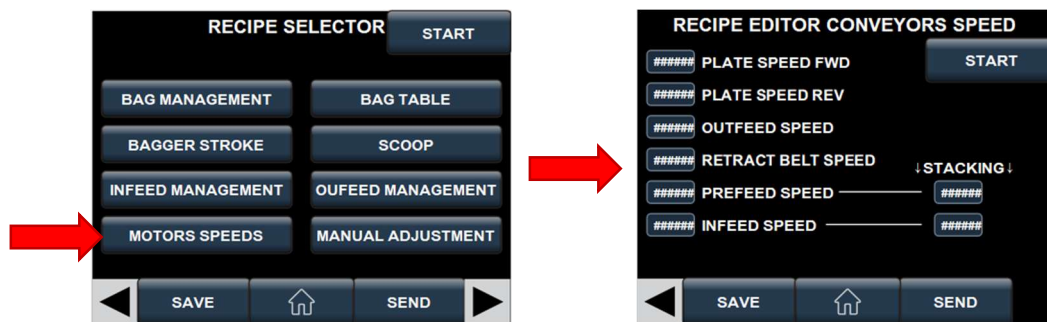
### Stop infeed delay (ms)

This parameter is only relevant when the products arrive really close each other. This delay will start only if a product is already inside the plates and another product arrive. It is the time the infeed takes to stop when a product triggers the sensor located on the infeed conveyor. From the time the sensor sees a product (red line) until it reaches the end of the infeed belt (infeed must stop when the product reaches green line). The position of that sensor is subject to change from a machine to another.



### 7.6: Motor speed

To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press motor speed.



KLR.5051-X-AB screen picture 77

### Plate speed Fwd (in/s)

Speed in inches per seconds of the plates when moving forward in the bag sequence. Raise the number to raise the speed. Most of the recipe will be between 2000 and 6000. Finetuning this parameter is necessary when the product arrives first in front, in this case it need to be lowered down. The goal is: when the plate has reached the destination, the product should arrive just after.

Changing this parameter may required to revisit other parameters. Check: retract belt speed and delay plates (ms).

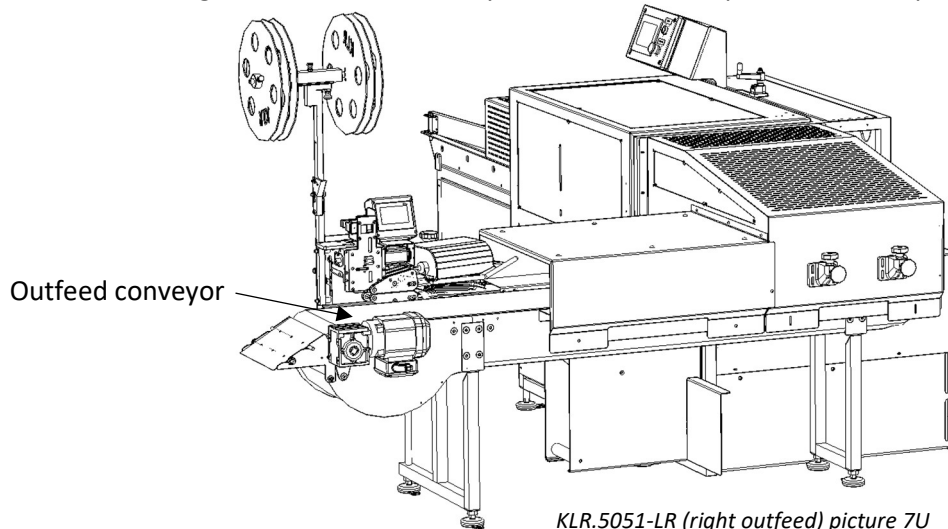


### Speed plate Rev (Reverse) (in/s)

Speed in inches per seconds of the plates when moving reverse (back) in the bag sequence. Used specially to retract quick enough from the bag, to avoid the infeed conveyor stopping too often and losing efficiency. The value should be rather high but can be lowered down to save on the mechanic side when the package per minute is low.

### Outfeed speed

Speed in hertz of the outfeed conveyor. Set this value to create a certain gap in between each product to facilitate the bag closer machine. Usually, sealer method requires a slower speed then a clip method.

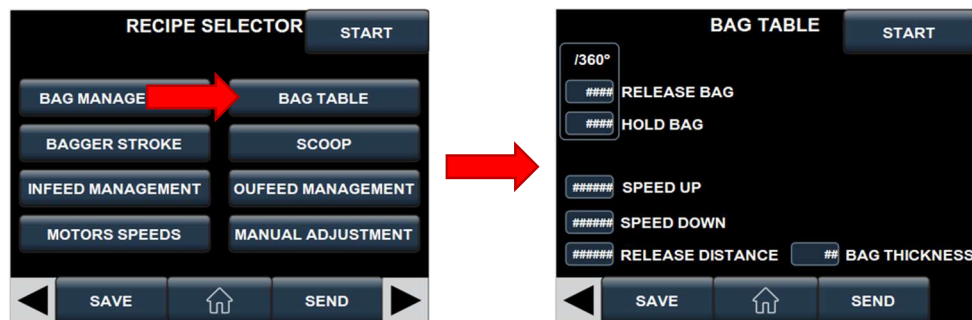


### Retract belt speed

Speed of the retract belt in hertz. Raise the number to raise the speed. A speed too high would make the product arrives before the moment the scoops open. On the other hand, a speed too low would not let the product enough momentum to reach the bottom of the bag. Change this parameter will affect the efficiency of Open scoop Fwd (deg) and Up/down Speed up (Retract lifter). It will require an adjustment of these two setting as well.

## 7.7: Bag table

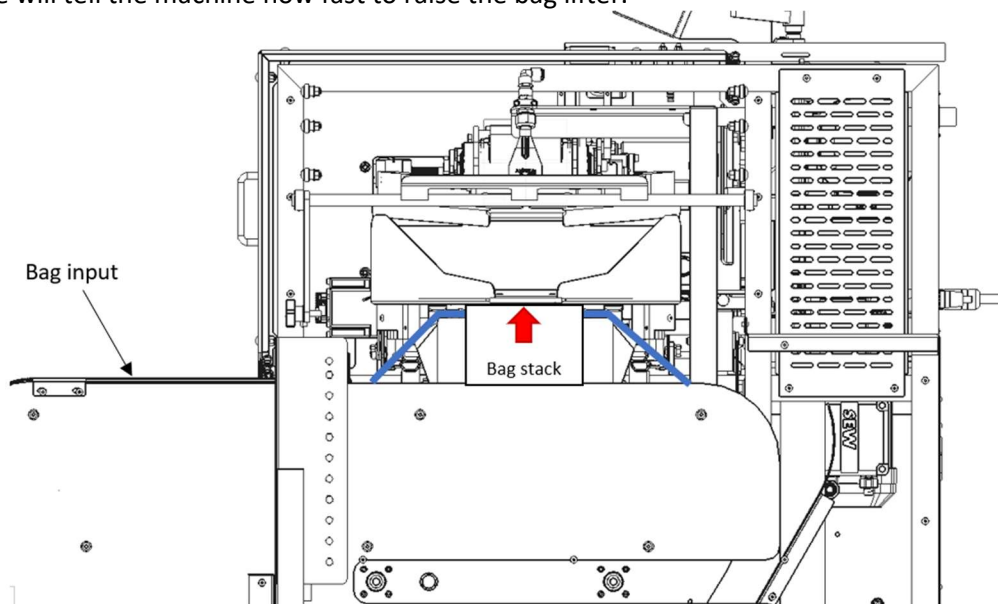
To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press Bag table. "Release bag" and "Hold bag" have already been addressed in section **Bag**.



*KLR.5051-X-AB screen picture 7V*

**Speed up**

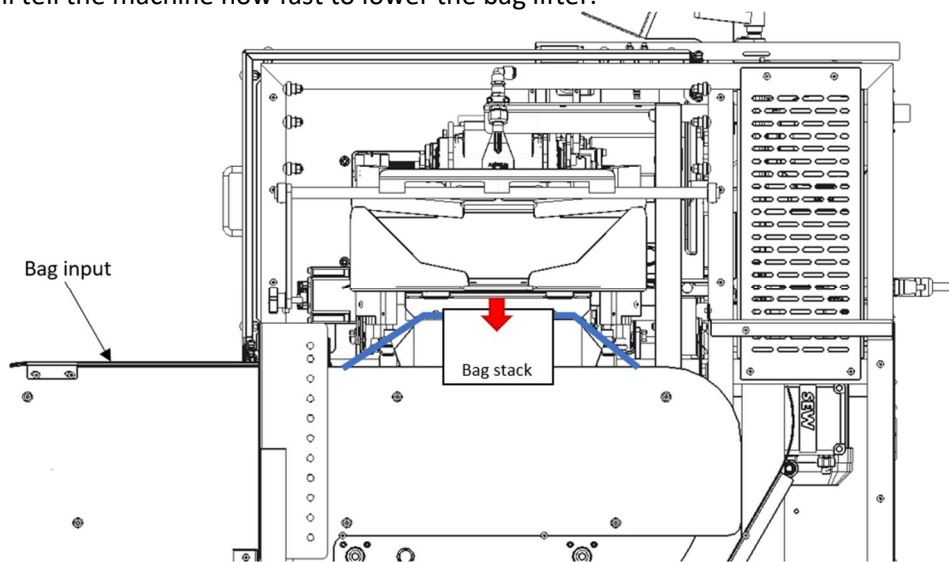
The value will tell the machine how fast to raise the bag lifter.



*KLR.5051-L (Left version) picture 7W*

**Speed down**

The value will tell the machine how fast to lower the bag lifter.



*KLR.5051-L (Left version) picture 7X*

**Release distance (in)**

This parameter is in inches. This value set how far the bag lifter drop each cycle. To be set at the higher possible so it is faster to get ready.

## 7.8: Scoop

To reach bag management, the machine must be unlocked with a valid username and password. See "Unlock advanced parameters". Press Scoop.



KLR.5051-X-AB screen picture 7Y

### Scoop open (Deg)

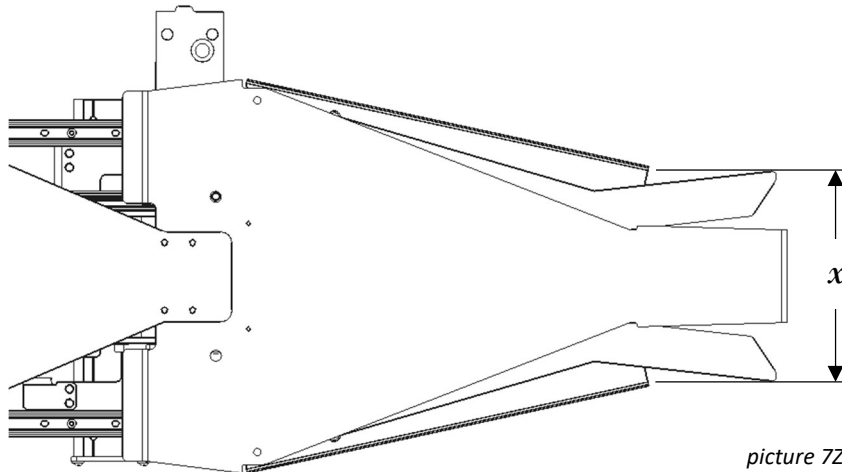
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the scoops when to stop according to the intern clock. It only controls the bottom ones.

### Scoop open (Speed)

This value tells the scoops how fast they need to open. It only controls the bottom ones.

### Scoop open (distance)

This value tells the scoop how wide it needs to open. The value is in inches and should be set a bit bigger than the product size. Only the bottom scoops are controlled, the top ones will be opened by the product itself.



picture 7Z

**Scoop open 2 (Deg)**

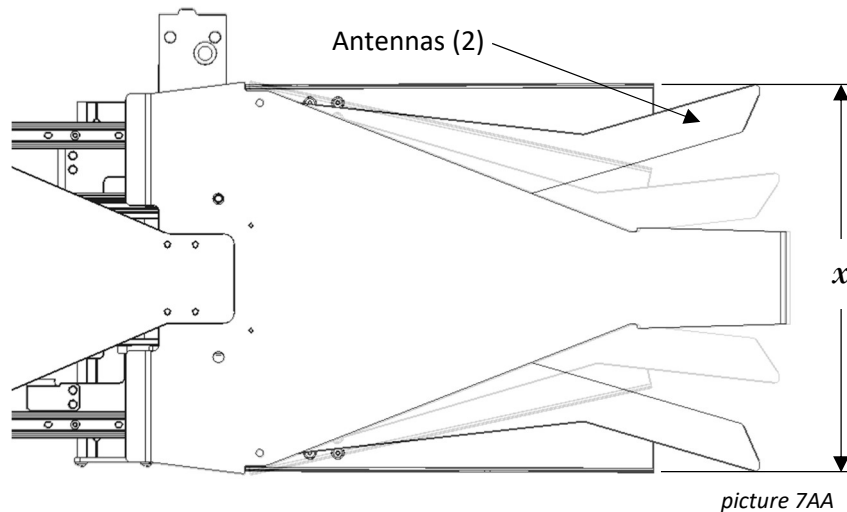
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the scoops when to stop according to the intern clock. It only controls the bottom ones.

**Scoop open 2 (Speed)**

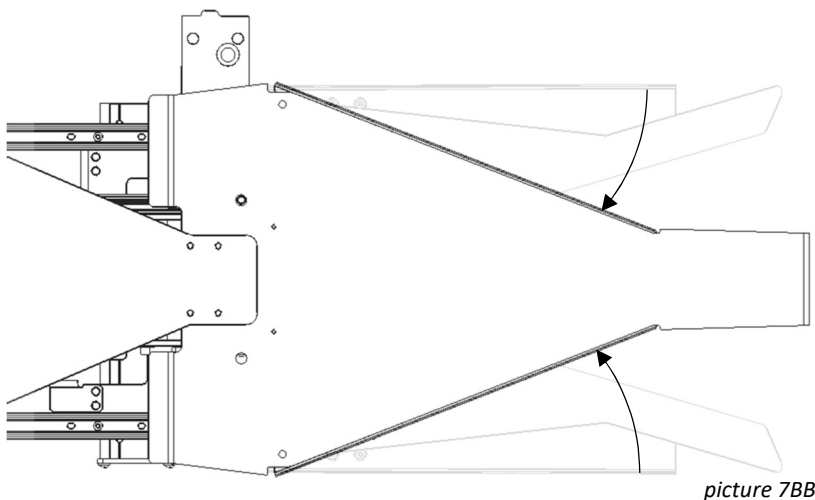
Use the same value of "Scoop open".

**Scoop open 2 (distance)**

This value tells the scoop how wide it needs to open on the second step. The second step of the scoop is intended to flatten the bag with the "antenna" after the product went into the bag since the bag is larger than the product. Value should be close to the bag width.

**Scoop close (deg)**

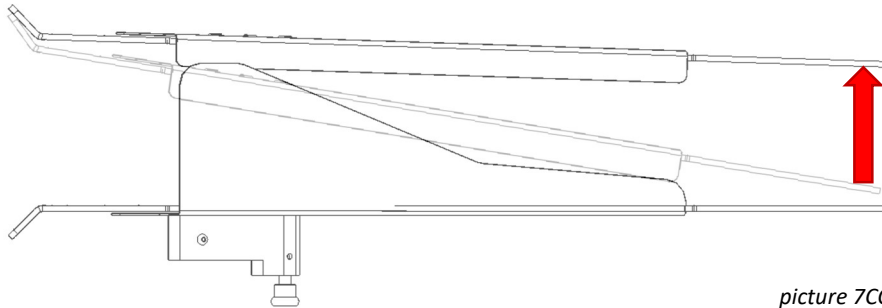
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. On the way back, this value tells when to close the scoop. Must be higher than "open scoop Fwd".

**Scoop close (Speed)**

This value tells the scoops how fast they need to close. It only controls the bottom ones.

### Scoop up (deg)

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the scoops when they need to raise. It only controls the top ones.



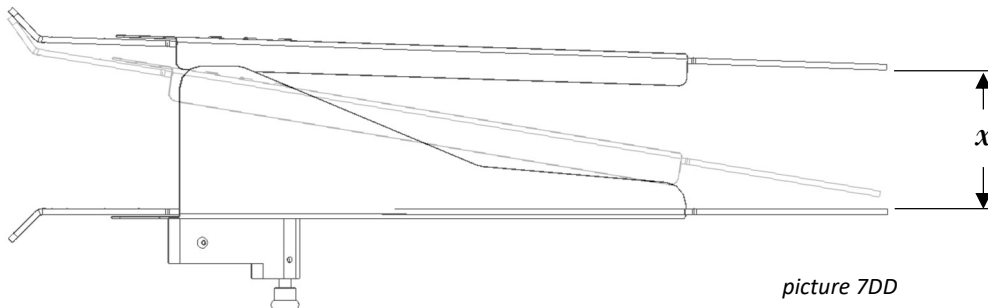
picture 7CC

### Scoop up (speed)

This value tells the scoops how fast they need to raise. It only controls the top ones.

### Scoop up (distance)

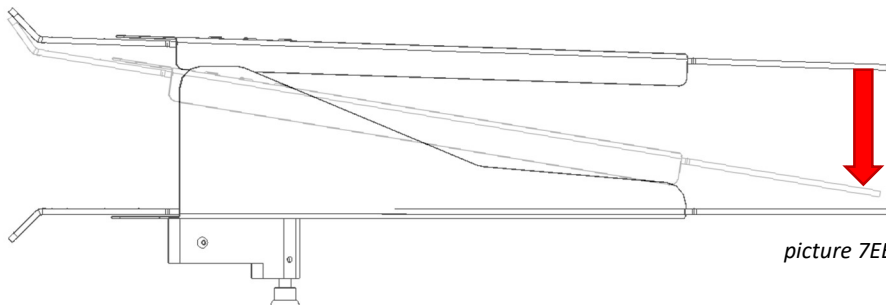
This value tells the scoops how high they need to raise. It only controls the top ones.



picture 7DD

### Scoop down (deg)

The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the scoops when they need to lower. It only controls the top ones.



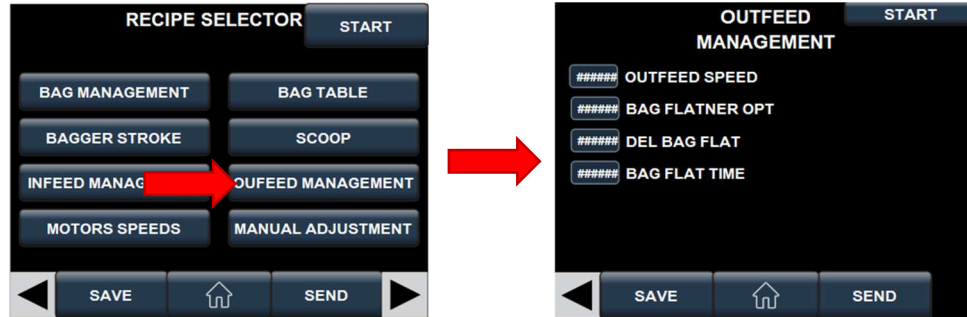
picture 7EE

### Scoop down (speed)

This value tells the scoops how fast they need to go back to home position. It only controls the top ones.

### 7.9: Outfeed management

To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press "Outfeed management". "Outfeed speed" has already been addressed in "Motors speeds"



KLR.5051-X-AB screen picture 7FF

### Bag flatner OPT

Bag flatner is an option of a nozzle that flatten the bag tail before closure. 1 = ON ; 0 = OFF.

### Del. Bag flat. (ms)

Bag flatner is an option of a nozzle that flatten the bag tail before closure. This parameter tells the machine when to blow air on the bag tail. The value is in milliseconds.

### Bag flat. time (ms)

Bag flatner is an option of a nozzle that flatten the bag tail before closure. This parameter tells the machine how long to blow air on the bag tail. The value is in milliseconds.

### 7.10: Manual adjustment

To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press "manual adjustment". Everything in this page is for reference that speak to the operator on change over.

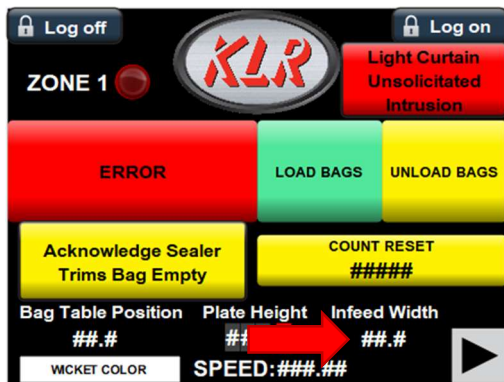


KLR.5051-X-AB screen picture 7GG

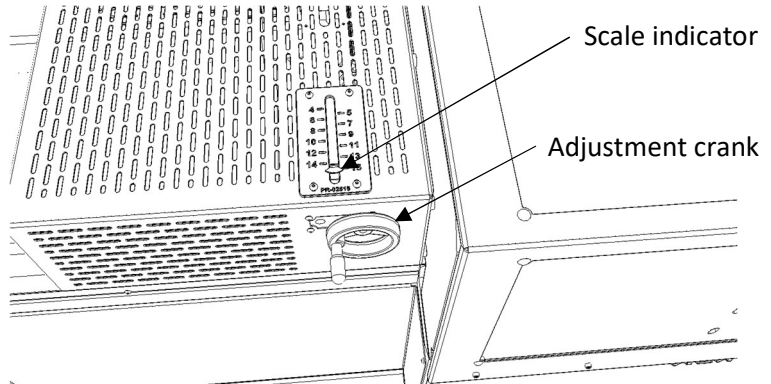


### Infeed opening

This is the adjustment communicated to operators of the machine via the touch screen for the adjustment of the infeed guide.



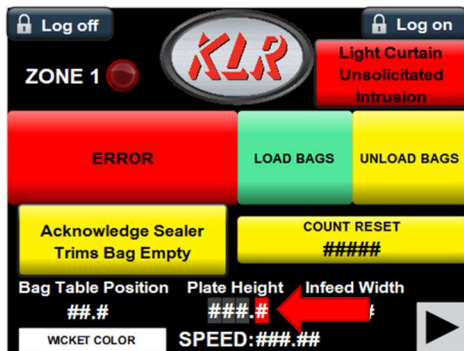
KLR.5051-X-AB screen picture 7HH



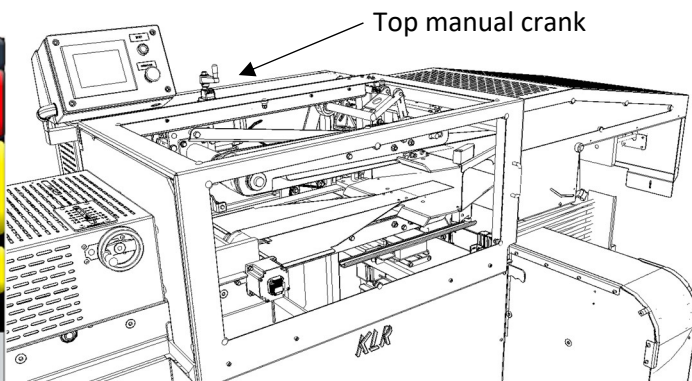
KLR.5051-L-AB (left version) picture 7II

### Plate height

This is the adjustment communicated to operators of the machine via the touch screen. They can look at the value which translate to the crank display and they can perform a manual adjustment on it.



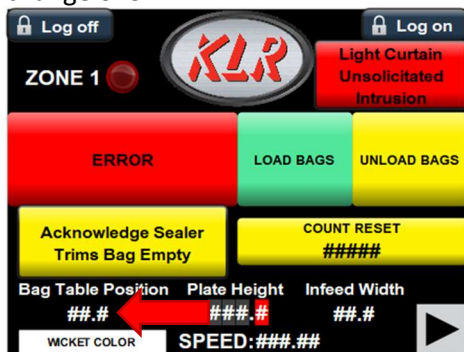
KLR.5051-X-AB screen picture 7KK



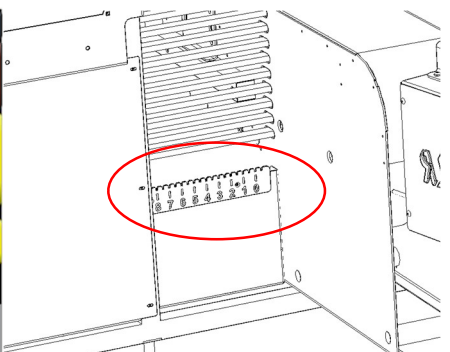
KLR.5051-L (Left version) picture 7LL

### Bag table position

Value appearing on the main screen according to that recipe. Value to communicate to the operators on change over.



KLR.5051-X-AB screen picture 7MM

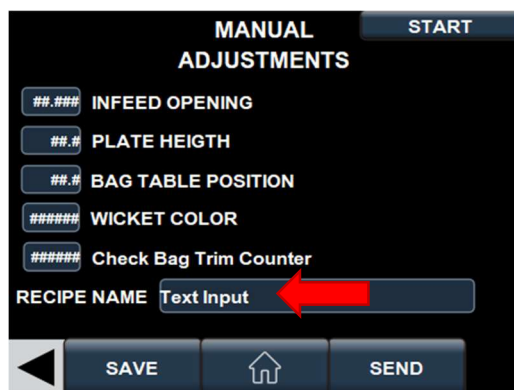


KLR.5051-L (Left version) picture 7NN



**Recipe name**

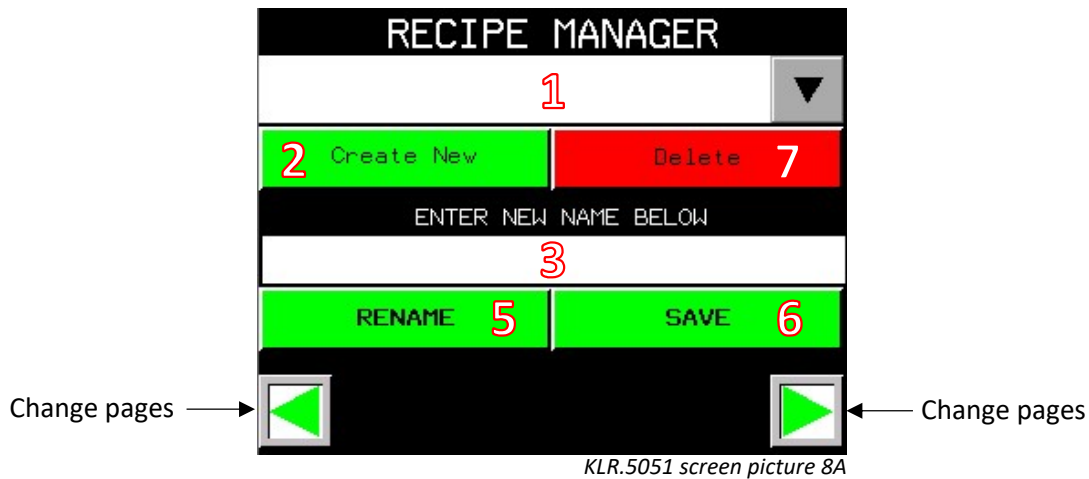
Enter a new name in the field to rename a recipe. Make sure to select the recipe that is required to change first.



KLR.5051-X-AB screen picture 700

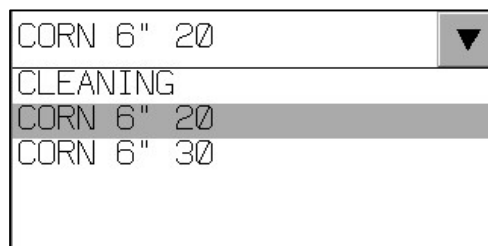
## 8.0: RECIPE MANAGER KLR.5051

Here is where to copy, rename and create new recipes. This also helps to track changes.



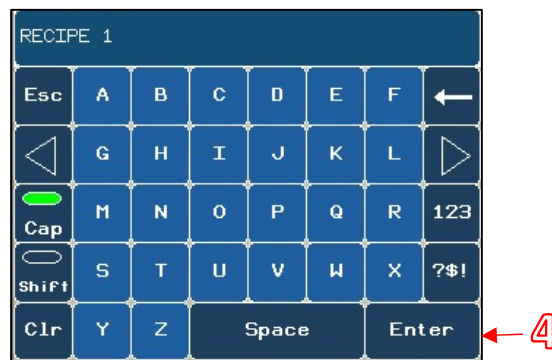
Create a new recipe:

- Select a current recipe (1).



KLR.5051 screen picture 8B

- Create new recipes (2), it will automatically copy the current recipe and ask to rename it.
- Press in the text box (3) and type a different name.



KLR.5051 screen picture 8C

- Enter (4).
- Rename (5).
- Save (6).

To delete a recipe:

Select the recipe to be deleted (1) and press delete (7).

## 9.0: MAINTENANCE

|                                                                                   |                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>➤ Before doing the maintenance on the equipment, every operator and maintenance personnel should take part in a training session given by a KLR systems technician.</p> |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 9.1: Preventive maintenance schedules

Due to the complexity of our machine, these procedures are subject to change and should be adequately adjusted in extreme conditions. The interval is fixed according to a facility doing 3 shift/6 days a week:

| GREASING AND CLEANING<br>PREVENTIVE MAINTENANCE SCHEDULE |                                                                                                                           |                                                                       |                                                 |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------|
| Location                                                 | Procedure                                                                                                                 | Time interval                                                         | Remarks                                         |
| Pillow bearing up and down retract                       | 2 greasing ports.                                                                                                         | Quarterly (3 months)                                                  | Change greasing ports when leaking.             |
| Bearing forward and reverse of retract plates            | 2 greasing ports.                                                                                                         | Monthly (1 month),<br>Weekly (1 week) if products are heavily floured | Make sure there is NO burrs on the linear rail. |
| Retract lifter shaft                                     | Check if there is grease on it. If dry, grease lightly.                                                                   | Daily (once per day)                                                  | Use a brush or a disposal glove.                |
| Cleaning the machine                                     | If the products are heavily floured. Blow air to remove all flour and blow gently air on prefeed, infeed and bag sensors. | Once per shift                                                        | Use dry and clean air supply.                   |
|                                                          | Clean the dust with an air blower and sanitize all the surfaces that are in contact with food.                            | Daily (Once per day)                                                  | DO NOT use aggressive chemical on plexiglass.   |

| TROUBLESHOOTING<br>PREVENTIVE MAINTENANCE SCHEDULE |                                                                                                                                                                                     |                   |                                                                  |                                                                                                                                                                                                     |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Location                                           | Procedure                                                                                                                                                                           | Time interval     | Possible causes                                                  | Remarks                                                                                                                                                                                             |
| Retract plates                                     | Test the retract lifter arms. Raise it by hand up and let it go. Check if there is restriction.                                                                                     | Monthly (1 month) | Bearing wear, not well adjusted                                  | If there is restriction, replace bearings or adjust.                                                                                                                                                |
|                                                    | Move by hand the plate forward and reverse. Check if there is restriction. Don't forget that it will always be a little difficult by hand, note any changes over time               | Monthly (1 month) | Burrs on linear bearing, lack of greasing.                       | Means replace linear rail and linear bearing. (Lack of grease).                                                                                                                                     |
|                                                    |                                                                                                                                                                                     |                   | Too much tension on servo belt. (Teeth belt)                     | Apply tension on home position is easier.                                                                                                                                                           |
|                                                    |                                                                                                                                                                                     |                   | Tracking of the servo belt                                       | Verify if the servo belt (on forward and reverse movement) remains in the center of the aluminum roller and the drive sprocket. Both axes must be parallel.                                         |
| Scoop rails                                        | Check wear on the scoop plastic rollers (2). Verify there is not too much slack. Make sure the shafts are not touching the bottom of the rails (at home and full forward position). | Weekly (1 week)   | Wear on the plastic roller. Loose set screws or wrong adjustment | Some time, wear will not be on the circumference but wear straight. This means the roller is not capable of turning on the shaft. Make sure to verify both (2) rollers.                             |
| Bag input module                                   | Disassemble the front plate and remove belt. Blow air to remove dust and bag particles.                                                                                             | Monthly (1 month) | None, look for normal wear                                       | <b>⚠ Important:</b> When reassembling, make sure to time the backlash of the belt sprocket to get the full potential. Make sure the belt has some play when the machine is loaded but with no bags. |
|                                                    | Check for gear wear and linear bearing.                                                                                                                                             |                   | Normal wear                                                      | When moved by hands, the restriction may come from generation of current by the motor                                                                                                               |
|                                                    | Check for gearbox leaks.                                                                                                                                                            |                   | Seals                                                            | None.                                                                                                                                                                                               |

## 9.2: Maintenance steps

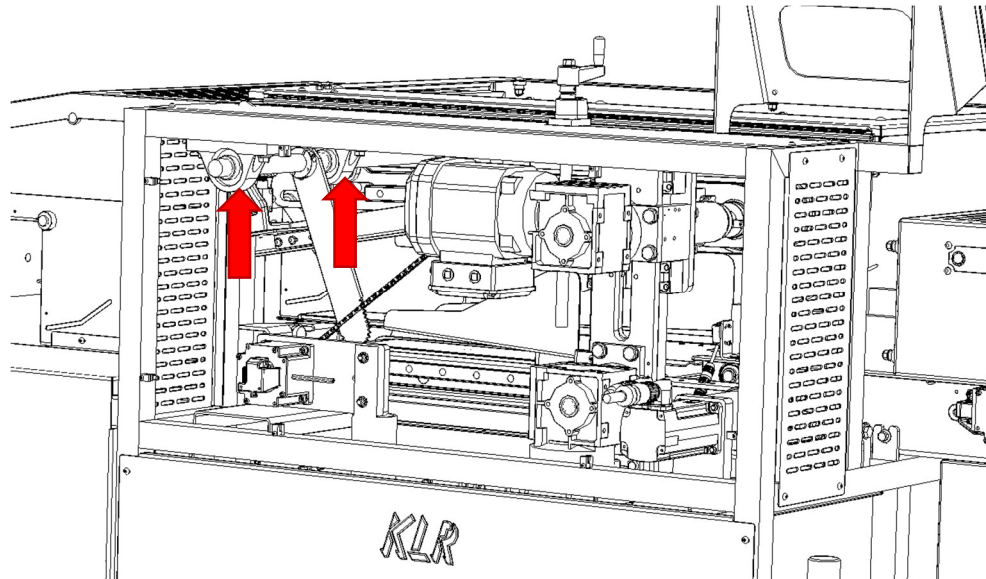


- When performing maintenance, ALWAYS use two (2) lock out devices on each supply: electric and pneumatic.

### 9.2.1: Greasing ports

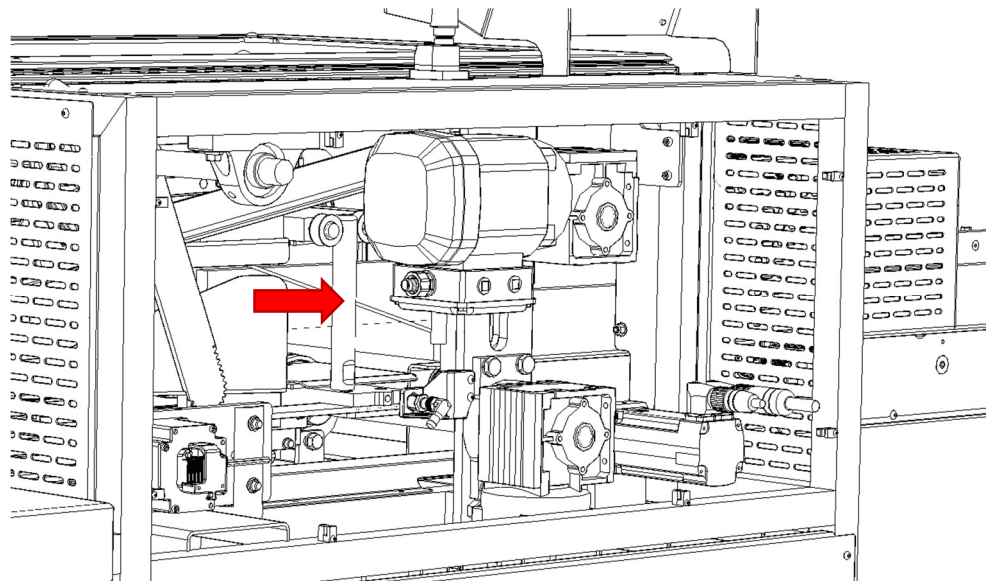
**Note:** The pictures have been taken from the back perspective for clarity purpose only. The grease ports are accessible via the sliding door.

#### Pillow bearings



KLR.5051-L (Left version) picture 9A

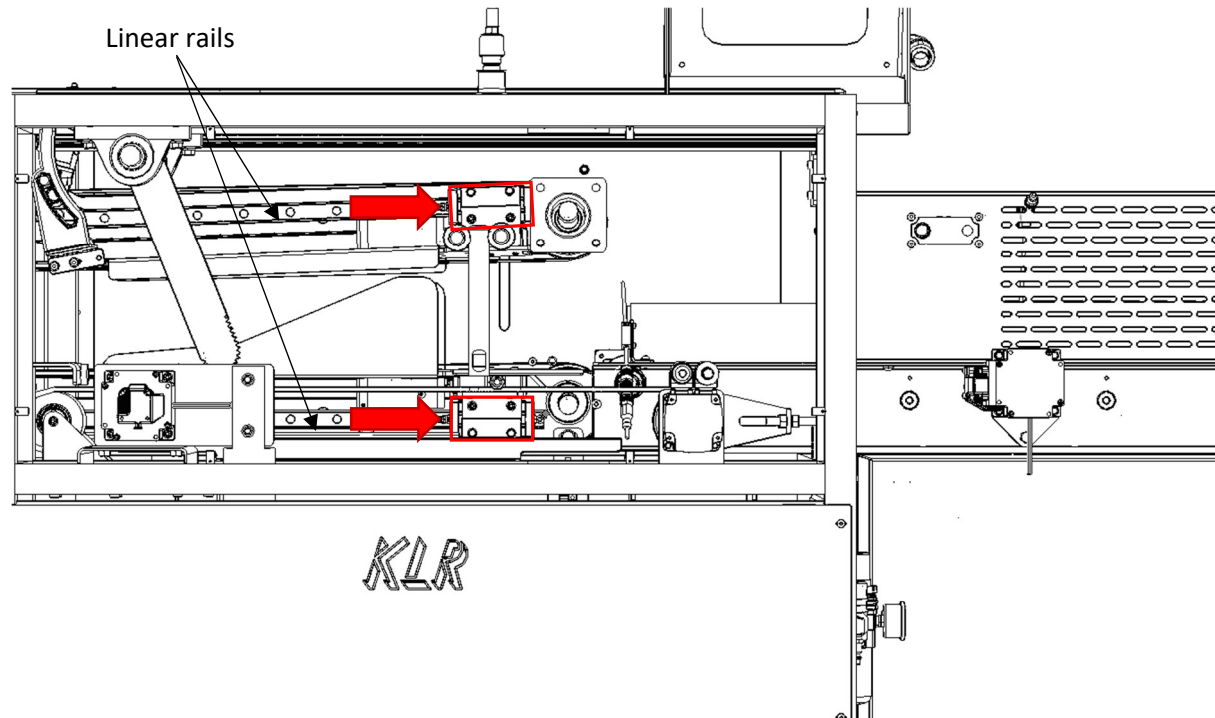
#### Retract lifter shaft



KLR.5051-L (Left version) picture 9B

### Retract linear bearings

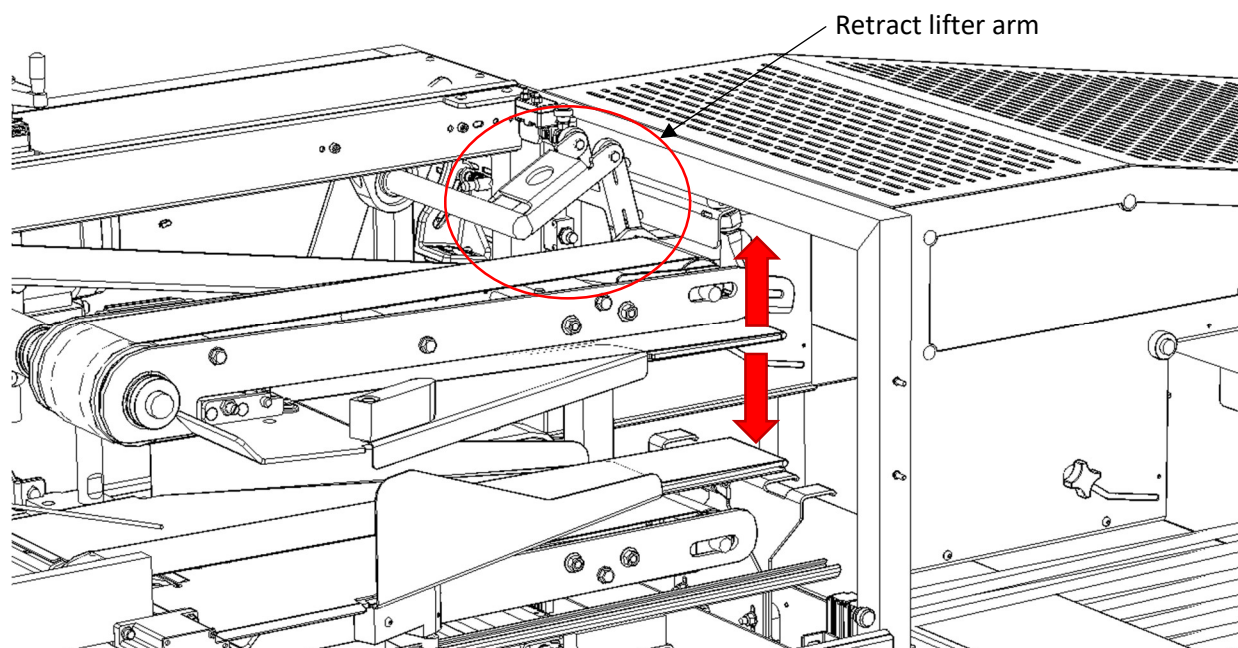
Wipe linear rails if old dirty grease. Inspect the linear rails for any burr. Grease the two (2) linear bearings.



*KLR.5051-L (Left version) picture 9C  
– Some parts have been removed for clarity –*

### 9.2.2: Retract plates

Test the retract lifter arm by moving up and down by hands. Three (3) bearings.



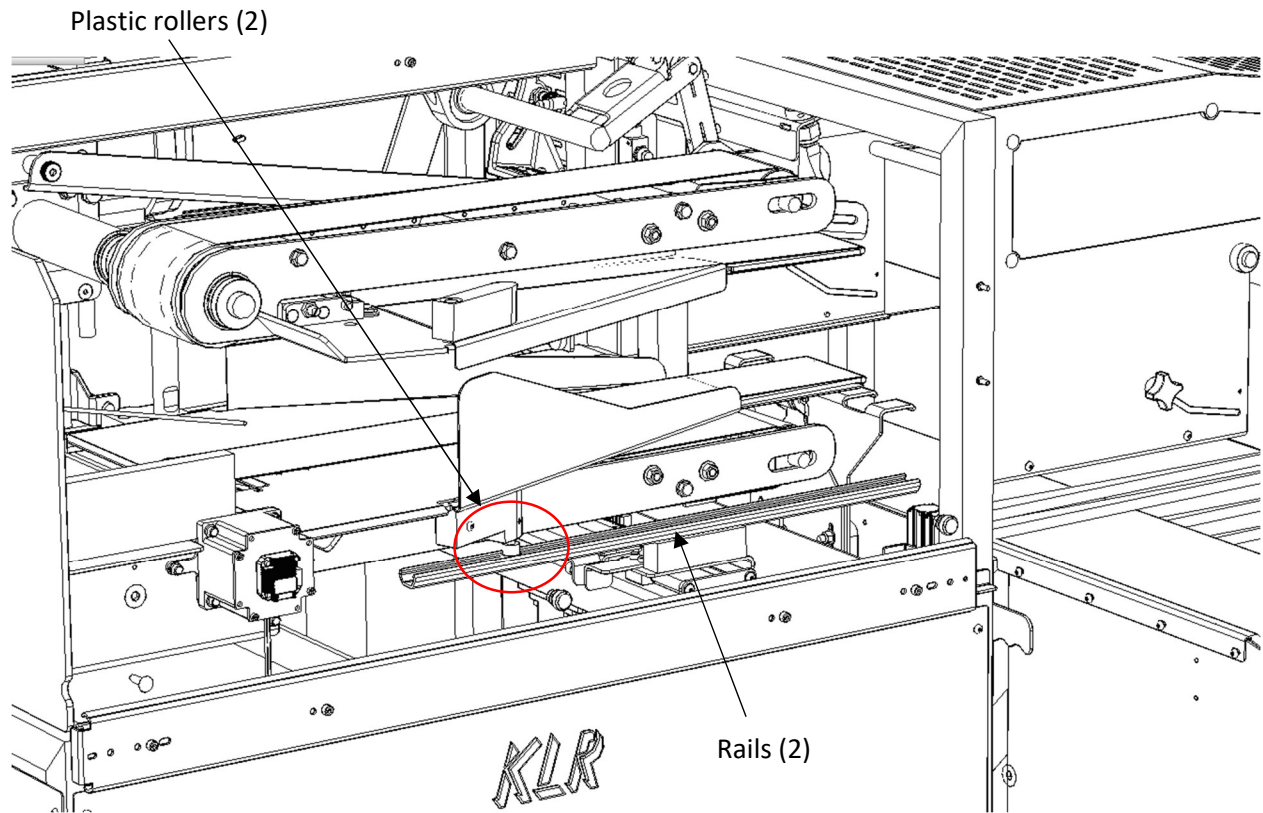
*KLR.5051-L (Left version) picture 9D*



### 9.2.3: Scoop rails

**Note:** also, look at the one on the opposite side. Make sure each shaft of those rollers is not in contact with the bottom of the tracks respectively. This inspection must be done by manually placing the retract system at the beginning and at the end of the tracks.

Verify the wear of the plastic rollers. Make sure there is no flat spot and they turn freely.

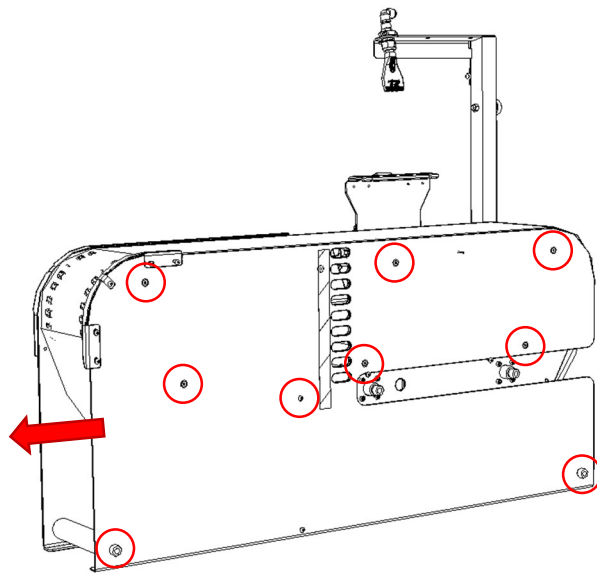


KLR.5051-L (Left version) picture 9E

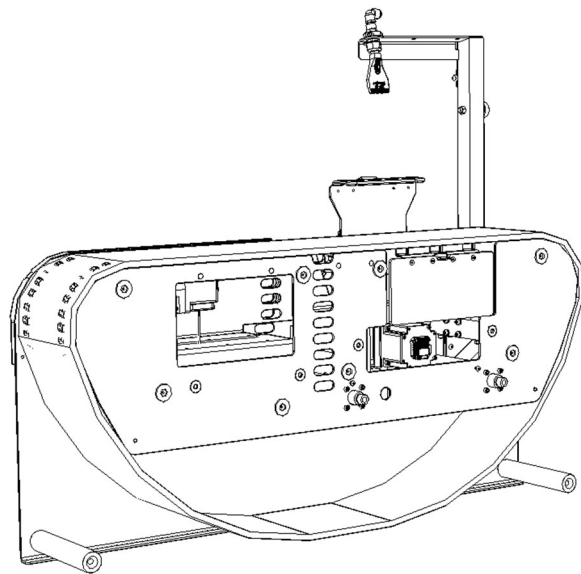


### 9.2.4: Bag inputs module

1. Turn off the power and put a pad lock device for safety.
2. Remove all those screws and remove the cover by sliding on the side.

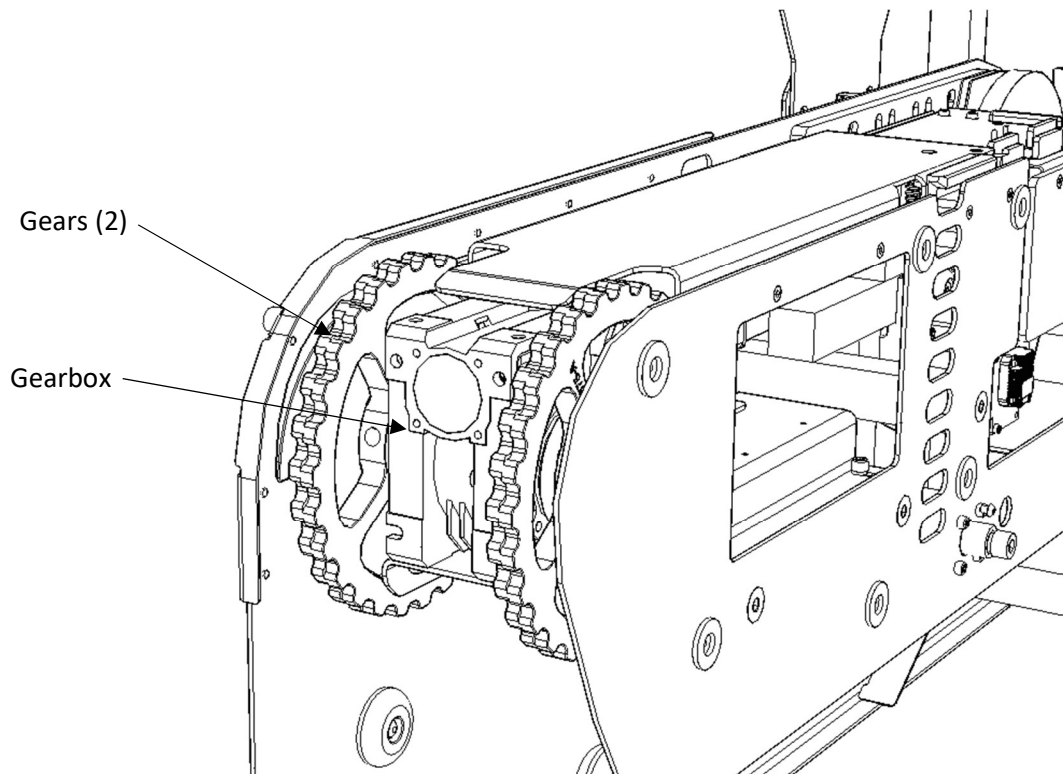


KLR.5051-L (Left version) picture 6F



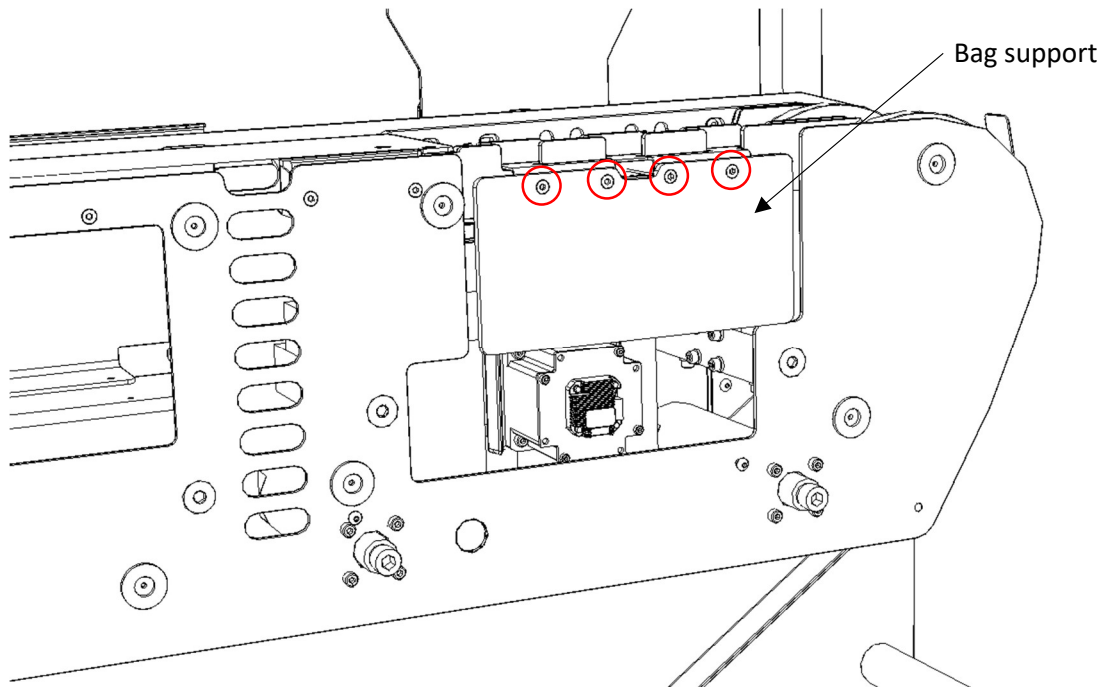
KLR.5051-L (Left version) picture 9G

3. Remove the belt. Inspect the plastic gears and inspect if there is leak on the gearbox. For reinstall, see "Timing of plastic gear"



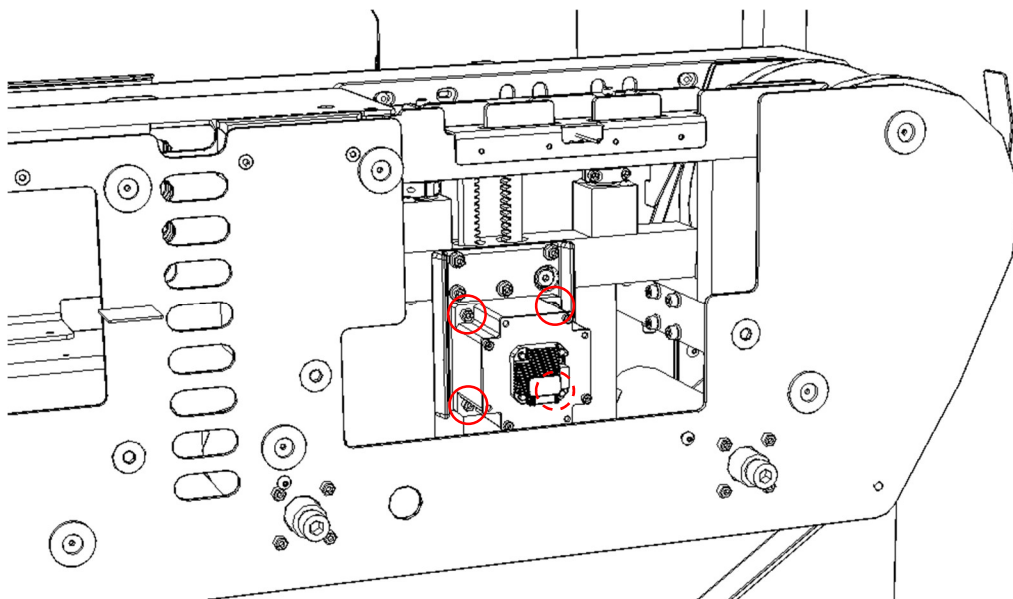
KLR.5051-L (Left version) picture 9H

4. The bag support can be removed for more accessibility.



*KLR.5051-L (Left version) picture 9I*

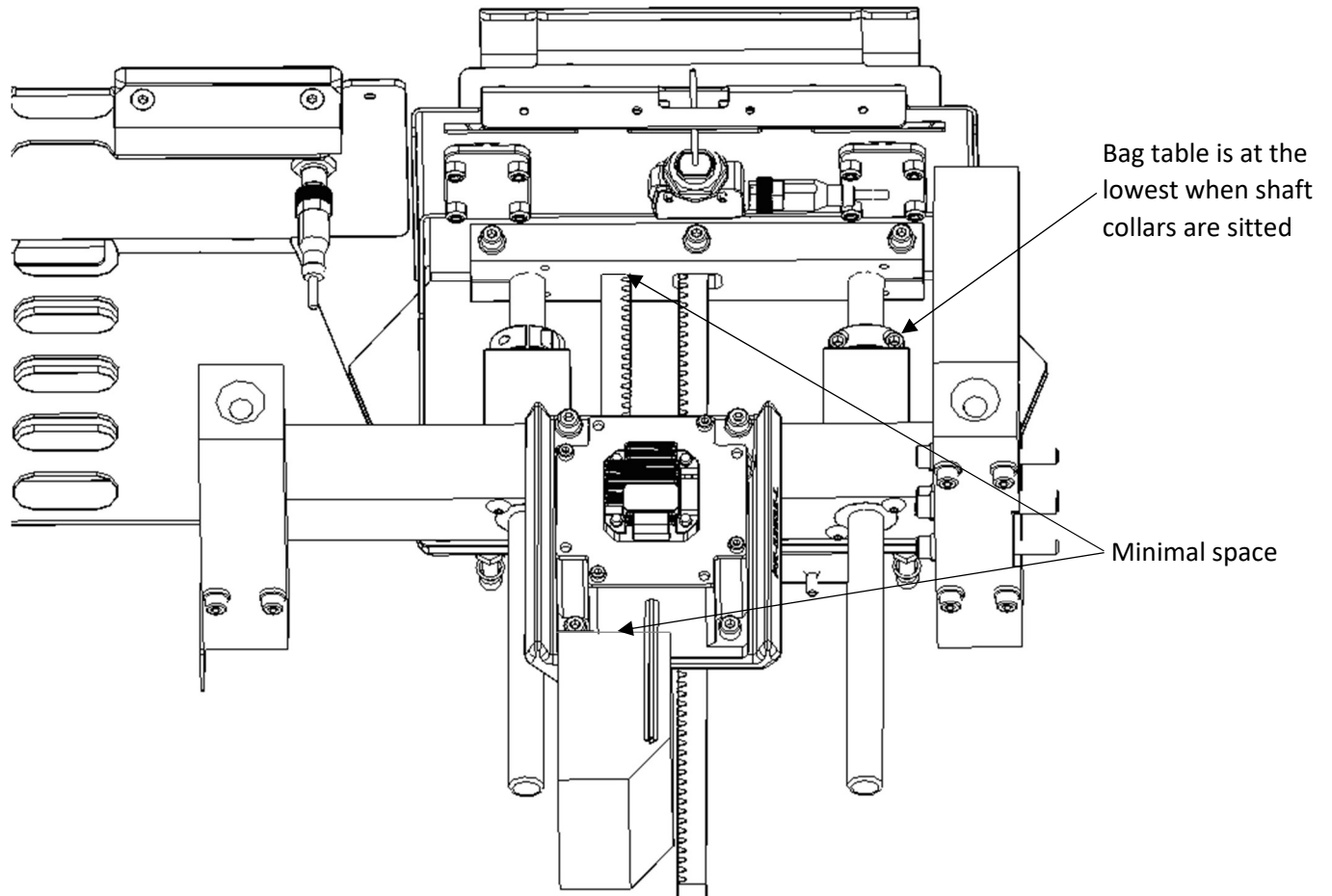
5. Disconnect the bag lifter motor, remove the 4 screws, and pull out the motor. **Careful, the weight section will fall.** Inspect the racks and pinion. On reinstall, take care of timing the system properly. See "Timing of bag lifter weight"



*KLR.5051-L (Left version) picture 9I*

**9.2.4.1: Timing of bag lifter weight (No weight on KLR.5051-L-AB and KLR.5051-R-AB)**

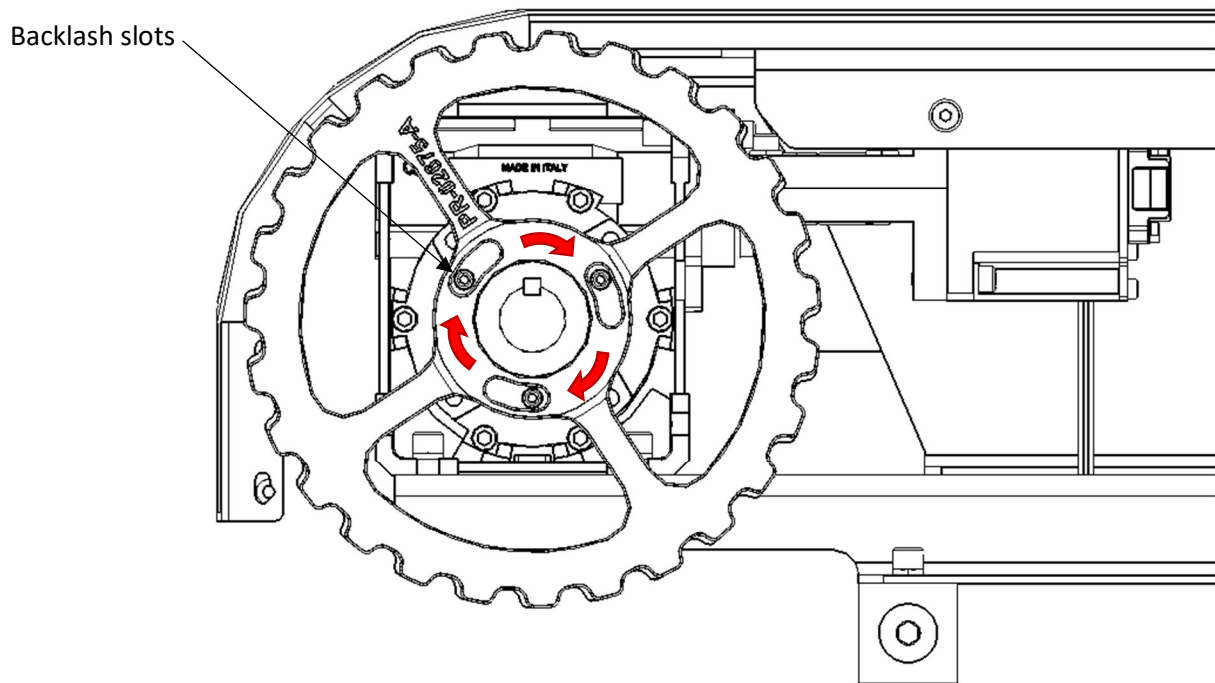
When the bag table is at the lowest, make sure there is minimal space in between the weight rack and the aluminum fixture. Also, it must be minimal space in between the weight and the motor body.



*KLR.5051-L (Left version) picture 9K  
– Some parts have been removed for clarity –*

### 9.2.4.2: Timing of plastic gear

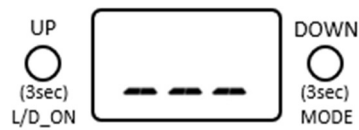
On reinstallation of the belt, it is important to time the backlashes of the two (2) plastic gears the same way. Otherwise, it restrains the maximum movement. Simply orient both backlash gears completely one side (does not matter if it is in or out) and then reinstall the belt.



*KLR.5051-L (Left version) picture 9L  
– Some parts have been removed for clarity –*

### 9.2.5: Bag sensor programming

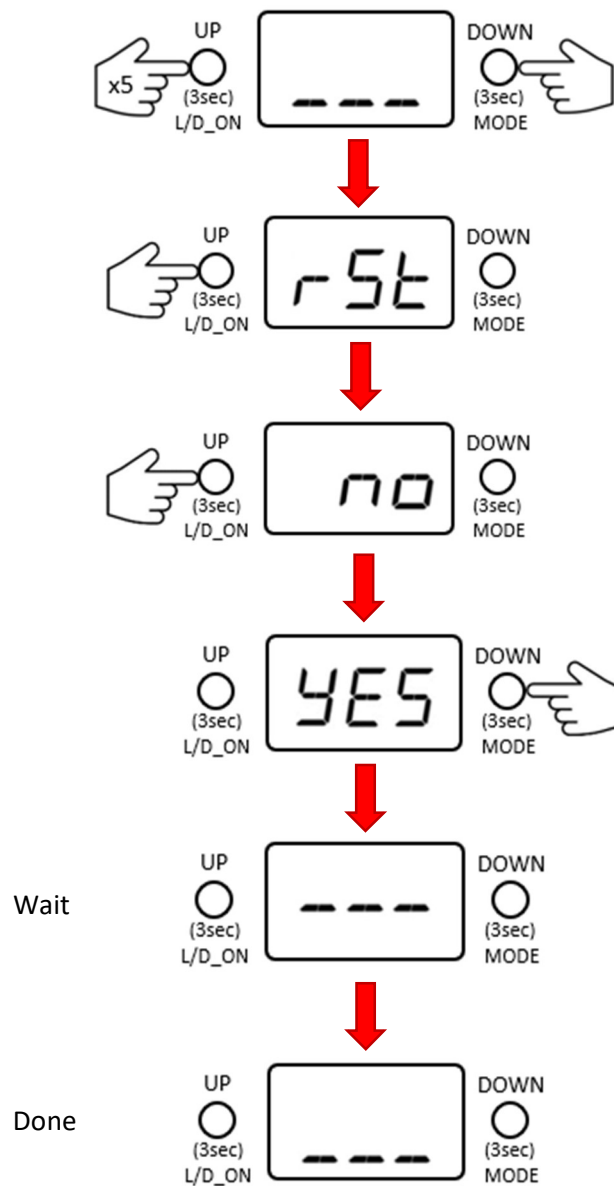
See "Bag input module" to know how to get to the sensor. On power up, display will show:



*Bag sensor picture 6M*

#### 9.2.5.1: Reset to default

1. While pressing on DOWN, press five (5) times on UP. A question will then display.
2. Press UP twice to select YES.
3. Press DOWN to reset.

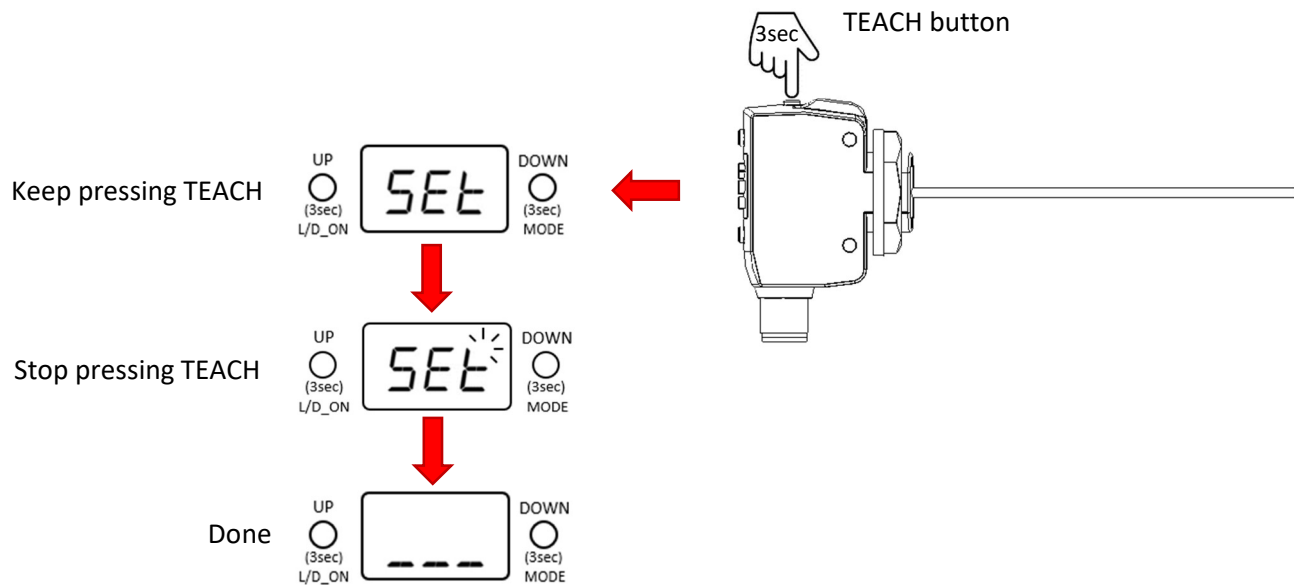


*Bag sensor picture 9N*

### 9.2.5.2: Teach the bag sensor

**Note:** On this model, no need to select PNP or NPN.

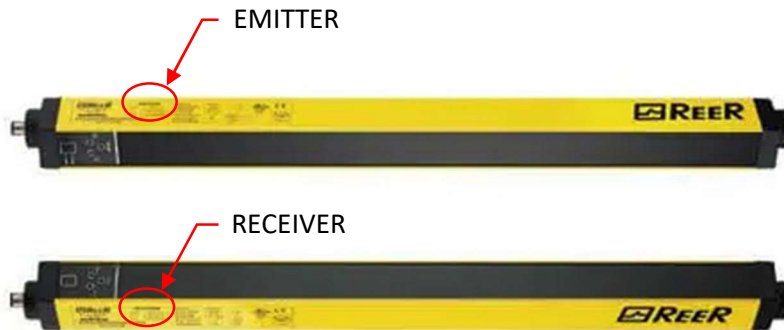
1. With nothing in front of the sensor, press the TEACH button for 3 seconds (until the SET flashes in the display).
2. Wait until it is done, then redo step 1 one more time.



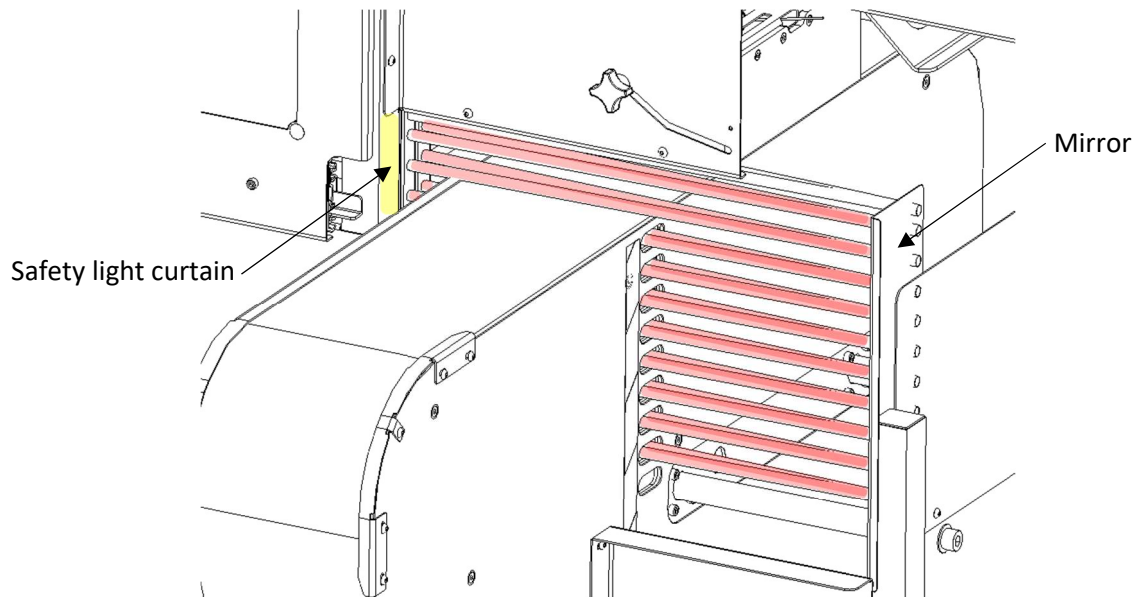
*Bag sensor picture 90*

### 9.2.6: Adjusting safety light curtain (SN: 2415 – 3031)

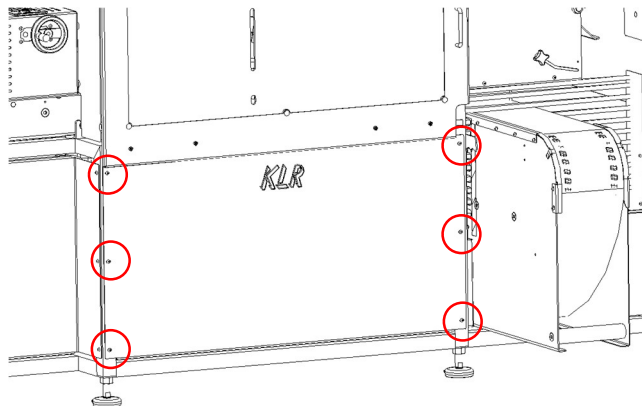
The safety curtain consists into an emitter and a receiver. Make sure the unit matches the cable identification and the wiring.



Invisible light beams go trough the bag table assembly and bounce on a mirror to offer protection on both side of it. To adjust the unit, the lights beams need to avoid detecting the bag table at all.

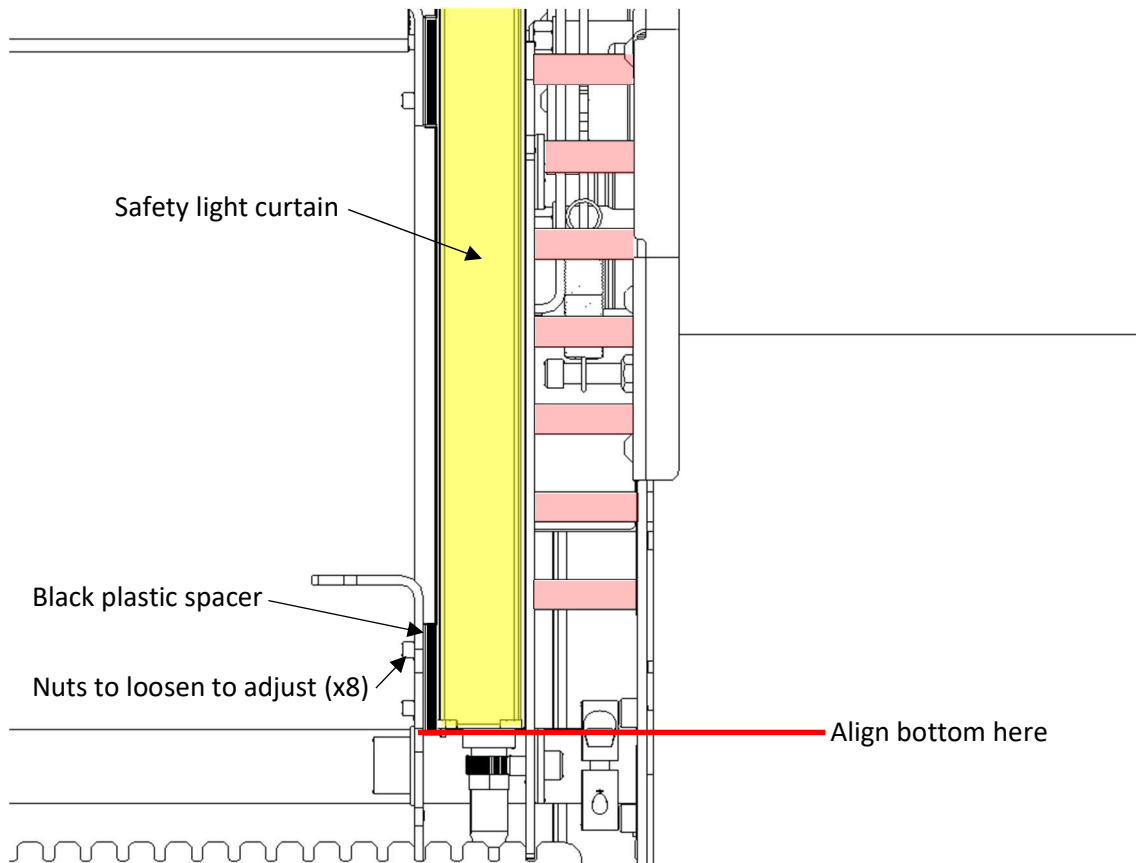


1. Remove the front panel (6 screws).

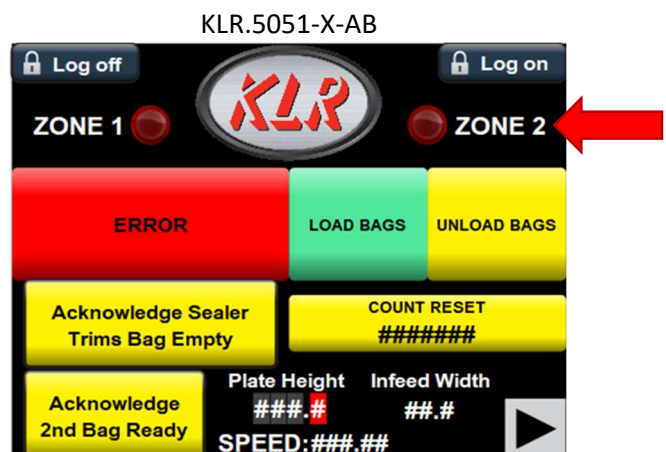
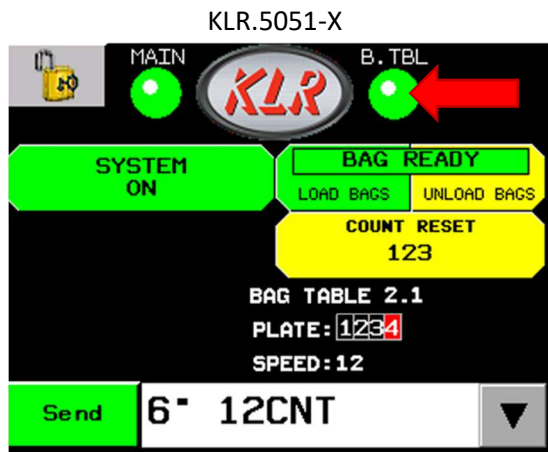




- Quick adjustment by aligning the unit with the black plastic spacer. Always adjust the emitter and the receiver the same level.

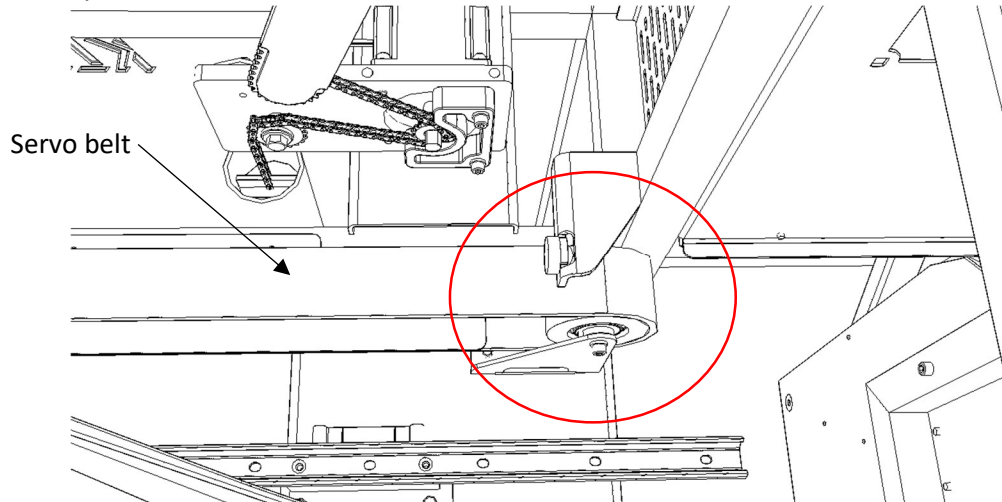


- Fine tune until on the main screen, the safety B. TBL (ZONE 2) is green.



### 9.2.7: Servo belt

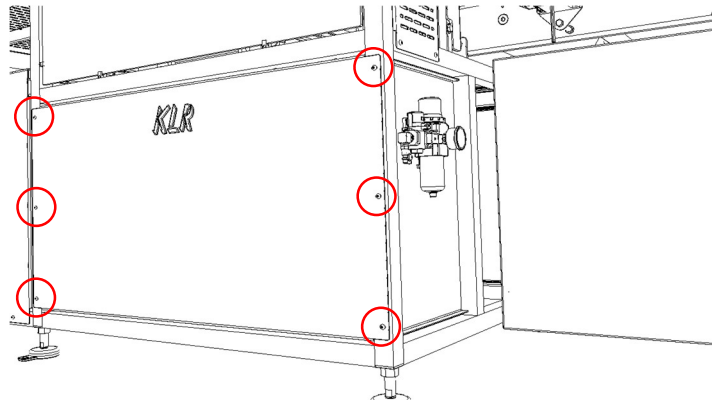
1. Make sure the tension is adequate on the servo belt.
2. Verify the tracking is correct. The belt must NOT touch on either side on all position of the system.



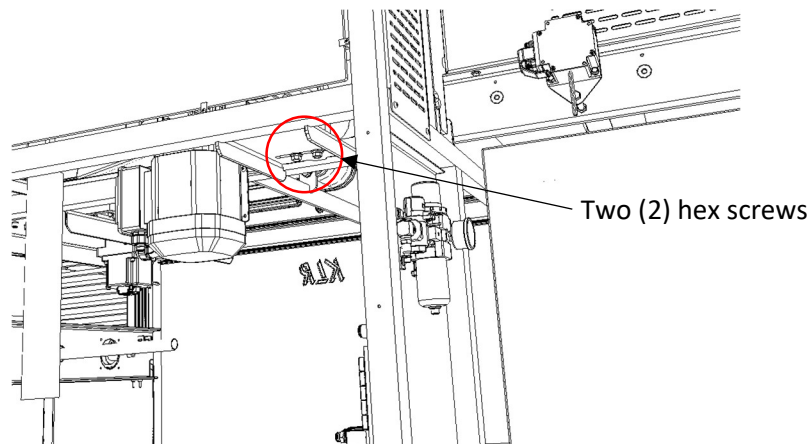
*KLR.5051-L (Left version) picture 6L*

#### 9.2.7.1: Servo belt tension

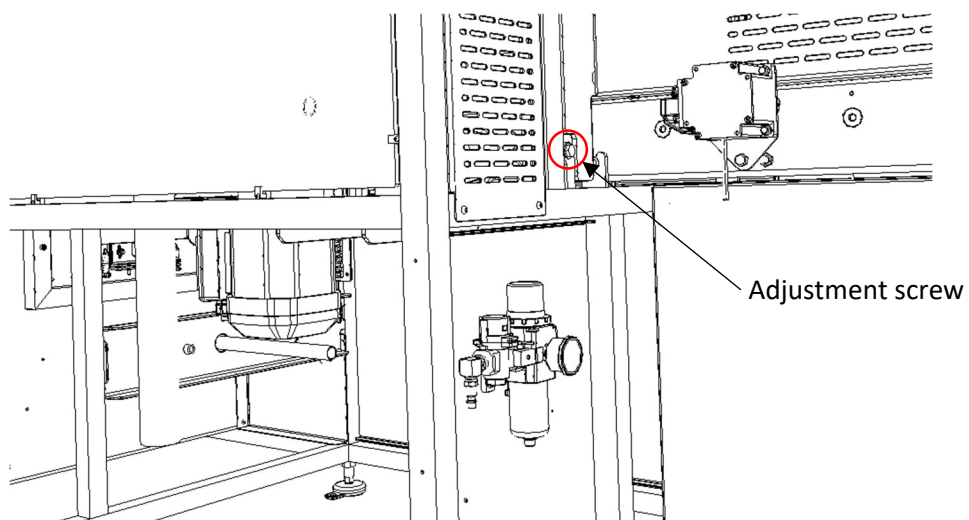
1. Remove rear panel.



2. Loosen slightly the two (2) hex screws.



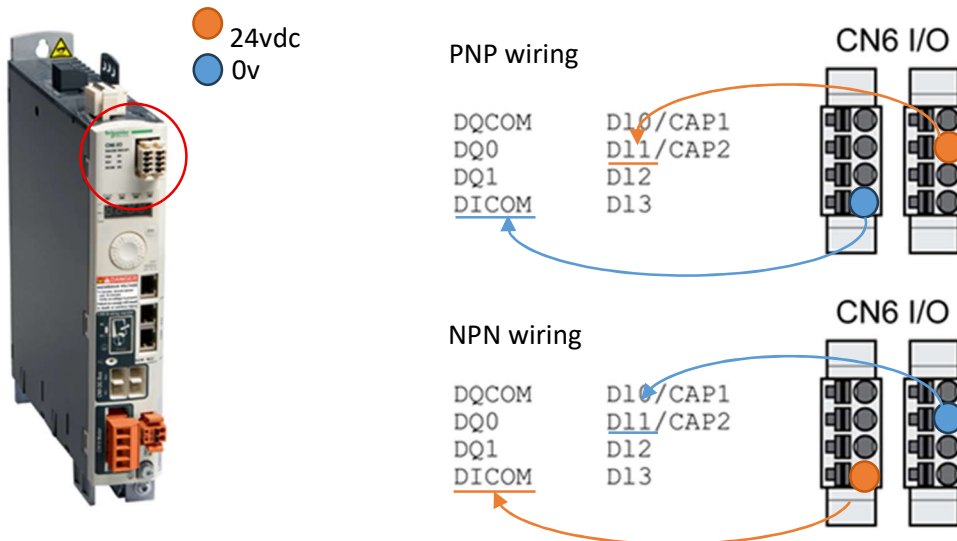
3. Adjust tension via the adjustment screw.



## 9.2.8: Home sensor / Servo input testing for KLR.5051

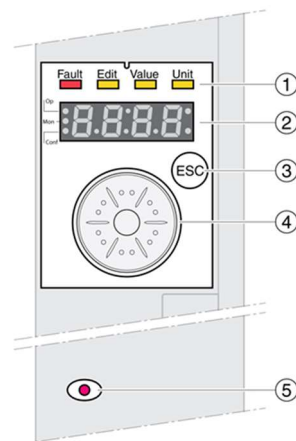
### 9.2.8.1: Verifying wiring

Locate the servo drive inside the electrical panel. The input connectors are located on the upper front portion of the module. Some older machines may have two servo drives; refer to the electrical drawings to ensure you are working on the correct one.



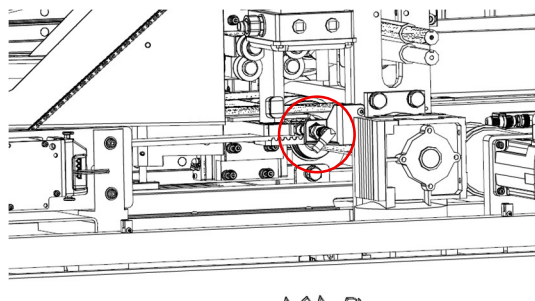
### 9.2.8.3: Testing the sensor via LCD screen on the servo drive

1. Turn ON the machine while keeping the door panel opened.
2. Do NOT reset the machine
3. Check LCD screen (3)
4. Navigate using the wheel knob (4) Turn to navigate, push to select



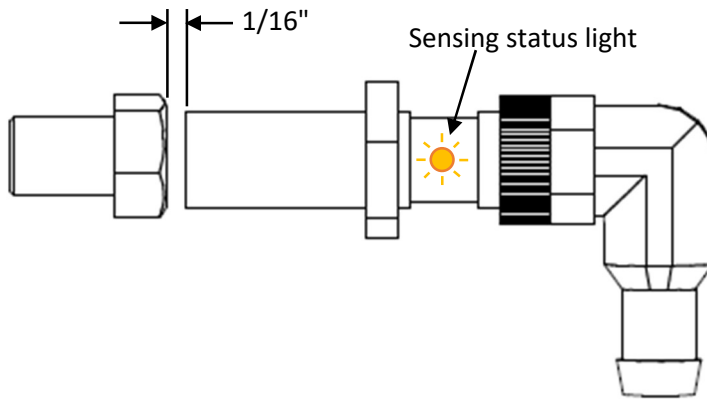
### 9.2.8.4: Locate the sensor

Located beside the lower retract belt motor



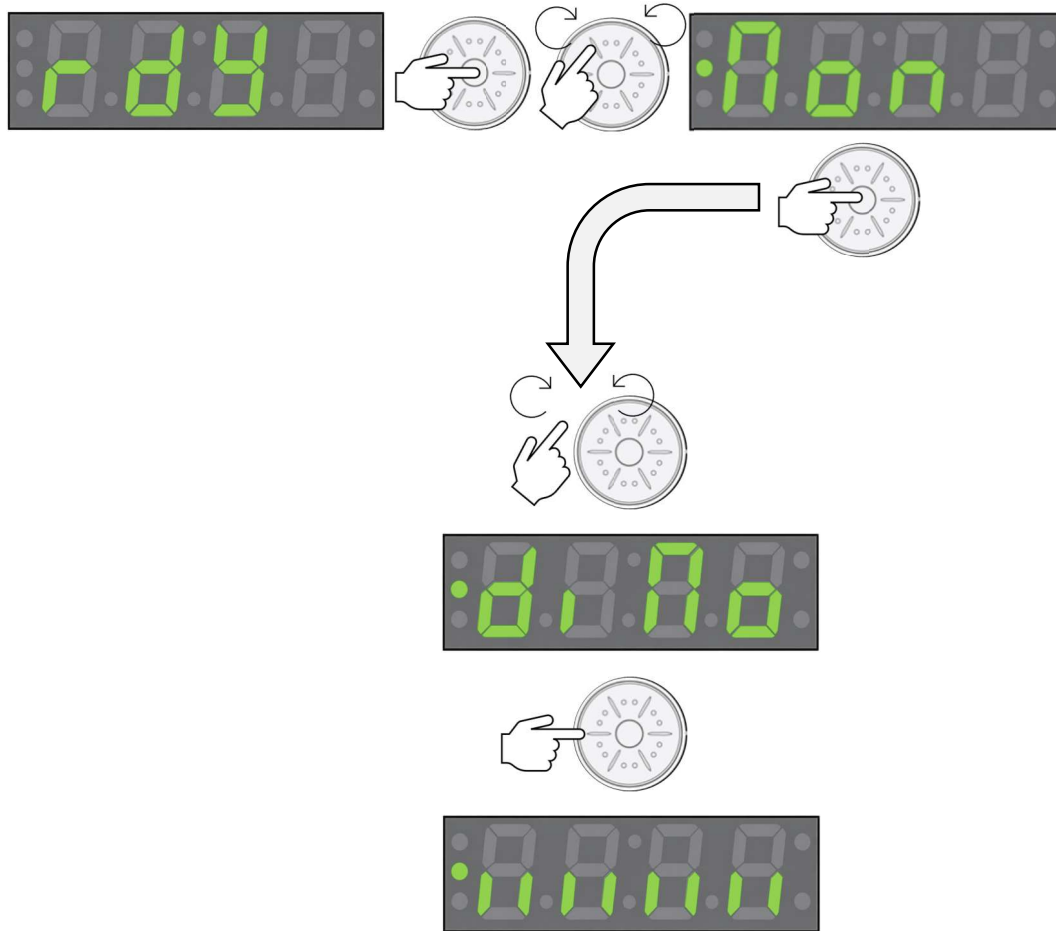
#### 9.2.8.5: How the sensor function

On reset, the servo drive needs to know its zero position (home position). Therefore, a homing sequence is required. During this sequence, the servo travels safely until it receives the home sensor signal. The home sensor is an inductive proximity sensor, meaning it detects the presence of metal within approximately **1/16 in (1.6 mm)** of its sensing face.



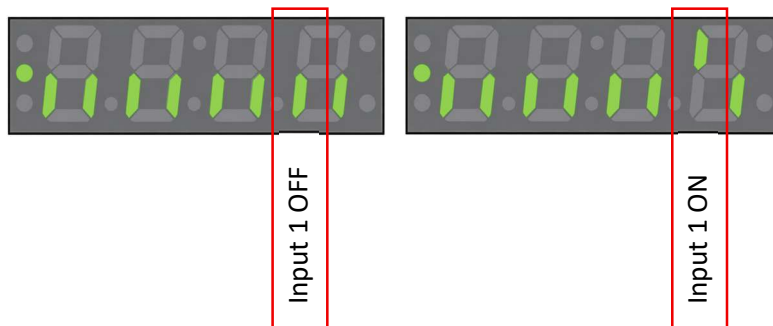
### 9.2.8.6: Navigate to digital input monitoring

To test the input on the servo drive, it is easiest to use the drive's monitoring menu to view the input status in real time. Follow next steps:



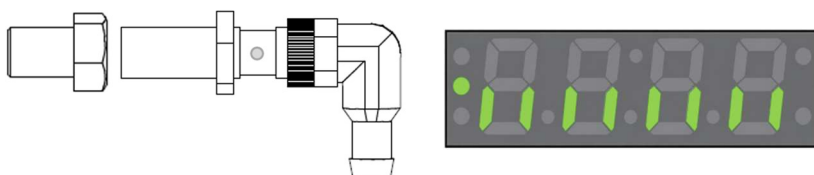
### 9.2.8.7: Testing signal

In this display, each bar represents all input (from input 0 up to input 7; right to left)

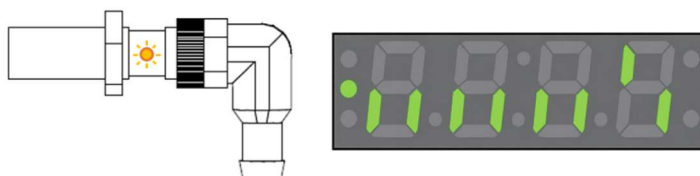


A working sensor and a correct wiring will respond this way (NO: normally closed):

Bolt detection, no light



No bolt detection, light ON



### 9.2.8.8: Troubleshooting

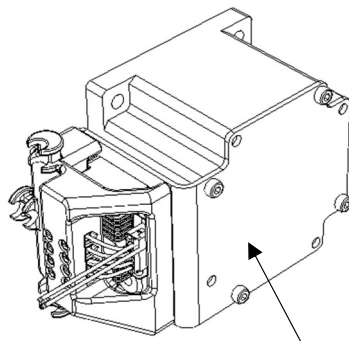
| Troubleshooting procedure                                                                                |                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Problem                                                                                                  | Possible causes / actions                                                                                                                                                                                                                                                                         |
| Servo does not stop at the sensor and bottoms out. A320 fault is displayed on the servo drive LCD screen | <ul style="list-style-type: none"> <li>• Adjust the detection bolt gap.</li> <li>• Verify that the sensor status LED changes state when metal is brought close to the sensor face.</li> <li>• Verify that the detection bolt is properly adjusted (1/16 in. gap from the sensor face).</li> </ul> |
| The sensor status LED is ON, but no input is displayed on the servo drive LCD screen.                    | <ul style="list-style-type: none"> <li>• Check the input and common connectors on the servo drive.</li> <li>• Measure the signal voltage and verify that 24 VDC is present on terminal 16.</li> <li>• Test the signal on Input 1.</li> </ul>                                                      |
| During reset, the servo attempts to perform the homing sequence in the opposite direction.               | <ul style="list-style-type: none"> <li>• Verify that the home sensor is connected to the correct input.</li> <li>• Check the input status on the servo drive LCD screen.</li> <li>• Verify the servo parameters and homing direction configuration.</li> </ul>                                    |



### 9.3: Stepper motor assembly for KLR.5051

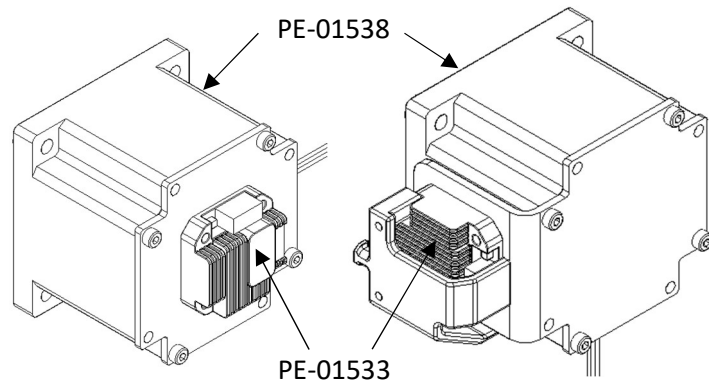
The KLR.5051 has at least 6 stepper motors.

*SN: 3032 – beyond (KLR-00001 – Beyond)*



KR-STEPPER (assembly)

*SN: 2415 - 3031*

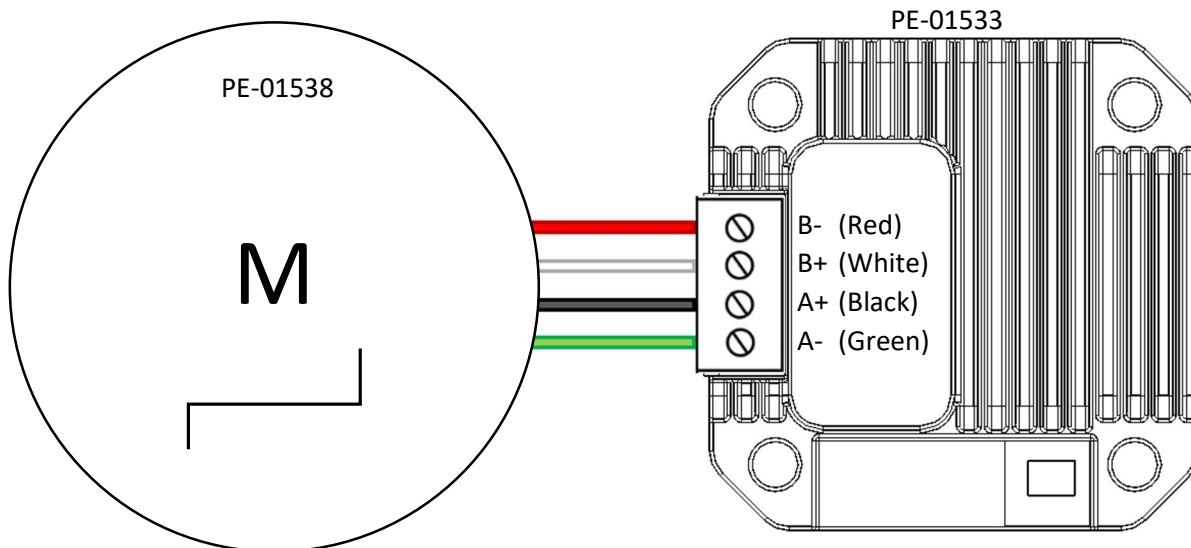


#### 9.3.1: Wiring

##### 9.3.1.1: Integrated stepper drive

The integrated stepper drive must follow this wiring:

Unipolar stepper motor

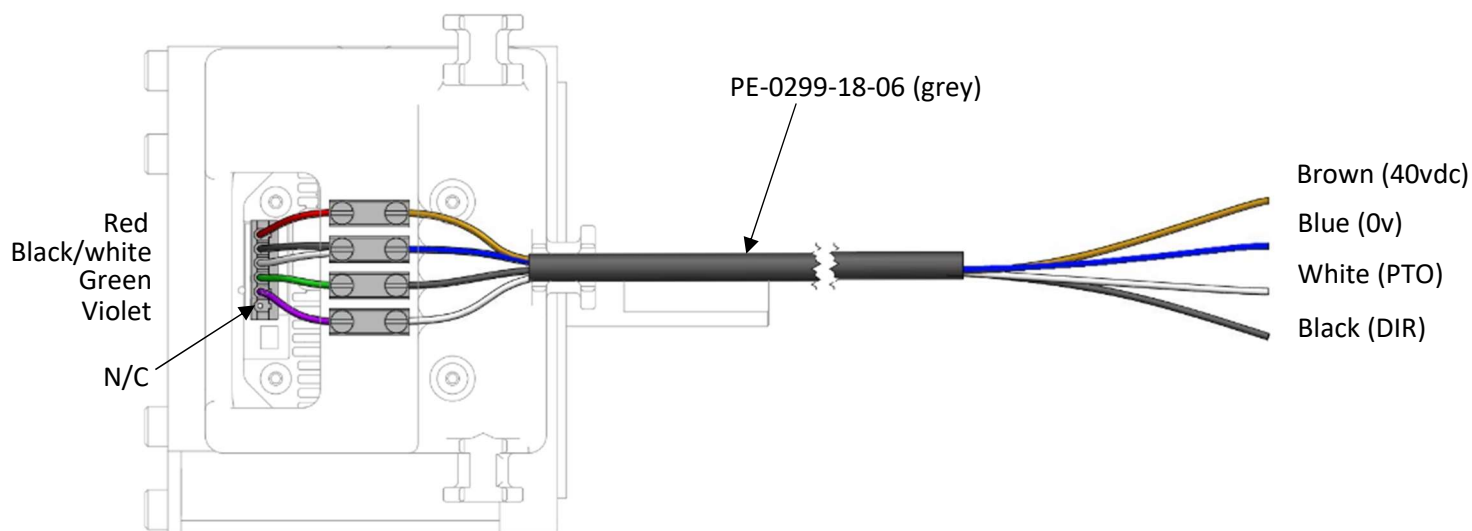


To perform Gearbox update and the machine program is older than 2023-12-12. Switch rotation needs to be done with the wiring:

Switch color B- and B+ only.

B- = White, B+ = red, A+ = black and A- = green

### 9.3.1.2: Wire from motor to the control panel (SN: 3032 – beyond; KLR-00001 – beyond)



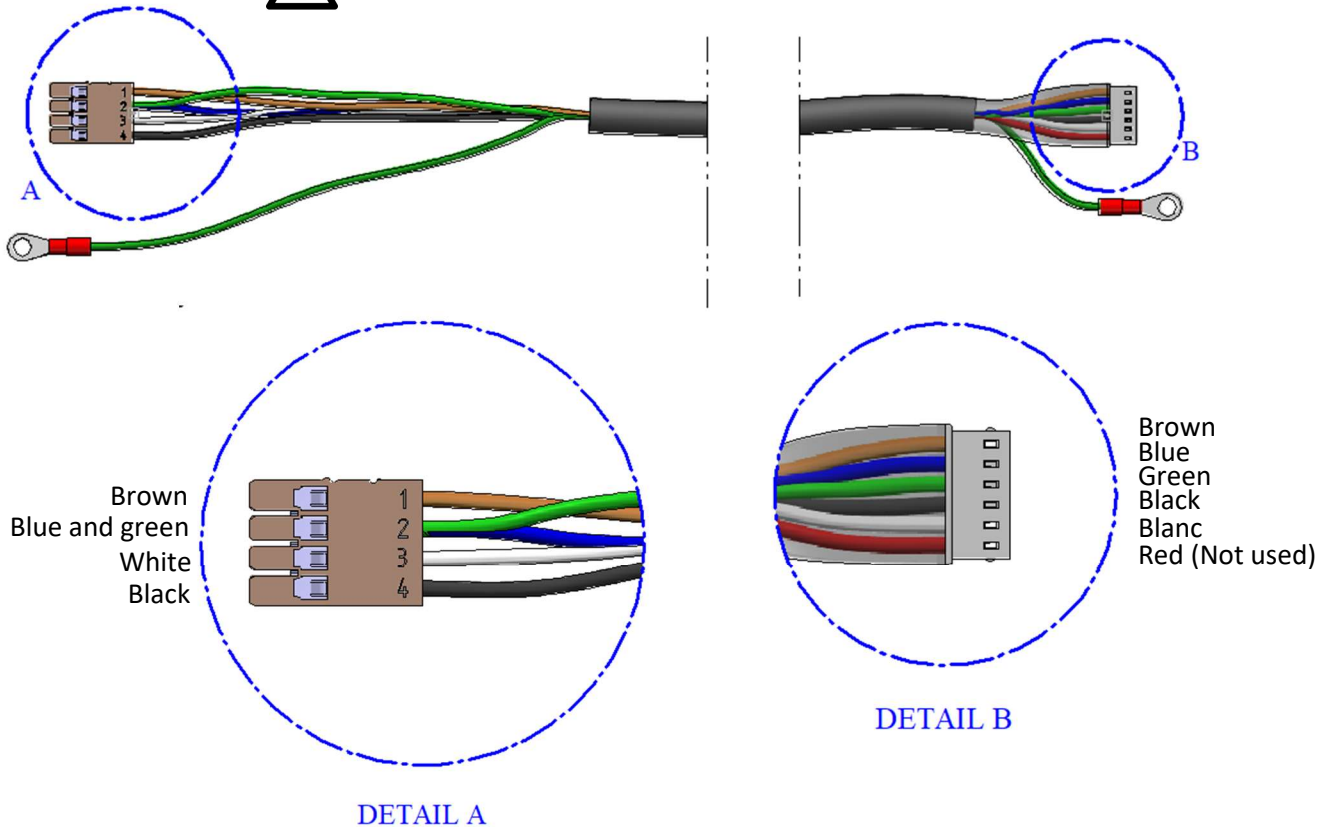
| PE-0299-18-06 cable length     |                 |
|--------------------------------|-----------------|
| Motors                         | Length (inches) |
| Prefeed                        | 78              |
| Infeed                         | 66              |
| Scoop                          | 120             |
| Up/down                        | 108             |
| B.T. feed*                     | 180             |
| B.T. up/down*                  | 180             |
| Aligner option (daisy chain) * |                 |
| Panel – Infeed                 | 66              |
| Infeed – Aligner 1             | 76              |
| Aligner 1 – Aligner 2          | 28              |

\*When Aligner option is installed. Since the aligner are daisy chained with the Infeed motor, there is always a 24vdc in DIR and the Green wire is removed to reverse direction when needed.

### 9.3.1.3: Wire from motor to the control panel (SN: 2415-3031)



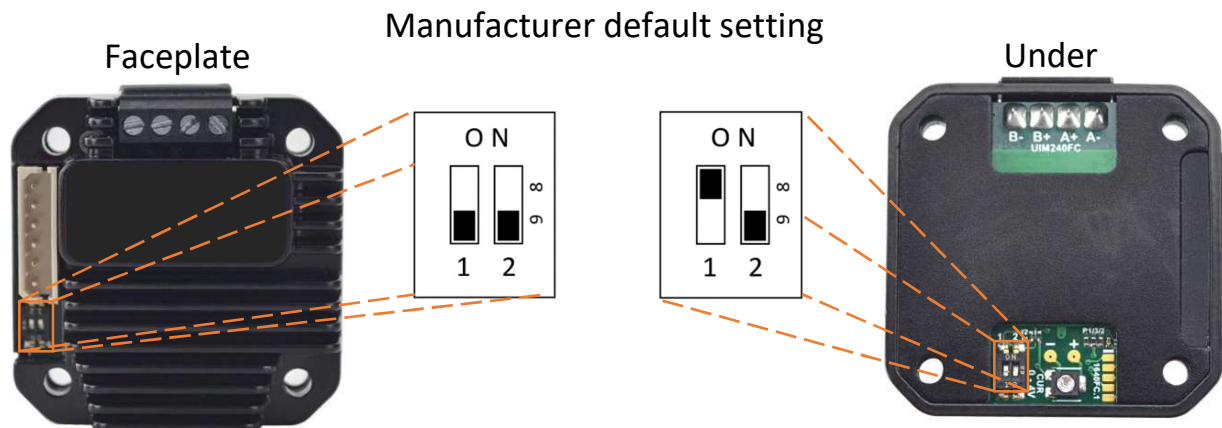
*IF machine has been retrofitted, use 9.3.1.2 section.*



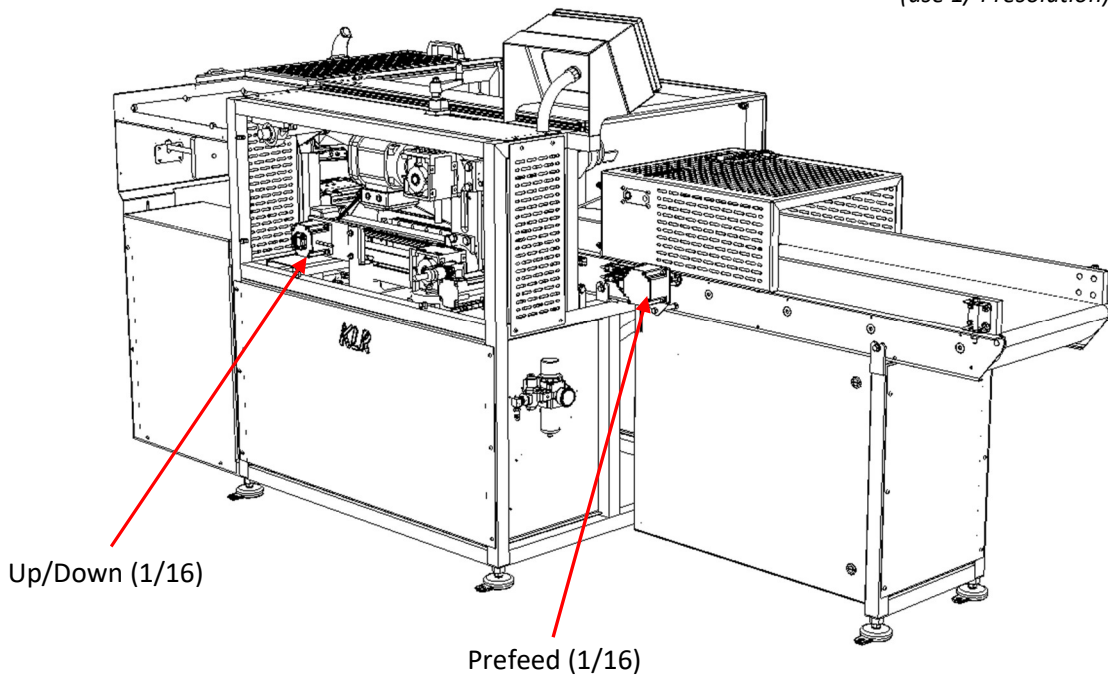
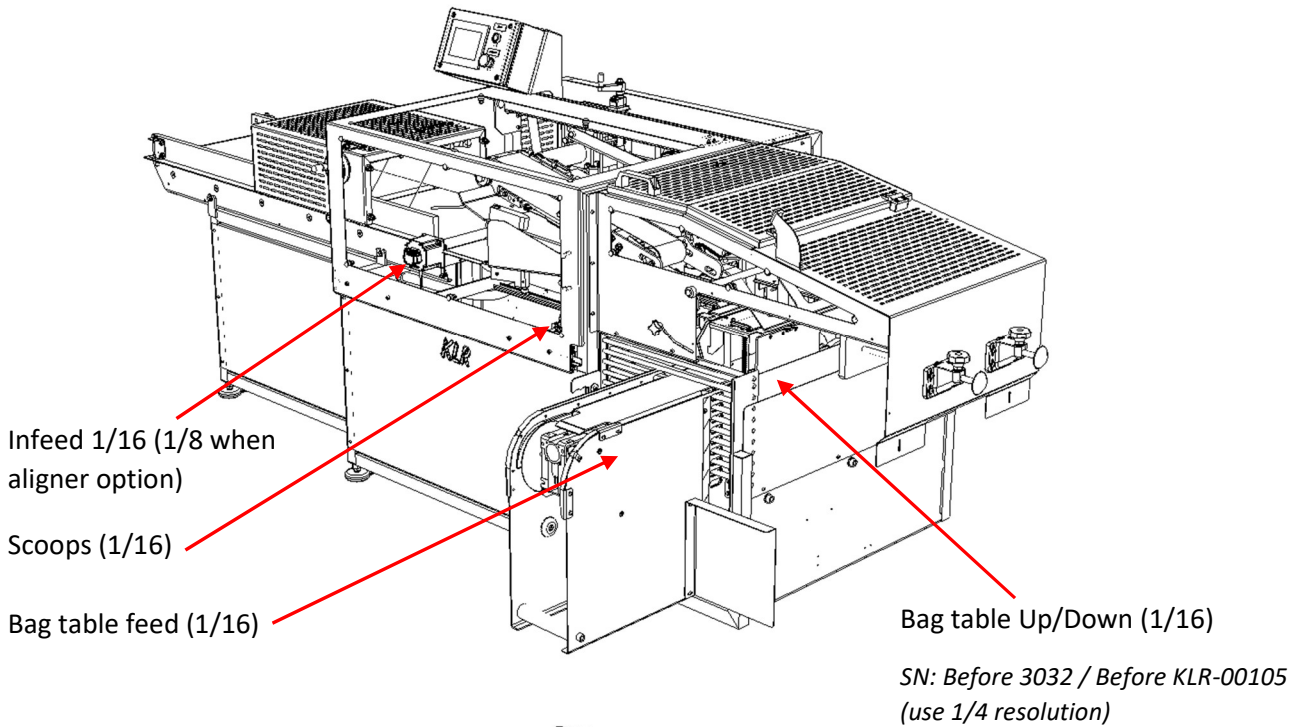
### 9.3.2: DIP switch resolution setting

#### 9.3.2.1: Manufacturer default setting

On the drive, there are two (2) sets of DIP switches. All motors uses default DIP switches except when aligner option is installed on the machine.



## 9.3.2.2: Location on the bagger



### 9.3.2.3: Settings



Only relevant for the stepper motor axis setting that must be changed from the default value.  
See **DIP switches setting**.

Due to the recent shortage in electric components, the manufacturer of the drive used a different part into the making of it. Result: Two different drives are in circulation.

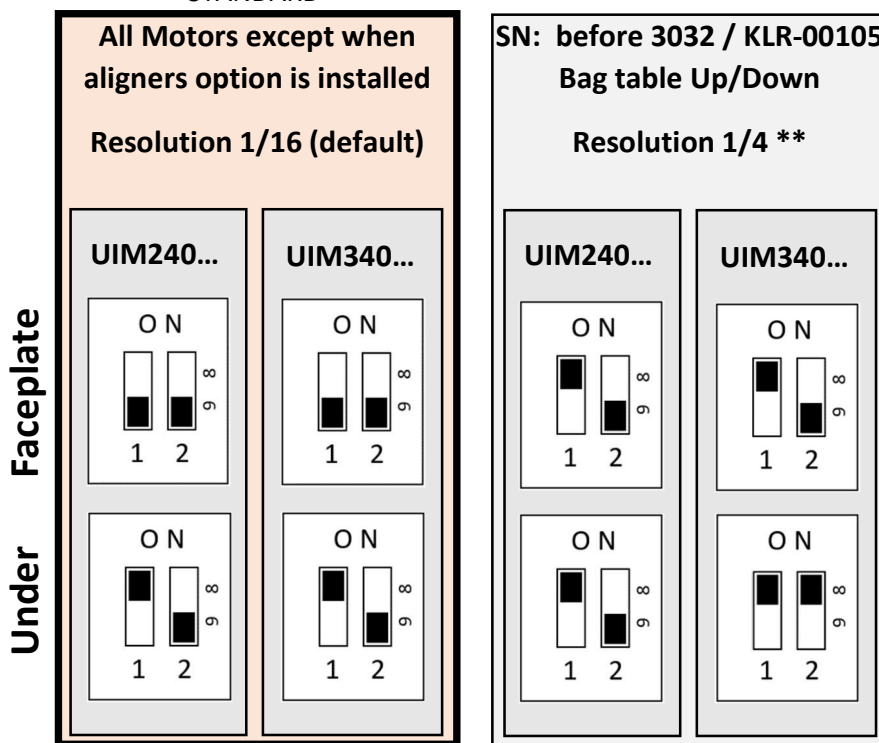


Only on resolution changes

UIM240... = Leave the DIP switches behind as is.

UIM340... = Change DIP switch behind to be equivalent

#### STANDARD



\*When Aligners Option, Infeed becomes 1/8 resolution.

\*\* If machine program has been updated to 2023-12-13 or later, use 1/16 resolution.

### 9.4: Stepper motor for KLR.5051-X-AB

Prior to replacing a Lexium Mdrive stepper motor (PE-00628), it is required to be programmed. Download and use the **Lexium software suite**. It does not require a license, and it is completely free to use. Please, use version 1.0.1.8 or above.

KLR part number: PE-00628



#### 9.4.1: Local IP address

Default IP address on purchase: 192.168.33.1

Here are the local IP addresses for the Lexium stepper motors.

| Serial number | KLR-00239 +   | KLR-00001 – KLR-00238 |
|---------------|---------------|-----------------------|
| Motors        | IP Addresses  |                       |
| Default IP    | 192.168.33.1  | 192.168.33.1          |
| Prefeed       | 192.168.1.71  | 192.168.10.71         |
| Infeed        | 192.168.1.72  | 192.168.10.72         |
| Scoop         | 192.168.1.73  | 192.168.10.73         |
| Up/down       | 192.168.1.74  | 192.168.10.74         |
| B.T. feed*    | 192.168.1.75  | 192.168.10.75         |
| B.T. up/down* | 192.168.1.76  | 192.168.10.76         |
| Subnet (all)  | 255.255.255.0 | 255.255.255.0         |
| Gateway (all) | 192.168.1.1   | 192.168.10.1          |

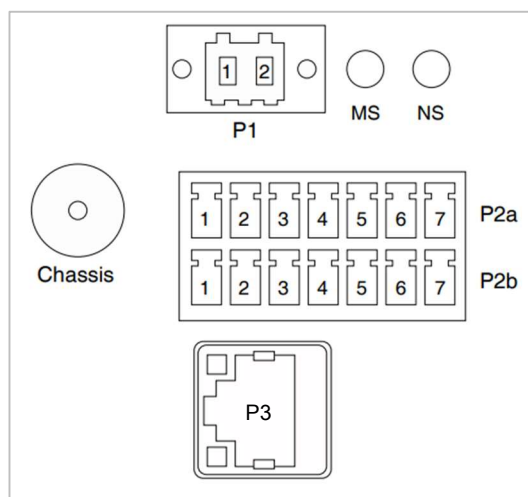
\*B.T. Bag table

#### 9.4.2: Wire stepper motor

| Pin        | Assignment    | Color |
|------------|---------------|-------|
| <b>P1</b>  |               |       |
| 1          | 48VDC*        | Black |
| 2          | 0V            | Blue  |
| <b>P2a</b> |               |       |
| 1          | Sinking input | Green |
| 2          | Input 1       | White |
| 3          | Input 2       | Red   |
| 4 - 7      | Not used      | N/A   |
| <b>P2b</b> |               |       |
| 1          | Aux. 24VDC    | Brown |
| 2 - 7      | Not used      | N/A   |

| Name    | Assignment         |
|---------|--------------------|
| P1      | DC voltage supply  |
| P2      | I/O interface      |
| P3      | Ethernet interface |
| Chassis | Ground             |
| MS LED  | Module status      |
| NS LED  | Network status     |

*\*For programming purposes, a 24VDC supply can be connected instead. See "wire in a bench test".*



#### 9.4.1.1: Wire in a bench test (programming purpose)



Lexium Mdrive stepper motor (PE-00628) coils are intended to operate, in normal condition, at **48VDC**. But the integrated drive on the motor support 24VDC as well for programming.

1. Wire P1 at 24VDC (or 48VDC) and 0V (only for programming on bench test).
2. Plug Ethernet cable from P3 to computer.

#### 9.4.3: LED indicators description

The Lexium Mdrive stepper motor has two (2) dual-color (red/green) LEDs visible from the back of the integrated drive to give status and error indication.

| Color                                  | State       | Description                                         |
|----------------------------------------|-------------|-----------------------------------------------------|
| <b>NS – Networks status</b>            |             |                                                     |
| None                                   | Off         | No power, no ethernet connection                    |
| Red                                    | Solid       | Unrecoverable fault                                 |
|                                        | Flashing    | Recoverable fault or I/O connection timed out       |
| Green                                  | Solid       | Normal runtime operation (I/O connection allocated) |
|                                        | Flashing    | Device is idle or not allocated to a PLC            |
| Red/green                              | Alternating | Power-up self test in progress                      |
| <b>MS – Module status (I/O status)</b> |             |                                                     |
| None                                   | Off         | No power                                            |
| Red                                    | Solid       | Unrecovered fault                                   |
|                                        | Flashing    | Minor, recoverable fault                            |
| Green                                  | Solid       | I/O connection established                          |
|                                        | Flashing    | Standby, no I/O connection established              |
| Red/green                              | Alternating | Power-up self test in progress                      |



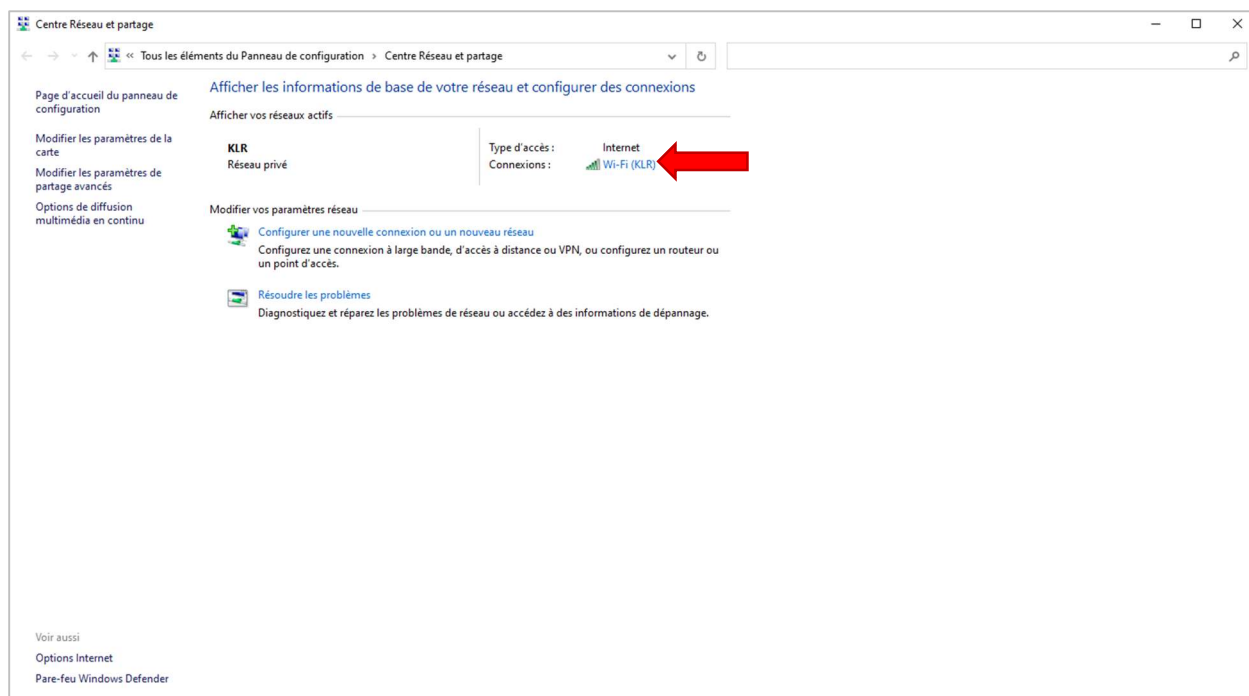
#### 9.4.4: Set IPv4 address of the computer

The machine has two (2) IP address which one is used locally in electrical box, and one used to connect to the infrastructure (including connecting to a secure VPN). By default, the local IP address is the same through all the machines.

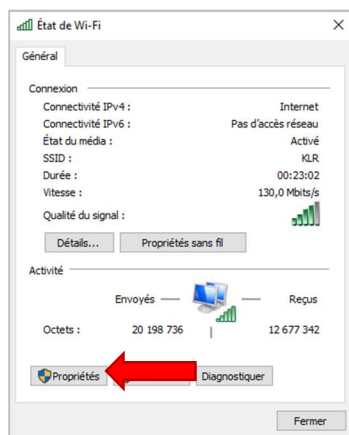
Default IP address on motor (on purchase): 192.168.33.1

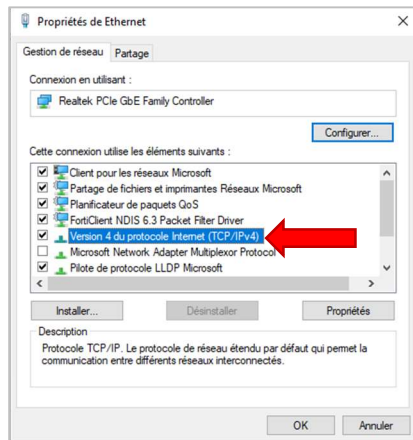
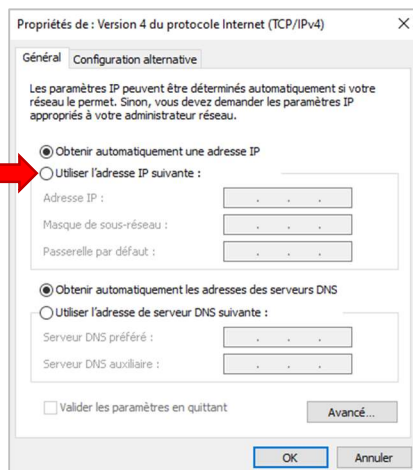
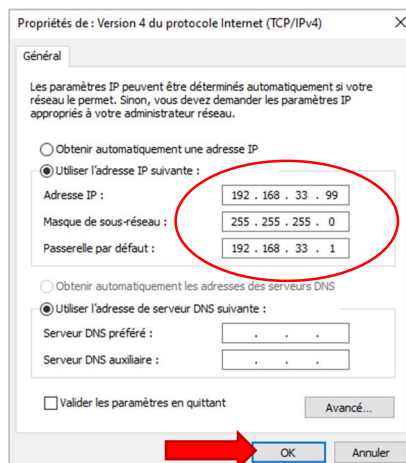
Default local IP address range for the bagger: 192.168.10.XXX

1. Open Network and sharing center.
2. Click on ethernet.



3. Click Properties.



**4. Double click on Internet protocol TCP/IPv4.****5. Click on Use this IP address.****6. Insert an IP address that match the default IP address of the motor.**

### 9.4.5: Lexium Software Suite

#### 9.4.5.1: Wire in a bench test (programming purposes)

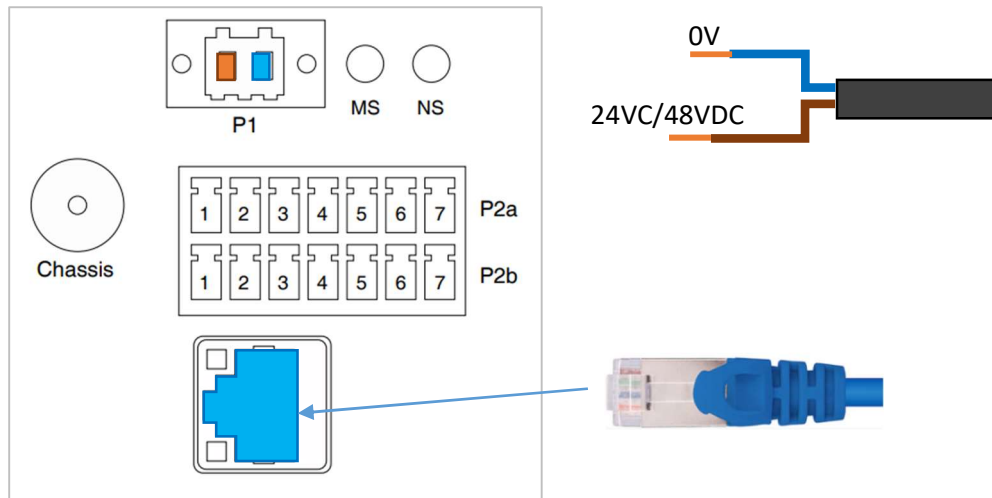


LMD motors can only be online with one device at a time. When the computer connects online, the motor loose connection with the machine PLC. To reestablish it, make sure the computer is Offline and power cycle the motor. The emergency button shut down the 48vdc, so it can be use to reset the motor.



Lexium Mdrive stepper motor (PE-00628) coils are intended to operate, in normal condition, at **48VDC**. But the integrated drive on the motor support 24VDC as well for programming.

1. Wire P1 at 24VDC (or 48VDC) and 0V (only for programming on bench test).
2. Plug Ethernet cable from P3 to computer.



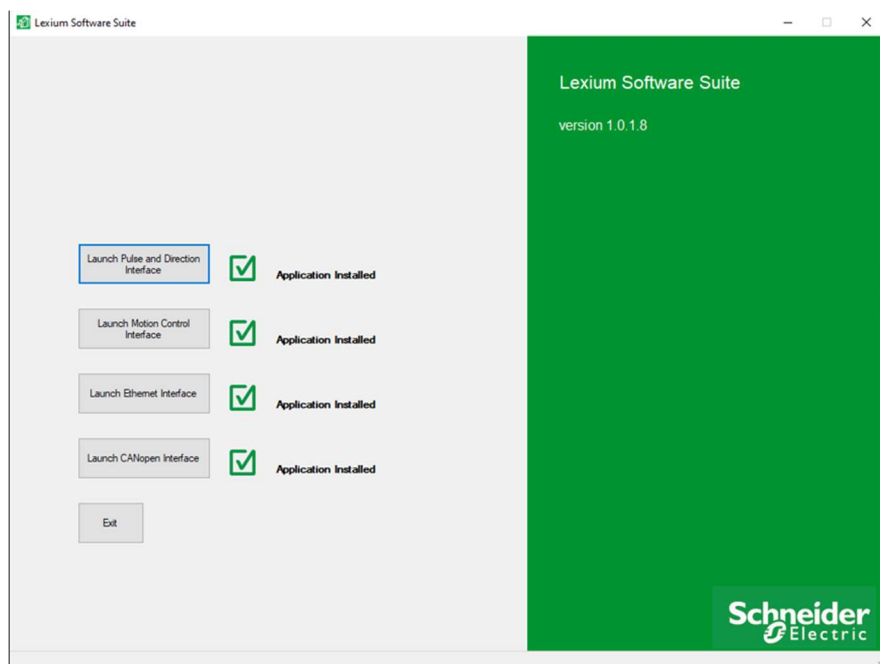
#### 9.4.5.2: Download Lexium Software Suite

The LMD was from Schneider now owned by Novanta

<https://www.novantaims.com/download/lmd-software-suite-1-1-0-0/?wpdmdl=20679&refresh=6807ca55071d51745341013>

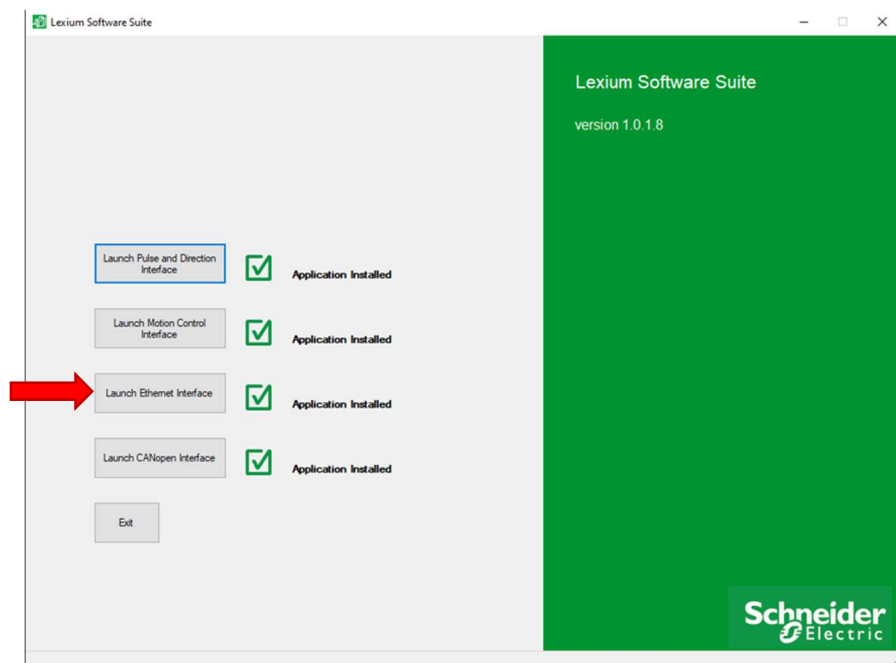
### 9.4.5.3: Main page

This page is just an interface to cycle through the different modules.

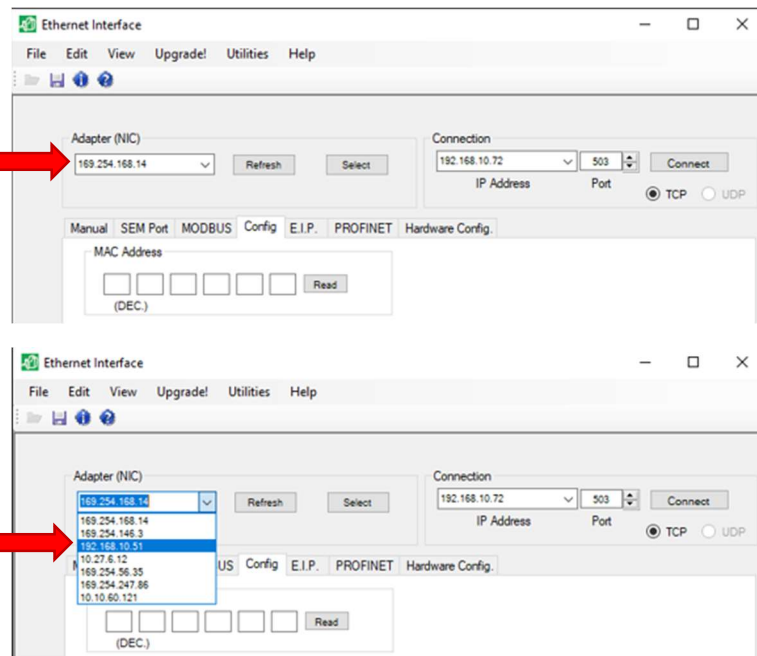


### 9.4.5.4: Ethernet interface

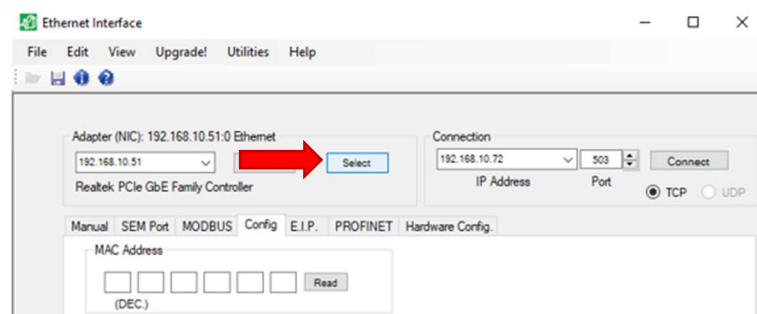
1. Press Launch Ethernet interface.



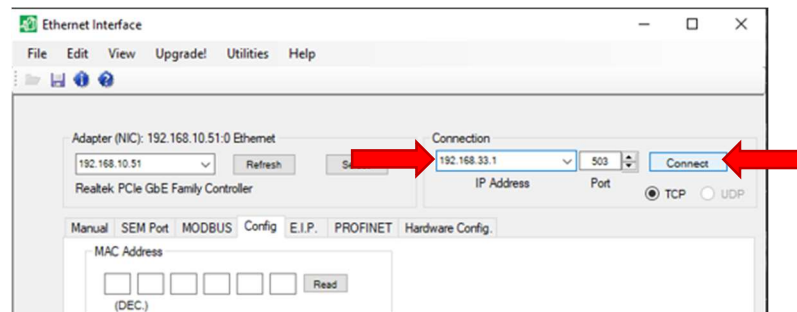
2. Select your computer in the current network. If not shown, press Refresh.



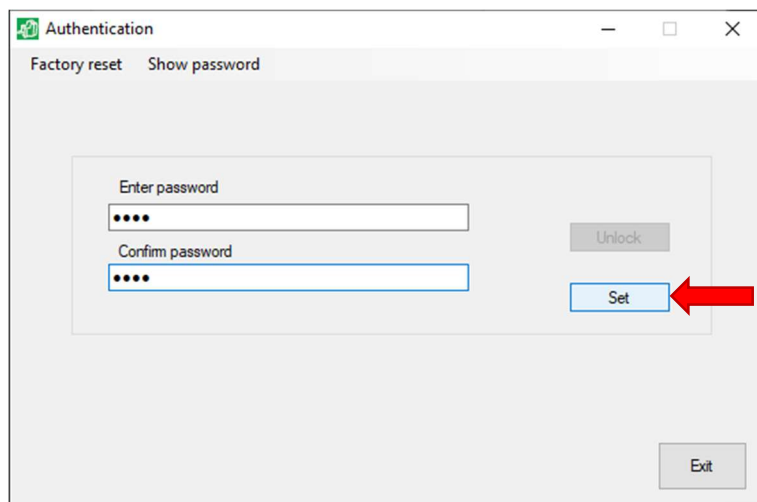
3. Press Select



4. Select or Write the desired motor IP to connect to. From manufacturer, the default IP address is 192.168.33.1.

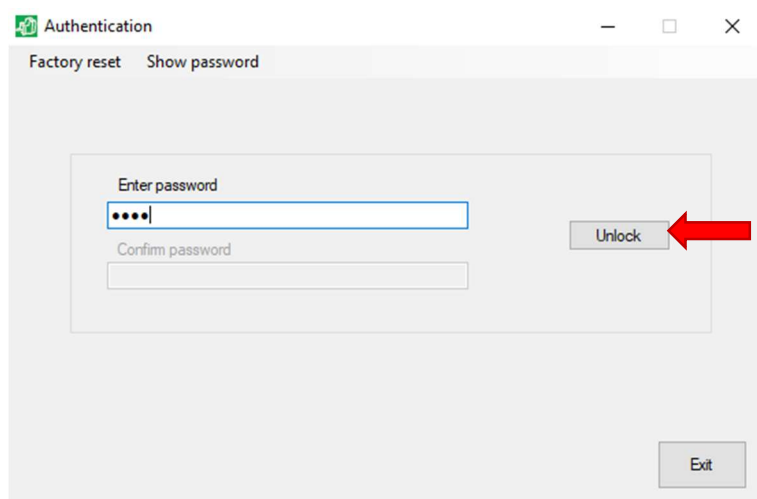


5. Create password. Please use 1234 and 1234 in case a KLR technician needs to connect in the future



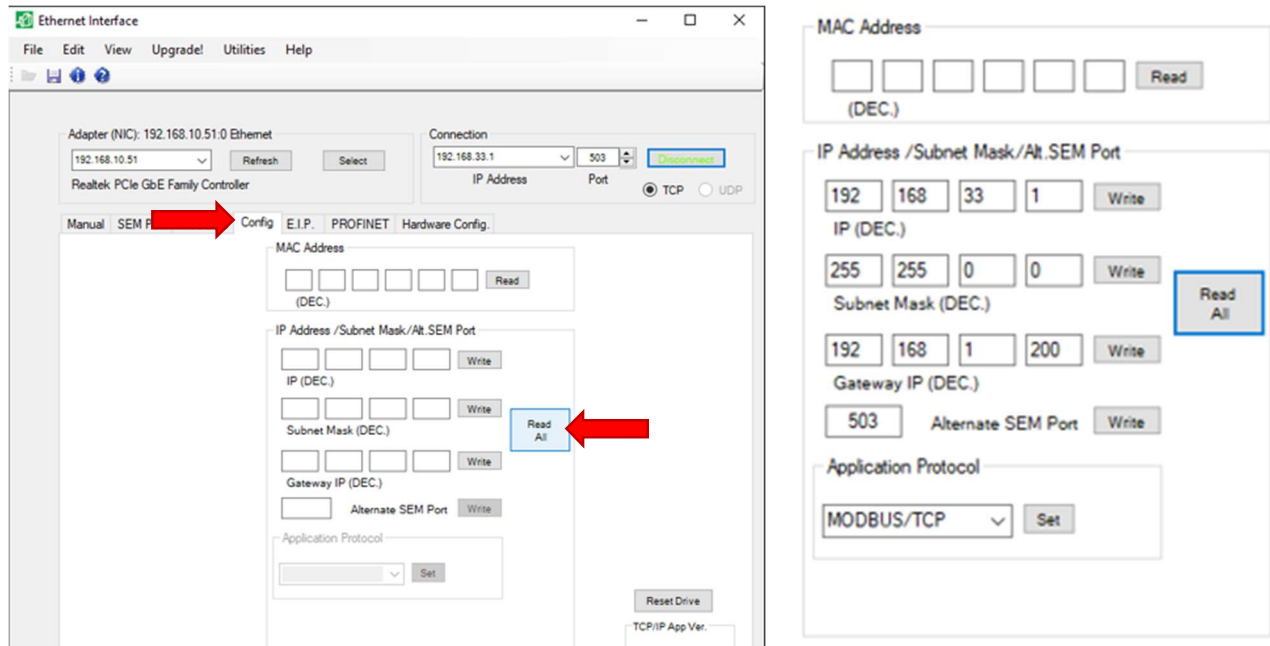
The screenshot shows the 'Authentication' window with a title bar containing a help icon, the text 'Authentication', and standard window controls. Below the title bar are two links: 'Factory reset' and 'Show password'. The main area contains a form with two input fields: 'Enter password' and 'Confirm password', both containing four dots. To the right of these fields are two buttons: 'Unlock' (disabled) and 'Set' (active). A red arrow points to the 'Set' button. At the bottom right is an 'Exit' button.

6. Next time it is required to connect to this motor, insert 1234.



The screenshot shows the 'Authentication' window with the same title bar and links as the previous image. The 'Enter password' field now contains four dots, and the 'Confirm password' field is empty. The 'Unlock' button is now active, and a red arrow points to it. The 'Set' button is no longer visible. The 'Exit' button remains at the bottom right.

## 7. Press Config tab and Press Read all



The screenshot shows the 'Ethernet Interface' window with the 'Config' tab selected. The 'Read All' button is highlighted in blue. A red arrow points to the 'Config' tab, and another red arrow points to the 'Read All' button. A detailed inset on the right shows the 'Read All' button highlighted in blue.

**MAC Address**

IP Address / Subnet Mask / Alt. SEM Port

IP (DEC.)

Subnet Mask (DEC.)

Gateway IP (DEC.)

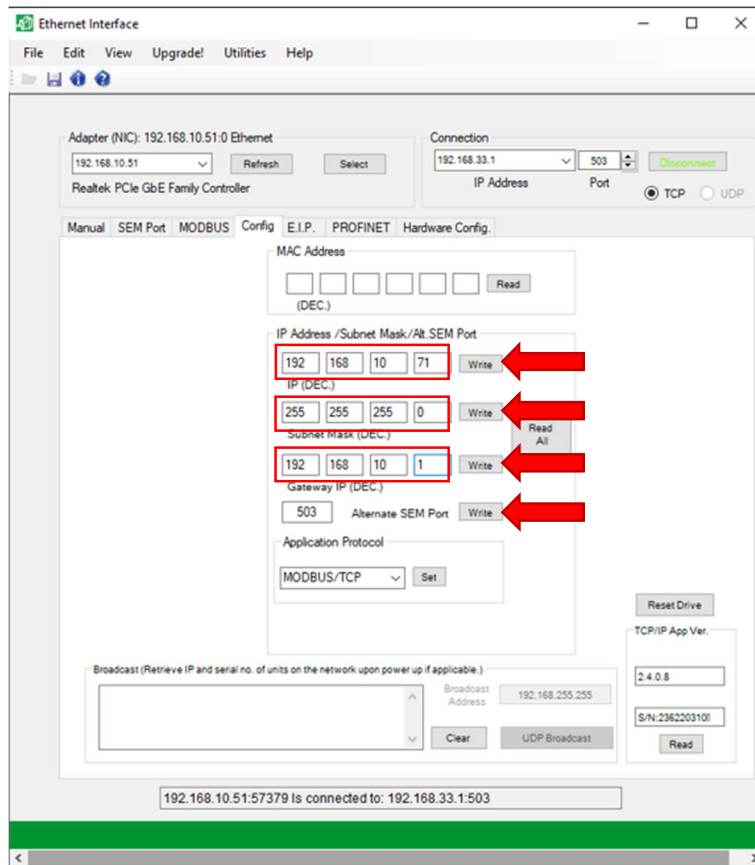
Alternate SEM Port

Application Protocol

MODBUS/TCP

Read All

## 8. Insert the correct IP address in the field and press all 4 Write buttons. Refer to 1.1: Local IP address to put the appropriate IP.



The screenshot shows the 'Ethernet Interface' window with the 'Config' tab selected. The IP address fields (192, 168, 10, 71) and the 'Write' buttons are highlighted in red. Red arrows point to each 'Write' button.

**MAC Address**

IP Address / Subnet Mask / Alt. SEM Port

IP (DEC.)

Subnet Mask (DEC.)

Gateway IP (DEC.)

Alternate SEM Port

Application Protocol

MODBUS/TCP

Write

Write

Write

Write

Read All

Reset Drive

TCP/IP App Ver.

2.4.0.8

S/N: 2362203108

Read

Broadcast (Retrieve IP and serial no. of units on the network upon power up if applicable.)

Broadcast Address

192.168.255.255

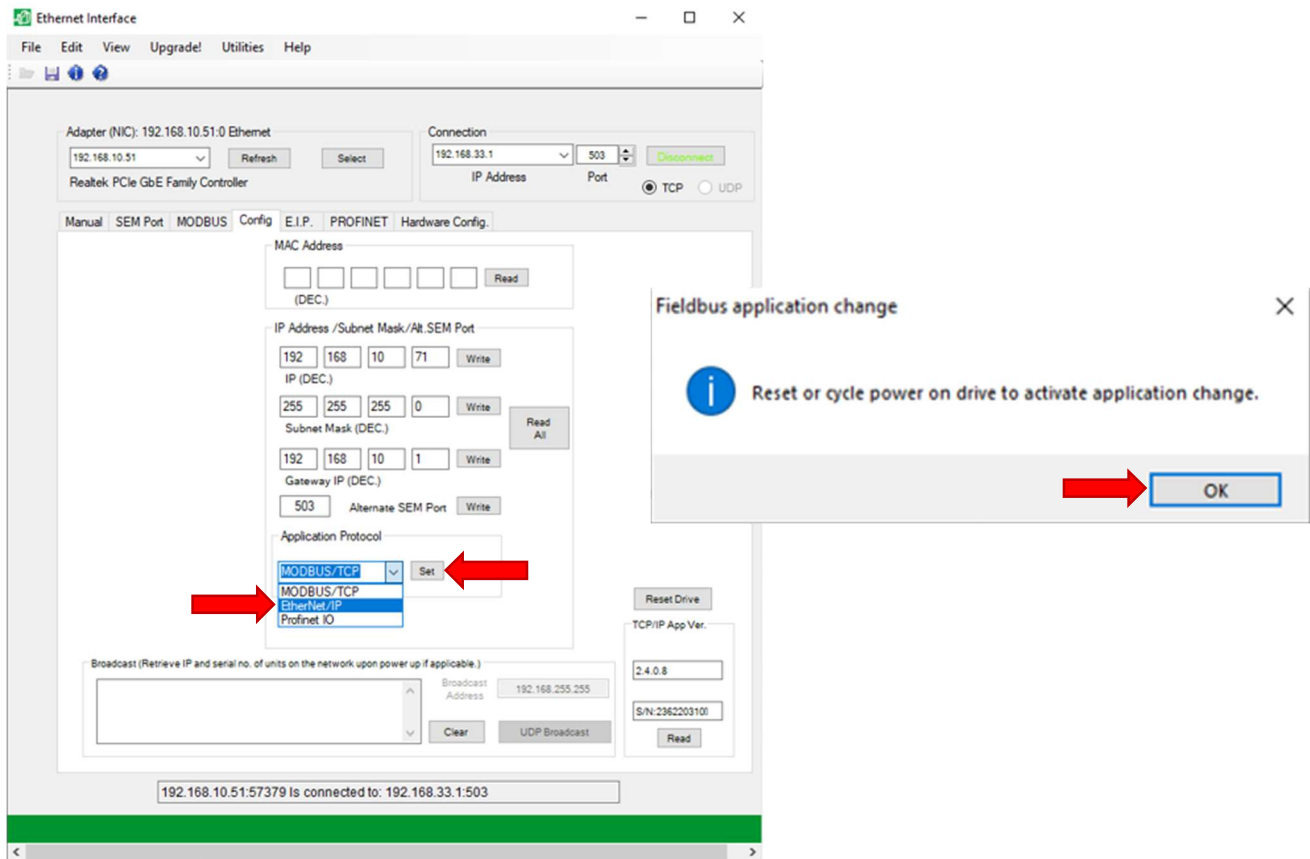
Clear

UDP Broadcast

192.168.10.51:57379 is connected to: 192.168.33.1:503

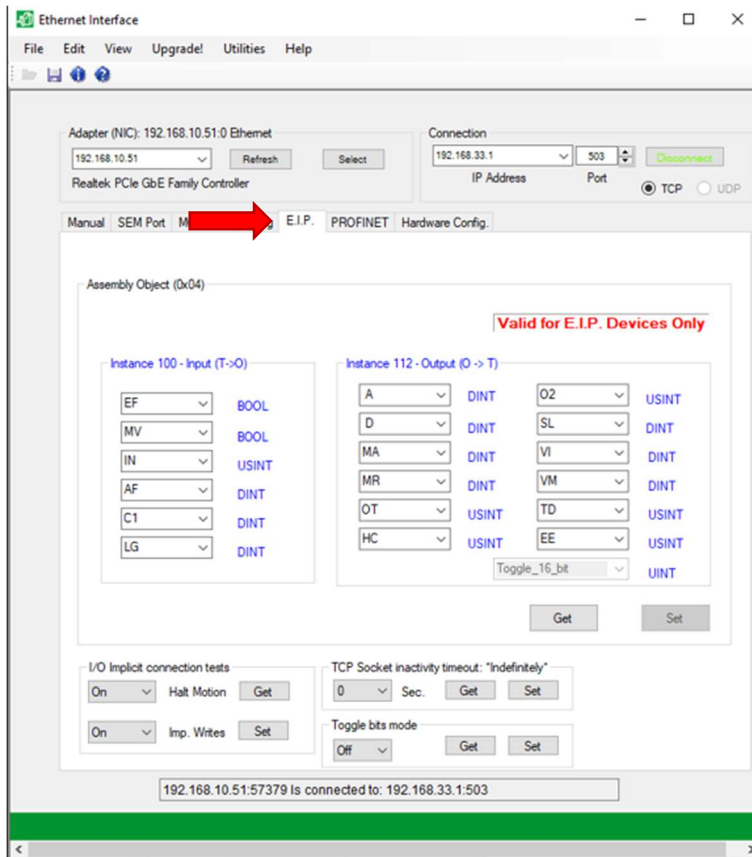


## 9. Select Ethernet/IP as a protocol and press set

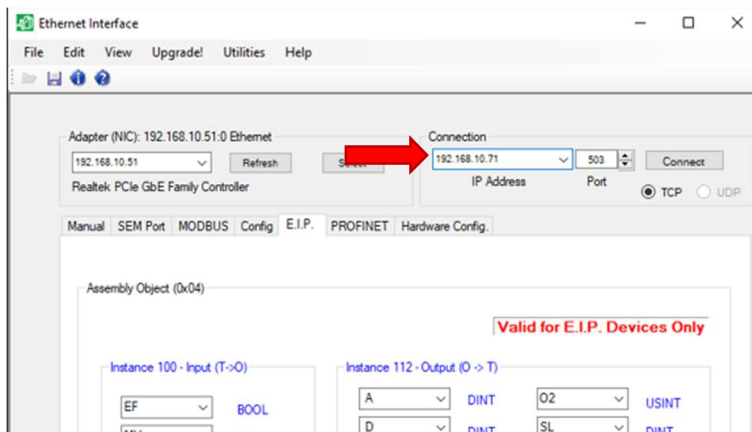


## 10. Power cycle the motor.

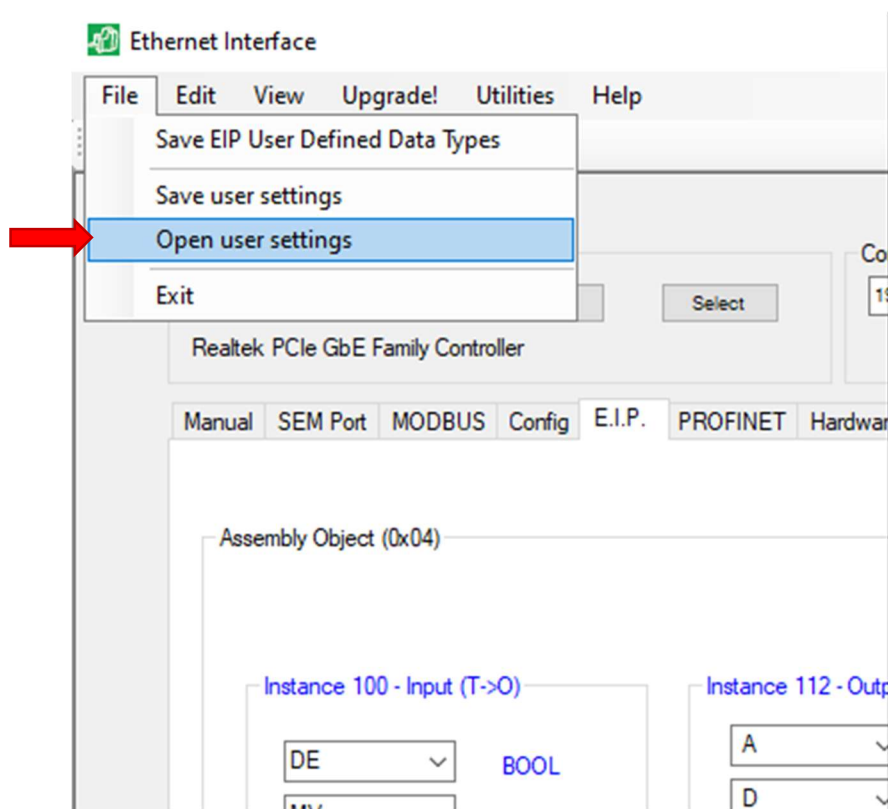
## 11. Press E.I.P. tab



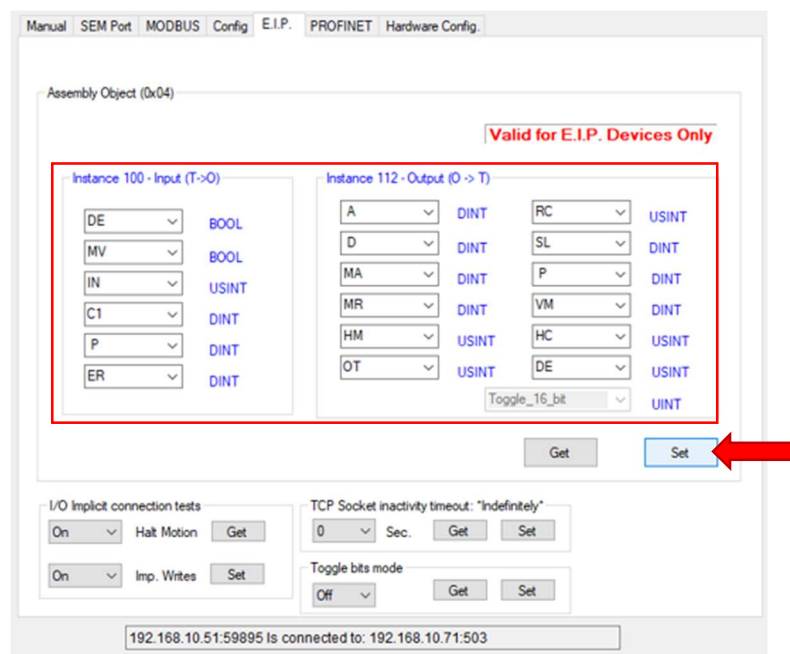
## 12. Reconnect But using the new IP address



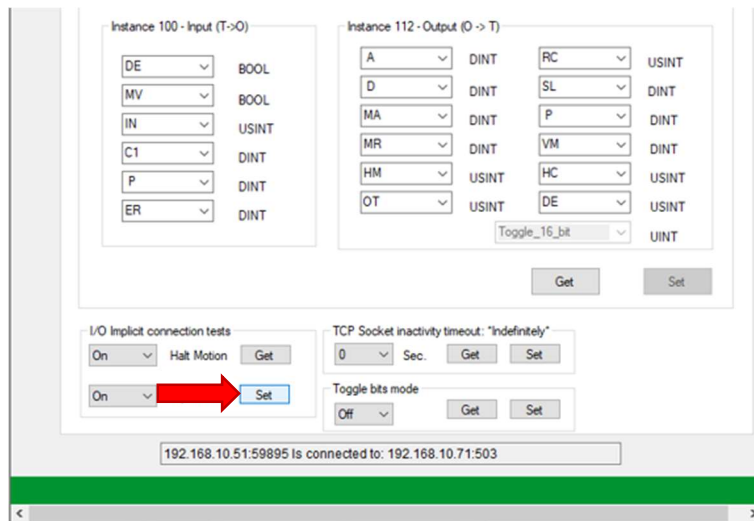
13. Press file, then Open user settings



14. Browse and open the files .EIP provided by KLR. The appropriate value in each field here. Press Set to



## 15. Press Set on implicit connection



Instance 100 - Input (T->O)

|    |       |
|----|-------|
| DE | BOOL  |
| MV | BOOL  |
| IN | USINT |
| C1 | DINT  |
| P  | DINT  |
| ER | DINT  |

Instance 112 - Output (O->T)

|               |       |      |       |
|---------------|-------|------|-------|
| A             | DINT  | RC   | USINT |
| D             | DINT  | SL   | DINT  |
| MA            | DINT  | P    | DINT  |
| MR            | DINT  | VM   | DINT  |
| HM            | USINT | HC   | USINT |
| OT            | USINT | DE   | USINT |
| Toggle_16_bit |       | UINT |       |

I/O Implicit connection tests

On ☐ Halt Motion   (Set is highlighted with a red arrow)

TCP Socket inactivity timeout: "Indefinitely"

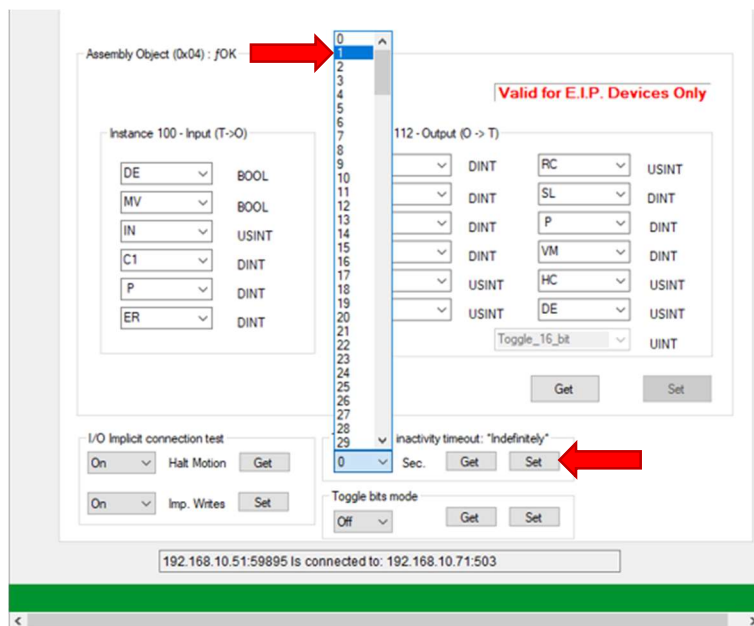
0 Sec.

Toggle bits mode

Off

192.168.10.51:59895 is connected to: 192.168.10.71:503

## 16. Select 1 sec in inactivity timeout, then press Set.



Assembly Object (0x04) : fOK  (Dropdown menu is open with '1' selected, highlighted with a red arrow)

Instance 100 - Input (T->O)

|    |       |
|----|-------|
| DE | BOOL  |
| MV | BOOL  |
| IN | USINT |
| C1 | DINT  |
| P  | DINT  |
| ER | DINT  |

Instance 112 - Output (O->T)

|               |       |      |       |
|---------------|-------|------|-------|
|               | DINT  | RC   | USINT |
|               | DINT  | SL   | DINT  |
|               | DINT  | P    | DINT  |
|               | DINT  | VM   | DINT  |
|               | USINT | HC   | USINT |
|               | USINT | DE   | USINT |
| Toggle_16_bit |       | UINT |       |

I/O Implicit connection test

On ☐ Halt Motion   (Set is highlighted with a red arrow)

On ☐ Imp. Writes

inactivity timeout: "Indefinitely"

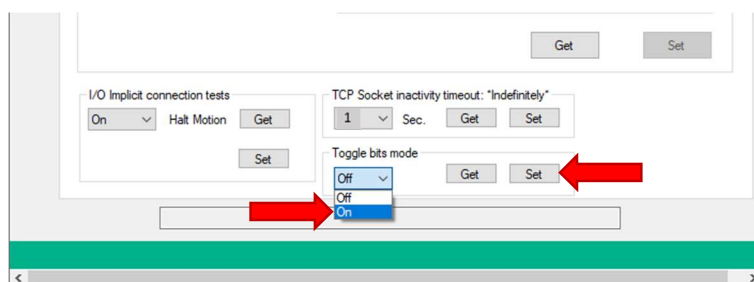
0 Sec.   (Set is highlighted with a red arrow)

Toggle bits mode

Off

192.168.10.51:59895 is connected to: 192.168.10.71:503

## 17. Set Toggle bits mode to On and press Set



Get

I/O Implicit connection tests

On ☐ Halt Motion   (Set is highlighted with a red arrow)

Set

TCP Socket inactivity timeout: "Indefinitely"

1 Sec.

Toggle bits mode

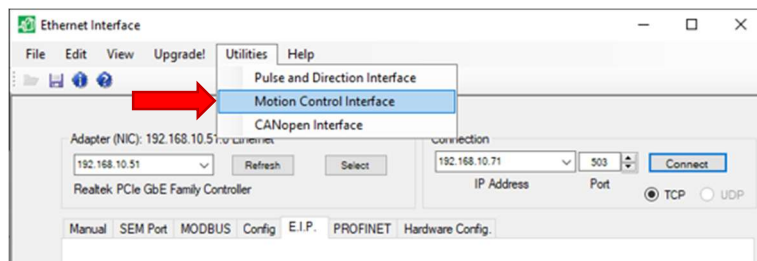
Off   (Set is highlighted with a red arrow)

Off   (Dropdown menu is open with 'On' selected, highlighted with a red arrow)

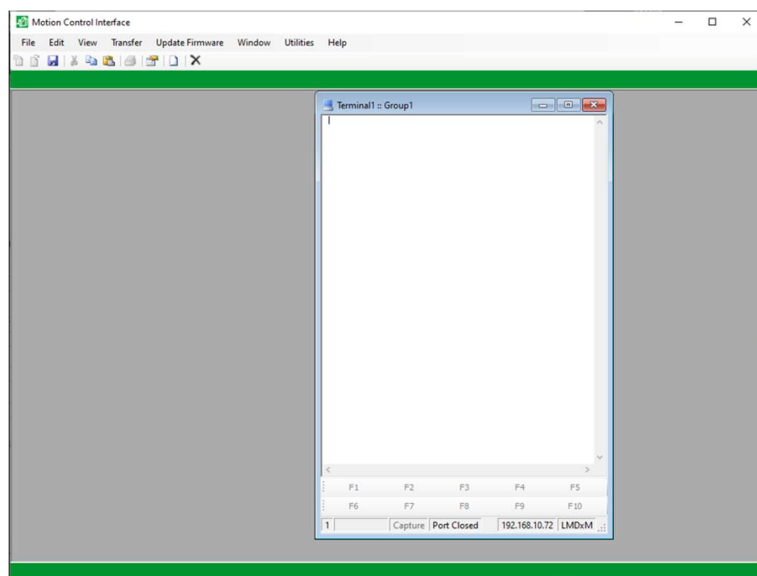
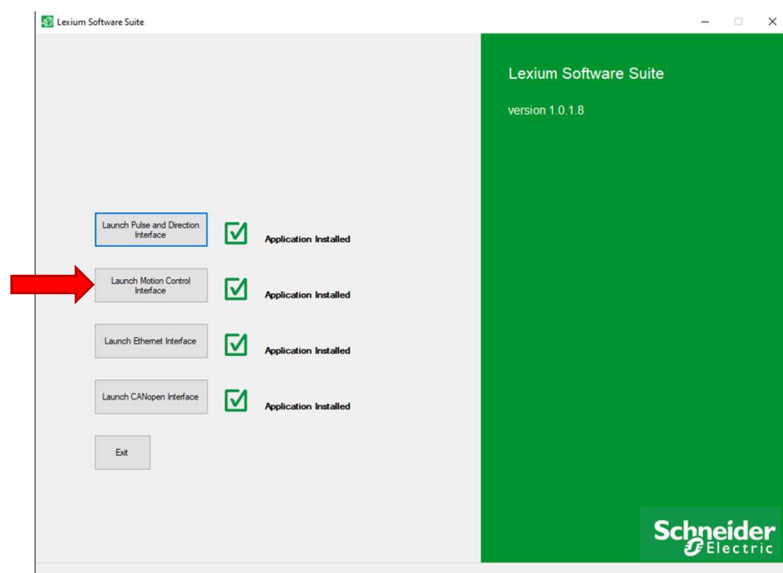
On

### 9.4.5.5: Motion control interface

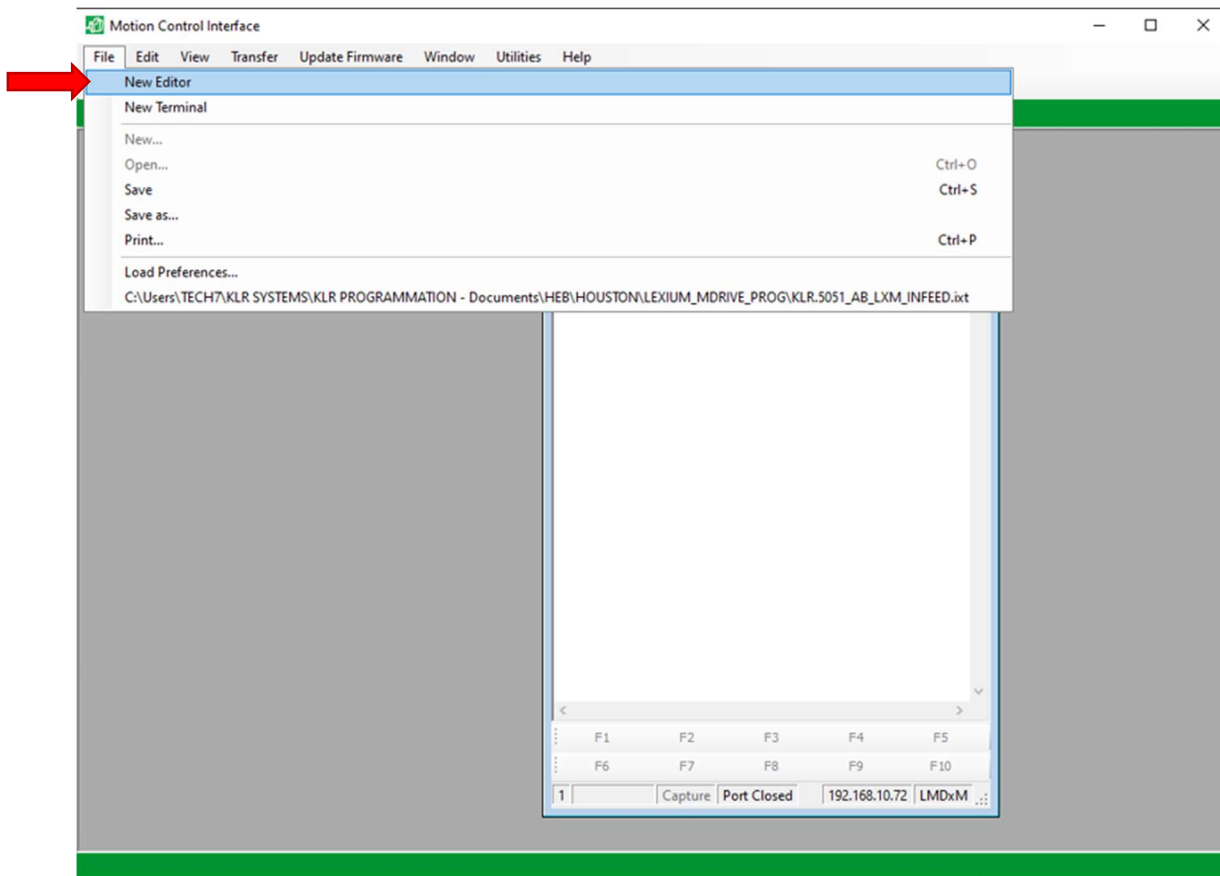
#### 1. Open Motion control interface



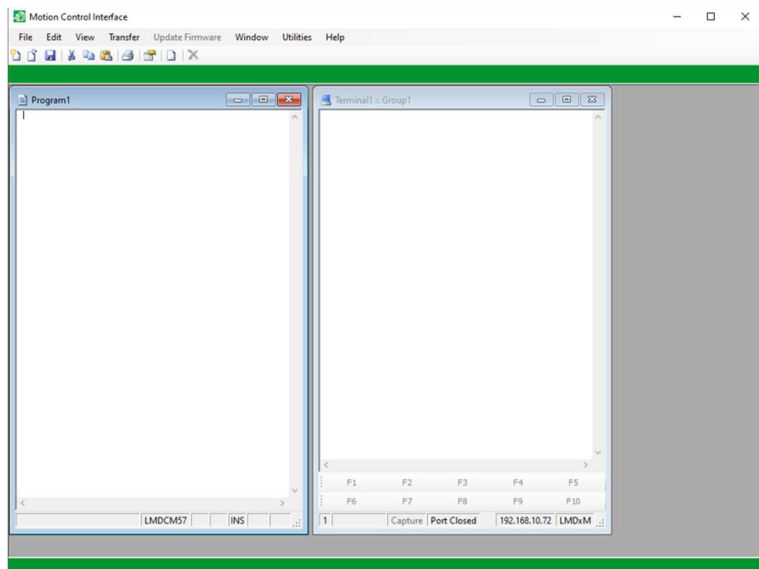
Or



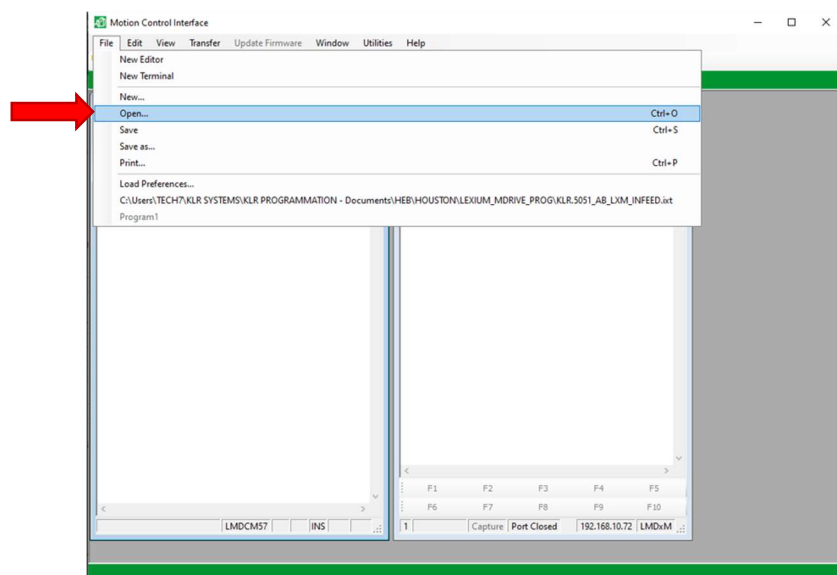
## 2. Press New Editor and press OK



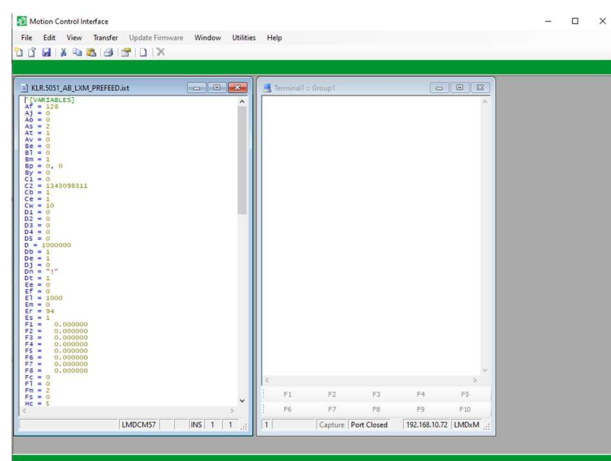
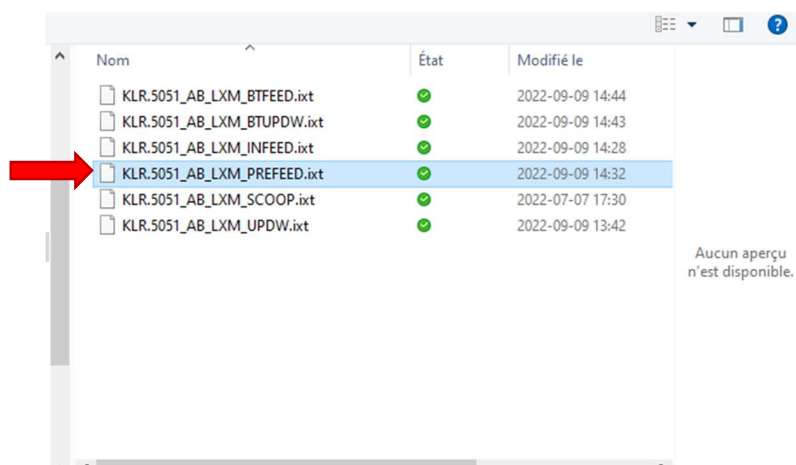
### Open a New file for editing



### 3. Press Open

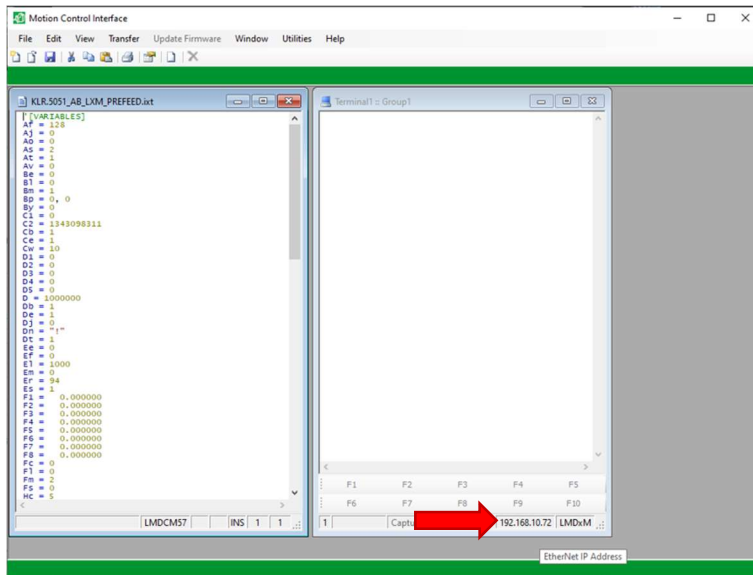


4. Select the corresponding motor file .ixt provided by KLR

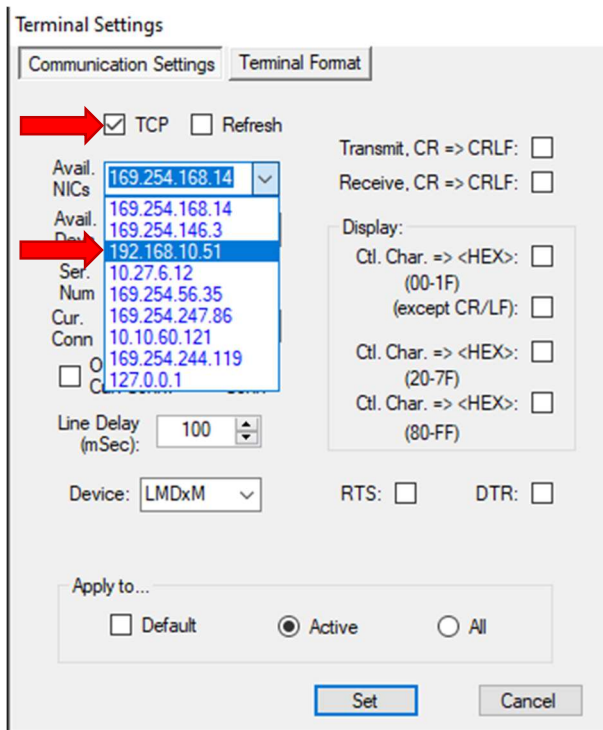




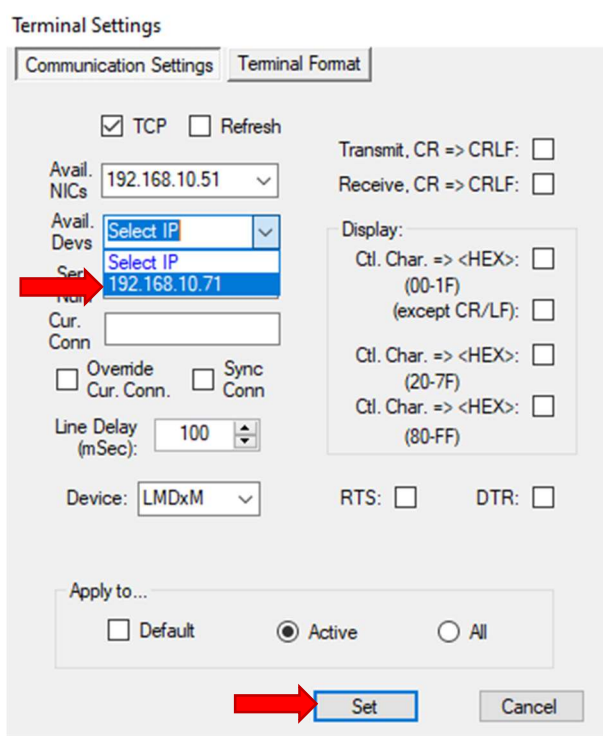
## 5. Double-click on COM



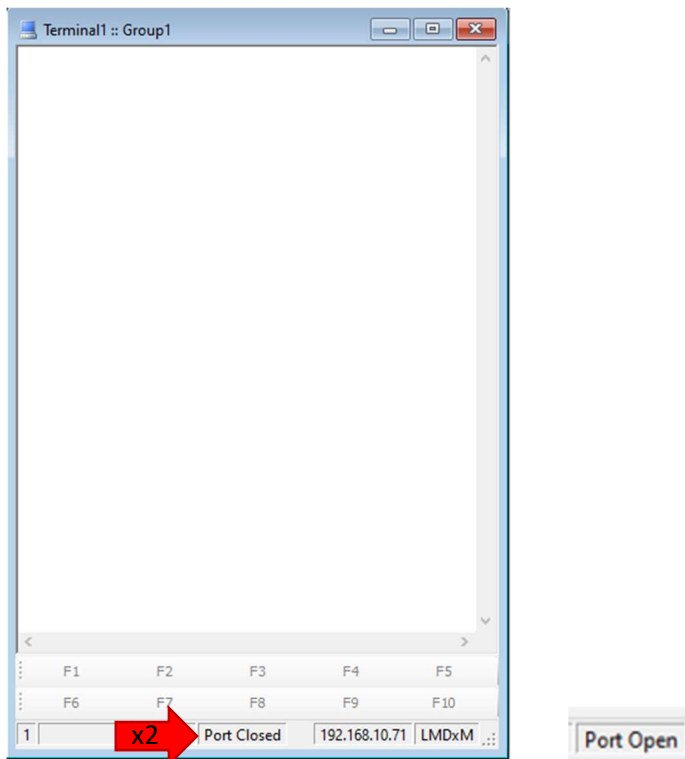
## 6. Check TCP and Select your computer



7. Select the correct motor, then press set.

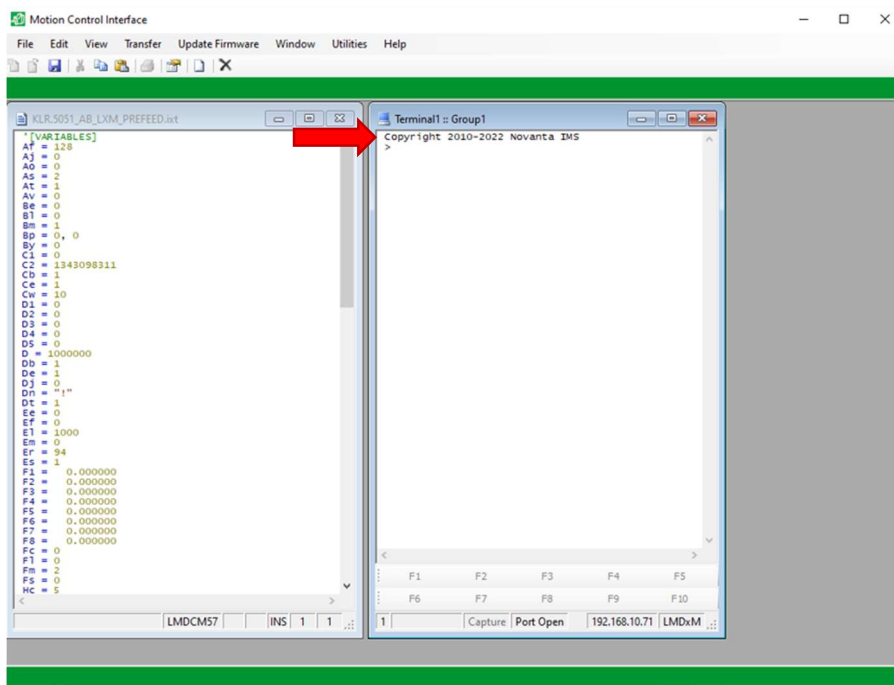


8. Double-click on PORT CLOSED



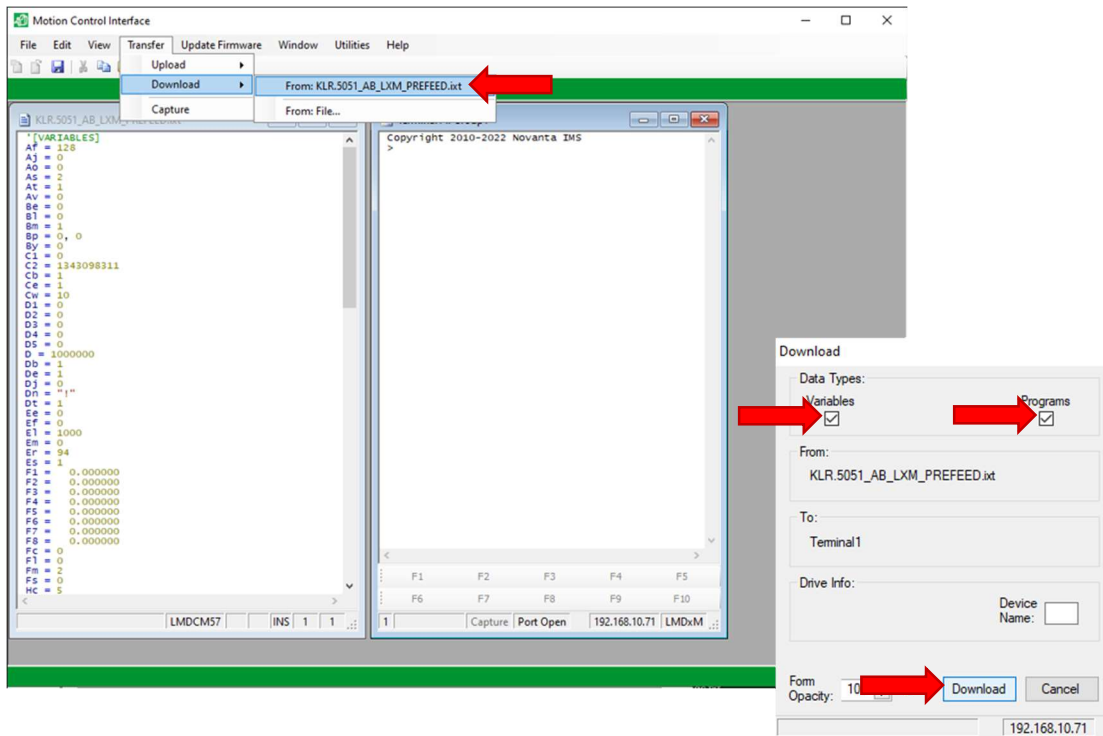
9. Press in the script input and enter : CTRL+C

Copyright ... IMS will appear, that means the computer is online with the device.

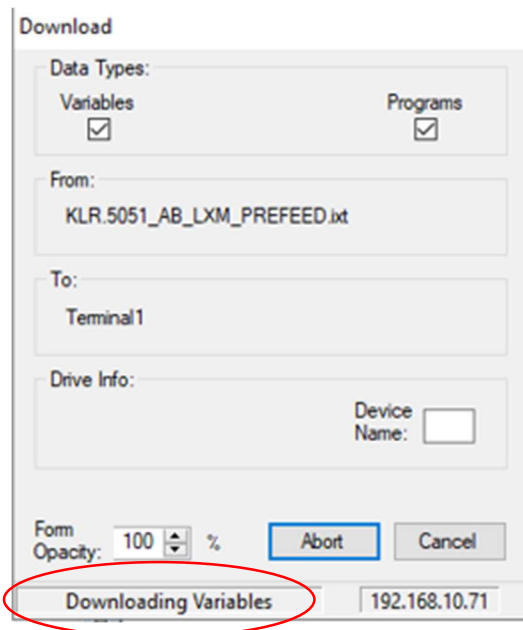


10. Select TRANSFER, DOWNLOAD, FROM: the current program to the left.

Check the Variables and programs boxes

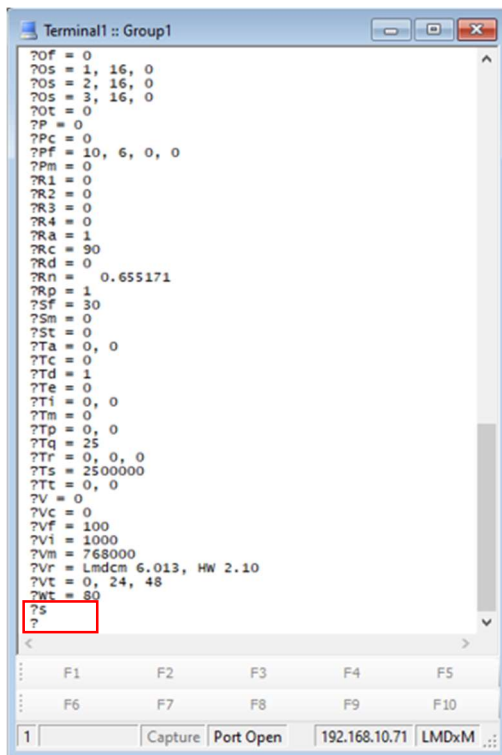


## 11. Wait for the transfer to finish



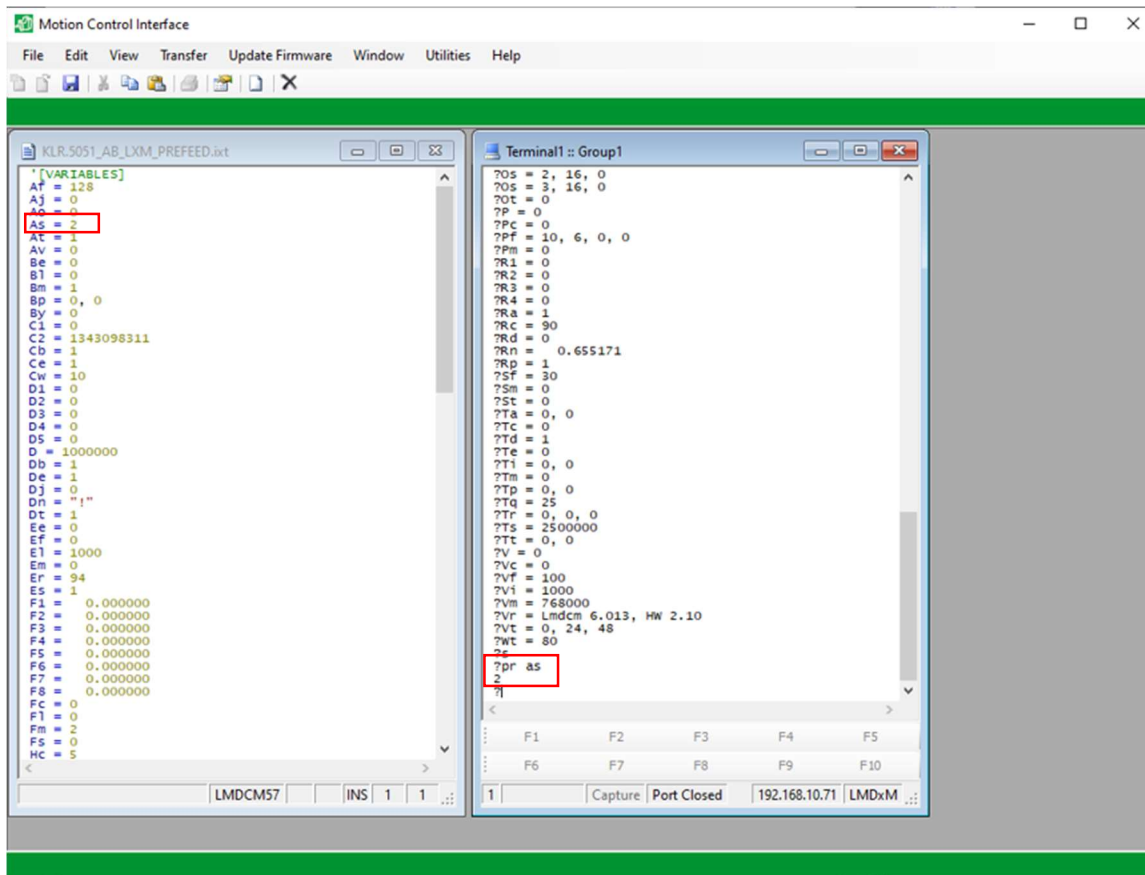
The 'Download' dialog box is shown. It has two sections: 'Data Types' and 'From:'. Under 'Data Types', both 'Variables' and 'Programs' are checked. The 'From:' field contains 'KLR.5051\_AB\_LXM\_PREFEED.txt'. The 'To:' field contains 'Terminal1'. The 'Drive Info:' section has a 'Device Name:' field. At the bottom, there is a 'Form Opacity:' slider set to 100%, and 'Abort' and 'Cancel' buttons. A status bar at the bottom shows 'Downloading Variables' and the IP address '192.168.10.71'. The 'Downloading Variables' text is circled in red.

## 12. IMPORTANT: enter S and press ENTER to save



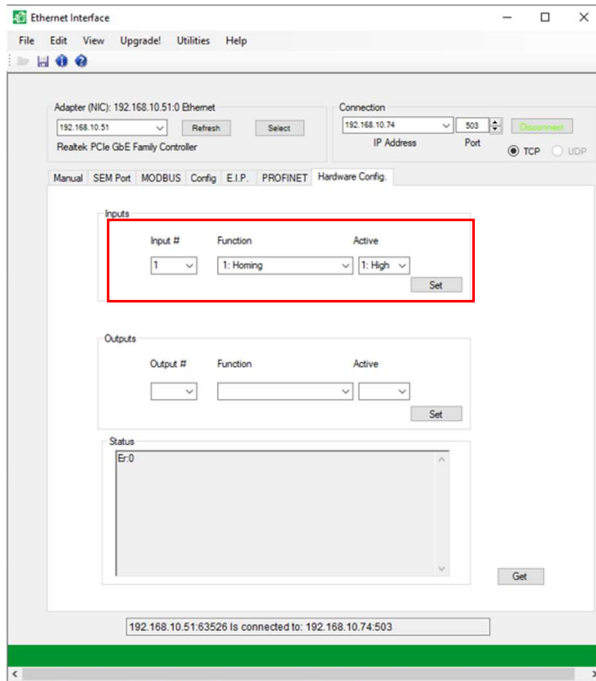
The 'Terminal1 :: Group1' window shows a list of variables and their values. The variable '?S' is highlighted with a red box. The list of variables includes: ?Of = 0, ?Os = 1, 16, 0, ?Os = 2, 16, 0, ?Os = 3, 16, 0, ?Ot = 0, ?P = 0, ?Pc = 0, ?Pf = 10, 6, 0, 0, ?Pm = 0, ?R1 = 0, ?R2 = 0, ?R3 = 0, ?R4 = 0, ?Ra = 1, ?Rc = 90, ?Rd = 0, ?Rn = 0.655171, ?Rp = 1, ?Sf = 30, ?Sm = 0, ?St = 0, ?Ta = 0, 0, ?Tc = 0, ?Td = 1, ?Te = 0, ?Ti = 0, 0, ?Tm = 0, ?Tp = 0, 0, ?Tq = 25, ?Tr = 0, 0, 0, ?Ts = 2500000, ?Tt = 0, 0, ?V = 0, ?Vc = 0, ?Vf = 100, ?Vi = 1000, ?Vm = 768000, ?Vr = Lmdcm 6.013, HW 2.10, ?Vt = 0, 24, 48, ?Vt = 80. The variable '?S' is highlighted with a red box. The status bar at the bottom shows 'Capture Port Open', the IP address '192.168.10.71', and the device 'LMDxM'.

13. Optional: confirm the success by requesting the motor one parameter. For example, enter PR AS. It will reply and if it coincides with the program to the left, it worked.

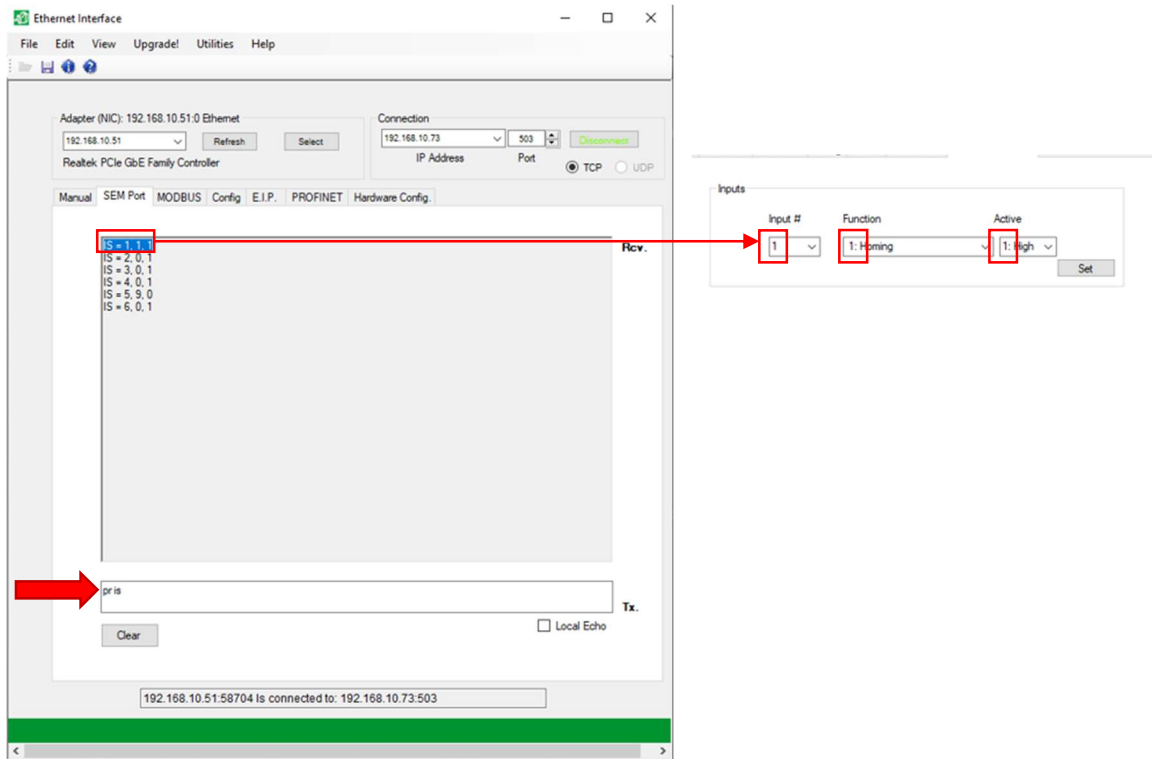


14. Double-Click PORT OPEN to end the connection.

15. Open back Ethernet Interface and make sure input 1 is set to Homing, High. Press SET if a change is required.



16. Optional: to confirm input, press SEM port and insert PR IN. It should coincide with the Hardware Config page.



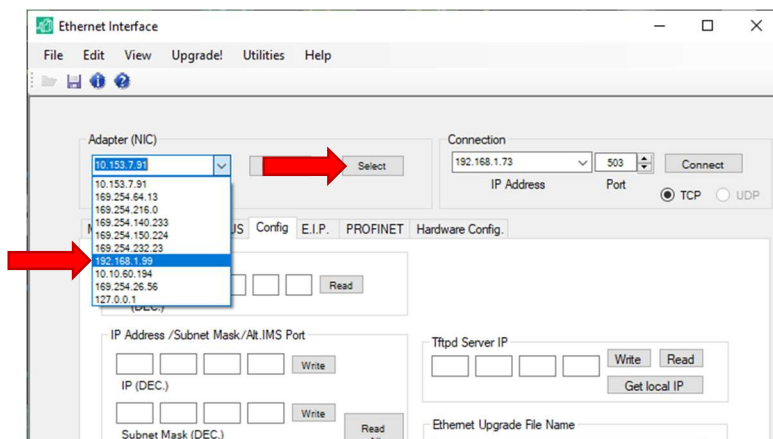
17. The unit is ready. Power cycle the motor and make sure to wire 48VDC, OV, Ethernet cable, Input and output as per KLR.5051 requirements.

Remember, the motor can't communicate with more than one device. When the computer is online with the motor, it has priority. Disconnect and power cycle the motor, it will reconnect to the controller of the machine. The emergency button shut down the 48vdc, so it can be used to reset the motor.

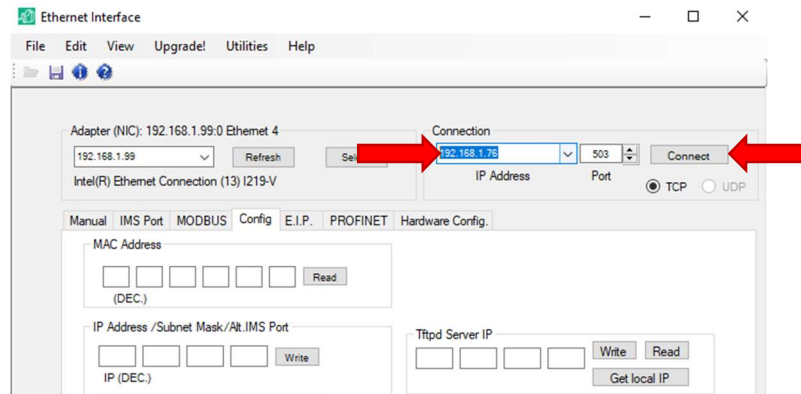
#### 9.4.6: Testing input

Each "Home" sensor is directly wired to the integrated stepper drive corresponding to the axis. To test the input, follow the steps:

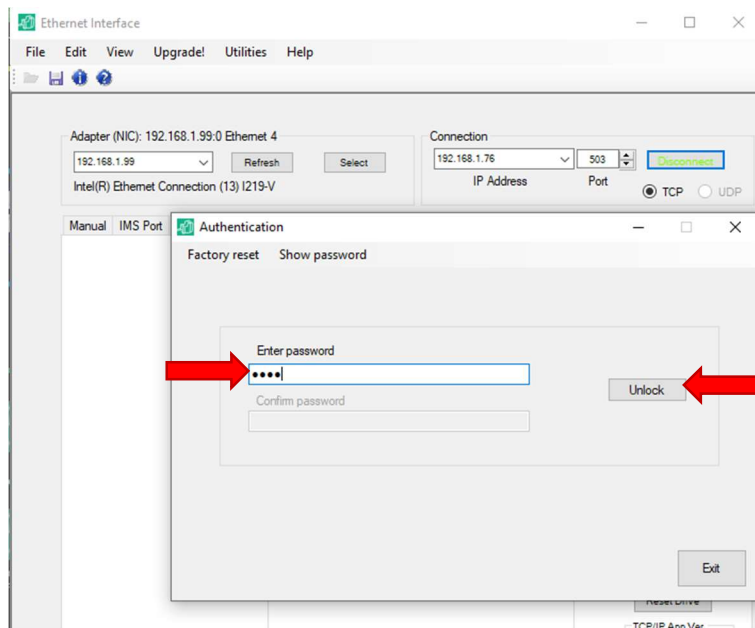
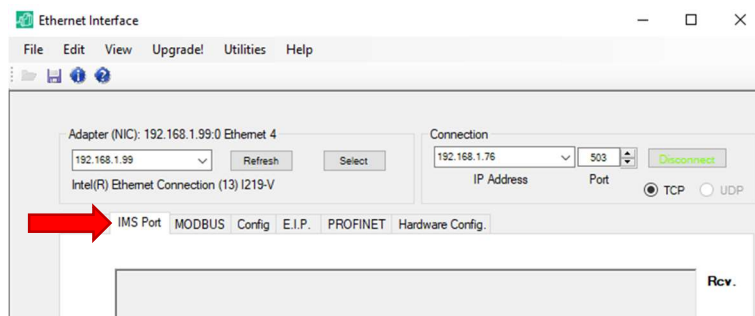
1. Open Ethernet interface
2. Make sure to put the computer in the proper IP address. See Set Ipv4 address 9.4.4.
3. Select the computer IP address. Then press Select. Press Refresh if the computer cannot be find.



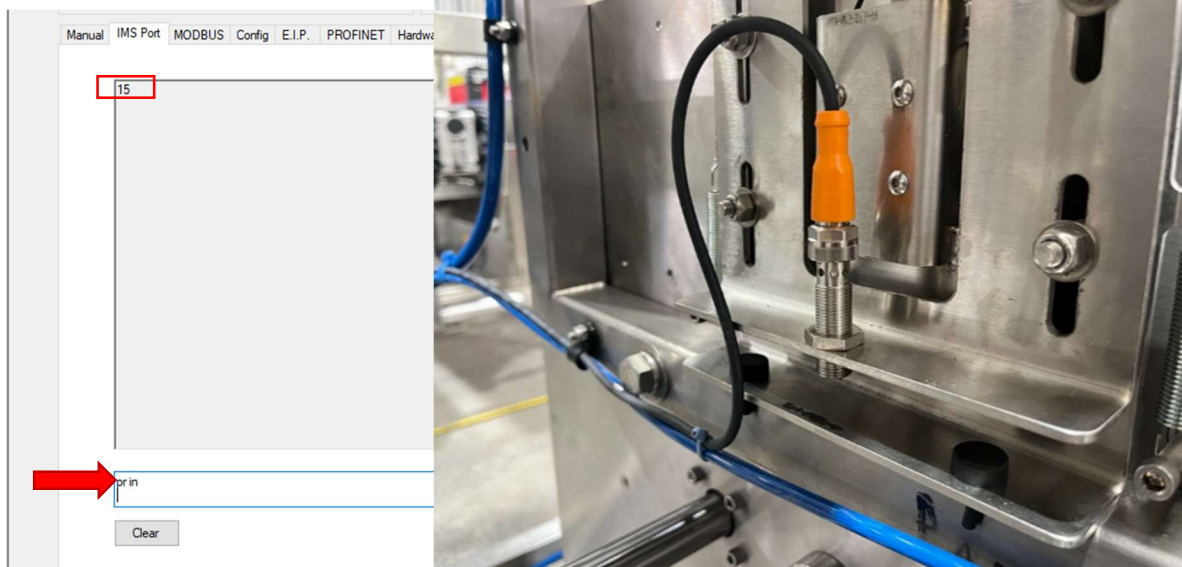
4. Write the desired motor IP to connect to.



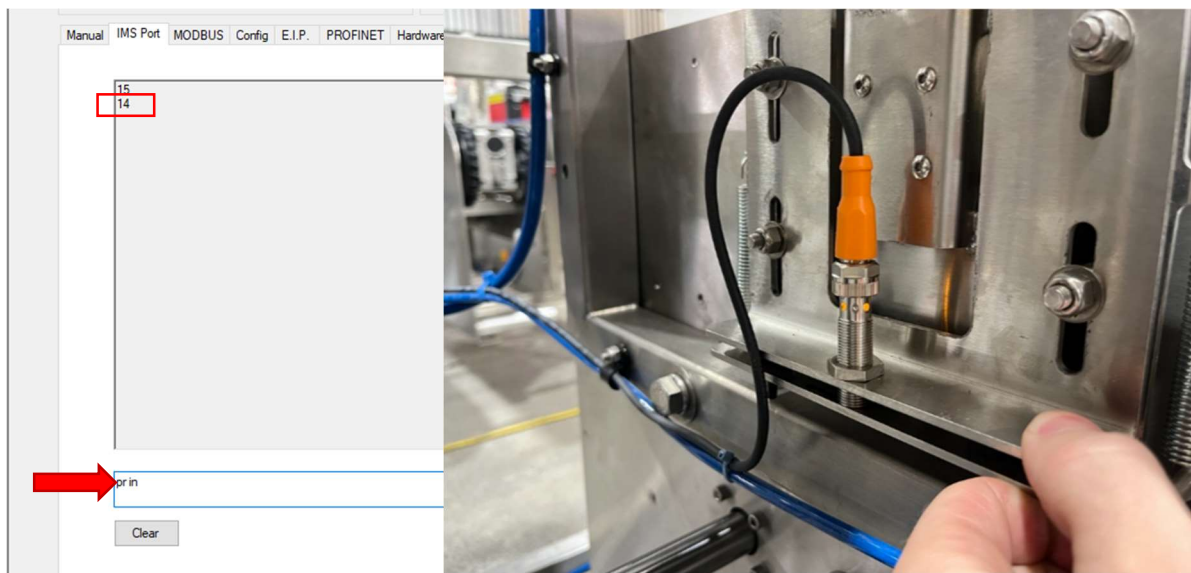


**5. Enter 1234 as the password.****6. To go IMS Port tab.**

7. Enter PR IN when the sensor is not triggered. Normally, the result should be 15.



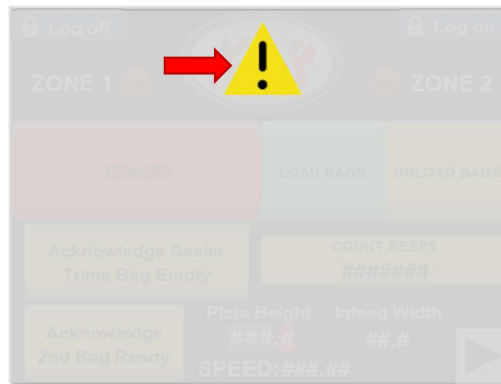
8. Repeat PR IN but this time while the sensor is triggered. The result should be 14 and that means the sensor works properly.



9. Make sure to disconnect and press the emergency and reset to reestablish the connection with the controller.

### 9.5: Error messages on KLR.5051-X-AB

In the event a motor gets faulted, the user will be warned by a sign. By pressing on it, it will reveal what error it is in question. If there are multiple errors, the pop-up screen will alternate between them.



### 9.6: Cleaning

Cleaning is an important part of a maintenance program. We recommend cleaning the following areas every working day. The machine must be stopped when cleaning. Please, decrease the time interval of each cleaning when products are floury.

#### Cleaning interior

- Open the doors to get access.
- Use air blowers to remove dust and remain product small pieces.
- Sanitize the retract belts, both the upper and lower belts.
- Clean the retract scoop guards.
- Clean and grease the retract lifter shaft.

#### Cleaning the infeed and outfeed conveyor

- Blow with air guns on top and under.
- Spray sanitizer directly on the belt, wipe.

#### Cleaning sensors

- Blow gently with air guns on the lens of each sensor to remove dust.
- **DO NOT** scrub with abrasive or use chemicals on the sensors.

**Note:** Cleaning is a good time to do a visual inspection of the belts. Any cracks or wear can easily be seen during cleaning. Worn belts should be replaced before they can fail. See spare parts list in this document.

## 10.0: LISTS OF SPARE PARTS AND CONSUMABLES

There are multiple options available for your machine. If you need to order a piece, make sure to look in the correct list. If you need assistance, see contact information.

### 10.1: KLR.5051 (KR-00422 AND BEYOND)

#### Suggested spare part list per machine for KLR.5051-X

| KLR.5051-SPARE             |                    |          |                                           |
|----------------------------|--------------------|----------|-------------------------------------------|
| Numbers                    | Part numbers       | Quantity | Descriptions                              |
| 1                          | PO2-00133          | 8        | CIRCLIP BEARING                           |
| 2                          | PP-00518-DIN       | 1        | VALVE 2 POSITIONS – 24VDC – DIN           |
| 3                          | PE-00900-PNP       | 1        | PHOTOCELL PNP DIFFUSE                     |
| 4                          | PE-00911           | 1        | M12 MALE O FIELD-WIREABLE (IDC)           |
| 5                          | PE-00141-NO-PNP    | 2        | PROXYMITY SWITCH M12 – NO – PNP           |
| 6                          | PM-00191-THK       | 2        | LINEAR BEARING CARRIER LONG               |
| 7                          | PE-01538           | 1        | STEPPER MOTOR ASSEMBLY                    |
| 8                          | PE-01533           | 2        | STEPPER MOTOR DRIVE                       |
| 9                          | PR-95164-02        | 2        | STEPPER MOTOR TERMINAL                    |
| 10                         | PE-00957           | 1        | LASER SENSOR 10 – 30VDC DIST. 25 – 90MM   |
| 11                         | PM-01541           | 2        | BEARING CYL. COLLAR                       |
| 12                         | PR-06311-1         | 2        | UPPER BRASS WHEEL                         |
| 13                         | PO2-00199          | 2        | NIDDLE BEARING                            |
| 14                         | PR-10445-02        | 6        | TRACK NYLATRON SLIDER                     |
| 15                         | PE-00538           | 1        | SAFETY SWITCH MAGNETIC                    |
| 16                         | PM-00196-1         | 1        | LINEAR BEARING, SERIE SHS-R FOR RAIL 15MM |
| 17                         | PR-02690-02        | 2        | SPACER                                    |
| 18                         | PO2-00049          | 4        | BEARING                                   |
| 19                         | PO2-00095          | 10       | BEARING                                   |
| 20                         | PR-00352-1         | 2        | MODIFIED HEX SCREW 3/8-24                 |
| 21                         | PR-02956-10        | 1        | SPING STEEL WICKET HOLDER                 |
| 22                         | PB-02510-08        | 10       |                                           |
| 23                         |                    |          |                                           |
| OPTION KR-5051-SCOOP-04-16 |                    |          |                                           |
| 30                         | PB-00519-4-WH      | 4        | RETRACT BELT 5051 – 4.00" x 115" WHITE    |
| 31                         | PR-02693-A         | 1        | LOWER SCOOP RIGHT (A) 4"-16"              |
| 32                         | PR-02693-B         | 1        | LOWER SCOOP RIGHT (B) 4"-16"              |
| 33                         | PR-02884-A-03      | 1        | BOTTOM SCOOP ANTENNA RIGHT(A) 4"-16"      |
| 34                         | PR-02884-B-03      | 1        | BOTTOM SCOOP ANTENNA LEFT (B) 4"-16"      |
| 35                         | F13-375C95FS       | 1        | TRACKING SCREW                            |
| 36                         | F13-375C80FS       | 1        | TENSION SCREW                             |
|                            | KR-5051-ANT-4-16-L |          |                                           |

**10.2: KLR.5051 (KR-00001- KR-00421)****Suggested spare part list per machine for KLR.5051-X**

| KLR.5051-SPARE |                 |          |                                           |
|----------------|-----------------|----------|-------------------------------------------|
| Numbers        | Part numbers    | Quantity | Descriptions                              |
| 1              | PB-00519-4-WH   | 4        | RETRACT BELT 5051 – 4.00" x 115" WHITE    |
| 2              | PO2-00133       | 8        | CIRCLIP BEARING                           |
| 3              | PP-00521        | 1        | VALVE 2 POSITIONS – 24VDC – DIN           |
| 4              | PE-00900-PNP    | 1        | PHOTOCELL PNP DIFFUSE                     |
| 5              | PE-00911        | 1        | M12 MALE O FIELD-WIREABLE (IDC)           |
| 6              | PE-00141-NO-PNP | 2        | PROXYMITY SWITCH M12 – NO – PNP           |
| 7              | PM-00191-THK    | 2        | LINEAR BEARING CARRIER LONG               |
| 8              | PR-02827        | 1        | HEIGHT ADJUSTER GUIDE                     |
| 9              | PP-00588        | 2        | AIR NOZZLE                                |
| 10             | PE-1538         | 1        | STEPPER MOTOR ASSEMBLY                    |
| 11             | PE-01533        | 2        | STEPPER MOTOR DRIVE                       |
| 12             | PE-00957        | 1        | LASER SENSOR 10 – 30VDC DIST. 25 – 90MM   |
| 13             | PM-01541        | 2        | BEARING CYL. COLLAR                       |
| 14             | PR-06311-1      | 2        | WHEEL                                     |
| 15             | PO2-00199       | 2        | NIDDLE BEARING                            |
| 16             | PR-10445-01     | 6        | TRACK ROLLER NYLATRON                     |
| 17             | PR-02753        | 2        | GUIDE RAIL                                |
| 18             | PE-00538        | 1        | SAFETY SWITCH MAGNETIC                    |
| 19             | PM-00196-1      | 1        | LINEAR BEARING, SERIE SHS-R FOR RAIL 15MM |
| 20             | PR-02885        | 2        | GUIDE SCOOP                               |
| 21             | PR-02690        | 4        | SPACER                                    |
| 22             | PO2-00049       | 4        | BEARING                                   |
| 23             | PR-02884-A      | 1        | LEFT ANTENNA                              |
| 24             | PR-02884-B      | 1        | RIGHT ANTENNA                             |
| 25             | PO2-00095       | 4        | BEARING                                   |
| 26             | PR-00350-1      | 6        | SPACER                                    |
| 27             | PR-00352-1      | 2        | MODIFIED HEX SCREW 3/8-24                 |
| 28             | PR-02693-A      | 1        | BOTTOM SCOOP (A)                          |
| 29             | PR-02693-B      | 1        | BOTTOM SCOOP (B)                          |

**10.2: KLR.5051-AB****Suggested spare part list per machine for KLR.5051-X-AB**

| KLR.5051-SPARE-AB |                 |          |                                            |
|-------------------|-----------------|----------|--------------------------------------------|
| Numbers           | Part numbers    | Quantity | Descriptions                               |
| 1                 | PB-00519-4-WH   | 4        | RETRACT BELT 5051 – 4.00" x 115" WHITE     |
| 2                 | PO2-00133       | 8        | CIRCLIP BEARING                            |
| 3                 | PP-00521        | 1        | VALVE 2 POSITIONS – 24VDC – DIN            |
| 4                 | PE-00900-PNP    | 1        | PHOTOCELL PNP DIFFUSE                      |
| 5                 | PE-00911        | 1        | M12 MALE O FIELD-WIREABLE (IDC)            |
| 6                 | PE-00141-NO-PNP | 2        | PROXYMITY SWITCH M12 – NO – PNP            |
| 7                 | PM-00191-THK    | 2        | LINEAR BEARING CARRIER LONG                |
| 8                 | PR-2827         | 1        | HEIGHT ADJUSTER GUIDE                      |
| 9                 | PP-00588        | 2        | AIR NOZZLE                                 |
| 10                | PE-00628        | 1        | LEXIUM MDRIVE, HY, CL, ETH, 85MM, 2 STACKS |
| 11                | PE-00957        | 1        | LASER SENSOR 10 – 30VDC DIST. 25 – 90MM    |
| 12                | PM-01541        | 2        | BEARING CYL. COLLAR                        |
| 13                | PR-06311-1      | 2        | WHEEL                                      |
| 14                | PO2-00199       | 2        | NIDDLE BEARING                             |
| 15                | PR-10445-01     | 6        | TRACK ROLLER NYLATRON                      |
| 16                | PR-02753        | 2        | GUIDE RAIL                                 |
| 17                | PE-00538        | 1        | SAFETY SWITCH MAGNETIC                     |
| 18                | PM-00196-1      | 1        | LINEAR BEARING, SERIE SHS-R FOR RAIL 15MM  |
| 19                | PR-02885        | 2        | GUIDE SCOOP                                |
| 20                | PR-02690        | 4        | SPACER                                     |
| 21                | PO2-00049       | 4        | BEARING                                    |
| 22                | PR-02884-A      | 1        | LEFT ANTENNA                               |
| 23                | PR-02884-B      | 1        | RIGHT ANTENNA                              |
| 24                | PO2-00095       | 4        | BEARING                                    |
| 25                | PR-00350-1      | 6        | SPACER                                     |
| 26                | PR-00352-1      | 2        | MODIFIED HEX SCREW 3/8-24                  |
| 27                | PR-02693-A      | 1        | BOTTOM SCOOP (A)                           |
| 28                | PR-02693-B      | 1        | BOTTOM SCOOP (B)                           |

## 11.0: Maintenance and repairs by specialized technicians from KLR Systems Inc.

### 11.1: Contact information

KLR SYSTEMS INC. Packaging systems manufacturer

Address: 944 rue des Hérons,

City, province, Country: Saint-Pie, Québec, Canada

Zip code: J0H 1W0

Phone: 450-388-0404

Web site: <http://klrsystems.com/>

Technical support Email: [support@klrsystems.com](mailto:support@klrsystems.com)

For other information: [info@klrsystems.com](mailto:info@klrsystems.com)

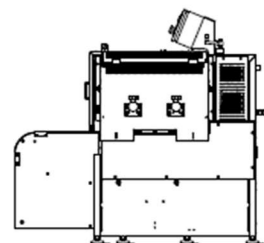
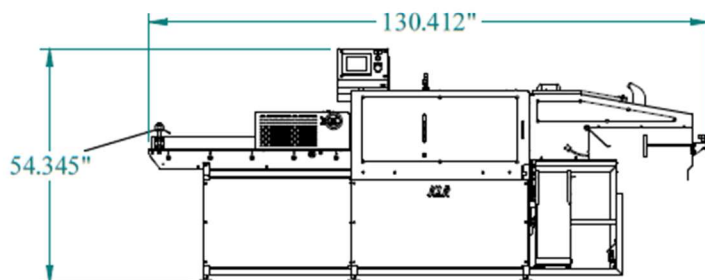
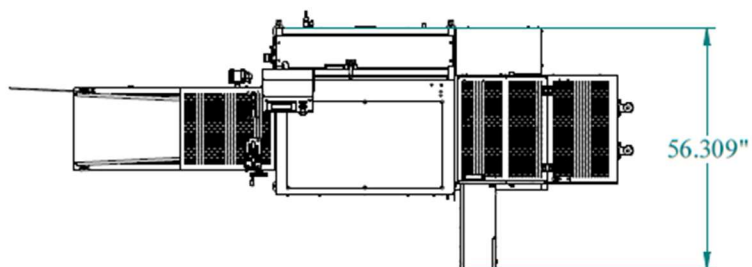
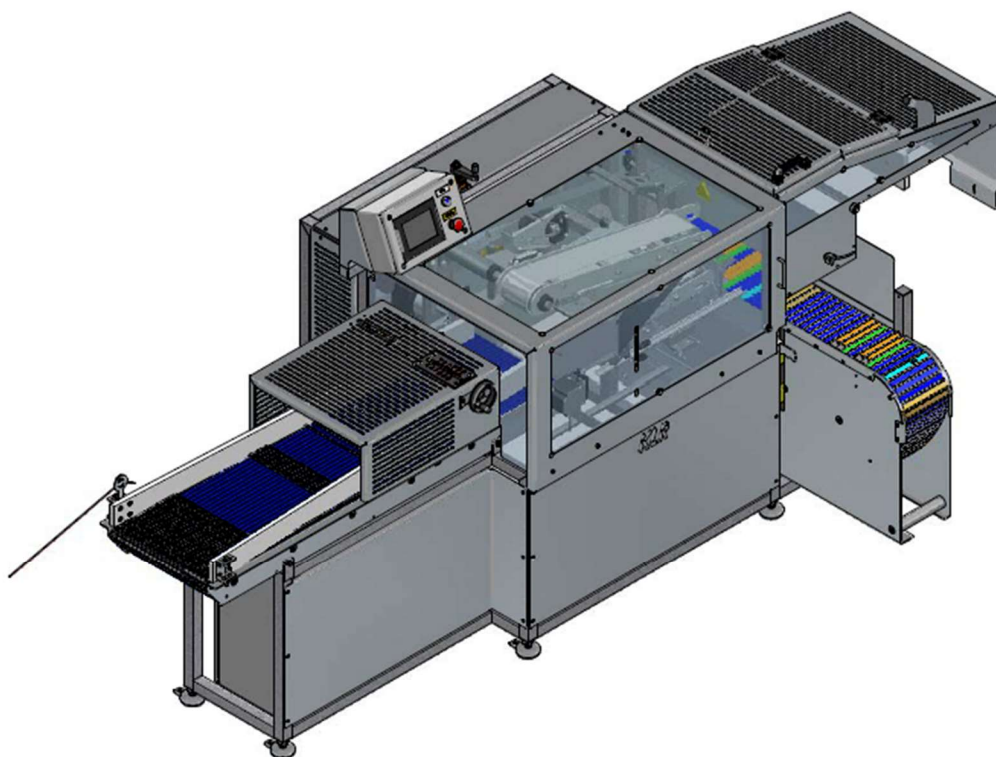
## 12.0: DECOMMISSIONING OF THE MACHINE

It is advisable to schedule a visit from KLR to reinstall the equipment after an extended decommissioning or relocation.

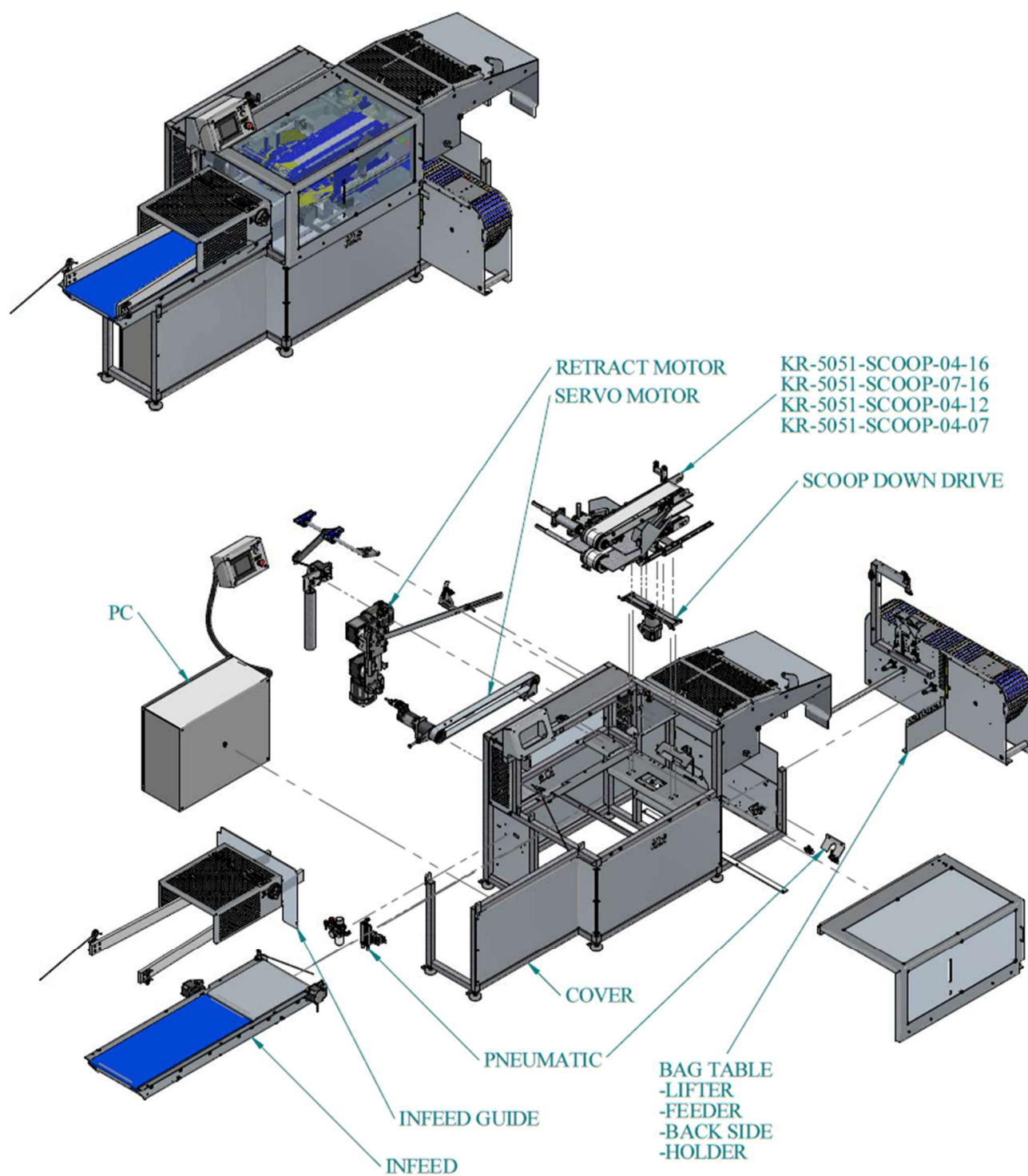
Destruction, recycling, scrapping



## 13.0: KLR.5051-L AND KLR.5051-L-AB EXPLODED VIEWS

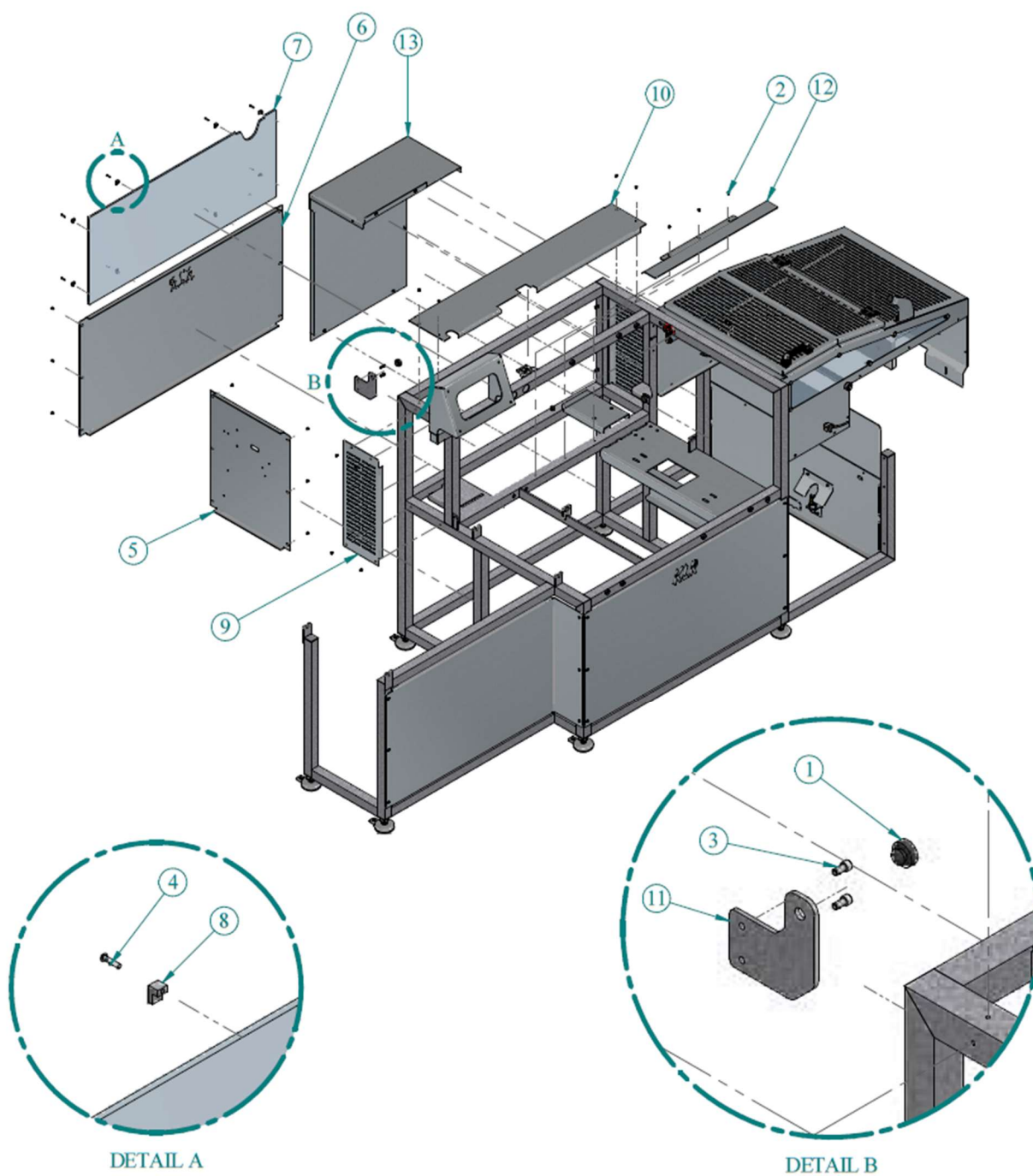


### 13.1: Main body



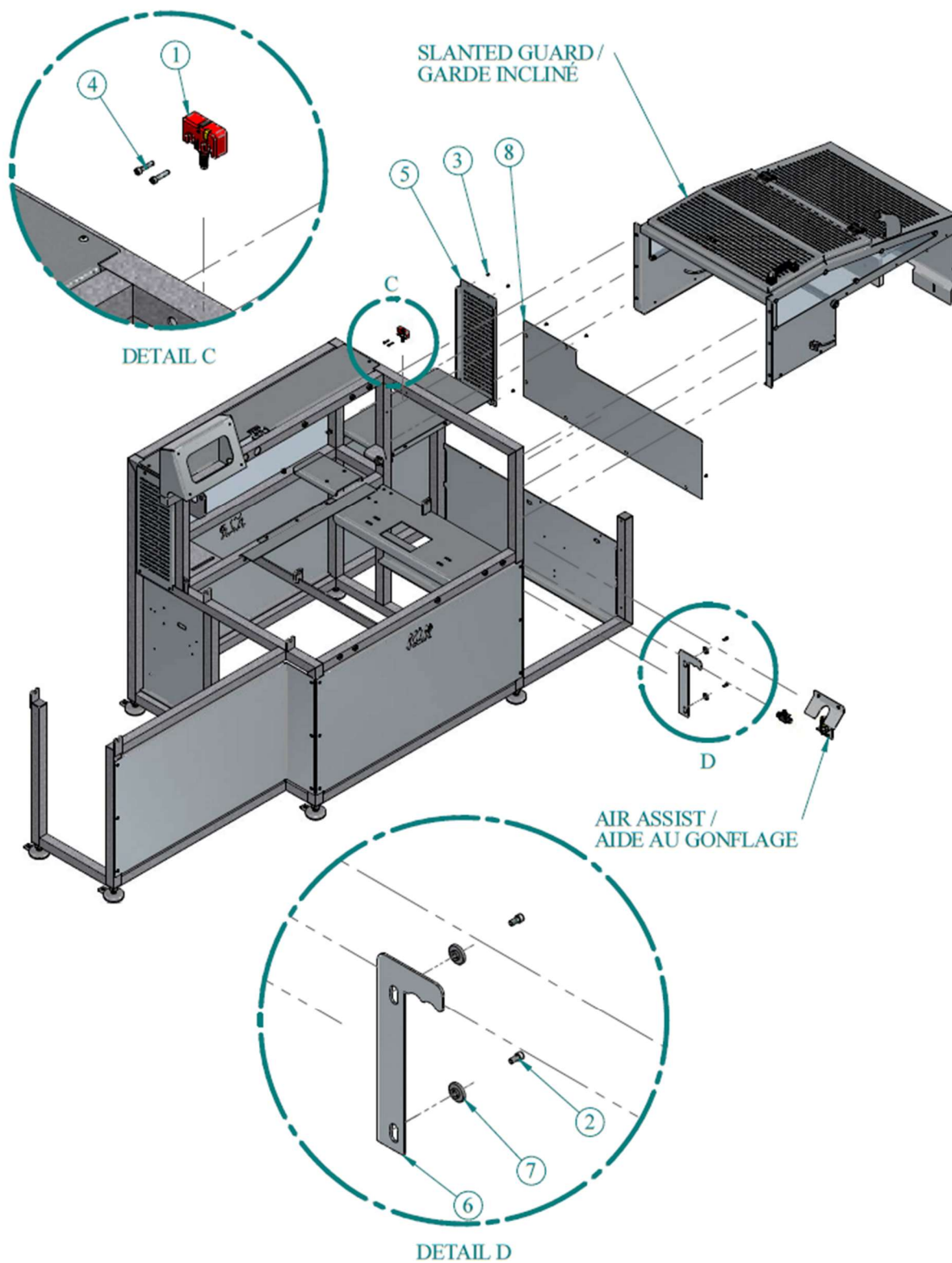
## 13.2: Covers

### 13.2.1: Left side covers



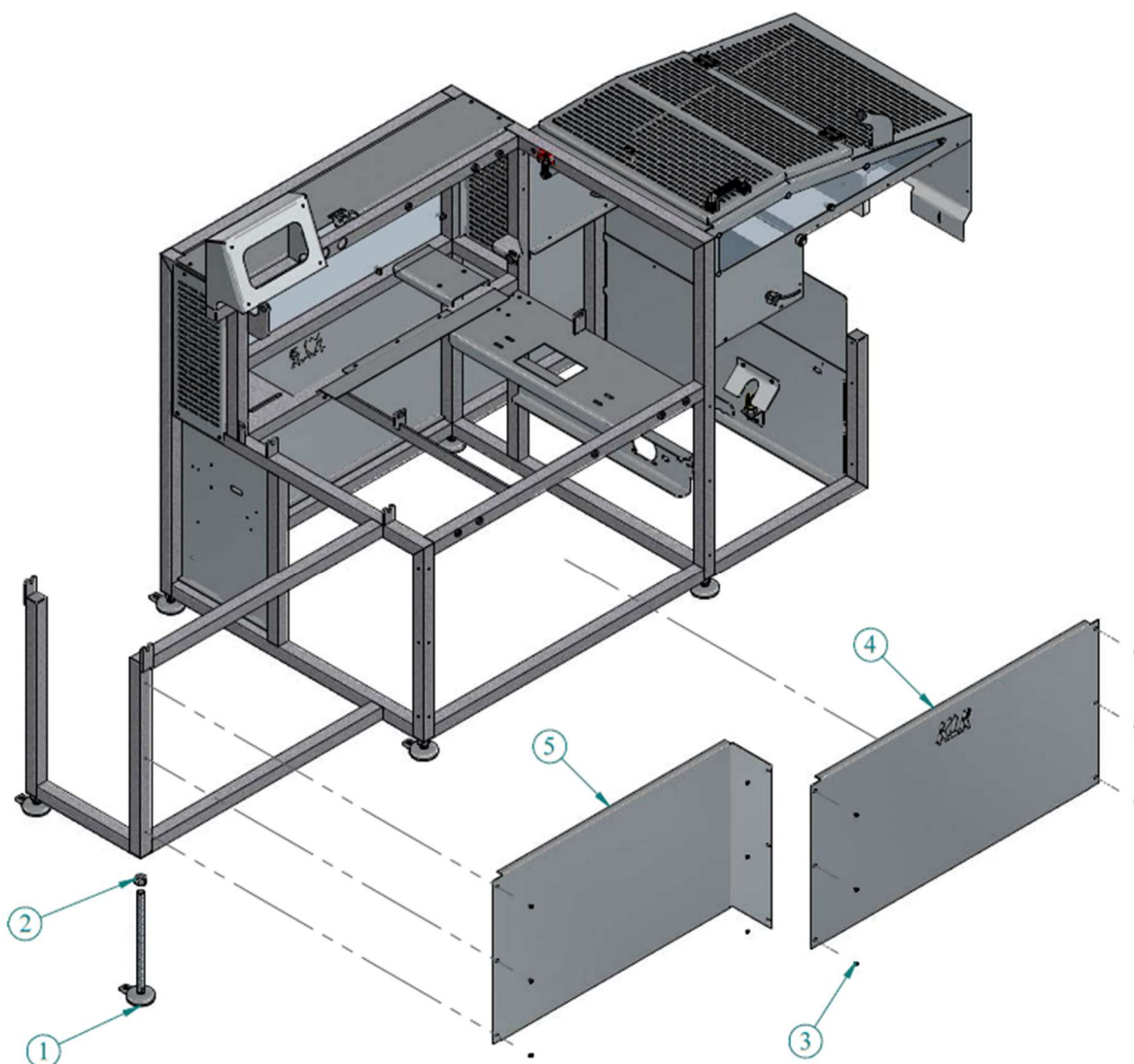
| LEFT SIDE COVER |             |     |                                    |
|-----------------|-------------|-----|------------------------------------|
| No.             | Part number | Qty | Title                              |
| 1               | PM-00182    | 1   | END CAP                            |
| 2               | F11-190F04S | 29  | BUTTON HEAD 10-32 x 1/4" STAINLESS |
| 3               | F10-250C08S | 2   | SOCKET CAP 1/4-20 X 1/2" STAINLESS |
| 4               | F11-138C10S | 8   | BUTTON HEAD 6-32 X 5/8" STAINLESS  |
| 5               | PR-02606-L  | 1   | COVER LEFT                         |
| 6               | PR-02602    | 1   | COVER                              |
| 7               | PR-02607    | 1   | LEXAN COVER                        |
| 8               | PR-06580    | 8   | LEXAN HOLDER                       |
| 9               | PR-02621    | 1   | COVER                              |
| 10              | PR-02609-L  | 1   | COVER LEFT                         |
| 11              | PR-02773    | 1   | FRAME PART "BD"                    |
| 12              | PR-02817    | 1   | BELT GUARD                         |
| 13              | PR-02811-L  | 1   | COVER LEFT                         |



**13.2.2: Front covers**

| FRONT COVERS |             |     |                                    |
|--------------|-------------|-----|------------------------------------|
| No.          | Part number | Qty | Title                              |
| 1            | PE-00538    | 1   | SAFETY SWITCH                      |
| 2            | F10-250C08S | 2   | SOCKET CAP 1/4-20 X 1/2" STAINLESS |
| 3            | F11-190F04S | 10  | BUTTON HEAD 10-32 x 1/4" STAINLESS |
| 4            | F10-164C12S | 2   | SOCKET CAP 8-32 X 3/4 STAINLESS    |
| 5            | PR-02621    | 1   | COVER                              |
| 6            | PR-02814    | 1   | HANDLES                            |
| 7            | PR-02659    | 2   | BAG TABLE CLAMP GUIDE              |
| 8            | PR-02812-L  | 1   | COVER LEFT                         |

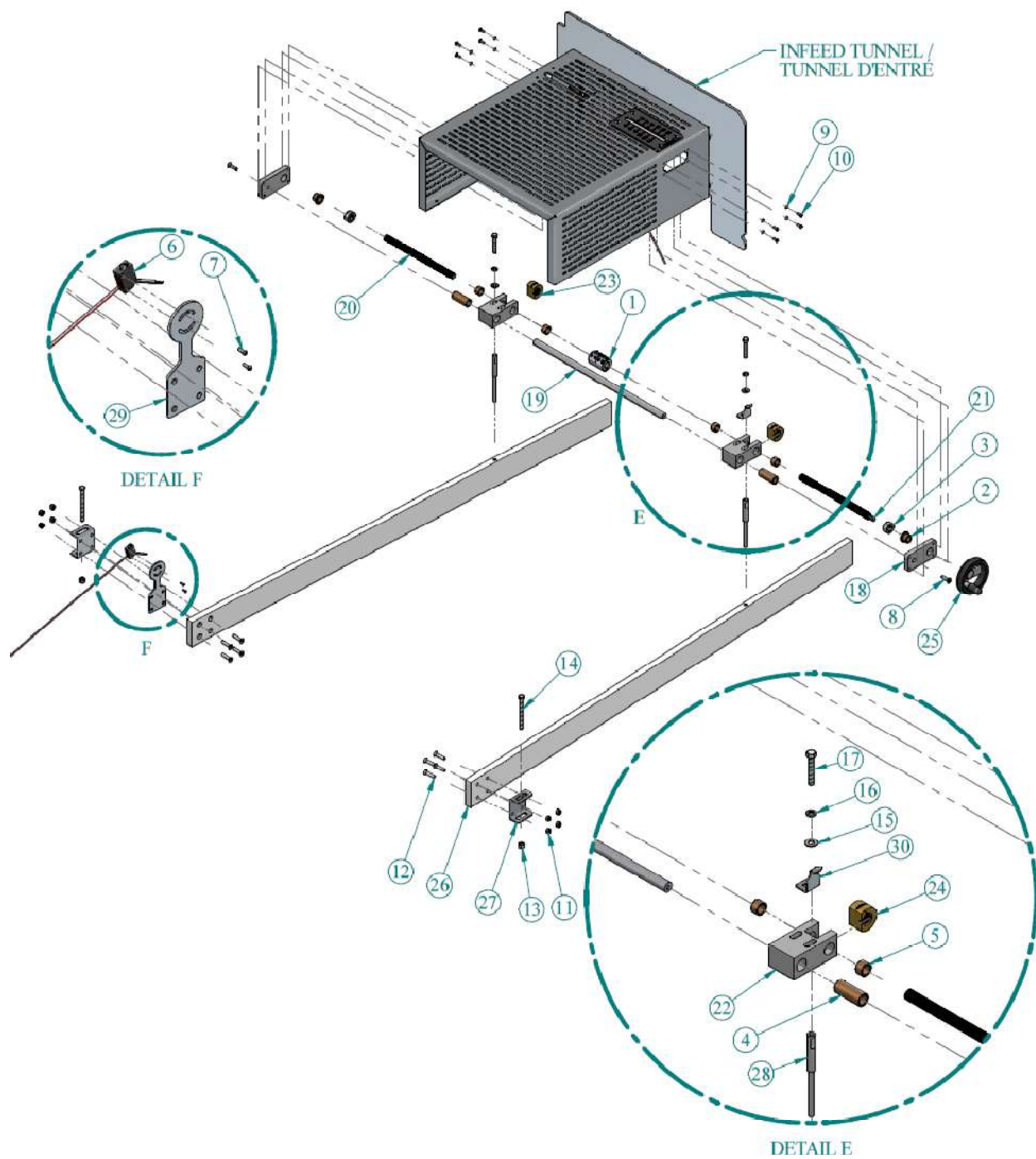
### 13.2.3: Right side covers



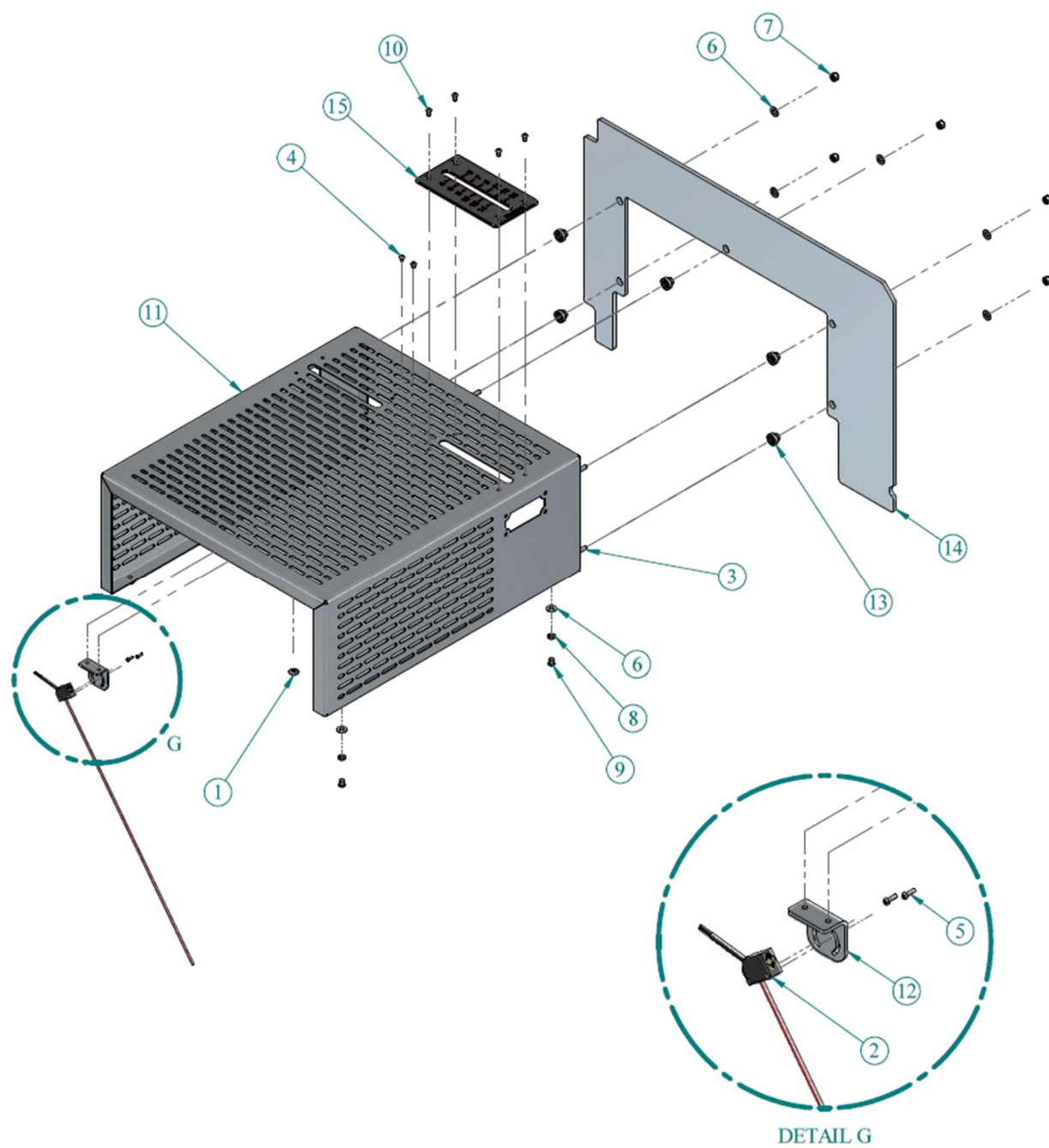
| RIGHT COVERS |             |     |                                                    |
|--------------|-------------|-----|----------------------------------------------------|
| No.          | Part number | Qty | Title                                              |
| 1            | KR-00142-12 | 1   | ADJUSTABLE LEG WITH THREADED ROD 3/4-10 LENGTH 12" |
| 2            | F03-750CS   | 1   | NUT HEX 3/4 -10 STAINLESS                          |
| 3            | F11-190F04S | 12  | BUTTON HEAD 10-32 x 1/4" STAINLESS                 |
| 4            | PR-02602    | 1   | COVER                                              |
| 5            | PR-02893    | 1   | COVER                                              |



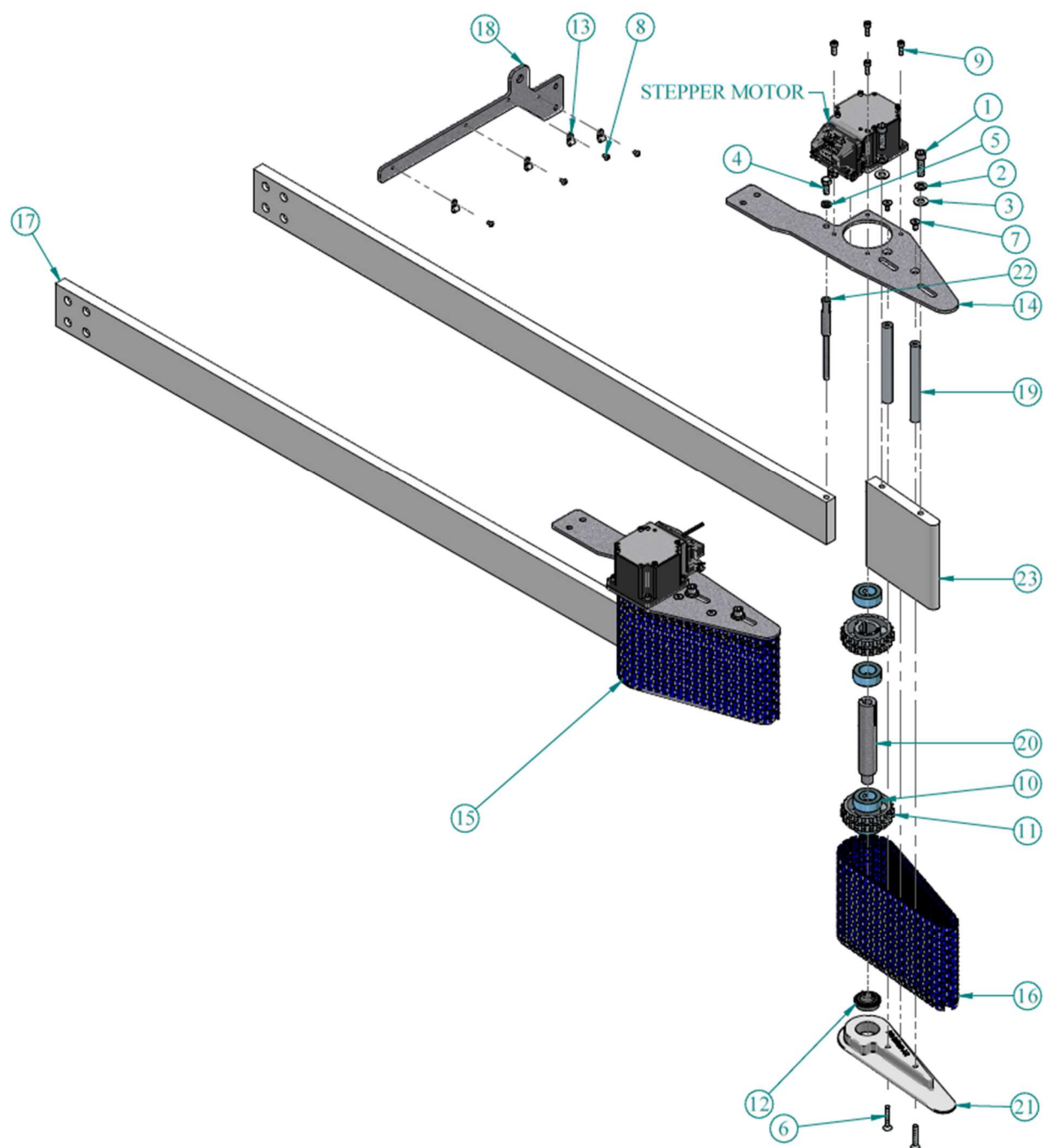
### 13.3: Infeed guides



| INFEED GUIDE |                |     |                                                  |
|--------------|----------------|-----|--------------------------------------------------|
| No.          | Part number    | Qty | Title                                            |
| 1            | PM-00265.625   | 1   | CLAMPING SHAFT COUPLING STEEL 5/8"               |
| 2            | PM-00407       | 2   | OILITE BUSHING .625 I.D X .812 O.D X 5/8" lg     |
| 3            | PM-00253       | 2   | SHAFT COLLAR 5/8"                                |
| 4            | PM-00404       | 2   | BUSHING OIL LITE                                 |
| 5            | PM-00401       | 4   | OILITE BUSHING 1/2 LONG                          |
| 6            | PE-00900-PNP   | 1   | PHOTOCELL PNP                                    |
| 7            | F11-M3-0.5X10S | 2   | BUTTON HEAD M3 X 10MM" STAINLESS                 |
| 8            | F12-250C16S    | 2   | FLAT HEAD 1/4-20 X 1" STAINLESS                  |
| 9            | F02-190S       | 8   | LOCK WASHER #10 STAINLESS                        |
| 10           | F11-190F08S    | 8   | BUTTON HEAD 10-32 X 1/2" STAINLESS               |
| 11           | F03-250CNS     | 8   | NYLON LOCK NUT 1/4" STAINLESS                    |
| 12           | F12-250C20S    | 8   | FLAT HEAD 1/4-20 X 1 1/4 STAINLESS               |
| 13           | F03-375CS      | 2   | NUT 3/8-16 STAINLESS                             |
| 14           | F13-375C60S    | 2   | 3/8-16 X 3.5 IN HEX HEAD CAP SCREW               |
| 15           | F01-312S       | 2   | FLAT WASHER 5/16 STAINLESS                       |
| 16           | F02-312S       | 2   | LOCK WASHER 5/16" STAINLESS                      |
| 17           | F13-312C32S    | 2   | HEX HEAD 5/16-18 SCREW STAINLESS                 |
| 18           | PR-06267       | 2   | SUPPORT BLOCK                                    |
| 19           | PR-02618       | 1   | SHAFT FOR PITA OPENING GUIDE                     |
| 20           | PR-02619       | 1   | PITA OPENING GUIDE TREAD SCREW 5/8-8 ACME LH     |
| 21           | PR-02620       | 1   | TREAD SCREW 5/8-8 ACME RH FOR PITA OPENING GUIDE |
| 22           | PR-06152-1     | 2   | GUIDE                                            |
| 23           | PR-06154       | 1   | GUIDE                                            |
| 24           | PR-06153       | 1   | GUIDE                                            |
| 25           | PR-06274       | 1   | MODIFY TWO SPOKE HAND WHEEL                      |
| 26           | PR-02661       | 2   | PITA SCRAPER                                     |
| 27           | PR-02662       | 2   | PITA SCRAPER HOLDER                              |
| 28           | PR-02663       | 2   | PITA SCRAPER AXIS                                |
| 29           | PR-02769-01    | 1   | PE-00900 BRACKET 2                               |
| 30           | PR-02816       | 1   | INFEED GUIDE                                     |

**13.2.1: Tunnel**

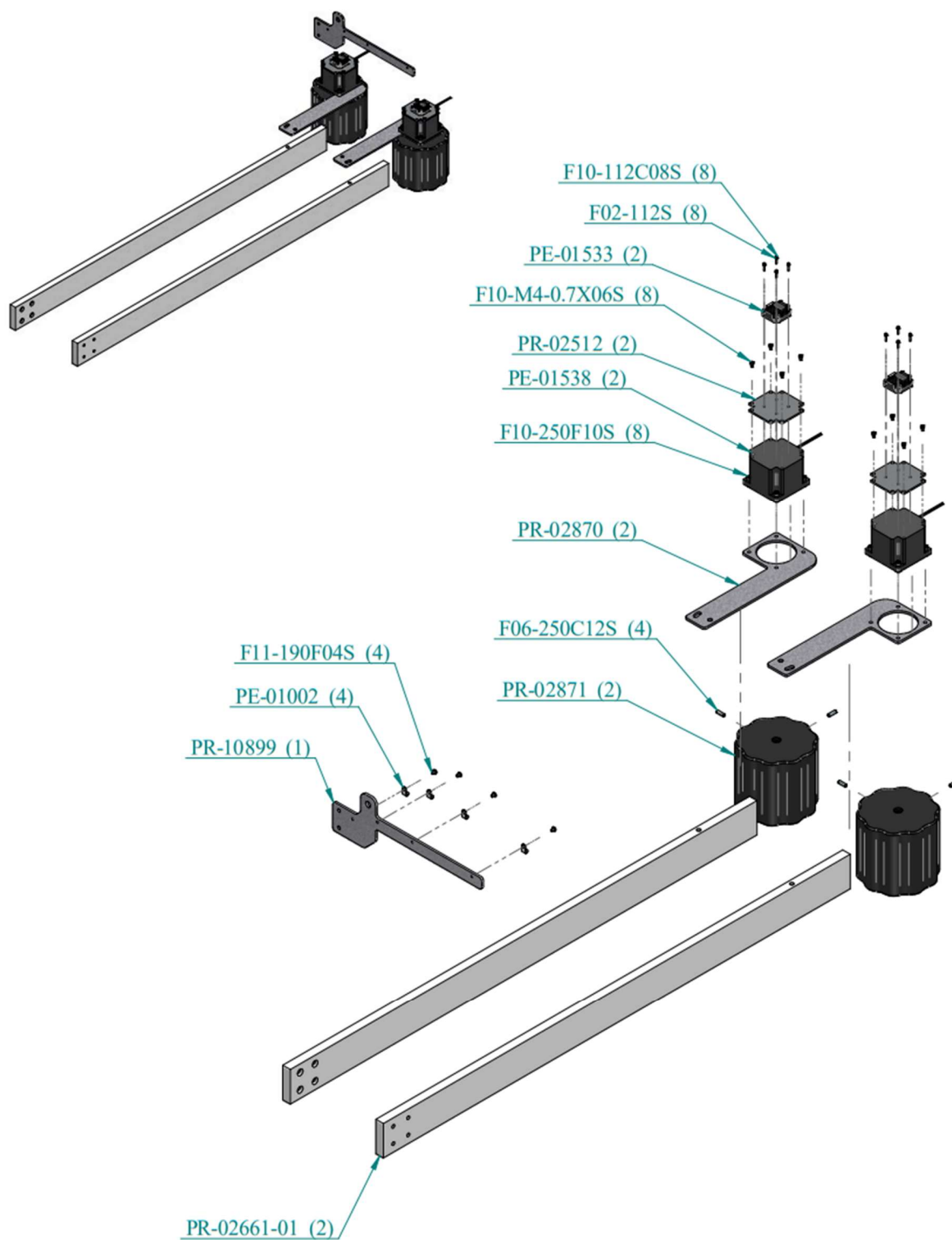
| INFEED TUNNEL |                |     |                                                  |
|---------------|----------------|-----|--------------------------------------------------|
| No.           | Part number    | Qty | Title                                            |
| 1             | PM-03217       | 1   | GROMMET 3/16 ID X 5/8 OD X 1/16 WALL             |
| 2             | PE-00900-PNP   | 1   | PHOTOCELL PNP                                    |
| 3             | PM-04022       | 5   | 18-8 SS SQUARE-NECK CARRIAGE BOLT 1/4-20, 1 LONG |
| 4             | F11-190F04S    | 2   | BUTTON HEAD 10-32 x 1/4" STAINLESS               |
| 5             | F11-M3-0.5X10S | 2   | BUTTON HEAD M3 X 10MM" STAINLESS                 |
| 6             | F01-250S       | 9   | FLAT WASHER 1/4 STAINLESS                        |
| 7             | F03-250CNS     | 5   | NYLON LOCK NUT 1/4" STAINLESS                    |
| 8             | F02-250S       | 4   | LOCK WASHER #14 STAINLESS                        |
| 9             | F11-250F06S    | 4   | BUTTON HEAD 1/4-28 X 3/8" STAINLESS              |
| 10            | F11-190F06S    | 4   | BUTTON HEAD 10-32 x 3/8 STAINLESS                |
| 11            | PR-02617       | 1   | INFEED GUARD                                     |
| 12            | PR-02769       | 1   | PE-00900 BRACKET 2                               |
| 13            | PR-06756       | 5   | THREADED SPACER                                  |
| 14            | PR-02623       | 1   | WINDOWS                                          |
| 15            | PR-02815       | 1   | INFEED GUIDE                                     |

**13.3.2: OPTION Aligner (KR-5051-IN-ALIGNER)****13.3.2.1: KR-5051-IN-ALIGNER for SN: KLR-00430 – Beyond**



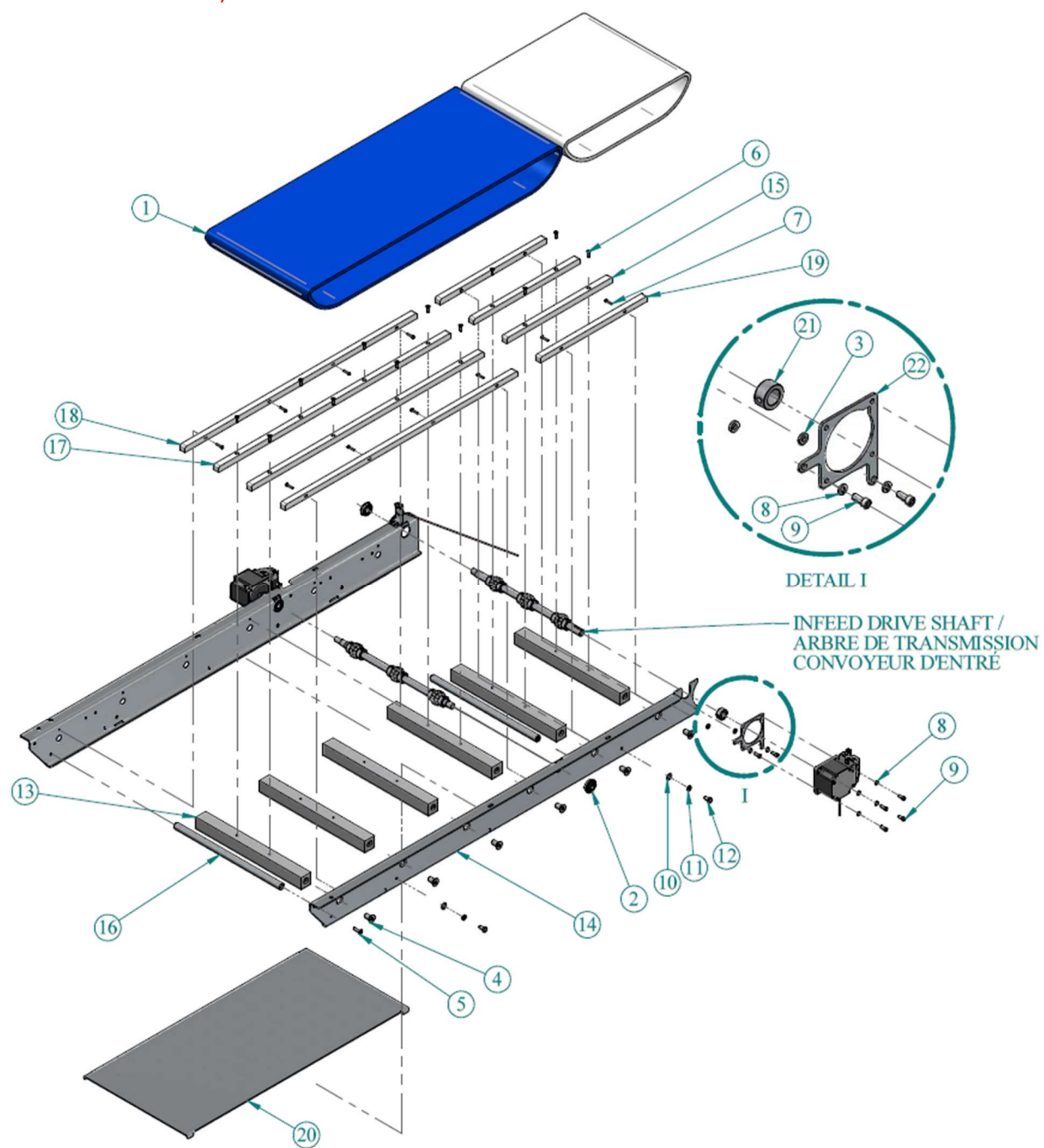
| KR-5051-IN-ALIGNER-01 |                |     |                                      |
|-----------------------|----------------|-----|--------------------------------------|
| No.                   | Part number    | Qty | Title                                |
| 1                     | F10-375C20S    | 4   | SOCKET CAP 3/8-16 X 1 1/4" STAINLESS |
| 2                     | F02-375S       | 4   | LOCK WASHER 3/8" STAINLESS           |
| 3                     | F01-375S       | 4   | FLAT WASHER 3/8" STAINLESS           |
| 4                     | F13-312C12S    | 2   | HEX HEAD 5/16-18 X 3/4" STAINLESS    |
| 5                     | F02-312S       | 2   | LOCK WASHER 5/16" STAINLESS          |
| 6                     | F12-250C24S    | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS  |
| 7                     | F12-250C08S    | 4   | FLAT HEAD 1/4-20 X 1/2" STAINLESS    |
| 8                     | F11-190F04S    | 4   | BUTTON HEAD 10-32 x 1/4" STAINLESS   |
| 9                     | F10-250F10S    | 8   | SOCKET CAP 1/4-28 X 5/8" STAINLESS   |
| 10                    | PM-00255       | 7   | SHAFT COLLAR 1"                      |
| 11                    | PM-03219-19    | 4   | Sprocket M1200 Series                |
| 12                    | PM-02133       | 2   | BEARING                              |
| 13                    | PE-01002       | 4   | NYLON CABLE CLAMP                    |
| 14                    | PR-02870-01-AR | 1   | STEPPER BRACKET PART "01-AR"         |
| 15                    | PB-00551       | 1   | BELT ASSEMBLY                        |
| 16                    | PB-00551-01    | 1   | BELT ASSEMBLY                        |
| 17                    | PR-02661-02    | 2   | PITA SCRAPER                         |
| 18                    | PR-10899       | 1   | WIRE BRACKET                         |
| 19                    | PR-02939       | 4   | CROSS MEMBER                         |
| 20                    | PR-02940       | 2   | DRIVE AXIS                           |
| 21                    | PR-02938-AR    | 1   | BASE PLATE PART "B"                  |
| 22                    | PR-02663       | 2   | PITA SCRAPER AXIS                    |
| 23                    | PR-02942       | 2   | SIDE PLATE                           |

## 13.3.2.2: KR-5051-IN-ALIGNER for SN: KLR-00001 – KLR-00429



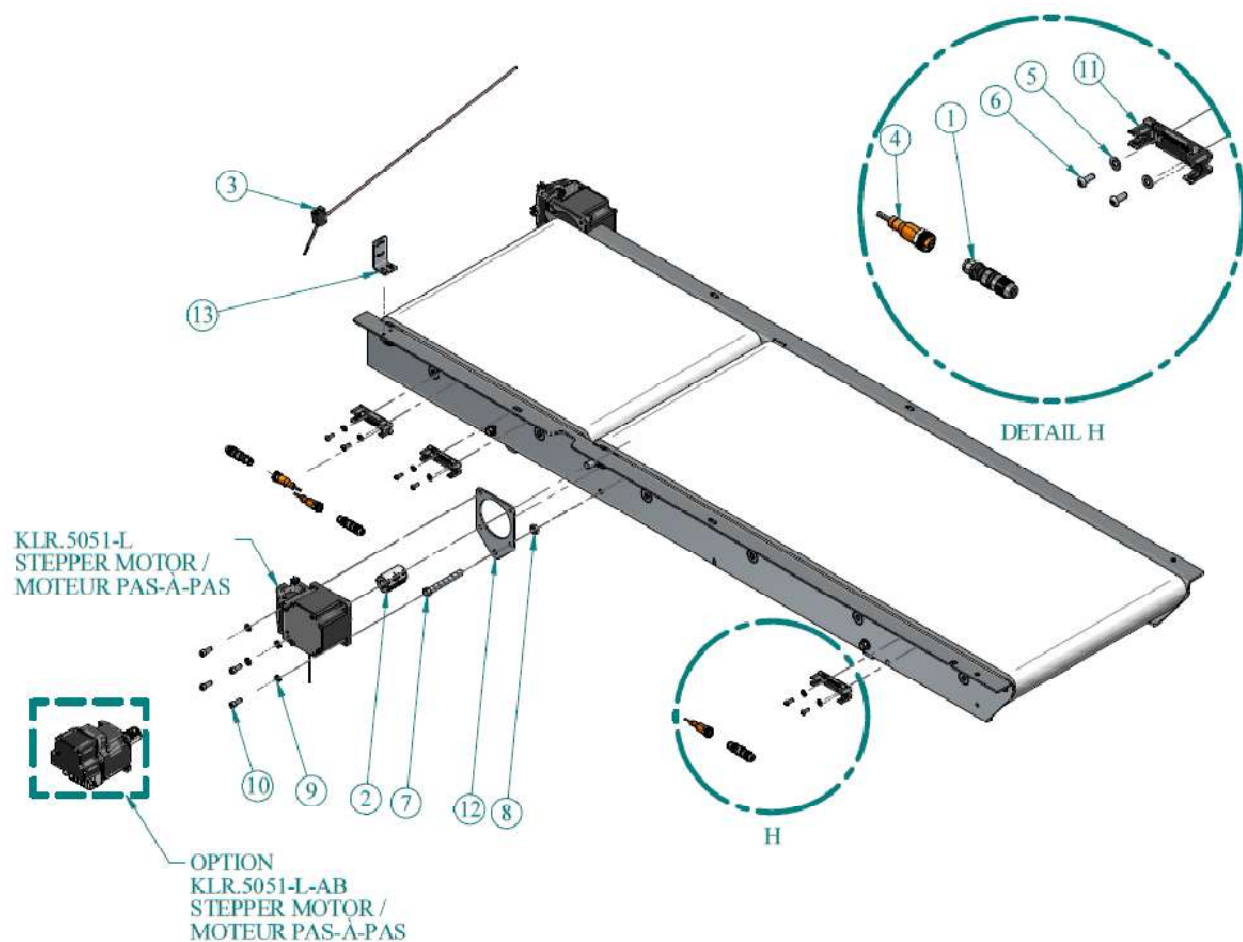


### 13.4: Infeed conveyor



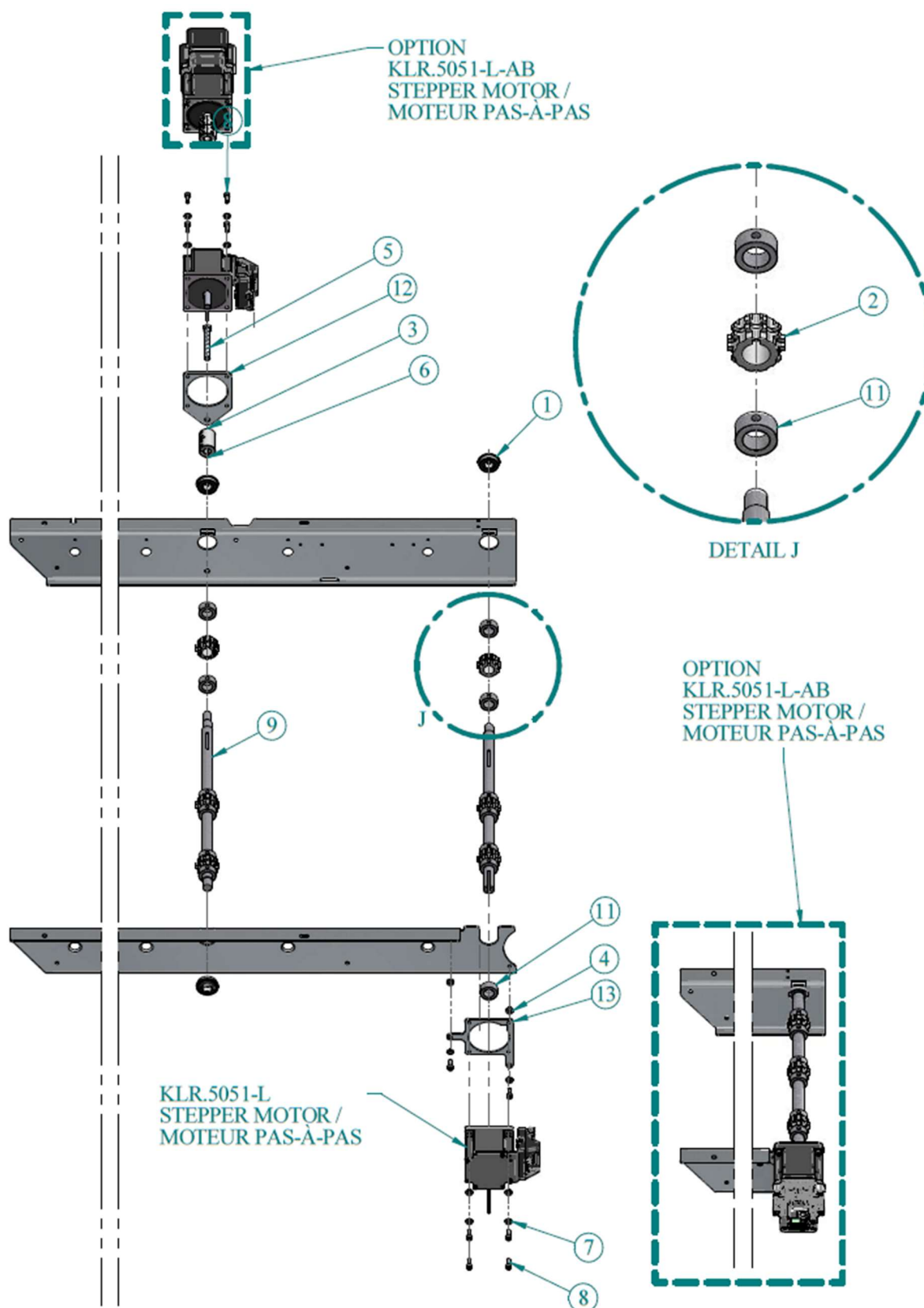
| INFEED CONVEYOR |                 |     |                                    |
|-----------------|-----------------|-----|------------------------------------|
| No.             | Part number     | Qty | Title                              |
| 1               | PB-00516        | 1   | BELT ASSEMBLY                      |
| 2               | PM-02133        | 3   | BEARING                            |
| 3               | PM-252-500-125  | 2   | SPACER                             |
| 4               | F12-500C16S-OBS | 12  | FLAT HEAD 1/2-13 x 1" STAINLESS    |
| 5               | F12-250C16S     | 4   | FLAT HEAD 1/4-20 X 1" STAINLESS    |
| 6               | F12-190F12S     | 12  | FLAT HEAD 10-32 X 3/4" STAINLESS   |
| 7               | F11-190F14S     | 12  | BUTTON HEAD 10-32 X 7/8" STAINLESS |
| 8               | F02-250S        | 6   | LOCK WASHER #14 STAINLESS          |
| 9               | F10-250F10S     | 6   | SOCKET CAP 1/4-28 X 5/8" STAINLESS |
| 10              | F01-312S        | 4   | FLAT WASHER 5/16 STAINLESS         |
| 11              | F02-312S        | 4   | LOCK WASHER 5/16" STAINLESS        |
| 12              | F13-312C10S     | 4   | HEX HEAD 5/16-18 X 5/8 STAINLESS   |
| 13              | PR-02611        | 6   | CROSSMEMBER                        |
| 14              | PR-02610-A-L    | 1   | CONVEYOR SIDE "A" LEFT             |
| 15              | PR-02612        | 2   | MIDDLE BELT SLIDE                  |
| 16              | PR-02614        | 2   | NOSE BAR                           |
| 17              | PR-02622        | 2   | MIDDLE BELT SLIDE                  |
| 18              | PR-02701        | 2   | LATERAL BELT SLIDE                 |
| 19              | PR-02613        | 2   | LATERAL BELT SLIDE                 |
| 20              | PR-02723-01     | 1   | COVER                              |
| 21              | PR-10482        | 1   | SHAFT COLLAR 3/4"                  |
| 22              | PR-10471        | 1   | TORQUE ARM                         |

## 13.4.1: Infeed left side



| INFEED LEFT SIDE |              |     |                                    |
|------------------|--------------|-----|------------------------------------|
| No.              | Part number  | Qty | Title                              |
| 1                | PE-00911     | 3   | O FIELD WIRECABLE                  |
| 2                | PM-00265.500 | 1   | CLAMPING SHAFT COUPLING 1/2"       |
| 3                | PE-00900-PNP | 1   | PHOTOCELL PNP                      |
| 4                | PE-00507-02  | 3   | PHOTOCELL CABLE 2M                 |
| 5                | F01-190S     | 6   | FLAT WASHER #10 STAINLESS          |
| 6                | F11-190F08S  | 6   | BUTTON HEAD 10-32 X 1/2" STAINLESS |
| 7                | F13-375F48S  | 1   | HEX HEAD 3/8-24 X 3" STAINLESS     |
| 8                | F03-375FS    | 1   | NUT HEX 3/8-24 STAINLESS           |
| 9                | F02-250S     | 4   | LOCK WASHER #14 STAINLESS          |
| 10               | F10-250F10S  | 4   | SOCKET CAP 1/4-28 X 5/8" STAINLESS |
| 11               | PR-02920     | 3   | SENSOR BRACKET                     |
| 12               | PR-02624     | 1   | TORQUE ARM                         |
| 13               | PR-02771     | 1   | PE-00900 BRACKET                   |

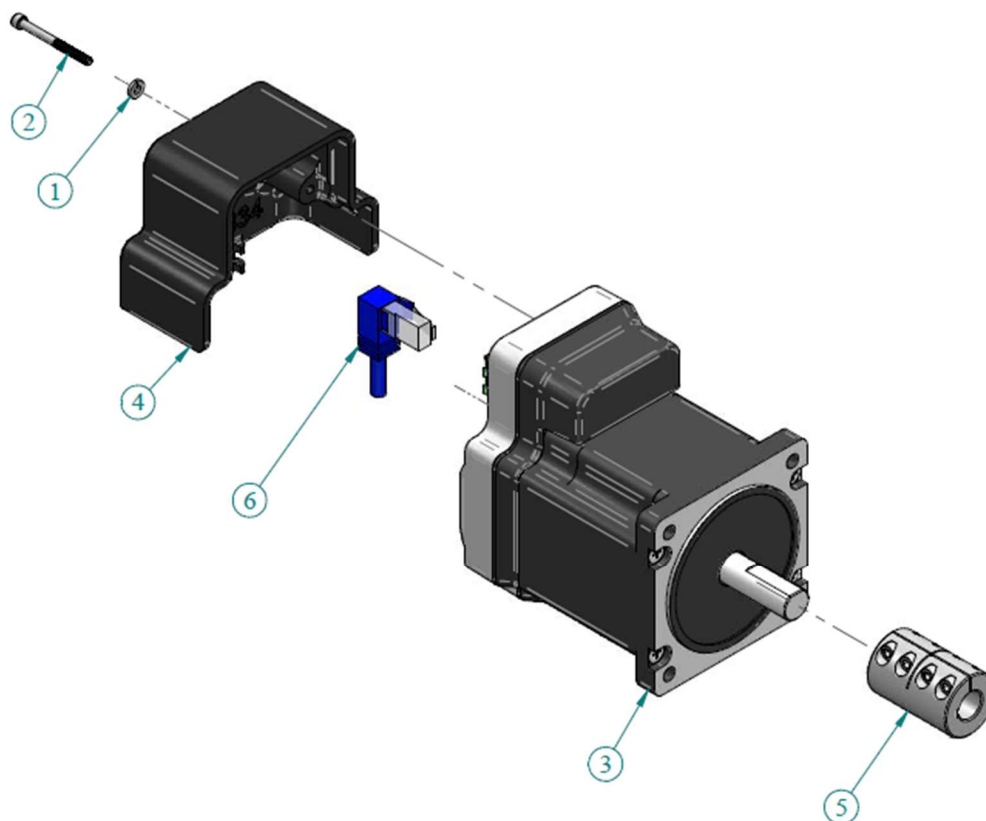
## 13.4.2: Infeed drive shaft for KLR.5051



| INFEED DRIVE SHAFTS |                |     |                                    |
|---------------------|----------------|-----|------------------------------------|
| No.                 | Part number    | Qty | Title                              |
| 1                   | PM-02133       | 3   | BEARING                            |
| 2                   | PM-03219-10    | 6   | SPROCKET 10 TOOTH, BORE 3/4"       |
| 3                   | PM-00265.500   | 1   | CLAMPING SHAFT COUPLING 1/2"       |
| 4                   | PM-252-500-125 | 2   | SPACER                             |
| 5                   | F13-375F48S    | 1   | HEX HEAD 3/8-24 X 3" STAINLESS     |
| 6                   | F03-375FS      | 1   | NUT HEX 3/8-24 STAINLESS           |
| 7                   | F02-250S       | 10  | LOCK WASHER #14 STAINLESS          |
| 8                   | F10-250F10S    | 10  | SOCKET CAP 1/4-28 X 5/8" STAINLESS |
| 9                   | PR-02615       | 1   | DRIVE AXIS                         |
| 10                  | PR-02828       | 1   | DRIVE AXIS                         |
| 11                  | PR-10482       | 13  | SHAFT COLLAR 3/4"                  |
| 12                  | PR-02624       | 1   | TORQUE ARM                         |
| 13                  | PR-10471       | 1   | TORQUE ARM                         |

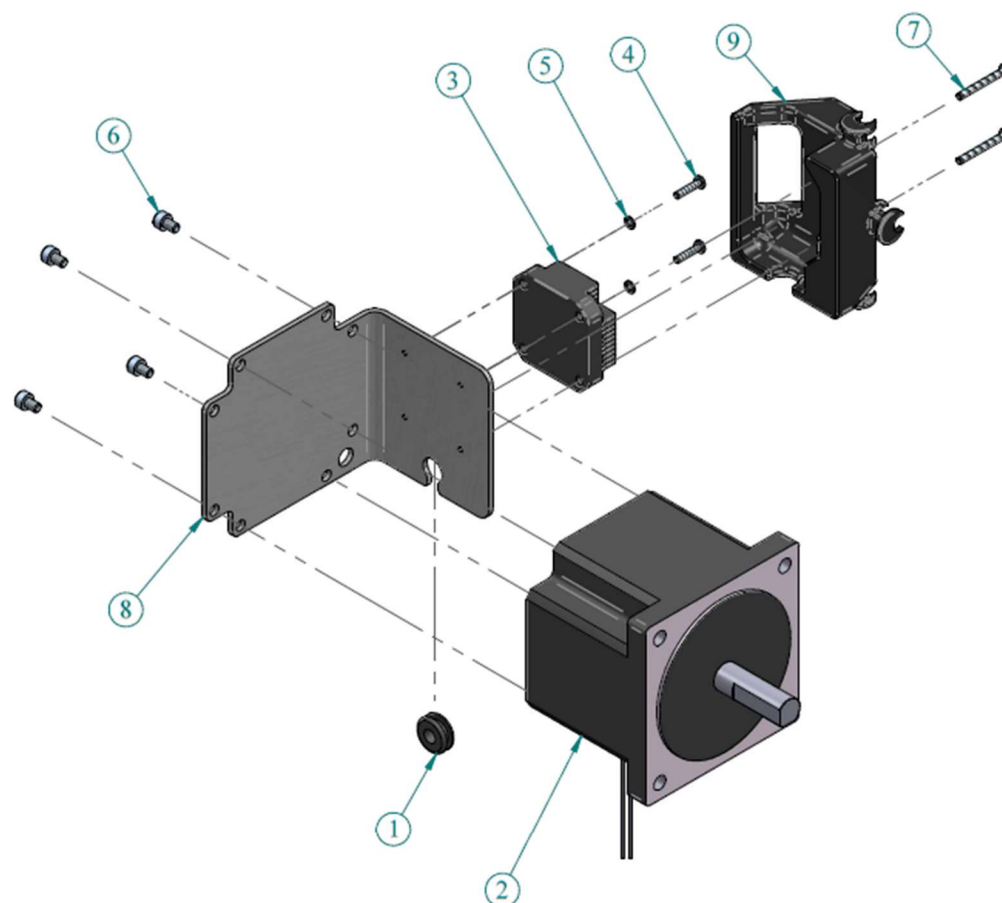


### 13.4.3: Prefeed stepper motor for KLR.5051-X-AB



| KLR.5051-L-AB |                  |     |                                                          |
|---------------|------------------|-----|----------------------------------------------------------|
| No.           | Part number      | Qty | Title                                                    |
| 1             | F02-138S         | 1   | LOCK WASHER #6 STAINLESS                                 |
| 2             | F10-138C24S      | 1   | SOCKET CAP 6-32 X 1 1/2" STAINLESS                       |
| 3             | PE-00628         | 1   | LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK              |
| 4             | PR-02834         | 1   | WIRE GUARD                                               |
| 5             | PR-02829         | 1   | SHAFT CONNECTION                                         |
| 6             | PE-00626-10-90-R | 1   | CABLE ETHERNET 90° RIGHT CAT 6 LONGUEUR 10 PIEDS / 3.0 M |

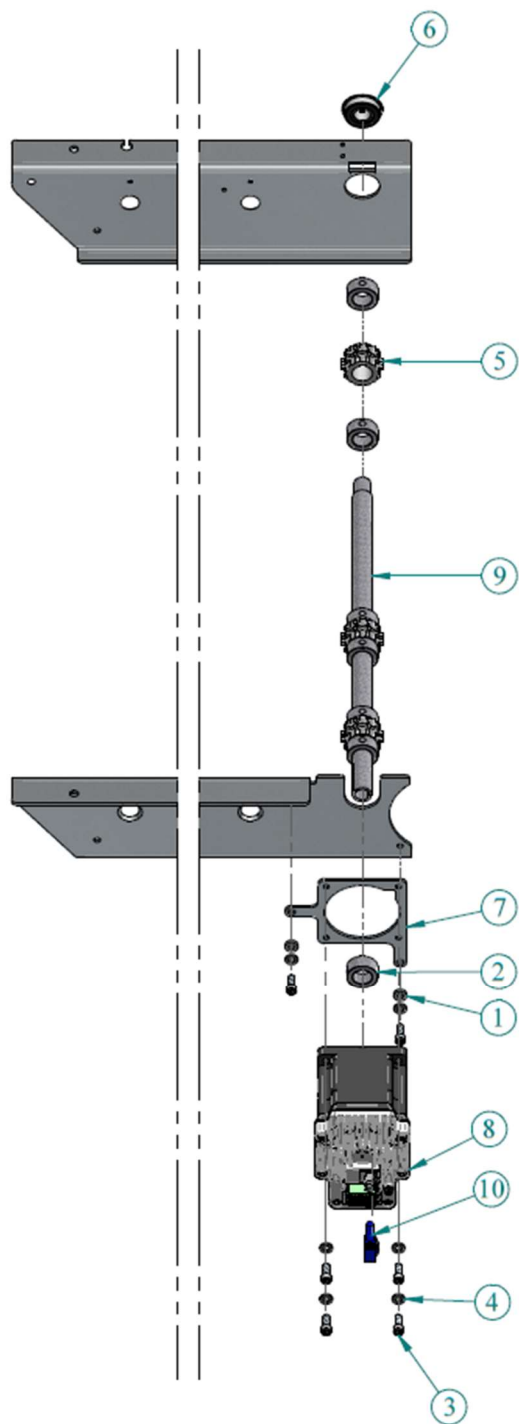
## 13.4.4: Stepper motor for KLR.5051-X



| STEPPER MOTOR |                |     |                                                   |
|---------------|----------------|-----|---------------------------------------------------|
| No.           | Part number    | Qty | Title                                             |
| 1             | PM-03217-01    | 1   | GROMMET 1/4 ID X 5/8 OD X 1/8 WALL                |
| 2             | PE-01538       | 1   | STEPPER MOTOR                                     |
| 3             | PE-01533       | 1   | STEPPER MOTOR DRIVE 1.5-4A 10-40VDC NEMA 17/23/24 |
| 4             | F11-112C08S    | 2   | BUTTON HEAD 4-40 X 1/2 STAINLESS                  |
| 5             | F02-112S       | 2   | LOCK WASHER #4 STAINLESS                          |
| 6             | F10-M4-0.7X06S | 4   | SOCKET CAP M3 X 0.5 X6 MM STAINLESS               |
| 7             | F11-112C16S    | 2   | BUTTON HEAD 4-40 X 1" STAINLESS                   |
| 8             | PR-02512-2     | 1   | DRIVE SUPPORT FOR PE-01538 SIDE MOUNT             |
| 9             | PR-95164-02    | 1   | WIRE GUARD 02                                     |

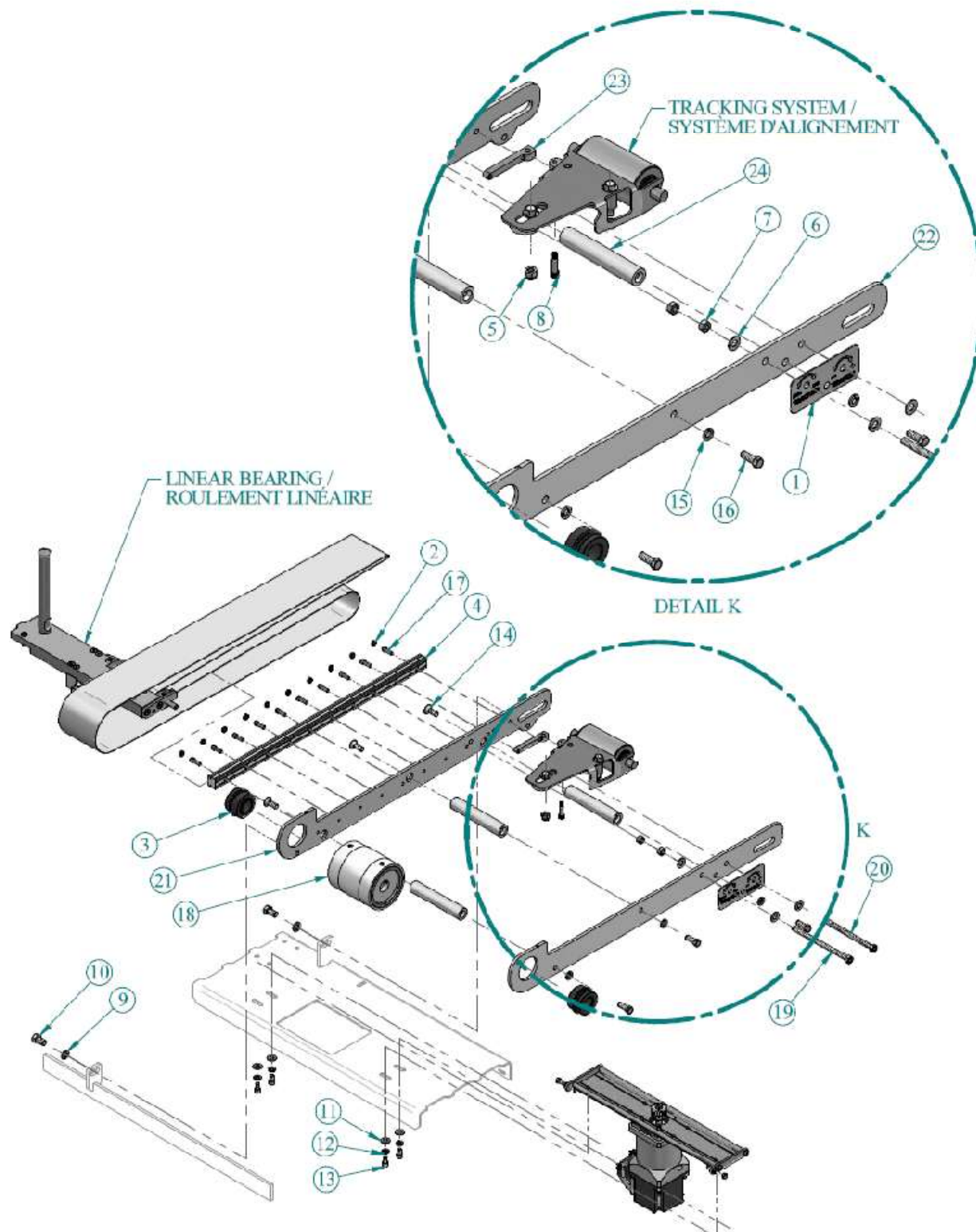


## 13.4.5: Infeed drive shaft for KLR.5051-X-AB



| INFEEED DRIVE SHAFT AB |                  |     |                                                          |
|------------------------|------------------|-----|----------------------------------------------------------|
| No.                    | Part number      | Qty | Title                                                    |
| 1                      | PM-252-500-125   | 2   | SPACER                                                   |
| 2                      | PR-10482         | 7   | SHAFT COLLAR 3/4"                                        |
| 3                      | F10-250F10S      | 6   | SOCKET CAP 1/4-28 X 5/8" STAINLESS                       |
| 4                      | F02-250S         | 6   | LOCK WASHER #14 STAINLESS                                |
| 5                      | PM-03219-10      | 3   | SPROCKET 10 TOOTH, BORE 3/4"                             |
| 6                      | PM-02133         | 1   | BEARING                                                  |
| 7                      | PR-10471         | 1   | TORQUE ARM                                               |
| 8                      | PE-00628         | 1   | LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK              |
| 9                      | PR-02828-14      | 1   | DRIVE AXIS                                               |
| 10                     | PE-00626-10-90-R | 1   | CABLE ETHERNET 90° RIGHT CAT 6 LONGUEUR 10 PIEDS / 3.0 M |

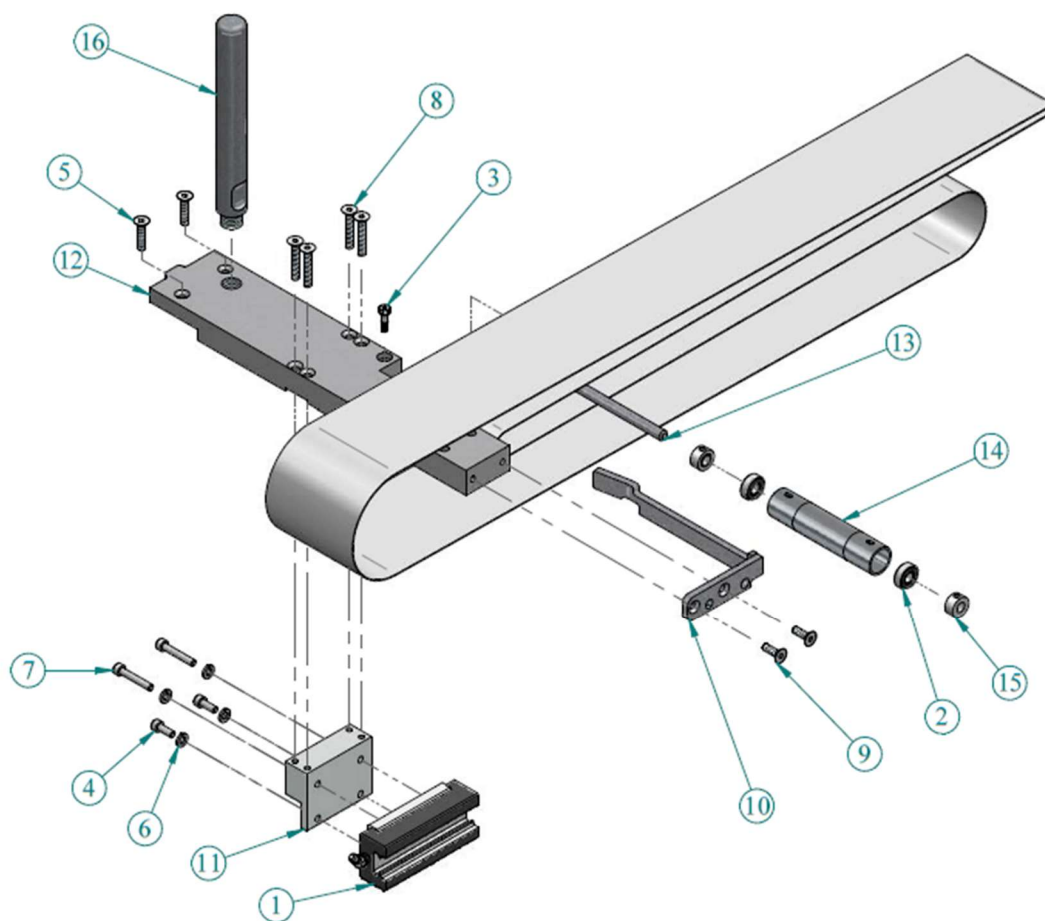
### 13.5: Bottom scoop frame KLR-00105 – Beyond



| SCOOP DOWN FRAME |                   |     |                                              |
|------------------|-------------------|-----|----------------------------------------------|
| No.              | Part number       | Qty | Title                                        |
| 1                | PR-02951          | 1   | S/S LABEL                                    |
| 2                | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK                   |
| 3                | PM-01541          | 2   | BEARING 1"                                   |
| 4                | PM-00190-0594-THK | 1   | LINEAR BEARING RAIL 594MM                    |
| 5                | F03-375CNS        | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 6                | F01-375S          | 3   | FLAT WASHER 3/8" STAINLESS                   |
| 7                | F03-375CS         | 2   | NUT 3/8-16 STAINLESS                         |
| 8                | F05-312-12S       | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 9                | F02-438S          | 2   | LOCK WASHER 7/16" STAINLESS                  |
| 10               | F13-438C12S       | 2   | HEX. HEAD 7-16-14 X 3/4" STAINLESS           |
| 11               | F01-312S          | 4   | FLAT WASHER 5/16 STAINLESS                   |
| 12               | F02-312S          | 4   | LOCK WASHER 5/16" STAINLESS                  |
| 13               | F10-312C08S       | 4   | SOCKET CAP 5/16-18 X 1/2" STAINLESS          |
| 14               | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS              |
| 15               | F02-375S          | 3   | LOCK WASHER 3/8" STAINLESS                   |
| 16               | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 17               | F10-250C12S       | 10  | SOCKET CAP 1/4-20 X 3/4" STAINLESS           |
| 18               | PR-02678          | 1   | BELT ROLLER                                  |
| 19               | PR-02865          | 1   | SCREW                                        |
| 20               | PR-02881          | 1   | SCREW                                        |
| 21               | PR-02679          | 1   | LOWER INTERIOR SIDE RETRACTABLE              |
| 22               | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE                    |
| 23               | PR-02867          | 1   | BRACKET                                      |
| 24               | PR-03188-1        | 3   | RETRACTABLE CROSS SECTION                    |

## 13.5.1: Bottom linear bearing KLR-00105 – Beyond

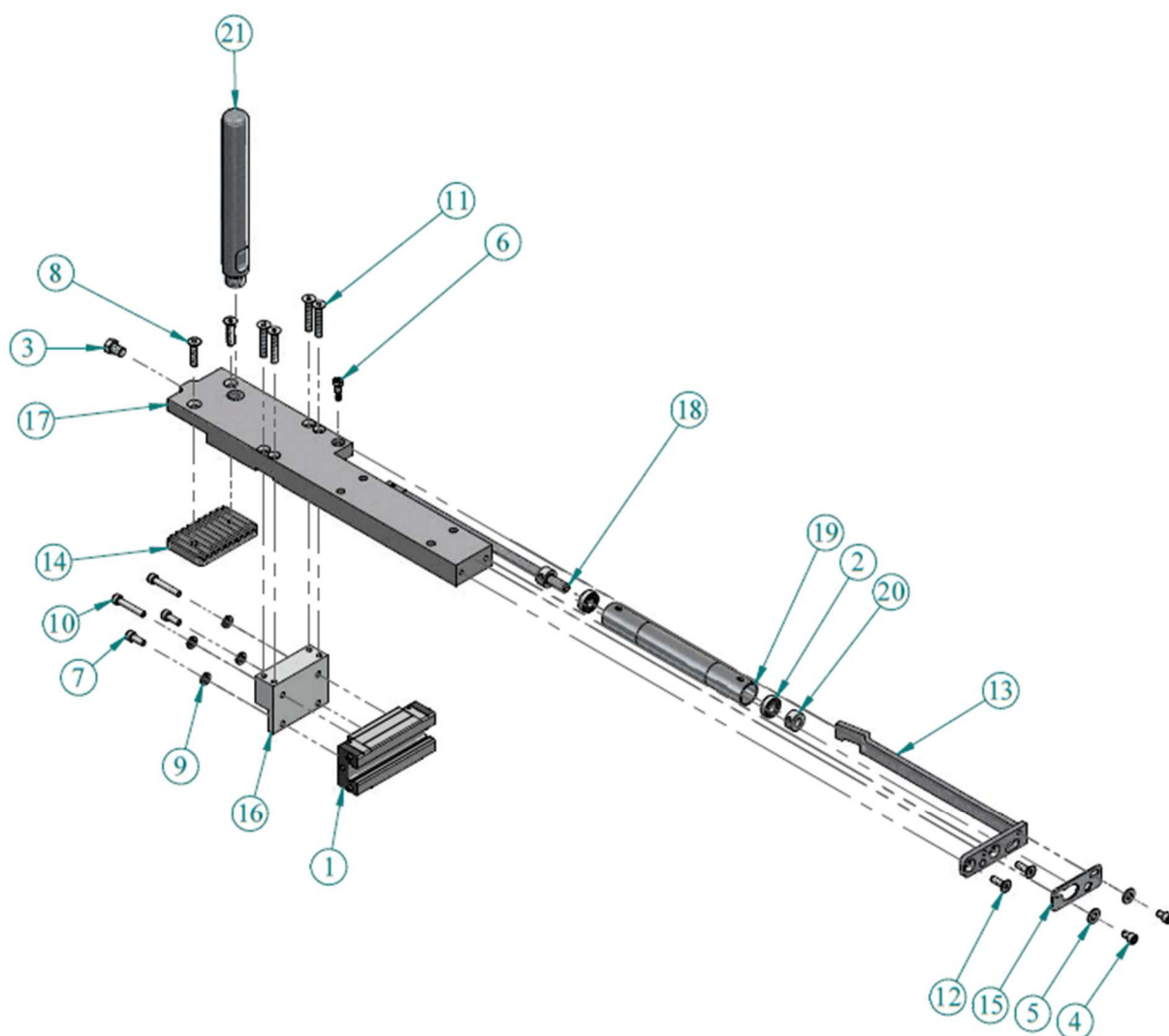
## 13.5.1.1: Bottom linear bearing for KR-5051-SCOOP-04-07 (04-12) (04-16) only



| LINEAR BEARING (KLR-00105 - BEYOND) |               |     |                                            |
|-------------------------------------|---------------|-----|--------------------------------------------|
| No.                                 | Part number   | Qty | Title                                      |
| 1                                   | PM-00191-THK  | 1   | LINEAR BALL BEARING CARRIAGE               |
| 2                                   | P02-00095     | 2   | BEARING                                    |
| 3                                   | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 4                                   | F10-M6-1X16s  | 2   | SOCKET CAP M6-1X16 MM STAINLESS            |
| 5                                   | F12-250C18S   | 2   | FLAT HEAD 1/4-20 X 1-1/8" STAINLESS        |
| 6                                   | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 7                                   | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 8                                   | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 9                                   | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 10                                  | PR-02687-1    | 1   | ROLLER SIDE SUPPORT                        |
| 11                                  | PR-02685      | 1   | HOLDER SUPPORT                             |
| 12                                  | PR-02686-L-02 | 1   | SUPPORT FOR LOWER RETRACT LEFT             |
| 13                                  | PR-03291-2    | 1   | ROLLER SHAFT                               |
| 14                                  | PR-03195-1    | 1   | IDLER BELT 1"                              |
| 15                                  | PR-03195-A    | 2   | 3/8 COLLAR                                 |
| 16                                  | PR-02827      | 1   | HEIGHT ADJUSTER GUIDE                      |



### 13.5.1.2: Bottom linear bearing for KR-5051-SCOOP-07-16 only



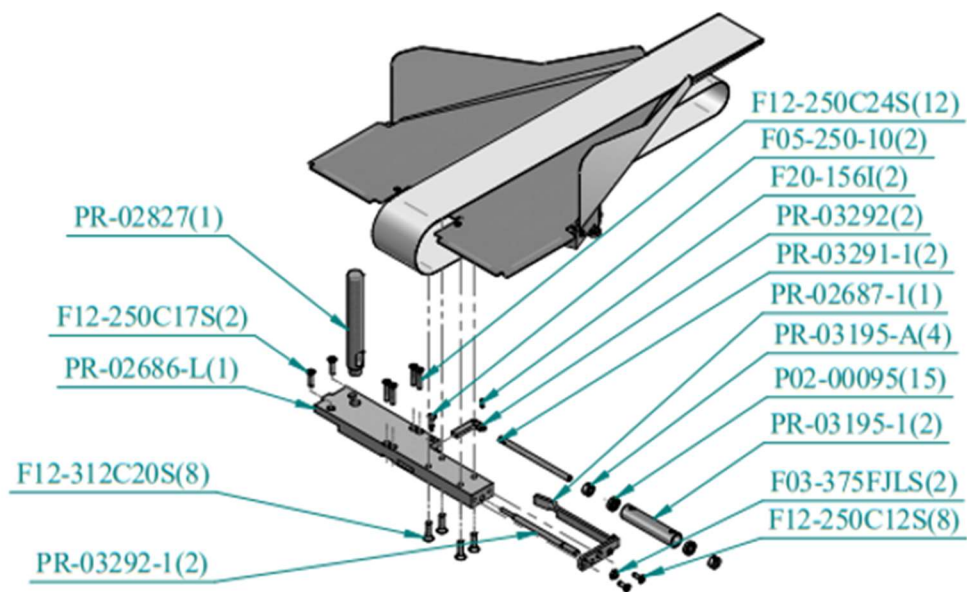
## 13.5.1.3: Bottom linear bearing for KR-5051-SCOOP-07-16 part list

| KR-5051-SCOOP-07-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00095     | 2   | BEARING                                    |
| 3                     | F13-375C08S   | 1   | HEX HEAD 3/8-16 X 1/2" STAINLESS           |
| 4                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 5                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 6                     | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 7                     | F10-M6-1X16s  | 2   | SOCKET CAP M6-1X16 MM STAINLESS            |
| 8                     | F12-250C18S   | 2   | FLAT HEAD 1/4-20 X 1-1/8" STAINLESS        |
| 9                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 10                    | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 11                    | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 12                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 13                    | PR-02687-1-01 | 1   | ROLLER SIDE SUPPORT                        |
| 14                    | PR-02826      | 1   | TIMING BELT LINK                           |
| 15                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 16                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 17                    | PR-02686-L-07 | 1   | SUPPORT FOR LOWER RETRACT LEFT 7"          |
| 18                    | PR-03291-2-07 | 1   | ROLLER SHAFT 7"                            |
| 19                    | PR-03195-07   | 1   | IDLER BELT 1" x 7"                         |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |
| 21                    | PR-02827      | 1   | HEIGHT ADJUSTER GUIDE                      |

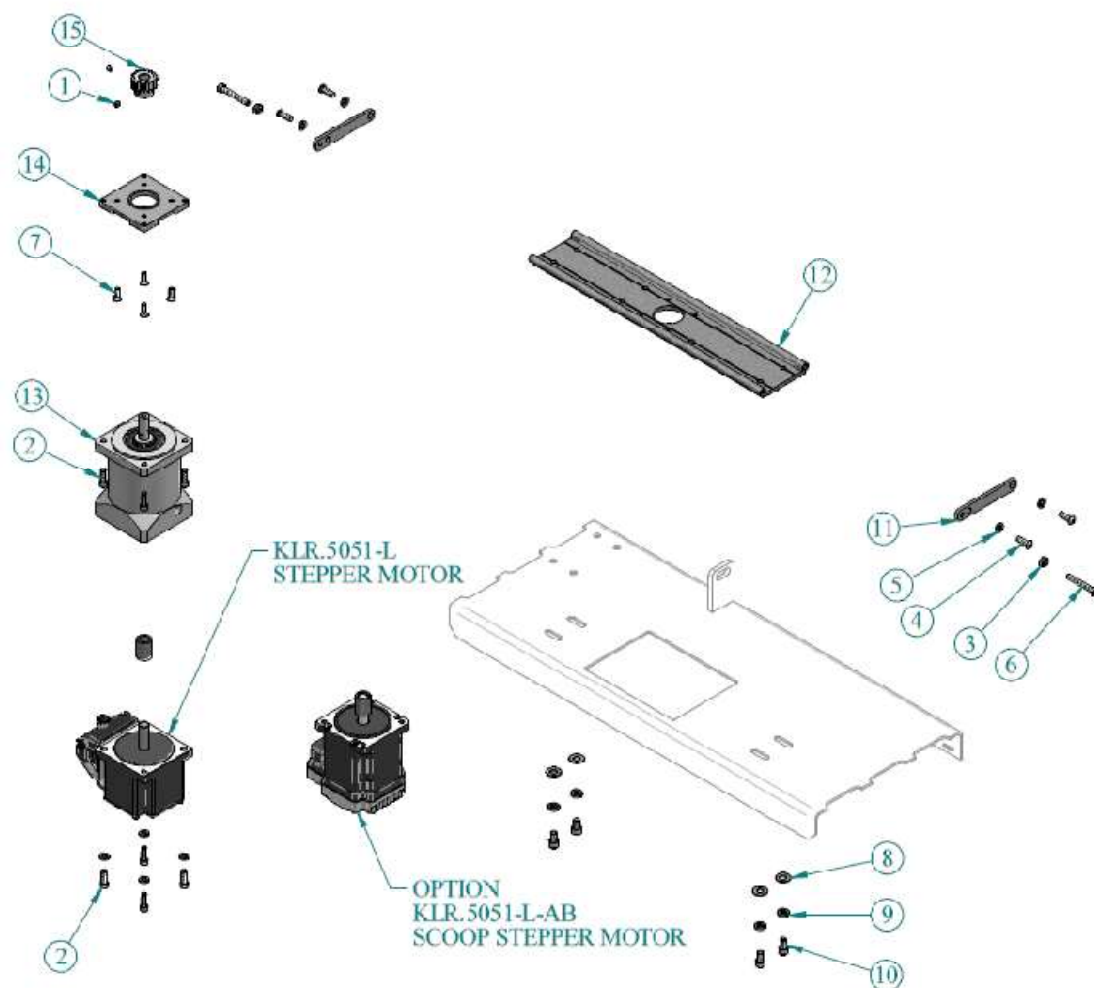


## 13.5.2: Bottom linear bearing KLR-00001 – KLR-00104

Serial numbers: KLR-00001 – KLR-00104

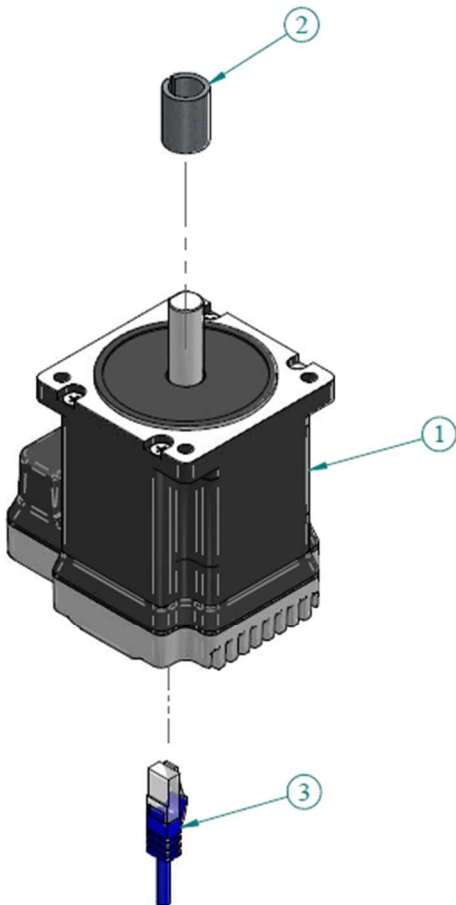
*On request, the updated version can be retrofitted.*

### 13.6: Bottom scoop motor drive



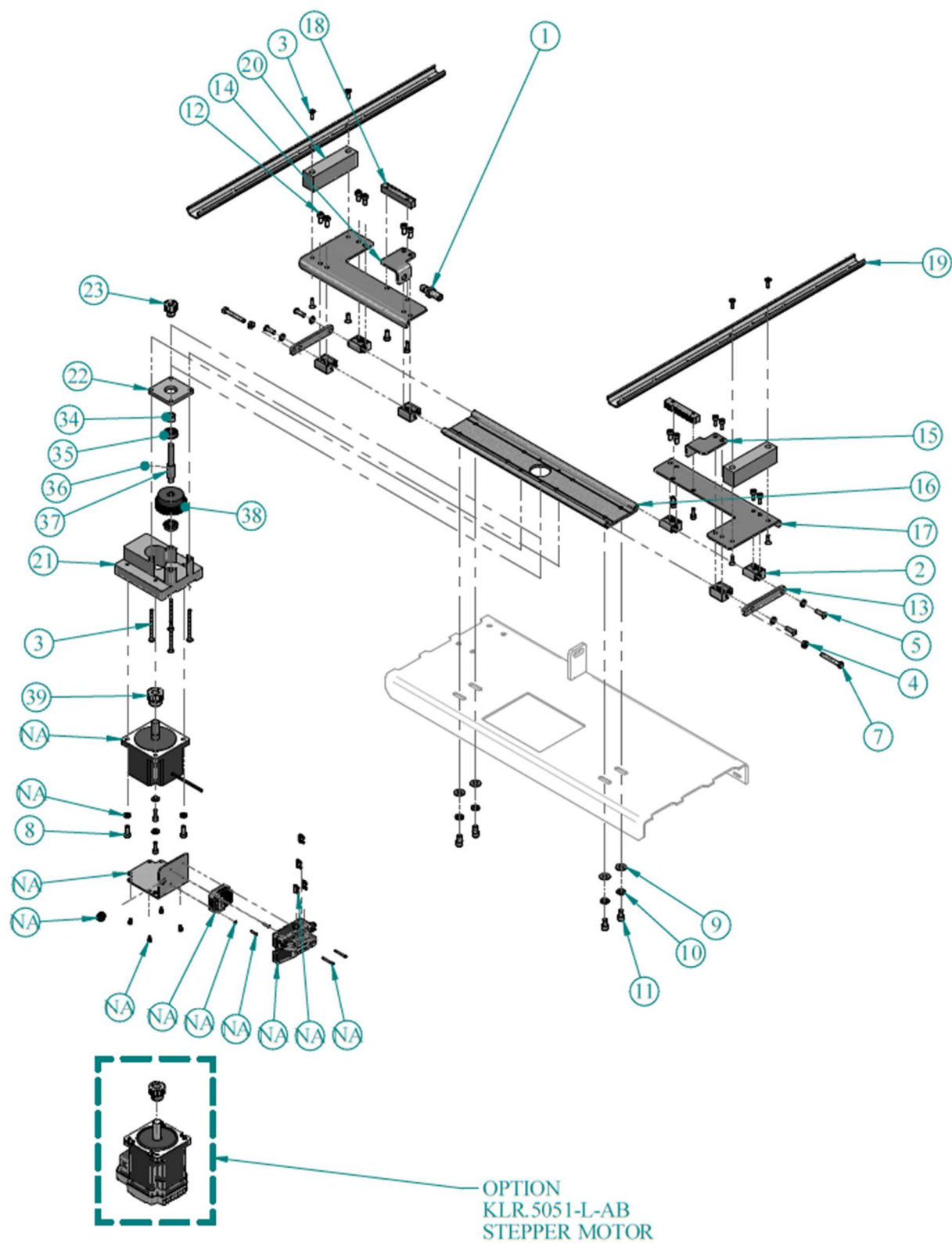
| SCOOP DOWN DRIVE |             |     |                                     |
|------------------|-------------|-----|-------------------------------------|
| No.              | Part number | Qty | Title                               |
| 1                | F06-250F04S | 2   | SET SCREW 1/4-28 X 1/4" STAINLESS   |
| 2                | F10-250C12S | 8   | SOCKET CAP 1/4-20 X 3/4" STAINLESS  |
| 3                | F03-250CS   | 2   | NUT 1/4 -20 STAINLESS               |
| 4                | F11-250C12S | 4   | BUTTON HEAD 1/4-20 X 3/4" STAINLESS |
| 5                | F02-250S    | 7   | LOCK WASHER #14 STAINLESS           |
| 6                | F13-250C28S | 2   | HEX HEAD 1/4-20 X 1 3/4" ZINC       |
| 7                | F12-190F10S | 4   | FLAT HEAD 10-32 X 5/8" STAINLESS    |
| 8                | F01-312S    | 4   | FLAT WASHER 5/16 STAINLESS          |
| 9                | F02-312S    | 4   | LOCK WASHER 5/16" STAINLESS         |
| 10               | F10-312C08S | 4   | SOCKET CAP 5/16-18 X 1/2" STAINLESS |
| 11               | PR-02673    | 2   | RAIL STOPPER                        |
| 12               | PR-02672    | 1   | RAIL                                |
| 13               | PM-00460-03 | 1   | GEARBOX 3:1                         |
| 14               | PR-02944    | 1   | GEAR BLOCK COVER                    |
| 15               | PR-02943    | 1   | MODIFIED GEAR SG-1618               |

13.6.1: Scoop stepper motor for KLR.5051-AB



| OPTION KLR.5051-L-AB LOWER SCOOP STEPPER |               |     |                                             |
|------------------------------------------|---------------|-----|---------------------------------------------|
| No.                                      | Part number   | Qty | Title                                       |
| 1                                        | PE-00628      | 1   | LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK |
| 2                                        | PR-03961-14MM | 1   | SLEEVE 14MM ID 3/4"OD                       |
| 3                                        | PE-00626-10   | 1   | ETHERNET CABLE 10 FEET                      |

## 13.6.2: Bottom scoop drive (KLR-00001 – KLR-00111)



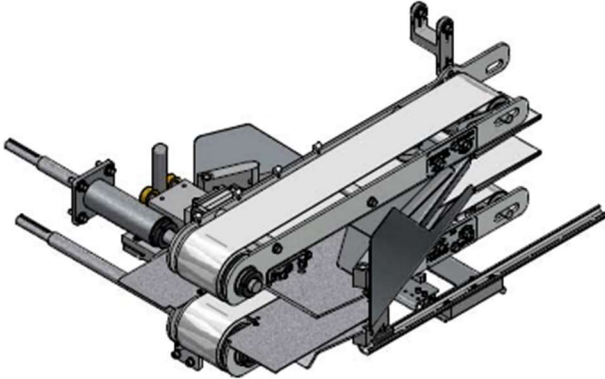
| LOWER SCOOP DRIVE (SN: KLR.00001 - KLR.00111) |                 |     |                                                   |
|-----------------------------------------------|-----------------|-----|---------------------------------------------------|
| No.                                           | Part number     | Qty | Title                                             |
| 1                                             | PM-03217-01     | 1   | GROMMET 1/4 ID X 5/8 OD X 1/8 WALL                |
| 2                                             | PE-08015        | 4   | TERMINAL 22-12SOL/STR SCREW ONLY                  |
| 3                                             | PR-95164-02     | 1   | WIRE GUARD 02                                     |
| 4                                             | PE-00141-NO-PNP | 1   | PROX SWITCH                                       |
| 5                                             | PE-01538        | 1   | STEPPER MOTOR                                     |
| 6                                             | PM-00197        | 6   | IGUS RAIL CARRIAGE 10 MM                          |
| 7                                             | F11-112C16S     | 2   | BUTTON HEAD 4-40 X 1" STAINLESS                   |
| 8                                             | F12-190F10S     | 12  | FLAT HEAD 10-32 X 5/8" STAINLESS                  |
| 9                                             | F02-112S        | 1   | LOCK WASHER #4 STAINLESS                          |
| 10                                            | F11-112C08S     | 2   | BUTTON HEAD 4-40 X 1/2" STAINLESS                 |
| 11                                            | F10-M4-0.7X06S  | 4   | SOCKET CAP M3 X 0.5 X6 MM STAINLESS               |
| 12                                            | F03-250CS       | 2   | NUT 1/4 -20 STAINLESS                             |
| 13                                            | F11-250C12S     | 4   | BUTTON HEAD 1/4-20 X 3/4" STAINLESS               |
| 14                                            | F02-250S        | 8   | LOCK WASHER #14 STAINLESS                         |
| 15                                            | F13-250C28S     | 2   | HEX HEAD 1/4-20 X 1 3/4" ZINC                     |
| 16                                            | F10-250C12S     | 4   | SOCKET CAP 1/4-20 X 3/4" STAINLESS                |
| 17                                            | F01-312S        | 4   | FLAT WASHER 5/16 STAINLESS                        |
| 18                                            | F02-312S        | 4   | LOCK WASHER 5/16" STAINLESS                       |
| 19                                            | F10-312C08S     | 4   | SOCKET CAP 5/16-18 X 1/2" STAINLESS               |
| 20                                            | F10-M6-1X14S    | 16  | SOCKET CAP M6-1X14 STAINLESS                      |
| 21                                            | PR-02673        | 2   | RAIL STOPPER                                      |
| 22                                            | PR-02886-A      | 1   | BRACKET SENSOR A                                  |
| 23                                            | PR-02886-B      | 1   | BRACKET SENSOR B                                  |
| 24                                            | PR-02672        | 1   | RAIL                                              |
| 25                                            | PR-02713-01     | 2   | GUDE PLATE                                        |
| 26                                            | PR-02715        | 2   | GEAR RACK                                         |
| 27                                            | PR-02753        | 2   | GUIDE RAIL                                        |
| 28                                            | PR-02754        | 2   | RAIL SUPPORT                                      |
| 29                                            | PM-00460-03     | 1   | GEAR BLOCK                                        |
| 30                                            | PR-02944        | 1   | GEAR BLOCK COVER                                  |
| 31                                            | PR-02943        | 1   | GEAR                                              |
| 32                                            | PE-01533        | 1   | STEPPER MOTOR DRIVE 1.5-4A 10-40VDC NEMA 17/23/24 |
| 33                                            | PR-02512-2      | 1   | DRIVE SUPPORT FOR PE-01538 SIDE MOUNT             |
| 34                                            | B375-625-375    | 1   | SPACER                                            |
| 35                                            | P02-00139       | 2   | BEARING                                           |
| 36                                            | PM-03028        | 1   | KEY                                               |
| 37                                            | PR-02783        | 1   | SHAFT                                             |
| 38                                            | PR-02782        | 1   | GEAR                                              |
| 39                                            | PR-02908        | 1   | GEAR                                              |



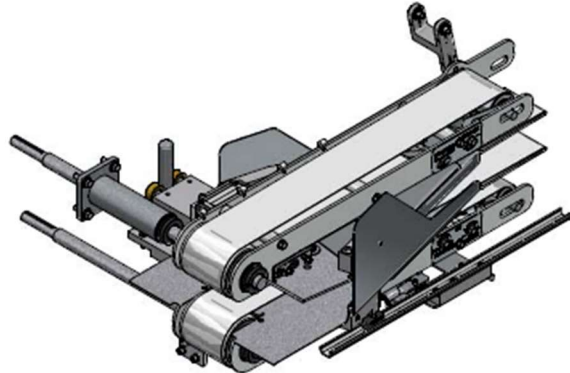
### 13.7: Scoop (options)

Scoop options are selected by KLR based on the range of applications to be run on the KLR.5051. Be sure to choose the scoop size that matches your machine.

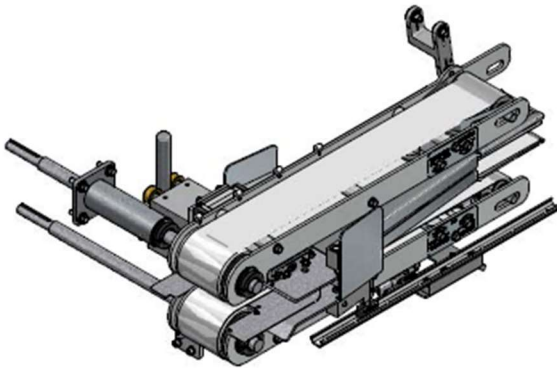
#### **SCOOP 5051 4" - 16"**



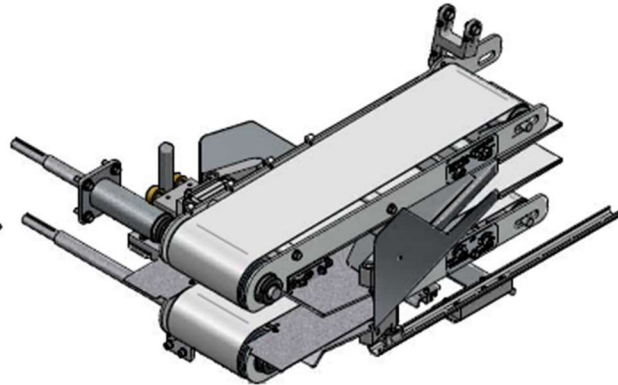
#### **SCOOP 5051 4" - 12"**



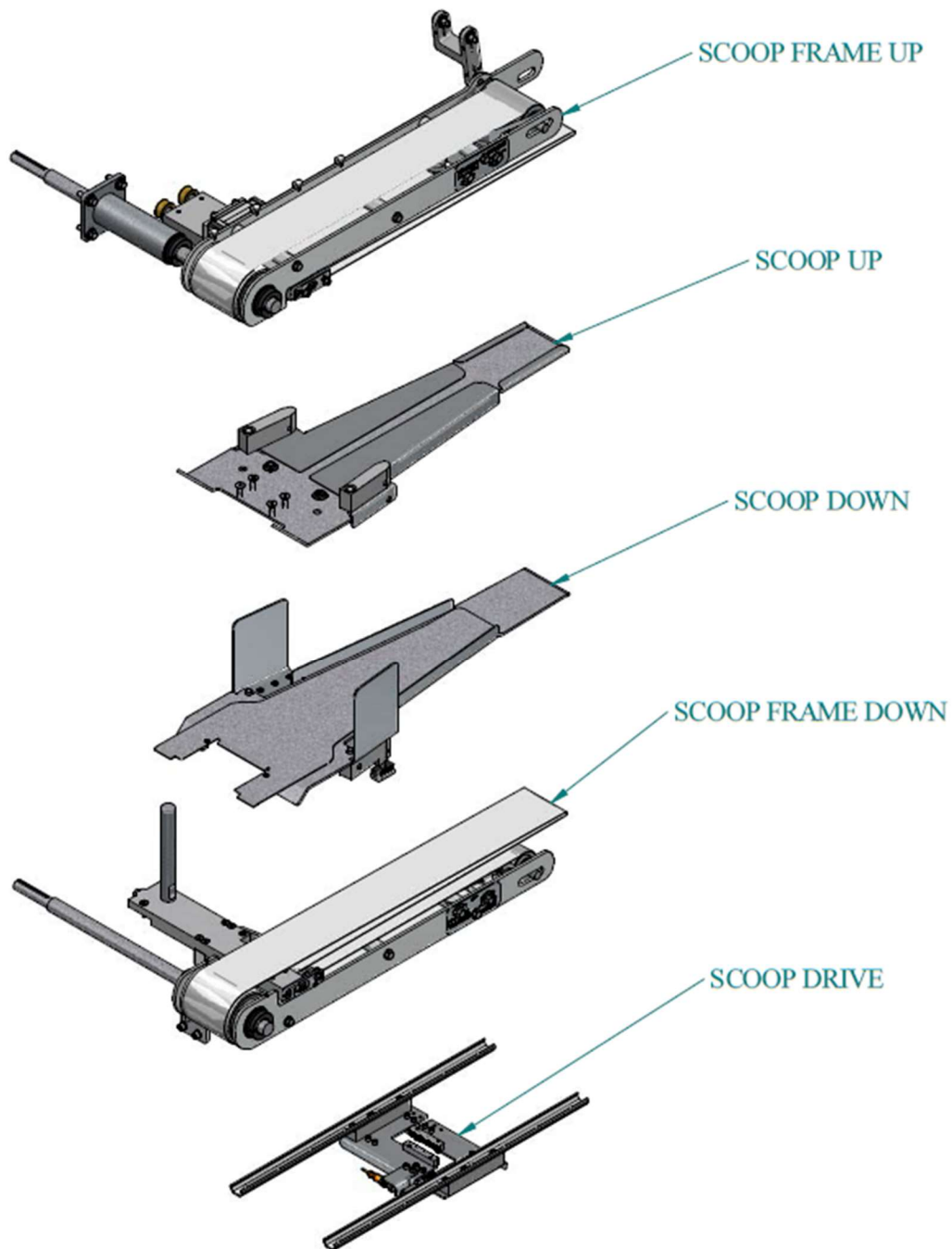
#### **SCOOP 5051 4" - 7"**



#### **SCOOP 5051 7" - 16"**

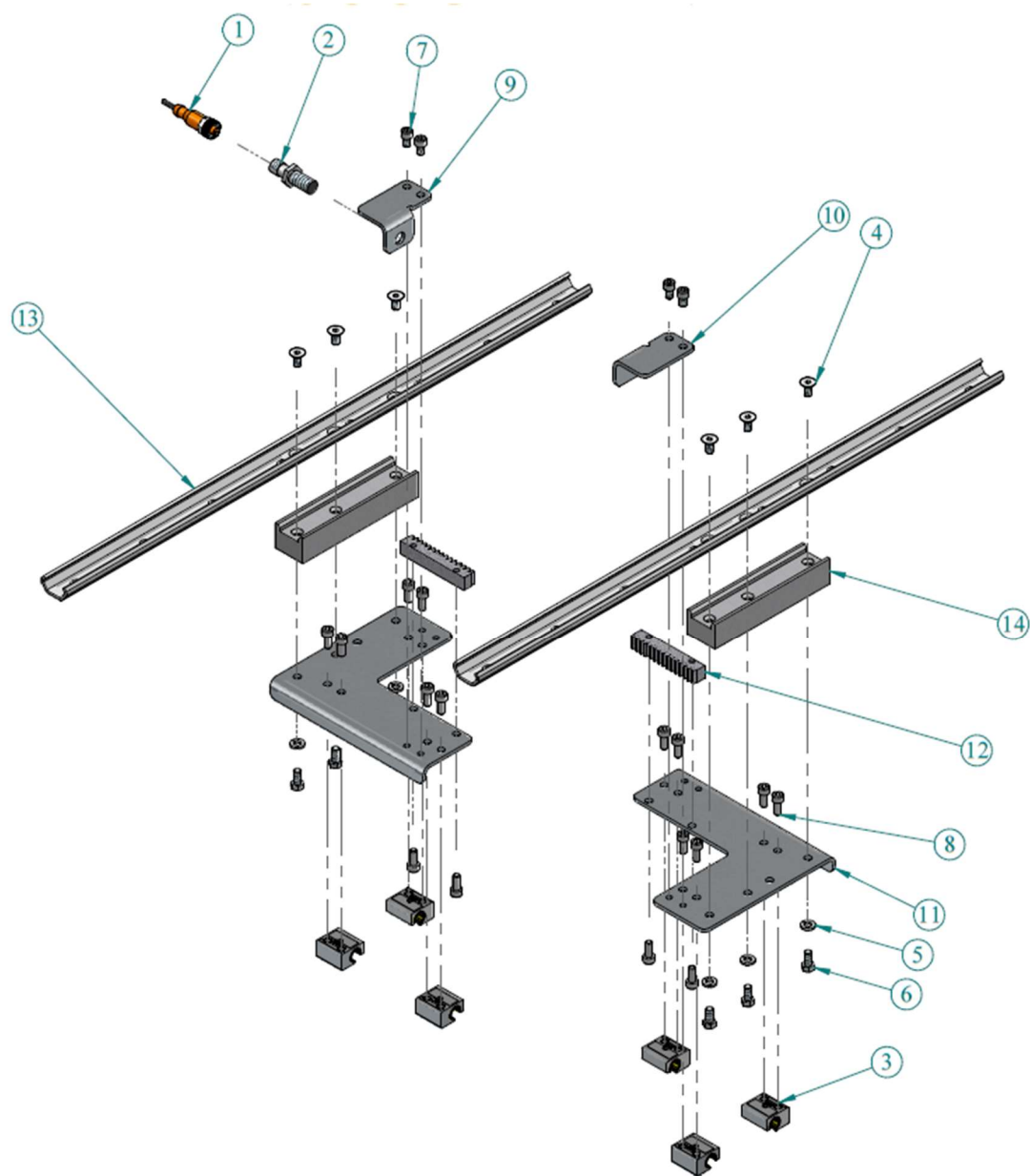


## 13.7.1: Scoop 5051 4" - 7" (KR-5051-SCOOP-04-07)





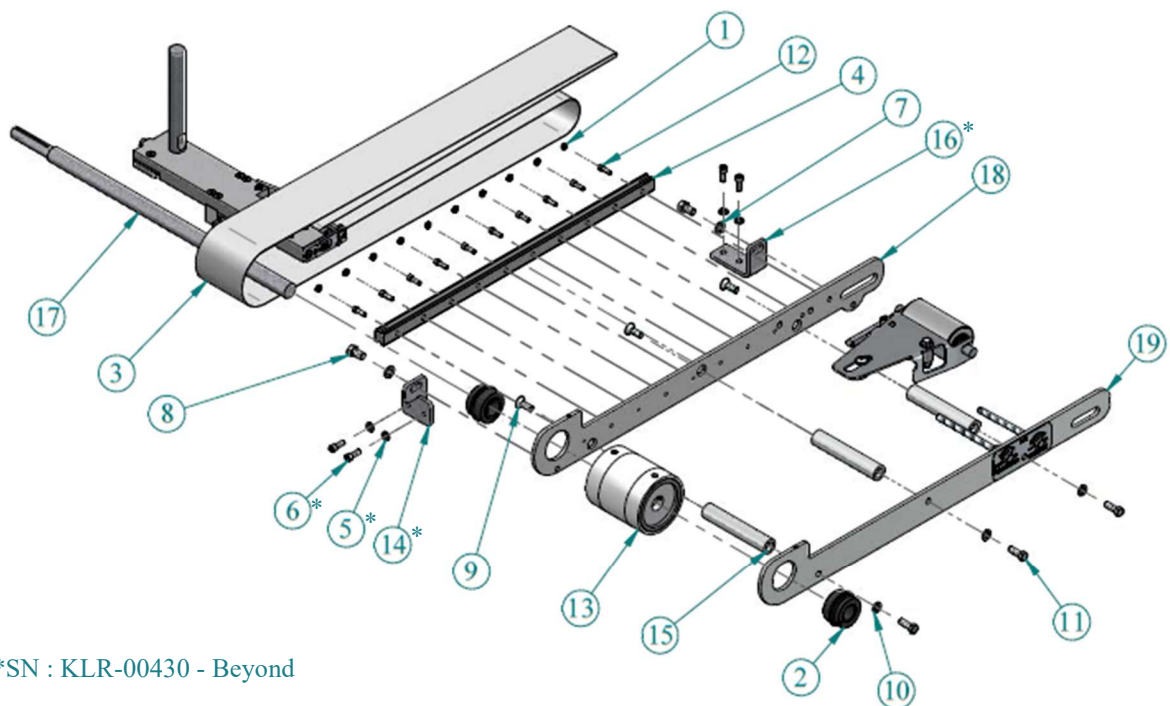
## 13.7.1.1: Scoop drive 5051 4" - 7" (KR-5051-SCOOP-04-07)



## 13.7.1.2: Scoop drive 5051 4" - 7" part list (KR-5051-SCOOP-04-07)

| KR-5051-SCOOP-04-07-L |                 |     |                                    |
|-----------------------|-----------------|-----|------------------------------------|
| No.                   | Part number     | Qty | Title                              |
| 1                     | PE-00507-10     | 1   | PHOTOCELL CABLE 10M                |
| 2                     | PE-00141-NO-PNP | 1   | PROX SWITCH                        |
| 3                     | PM-00197        | 6   | IGUS RAIL CARRIAGE 10 MM           |
| 4                     | F12-250C08S     | 6   | FLAT HEAD 1/4-20 X 1/2" STAINLESS  |
| 5                     | F02-250S        | 6   | LOCK WASHER #14 STAINLESS          |
| 6                     | F13-250C08S     | 6   | HEX HEAD 1/4-20 X 1/2 STAINLESS    |
| 7                     | F10-250C06S     | 4   | SOCKET CAP 1/4-20 X 3/8" STAINLESS |
| 8                     | F10-M6-1X14S    | 16  | SOCKET CAP M6-1X14 STAINLESS       |
| 9                     | PR-02886-CL     | 1   | SENSOR BRACKET "CL" S/S            |
| 10                    | PR-02886-CR     | 1   | DETECTION SENSOR BRACKET "CR" S/S  |
| 11                    | PR-02713-05     | 2   | PLATE FOR OPEN SCOOP 04-07 S/S     |
| 12                    | PR-02715        | 2   | GEAR RACK STEEL FOR OPEN SCOOP     |
| 13                    | PR-02753-01     | 2   | RAIL FOR LOWER SCOOP S/S           |
| 14                    | PR-02754-02     | 2   | RAIL SUPPORT ALUMINIUM             |

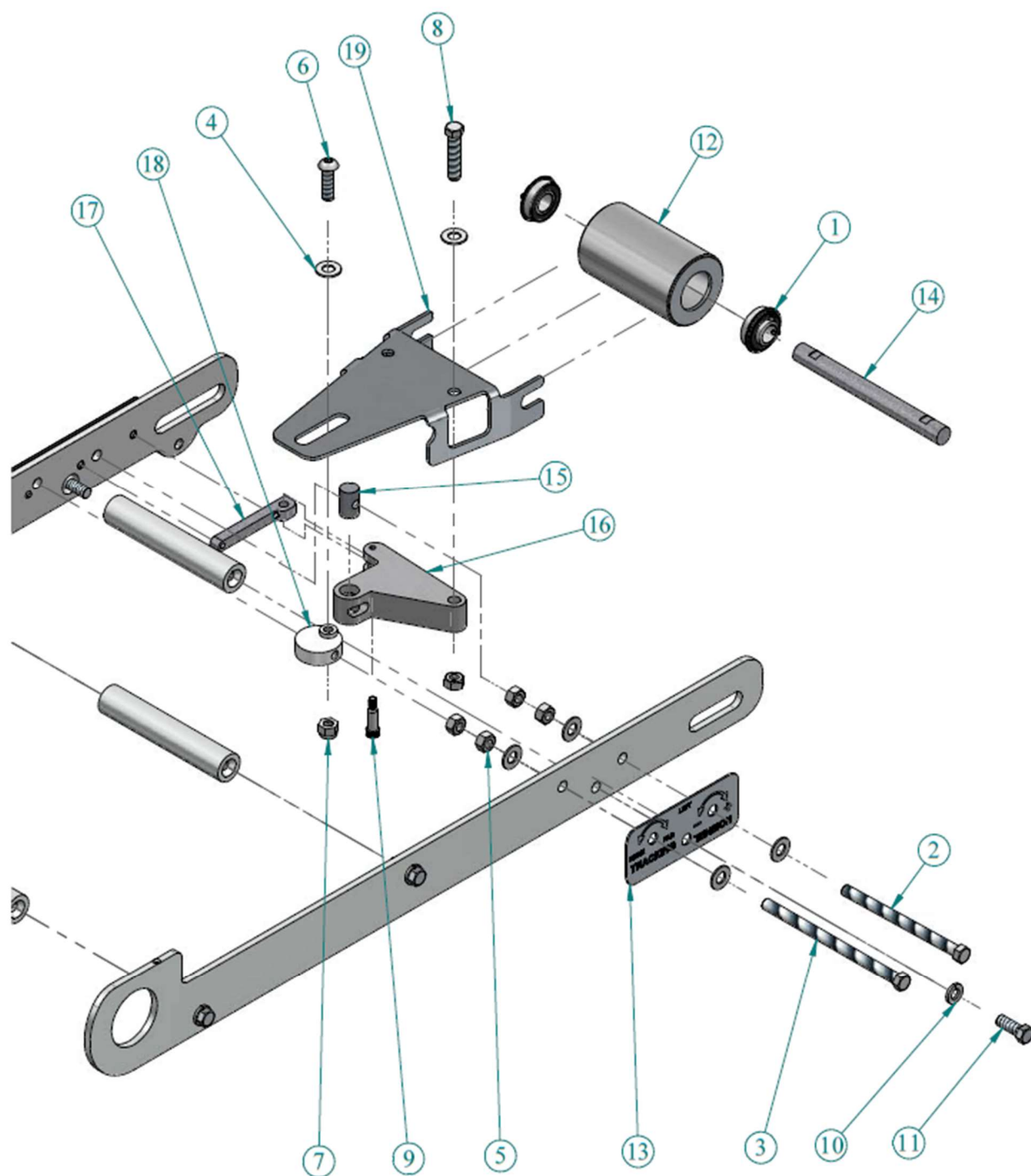
## 13.7.1.3: Scoop frame 5051 4" - 7" (KR-5051-SCOOP-04-07)



\*SN : KLR-00430 - Beyond

| KR-5051-SCOOP-04-16-L |                   |     |                                             |
|-----------------------|-------------------|-----|---------------------------------------------|
| No.                   | Part number       | Qty | Title                                       |
| 1                     | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK                  |
| 2                     | PM-01541          | 2   | BEARING 1"                                  |
| 3                     | PB-00519-4-WH     | 1   | RETRACTABLE BELT FOR KLR.5051 4" x 116 1/2" |
| 4                     | PM-00190-0594-THK | 1   | LINEAR GUIDE RAIL SHS25 X 594MM (THK)       |
| 5                     | F02-312S          | 4   | LOCK WASHER 5/16" STAINLESS                 |
| 6                     | F10-312C12S       | 4   | SOCKET CAP 5/16-18 X 3/4" STAINLESS         |
| 7                     | F02-438S          | 2   | LOCK WASHER 7/16" STAINLESS                 |
| 8                     | F13-438C12S       | 2   | HEX. HEAD 7-16-14 X 3/4" STAINLESS          |
| 9                     | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS             |
| 10                    | F02-375S          | 3   | LOCK WASHER 3/8" STAINLESS                  |
| 11                    | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS              |
| 12                    | F10-250C12S       | 10  | SOCKET CAP 1/4-20 X 3/4" STAINLESS          |
| 13                    | PR-02678          | 1   | BELT ROLLER                                 |
| 14                    | PR-02967          | 1   | S/S BRACKET                                 |
| 15                    | PR-03188-1        | 3   | RETRACTABLE CROSS SECTION                   |
| 16                    | PR-02966          | 1   | S/S BRACKET                                 |
| 17                    | PR-02677          | 1   | LOWER DRIVE AXIS                            |
| 18                    | PR-02679          | 1   | LOWER INTERIOR SIDE RETRACTABLE             |
| 19                    | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE                   |

## 13.7.1.4: Scoop front tracking system 5051 4" - 7" (KR-5051-SCOOP-04-07)

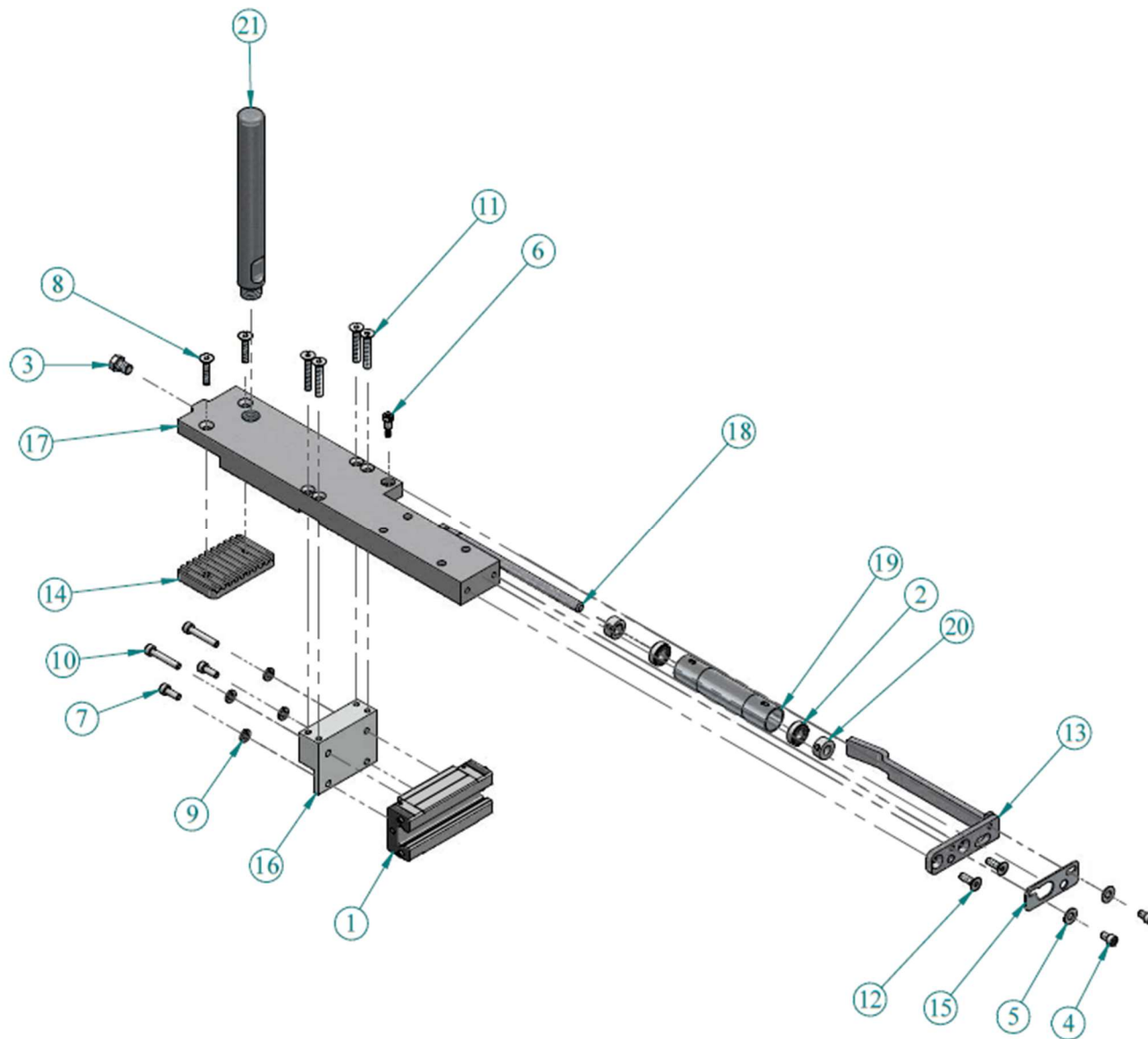


## 13.7.1.5: Scoop front tracking system part list 5051 4" - 7" (KR-5051-SCOOP-04-07)

| KR-5051-SCOOP-04-16-L |              |     |                                              |
|-----------------------|--------------|-----|----------------------------------------------|
| No.                   | Part number  | Qty | Title                                        |
| 1                     | PM-02133     | 2   | BEARING                                      |
| 2                     | F13-375C80FS | 1   | HEX HEAD 3/8-16 x 5 FULL TREAD STAINLESS     |
| 3                     | F13-375C96FS | 1   | HEX HEAD 3/8-16 x 6 FULL TREAD STAINLESS     |
| 4                     | F01-375S     | 6   | FLAT WASHER 3/8" STAINLESS                   |
| 5                     | F03-375CS    | 5   | NUT 3/8-16 STAINLESS                         |
| 6                     | F11-375C20S  | 1   | BUTTON HEAD 3/8-16 X 1 1/4" STAINLESS        |
| 7                     | F03-375CNS   | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 8                     | F13-375C28S  | 1   | HEX HEAD 3/8-16 x 1 3/4 STAINLESS            |
| 9                     | F05-312-12S  | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 10                    | F02-375S     | 1   | LOCK WASHER 3/8" STAINLESS                   |
| 11                    | F13-375C16S  | 1   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 12                    | PR-03712-1   | 1   | FRONT IDLER BELT                             |
| 13                    | PR-02951-L   | 1   | S/S LABEL LEFT                               |
| 14                    | PR-02864     | 1   | SHAFT                                        |
| 15                    | PR-02863     | 1   | SWIVEL                                       |
| 16                    | PR-02869-A   | 1   | ARM "A"                                      |
| 17                    | PR-02867     | 1   | BRACKET                                      |
| 18                    | PR-02866     | 1   | SWIVEL/SCREW                                 |
| 19                    | PR-02868     | 1   | TENSIONER CAGE                               |



## 13.7.1.6: Scoop rear tracking system 5051 4" - 7" (KR-5051-SCOOP-04-07)

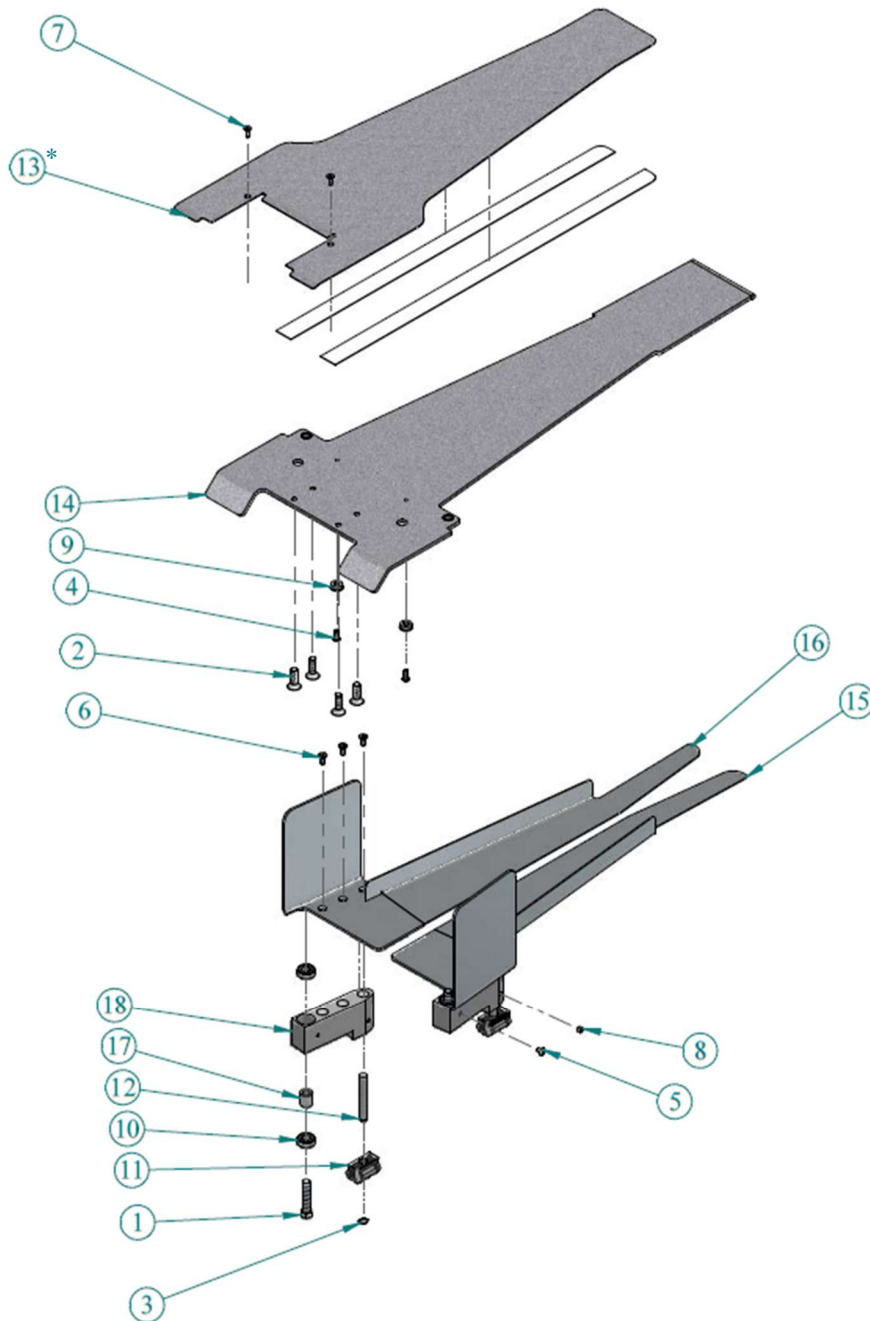


## 13.7.1.7: Scoop rear tracking system part list 5051 4" - 7" (KR-5051-SCOOP-04-07)

| KR-5051-SCOOP-04-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00095     | 2   | BEARING                                    |
| 3                     | F13-375C08S   | 1   | HEX HEAD 3/8-16 X 1/2" STAINLESS           |
| 4                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 5                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 6                     | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 7                     | F10-M6-1X16s  | 2   | SOCKET CAP M6-1X16 MM STAINLESS            |
| 8                     | F12-250C18S   | 2   | FLAT HEAD 1/4-20 X 1-1/8" STAINLESS        |
| 9                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 10                    | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 11                    | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 12                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 13                    | PR-02687-1    | 1   | ROLLER SIDE SUPPORT                        |
| 14                    | PR-02826      | 1   | TIMING BELT LINK                           |
| 15                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 16                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 17                    | PR-02686-L-02 | 1   | SUPPORT FOR LOWER RETRACT LEFT             |
| 18                    | PR-03291-2    | 1   | ROLLER SHAFT                               |
| 19                    | PR-03195-1    | 1   | IDLER BELT 1"                              |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |
| 21                    | PR-02827      | 1   | HEIGHT ADJUSTER GUIDE                      |



## 13.7.1.8: Scoop down 5051 4" - 7" (KR-5051-SCOOP-04-07)

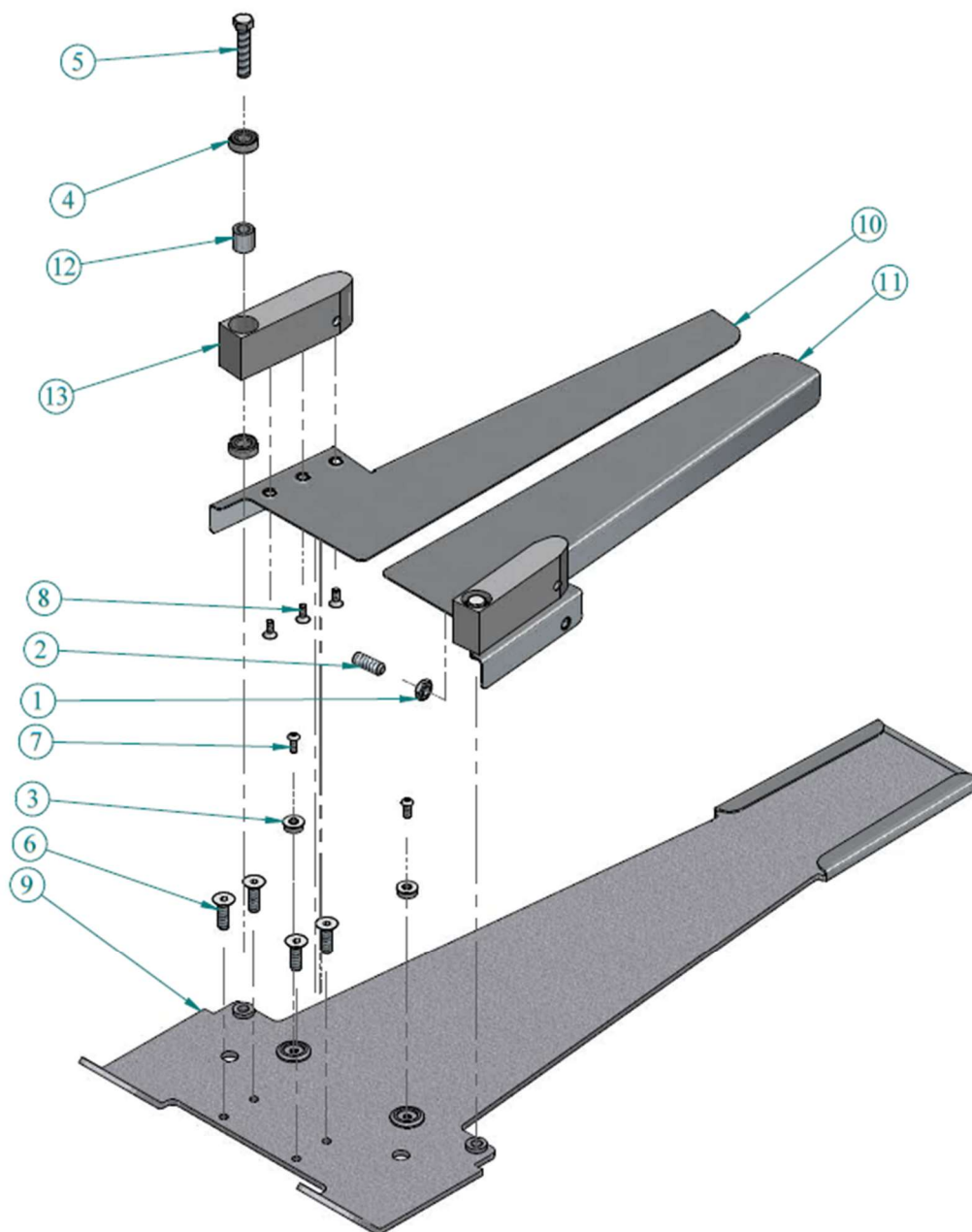


\*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)

## 13.7.1.9: Scoop down part list 5051 4" - 7" (KR-5051-SCOOP-04-07)

| KR-5051-SCOOP-04-07-L |                |     |                                                      |
|-----------------------|----------------|-----|------------------------------------------------------|
| No.                   | Part number    | Qty | Title                                                |
| 1                     | F13-375F28S    | 2   | HEX. HEAD 3/8-24 X 1 3/4" STAINLESS                  |
| 2                     | F12-312C16S    | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS                     |
| 3                     | F14-375        | 2   | EXTERNAL RETAINING RING 3/8                          |
| 4                     | F11-190F08S    | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS                   |
| 5                     | F11-190C04S    | 2   | BUTTON HEAD 10-24 X 1/4 STAINLESS                    |
| 6                     | F12-190F08S    | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS                     |
| 7                     | F12-164C08S    | 2   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 8                     | F06-250C04S    | 2   | SET SCREW 1/4-20 X 1/4" STAINLESS                    |
| 9                     | P02-00049      | 2   | BEARING                                              |
| 10                    | P02-00095      | 4   | BEARING                                              |
| 11                    | PR-10445-02    | 2   | BLOCK FOR TRACK NYLATRON                             |
| 12                    | PR-02772-01    | 2   | SHAFT FOR TRACK TO HINGE S/S                         |
| 13                    | PR-02712-02    | 1   | TRANSFERT PLATE FOR LOWER SCOOP S/S                  |
| 14                    | PR-02689-06-01 | 1   | RETRACTABLE PLATE FOR LOWER SCOOP S/S                |
| 15                    | PR-02964-06-AR | 1   | LOWER SCOOP 04-07 "A" RIGHT S/S                      |
| 16                    | PR-02964-06-AL | 1   | LOWER SCOOP 04-07 "A" LEFT S/S                       |
| 17                    | PR-00355       | 2   | HINGES SPACER S/S                                    |
| 18                    | PR-02694       | 2   | ALUMINIUM HINGE LOWER SCOOP                          |

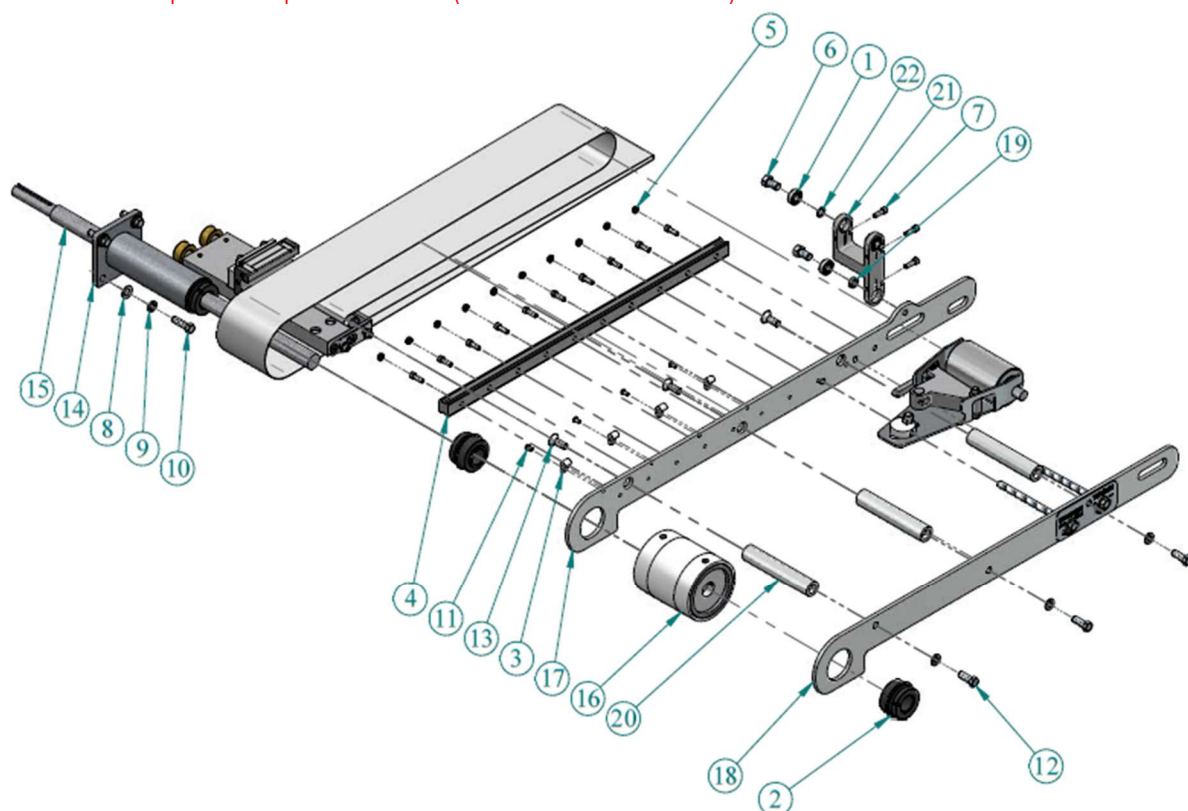
## 13.7.1.10: Scoop Up 5051 4" - 7" (KR-5051-SCOOP-04-07)



## 13.7.1.11: Scoop Up part list 5051 4" - 7" (KR-5051-SCOOP-04-07)

| KR-5051-SCOOP-04-07-L |                   |     |                                       |
|-----------------------|-------------------|-----|---------------------------------------|
| No.                   | Part number       | Qty | Title                                 |
| 1                     | F03-375CLS        | 2   | HEX NUT 3/8-16 LOW PROFILE STAINLESS  |
| 2                     | F06-375C16N       | 2   | SET SCREW 3/8-16 X 1" NYLON           |
| 3                     | P02-00049         | 2   | BEARING                               |
| 4                     | P02-00095         | 4   | BEARING                               |
| 5                     | F13-375F28S       | 2   | HEX. HEAD 3/8-24 X 1 3/4" STAINLESS   |
| 6                     | F12-312C16S       | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS      |
| 7                     | F11-190F08S       | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS    |
| 8                     | F12-190F08S       | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS      |
| 9                     | PR-02689-06-UP-01 | 1   | RETRACTABLE PLATE FOR UPPER SCOOP S/S |
| 10                    | PR-02693-06-AR-01 | 1   | UPPER SCOOP "A" RIGHT S/S             |
| 11                    | PR-02693-06-AL-01 | 1   | UPPER SCOOP "A" LEFT S/S              |
| 12                    | PR-00355          | 2   | HINGES SPACER S/S                     |
| 13                    | PR-02774          | 2   | ALUMINIUM HINGE UPPER SCOOP           |

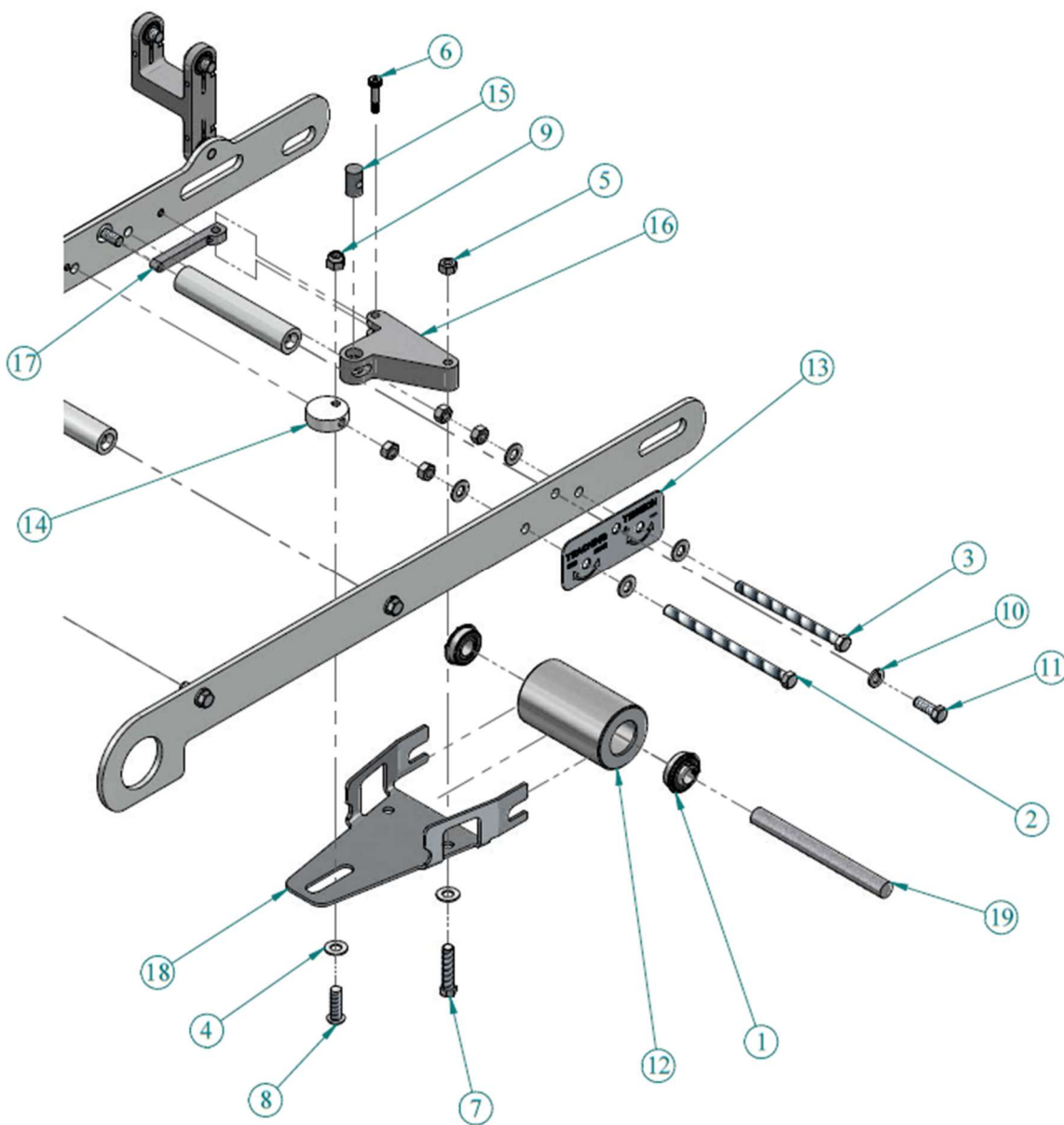
## 13.7.1.12: Scoop frame up 5051 4" - 7" (KR-5051-SCOOP-04-07)



| KR-5051-SCOOP-04-16-L |                   |     |                                       |
|-----------------------|-------------------|-----|---------------------------------------|
| No.                   | Part number       | Qty | Title                                 |
| 1                     | PM-01520          | 3   | STEEL BEARING BALL                    |
| 2                     | PM-01541          | 3   | BEARING 1"                            |
| 3                     | PE-01004          | 4   | NYLON CABLE CLIP 5/16                 |
| 4                     | PM-00190-0594-THK | 1   | LINEAR GUIDE RAIL SHS25 X 594MM (THK) |
| 5                     | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK            |
| 6                     | F13-438C12S       | 3   | HEX. HEAD 7-16-14 X 3/4" STAINLESS    |
| 7                     | F10-250C12S       | 13  | SOCKET CAP 1/4-20 X 3/4" STAINLESS    |
| 8                     | F01-375S          | 4   | FLAT WASHER 3/8" STAINLESS            |
| 9                     | F02-375S          | 7   | LOCK WASHER 3/8" STAINLESS            |
| 10                    | F13-375C20S       | 4   | HEX. HEAD 3/8-16 X 1 1/4" STAINLESS   |
| 11                    | F11-190F06S       | 4   | BUTTON HEAD 10-32 x 3/8 STAINLESS     |
| 12                    | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS        |
| 13                    | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS       |
| 14                    | PR-02764          | 1   | BLOCK BEARING                         |
| 15                    | PR-02676          | 1   | UPPER DRIVE AXIS                      |
| 16                    | PR-02678          | 1   | BELT ROLLER                           |
| 17                    | PR-02680          | 1   | INTERIOR SIDE RETRACTABLE             |
| 18                    | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE             |
| 19                    | PR-02819          | 1   | SHIM                                  |
| 20                    | PR-03188-1        | 3   | RETRACTABLE CROSS SECTION             |
| 21                    | PR-02775          | 1   | ROD END BLOCK                         |
| 22                    | PR-08238          | 2   | SHIM                                  |



## 13.7.1.13: Scoop front tracking system up 5051 4" - 7" (KR-5051-SCOOP-04-07)

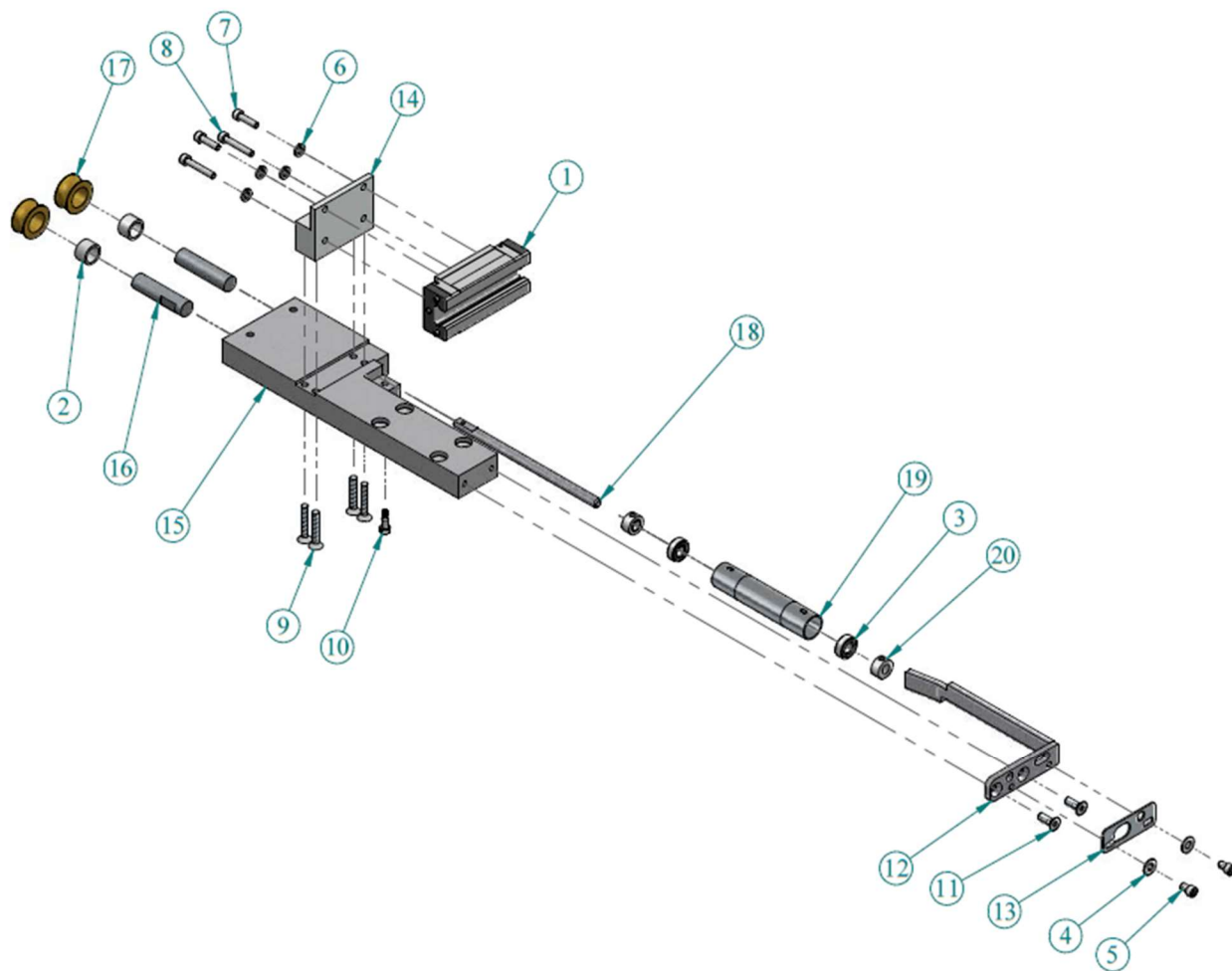




## 13.7.1.14: Scoop front frame up part list 5051 4" - 7" (KR-5051-SCOOP-04-07)

| KR-5051-SCOOP-04-16-L |              |     |                                              |
|-----------------------|--------------|-----|----------------------------------------------|
| No.                   | Part number  | Qty | Title                                        |
| 1                     | PM-02133     | 2   | BEARING                                      |
| 2                     | F13-375C96FS | 1   | HEX HEAD 3/8-16 x 6 FULL TREAD STAINLESS     |
| 3                     | F13-375C80FS | 1   | HEX HEAD 3/8-16 x 5 FULL TREAD STAINLESS     |
| 4                     | F01-375S     | 6   | FLAT WASHER 3/8" STAINLESS                   |
| 5                     | F03-375CS    | 5   | NUT 3/8-16 STAINLESS                         |
| 6                     | F05-312-12S  | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 7                     | F13-375C28S  | 1   | HEX HEAD 3/8-16 x 1 3/4 STAINLESS            |
| 8                     | F11-375C20S  | 1   | BUTTON HEAD 3/8-16 X 1 1/4" STAINLESS        |
| 9                     | F03-375CNS   | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 10                    | F02-375S     | 1   | LOCK WASHER 3/8" STAINLESS                   |
| 11                    | F13-375C16S  | 1   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 12                    | PR-03712-1   | 1   | FRONT IDLER BELT                             |
| 13                    | PR-02951-L   | 1   | S/S LABEL LEFT                               |
| 14                    | PR-02866     | 1   | SWIVEL/SCREW                                 |
| 15                    | PR-02863     | 1   | SWIVEL                                       |
| 16                    | PR-02869-B   | 1   | ARM "B"                                      |
| 17                    | PR-02867     | 1   | BRACKET                                      |
| 18                    | PR-02868     | 1   | TENSIONER CAGE                               |
| 19                    | PR-02864     | 1   | SHAFT                                        |

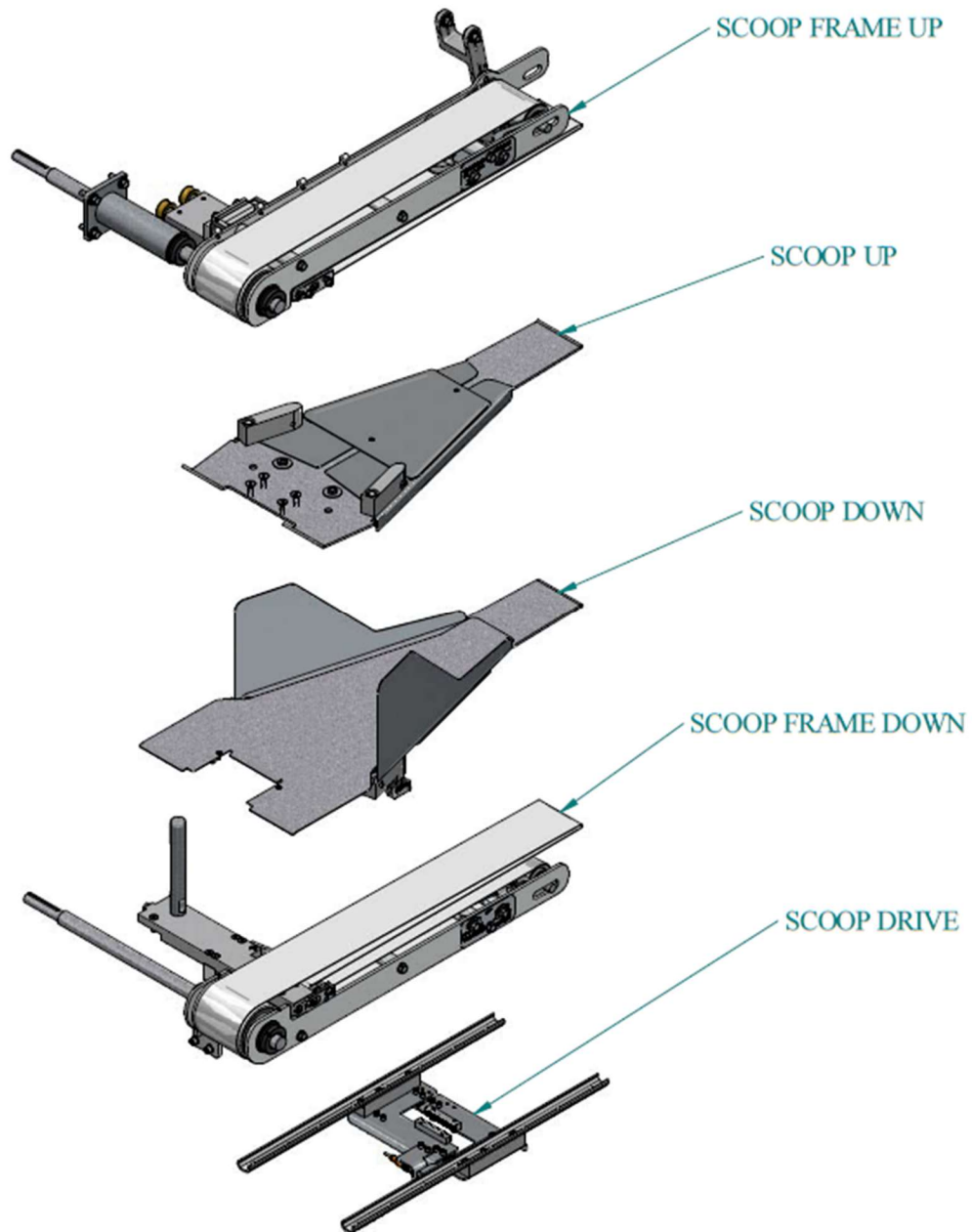
## 13.7.1.15: Scoop Rear frame up 5051 4" - 7" (KR-5051-SCOOP-04-07)



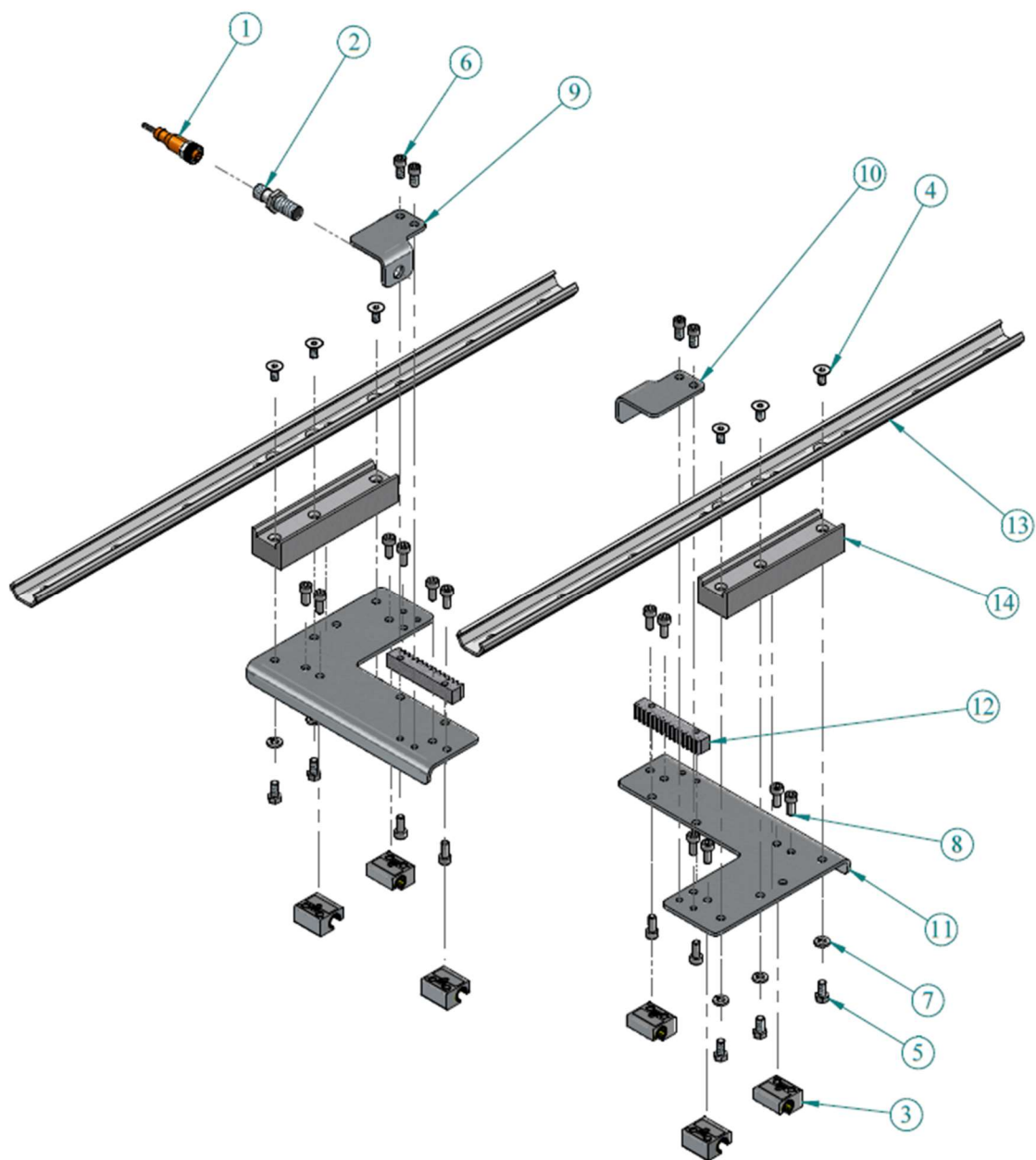
## 13.7.1.16: Scoop Rear frame up part list 5051 4" - 7" (KR-5051-SCOOP-04-07)

| KR-5051-SCOOP-04-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00199     | 2   | BEARING NEEDLE                             |
| 3                     | P02-00095     | 2   | BEARING                                    |
| 4                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 5                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 6                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 7                     | F10-M6-1X22S  | 2   | SOCKET CAP M6-1X22 STAINLESS               |
| 8                     | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 9                     | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 10                    | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 11                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 12                    | PR-02687-2    | 1   | ROLLER SIDE SUPPORT                        |
| 13                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 14                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 15                    | PR-02698-L-02 | 1   | SUPPORT TWIN LEFT                          |
| 16                    | PR-06312      | 2   | SHAFT                                      |
| 17                    | PR-06311-1    | 2   | WHEEL                                      |
| 18                    | PR-03291-2    | 1   | ROLLER SHAFT                               |
| 19                    | PR-03195-1    | 1   | IDLER BELT 1"                              |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |

## 13.7.2: Scoop 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



## 13.7.2.1: Scoop drive 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

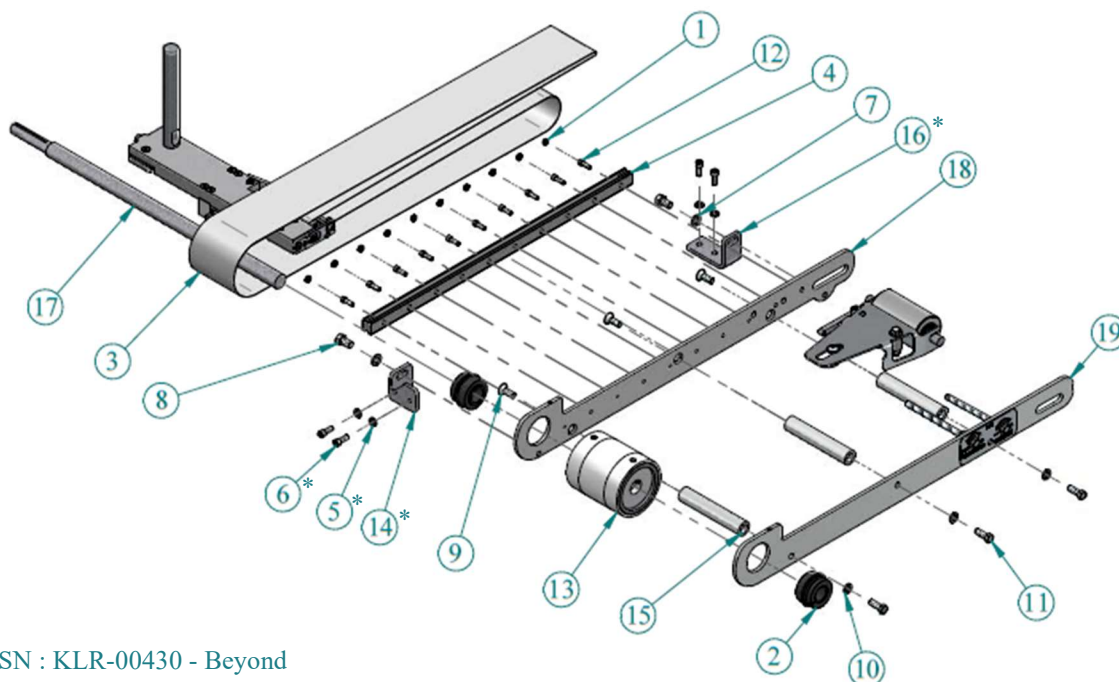


## 13.7.2.2: Scoop drive part list 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

| KR-5051-SCOOP-04-12-L |                 |     |                                    |
|-----------------------|-----------------|-----|------------------------------------|
| No.                   | Part number     | Qty | Title                              |
| 1                     | PE-00507-10     | 1   | PHOTOCELL CABLE 10M                |
| 2                     | PE-00141-NO-PNP | 1   | PROX SWITCH                        |
| 3                     | PM-00197        | 6   | IGUS RAIL CARRIAGE 10 MM           |
| 4                     | F12-250C08S     | 6   | FLAT HEAD 1/4-20 X 1/2" STAINLESS  |
| 5                     | F13-250C08S     | 6   | HEX HEAD 1/4-20 X 1/2" STAINLESS   |
| 6                     | F10-250C08S     | 4   | SOCKET CAP 1/4-20 X 1/2" STAINLESS |
| 7                     | F02-250S        | 6   | LOCK WASHER #14 STAINLESS          |
| 8                     | F10-M6-1X14S    | 16  | SOCKET CAP M6-1X14 STAINLESS       |
| 9                     | PR-02886-A      | 1   | S/S BRACKET SENSOR A               |
| 10                    | PR-02886-B      | 1   | S/S BRACKET SENSOR B               |
| 11                    | PR-02713-03     | 2   | S/S GUDE PLATE 04-12               |
| 12                    | PR-02715        | 2   | GEAR RACK STEEL FOR OPEN SCOOP     |
| 13                    | PR-02753-01     | 2   | RAIL FOR LOWER SCOOP S/S           |
| 14                    | PR-02754-02     | 2   | RAIL SUPPORT ALUMINIUM             |



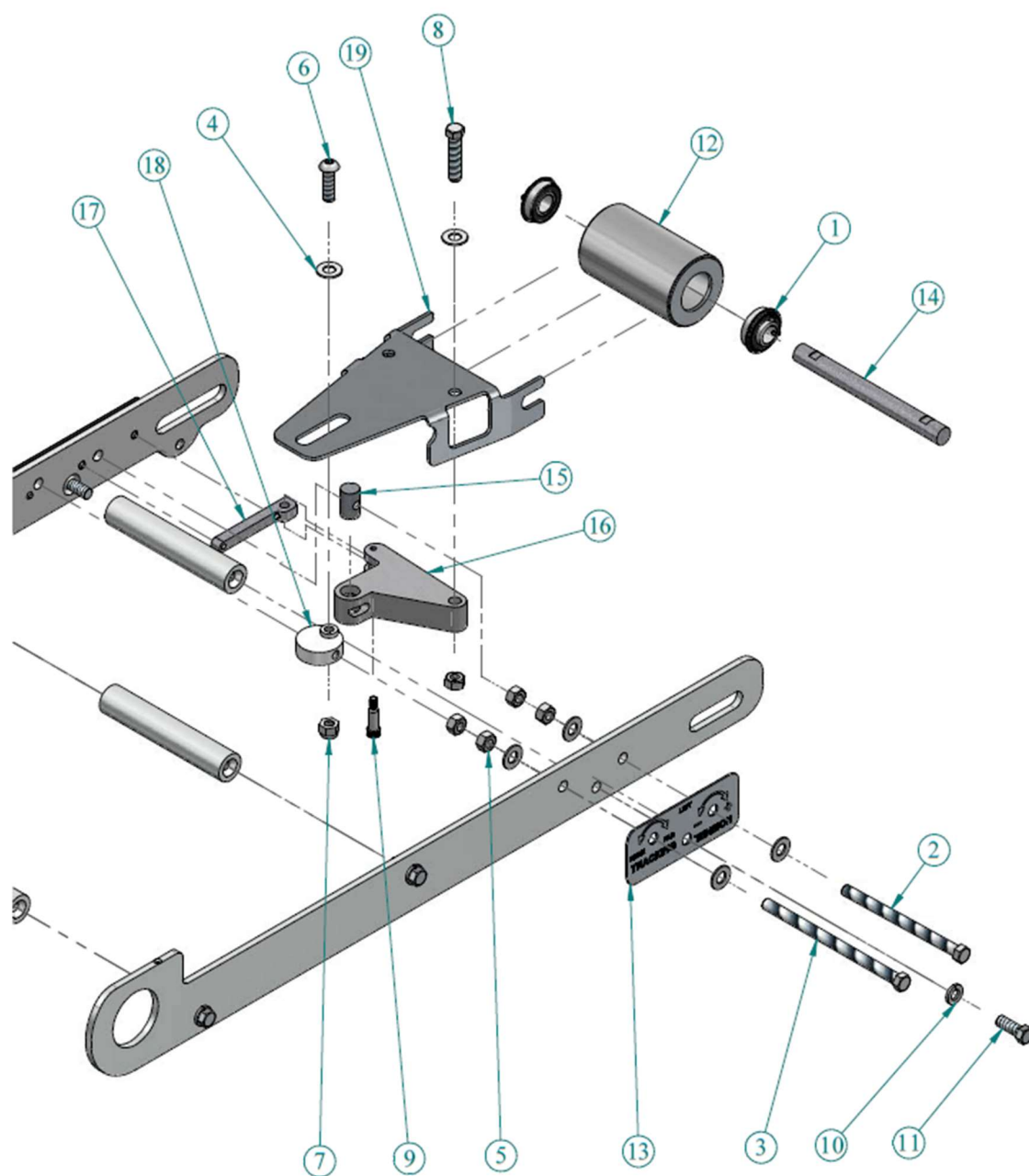
## 13.7.2.3: Scoop down frame 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



\*SN : KLR-00430 - Beyond

| KR-5051-SCOOP-04-16-L |                   |     |                                             |
|-----------------------|-------------------|-----|---------------------------------------------|
| No.                   | Part number       | Qty | Title                                       |
| 1                     | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK                  |
| 2                     | PM-01541          | 2   | BEARING 1"                                  |
| 3                     | PB-00519-4-WH     | 1   | RETRACTABLE BELT FOR KLR.5051 4" x 116 1/2" |
| 4                     | PM-00190-0594-THK | 1   | LINEAR GUIDE RAIL SHS25 X 594MM (THK)       |
| 5                     | F02-312S          | 4   | LOCK WASHER 5/16" STAINLESS                 |
| 6                     | F10-312C12S       | 4   | SOCKET CAP 5/16-18 X 3/4" STAINLESS         |
| 7                     | F02-438S          | 2   | LOCK WASHER 7/16" STAINLESS                 |
| 8                     | F13-438C12S       | 2   | HEX. HEAD 7-16-14 X 3/4" STAINLESS          |
| 9                     | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS             |
| 10                    | F02-375S          | 3   | LOCK WASHER 3/8" STAINLESS                  |
| 11                    | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS              |
| 12                    | F10-250C12S       | 10  | SOCKET CAP 1/4-20 X 3/4" STAINLESS          |
| 13                    | PR-02678          | 1   | BELT ROLLER                                 |
| 14                    | PR-02967          | 1   | S/S BRACKET                                 |
| 15                    | PR-03188-1        | 3   | RETRACTABLE CROSS SECTION                   |
| 16                    | PR-02966          | 1   | S/S BRACKET                                 |
| 17                    | PR-02677          | 1   | LOWER DRIVE AXIS                            |
| 18                    | PR-02679          | 1   | LOWER INTERIOR SIDE RETRACTABLE             |
| 19                    | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE                   |

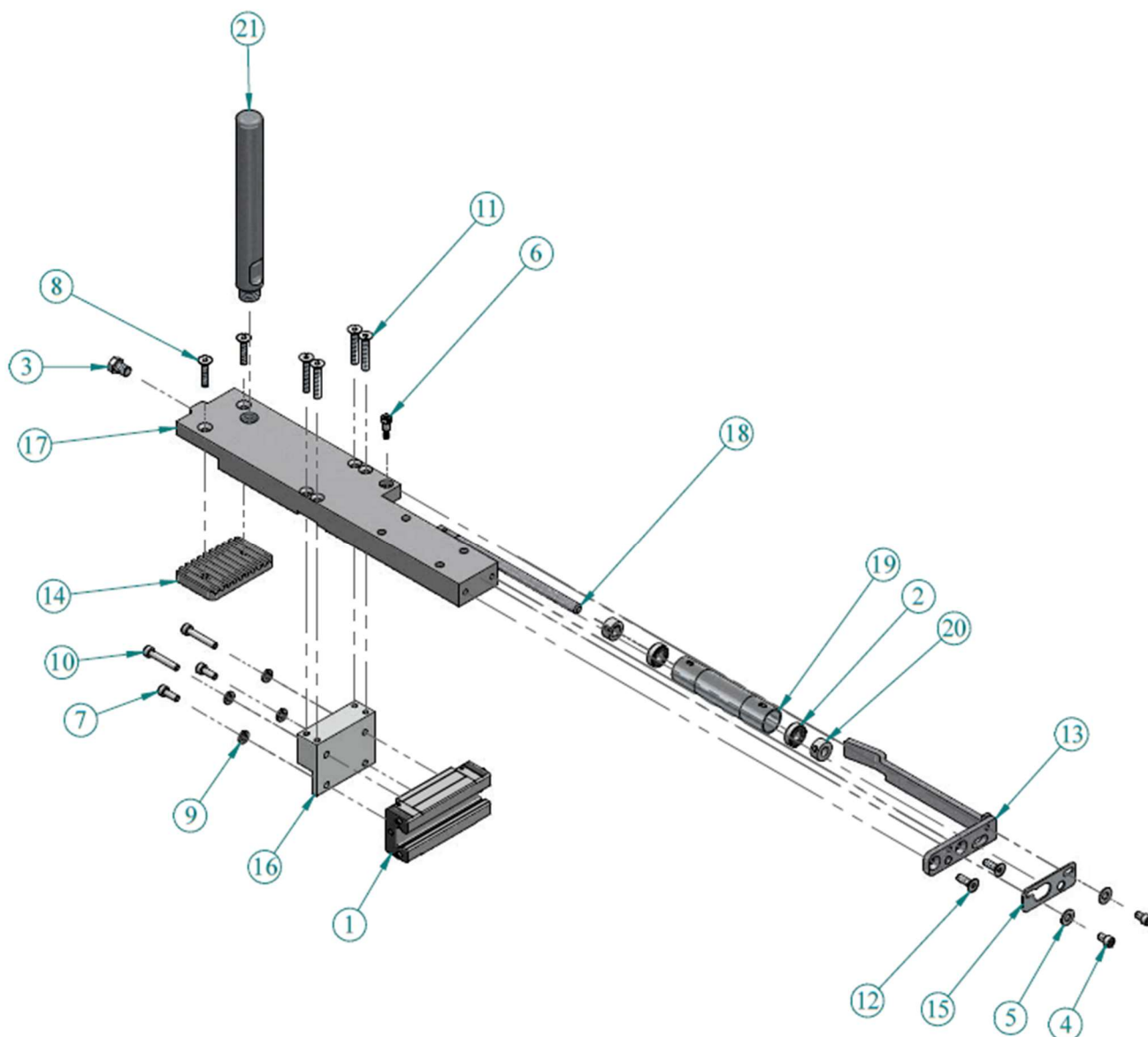
13.7.2.4: Scoop front tracking system 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



13.7.2.5: Scoop front tracking system part list 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

| KR-5051-SCOOP-04-16-L |              |     |                                              |
|-----------------------|--------------|-----|----------------------------------------------|
| No.                   | Part number  | Qty | Title                                        |
| 1                     | PM-02133     | 2   | BEARING                                      |
| 2                     | F13-375C80FS | 1   | HEX HEAD 3/8-16 x 5 FULL TREAD STAINLESS     |
| 3                     | F13-375C96FS | 1   | HEX HEAD 3/8-16 x 6 FULL TREAD STAINLESS     |
| 4                     | F01-375S     | 6   | FLAT WASHER 3/8" STAINLESS                   |
| 5                     | F03-375CS    | 5   | NUT 3/8-16 STAINLESS                         |
| 6                     | F11-375C20S  | 1   | BUTTON HEAD 3/8-16 X 1 1/4" STAINLESS        |
| 7                     | F03-375CNS   | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 8                     | F13-375C28S  | 1   | HEX HEAD 3/8-16 x 1 3/4 STAINLESS            |
| 9                     | F05-312-12S  | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 10                    | F02-375S     | 1   | LOCK WASHER 3/8" STAINLESS                   |
| 11                    | F13-375C16S  | 1   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 12                    | PR-03712-1   | 1   | FRONT IDLER BELT                             |
| 13                    | PR-02951-L   | 1   | S/S LABEL LEFT                               |
| 14                    | PR-02864     | 1   | SHAFT                                        |
| 15                    | PR-02863     | 1   | SWIVEL                                       |
| 16                    | PR-02869-A   | 1   | ARM "A"                                      |
| 17                    | PR-02867     | 1   | BRACKET                                      |
| 18                    | PR-02866     | 1   | SWIVEL/SCREW                                 |
| 19                    | PR-02868     | 1   | TENSIONER CAGE                               |

13.7.2.6: Scoop rear tracking system 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



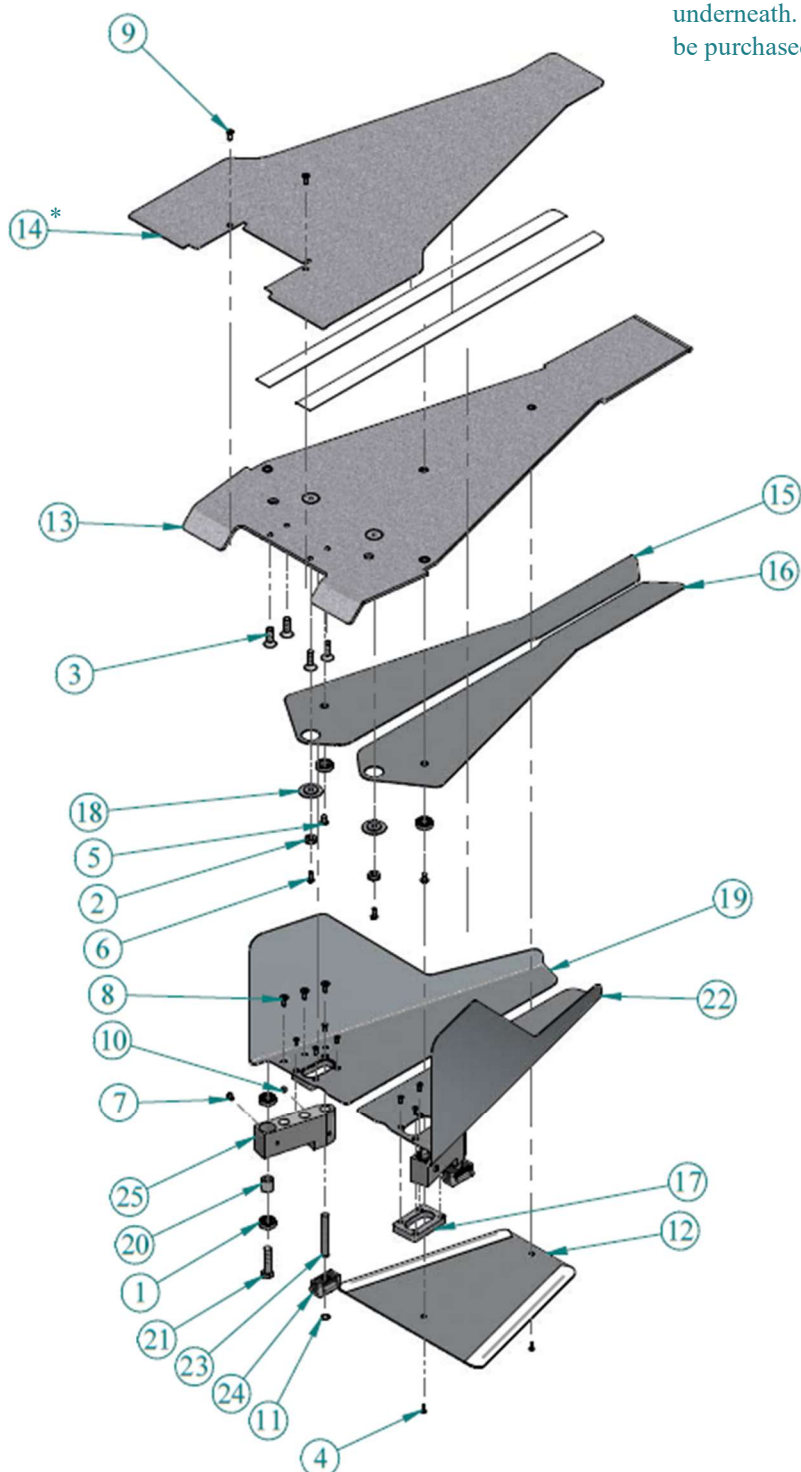
13.7.2.7: Scoop rear tracking system part list 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

| KR-5051-SCOOP-04-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00095     | 2   | BEARING                                    |
| 3                     | F13-375C08S   | 1   | HEX HEAD 3/8-16 X 1/2" STAINLESS           |
| 4                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 5                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 6                     | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 7                     | F10-M6-1X16s  | 2   | SOCKET CAP M6-1X16 MM STAINLESS            |
| 8                     | F12-250C18S   | 2   | FLAT HEAD 1/4-20 X 1-1/8" STAINLESS        |
| 9                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 10                    | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 11                    | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 12                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 13                    | PR-02687-1    | 1   | ROLLER SIDE SUPPORT                        |
| 14                    | PR-02826      | 1   | TIMING BELT LINK                           |
| 15                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 16                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 17                    | PR-02686-L-02 | 1   | SUPPORT FOR LOWER RETRACT LEFT             |
| 18                    | PR-03291-2    | 1   | ROLLER SHAFT                               |
| 19                    | PR-03195-1    | 1   | IDLER BELT 1"                              |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |
| 21                    | PR-02827      | 1   | HEIGHT ADJUSTER GUIDE                      |



## 13.7.2.8: Scoop down 5051 4" - 12" (KR-5051-SCOOP-04-12)

\*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)



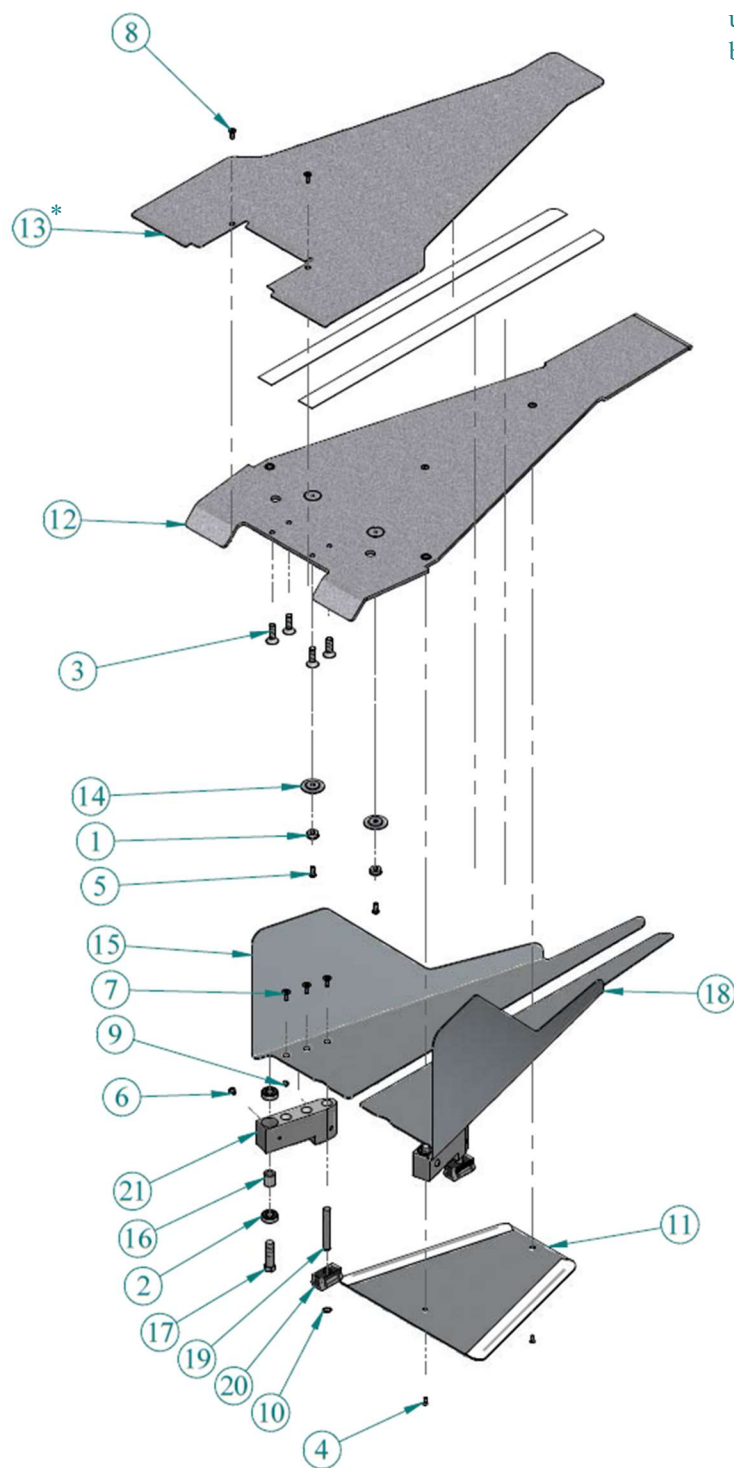


## 13.7.2.9: Scoop down part 5051 list 4" - 12" (KR-5051-SCOOP-04-12)

| KR-5051-SCOOP-04-12-L |               |     |                                                      |
|-----------------------|---------------|-----|------------------------------------------------------|
| No.                   | Part number   | Qty | Title                                                |
| 1                     | P02-00095     | 6   | BEARING                                              |
| 2                     | P02-00049     | 2   | BEARING                                              |
| 3                     | F12-312C16S   | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS                     |
| 4                     | F12-138C06S   | 10  | FLAT HEAD 6-32 X 3/8" STAINLESS                      |
| 5                     | F11-250C06S   | 2   | BUTTON HEAD 1/4-20 X 3/8" STAINLESS                  |
| 6                     | F11-190F08S   | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS                   |
| 7                     | F11-190C04S   | 2   | BUTTON HEAD 10-24 X 1/4 STAINLESS                    |
| 8                     | F12-190F08S   | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS                     |
| 9                     | F12-164C08S   | 2   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 10                    | F06-250C04S   | 2   | SET SCREW 1/4-20 X 1/4" STAINLESS                    |
| 11                    | F14-375       | 2   | EXTERNAL RETAINING RING 3/8                          |
| 12                    | PR-02918-01   | 1   | S/S BELT BRACKET                                     |
| 13                    | PR-02689-13   | 1   | S/S RETRACTABLE PLATE 04-07 ASSEMBLY                 |
| 14                    | PR-02712-03   | 1   | S/S TRANSFERT PLATE ASS 04-12                        |
| 15                    | PR-02884-A-02 | 1   | S/S ANTENNA ASSEMBLY "A"                             |
| 16                    | PR-02884-B-02 | 1   | S/S ANTENNA ASSEMBLY "B"                             |
| 17                    | PR-02885-02   | 2   | S/S GUIDE SCOOP 04-12                                |
| 18                    | PR-02690-02   | 2   | S/S WASHER                                           |
| 19                    | PR-02693-A-02 | 1   | S/S LOWER SCOOP "A" 04-12                            |
| 20                    | PR-00355      | 2   | HINGES SPACER S/S                                    |
| 21                    | PR-00352-1    | 2   | SCREW HINGE 3/8-24 S/S                               |
| 22                    | PR-02693-B-02 | 1   | S/S LOWER SCOOP "B" 04-12                            |
| 23                    | PR-02772-01   | 2   | SHAFT FOR TRACK TO HINGE S/S                         |
| 24                    | PR-10445-02   | 2   | BLOCK FOR TRACK NYLATRON                             |
| 25                    | PR-02694      | 2   | ALUMINIUM HINGE LOWER SCOOP                          |

## 13.7.2.10: Scoop down FIX 5051 4" - 12" (KR-5051-SCOOP-04-12-FIX)

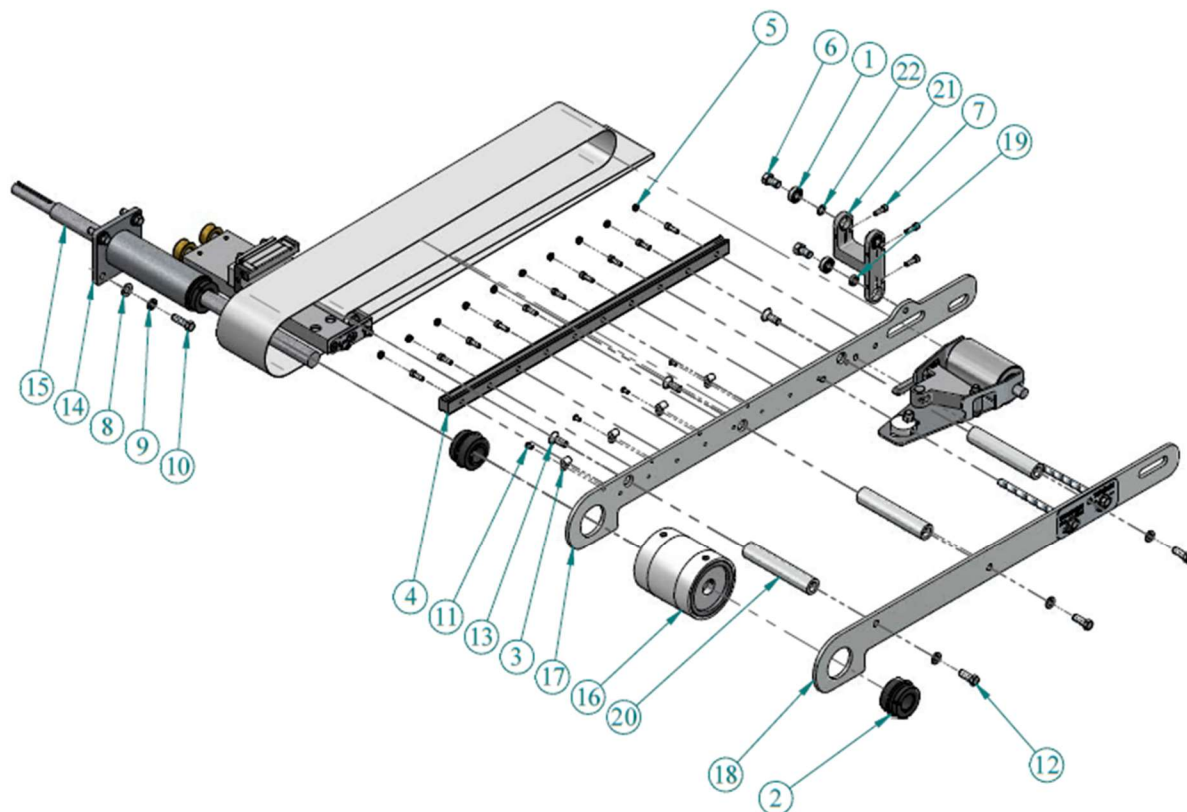
\*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)



## 13.7.2.11: Scoop down FIX 5051 4" - 12" (KR-5051-SCOOP-04-12-FIX)

| KR-5051-SCOOP-04-12-L-FIX |               |     |                                                      |
|---------------------------|---------------|-----|------------------------------------------------------|
| No.                       | Part number   | Qty | Title                                                |
| 1                         | P02-00049     | 2   | BEARING                                              |
| 2                         | P02-00095     | 4   | BEARING                                              |
| 3                         | F12-312C16S   | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS                     |
| 4                         | F12-138C06S   | 2   | FLAT HEAD 6-32 X 3/8" STAINLESS                      |
| 5                         | F11-190F08S   | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS                   |
| 6                         | F11-190C04S   | 2   | BUTTON HEAD 10-24 X 1/4" STAINLESS                   |
| 7                         | F12-190F08S   | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS                     |
| 8                         | F12-164C08S   | 2   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 9                         | F06-250C04S   | 2   | SET SCREW 1/4-20 X 1/4" STAINLESS                    |
| 10                        | F14-375       | 2   | EXTERNAL RETAINING RING 3/8                          |
| 11                        | PR-02918-01   | 1   | S/S BELT BRACKET                                     |
| 12                        | PR-02689-13   | 1   | S/S RETRACTABLE PLATE 04-07 ASSEMBLY                 |
| 13                        | PR-02712-03   | 1   | S/S TRANSFERT PLATE ASS 04-12                        |
| 14                        | PR-02690-02   | 2   | S/S WASHER                                           |
| 15                        | PR-02693-A-03 | 1   | S/S LOWER SCOOP "A" 04-12 ANT FIX                    |
| 16                        | PR-00355      | 2   | HINGES SPACER S/S                                    |
| 17                        | PR-00352-1    | 2   | SCREW HINGE 3/8-24 S/S                               |
| 18                        | PR-02693-B-03 | 1   | S/S LOWER SCOOP "B" 04-12 ANT FIX                    |
| 19                        | PR-02772-01   | 2   | SHAFT FOR TRACK TO HINGE S/S                         |
| 20                        | PR-10445-02   | 2   | BLOCK FOR TRACK NYLATRON                             |
| 21                        | PR-02694      | 2   | ALUMINIUM HINGE LOWER SCOOP                          |

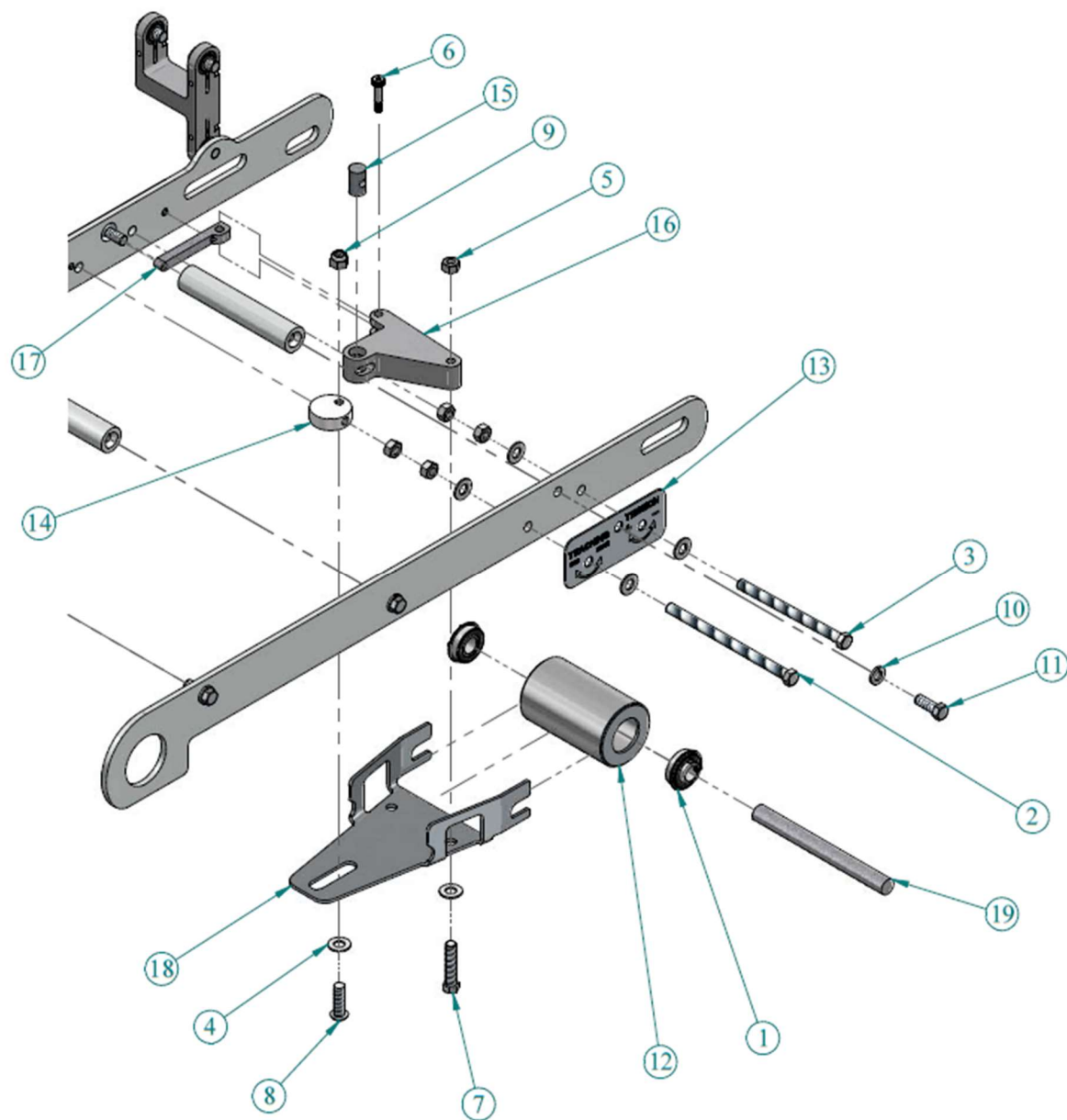
## 13.7.2.12: Scoop frame up 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



| KR-5051-SCOOP-04-16-L |                   |     |                                       |
|-----------------------|-------------------|-----|---------------------------------------|
| No.                   | Part number       | Qty | Title                                 |
| 1                     | PM-01520          | 3   | STEEL BEARING BALL                    |
| 2                     | PM-01541          | 3   | BEARING 1"                            |
| 3                     | PE-01004          | 4   | NYLON CABLE CLIP 5/16                 |
| 4                     | PM-00190-0594-THK | 1   | LINEAR GUIDE RAIL SHS25 X 594MM (THK) |
| 5                     | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK            |
| 6                     | F13-438C12S       | 3   | HEX. HEAD 7-16-14 X 3/4" STAINLESS    |
| 7                     | F10-250C12S       | 13  | SOCKET CAP 1/4-20 X 3/4" STAINLESS    |
| 8                     | F01-375S          | 4   | FLAT WASHER 3/8" STAINLESS            |
| 9                     | F02-375S          | 7   | LOCK WASHER 3/8" STAINLESS            |
| 10                    | F13-375C20S       | 4   | HEX. HEAD 3/8-16 X 1 1/4" STAINLESS   |
| 11                    | F11-190F06S       | 4   | BUTTON HEAD 10-32 x 3/8 STAINLESS     |
| 12                    | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS        |
| 13                    | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS       |
| 14                    | PR-02764          | 1   | BLOCK BEARING                         |
| 15                    | PR-02676          | 1   | UPPER DRIVE AXIS                      |
| 16                    | PR-02678          | 1   | BELT ROLLER                           |
| 17                    | PR-02680          | 1   | INTERIOR SIDE RETRACTABLE             |
| 18                    | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE             |
| 19                    | PR-02819          | 1   | SHIM                                  |
| 20                    | PR-03188-1        | 3   | RETRACTABLE CROSS SECTION             |
| 21                    | PR-02775          | 1   | ROD END BLOCK                         |
| 22                    | PR-08238          | 2   | SHIM                                  |



13.7.2.13: Scoop front tracking system up 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

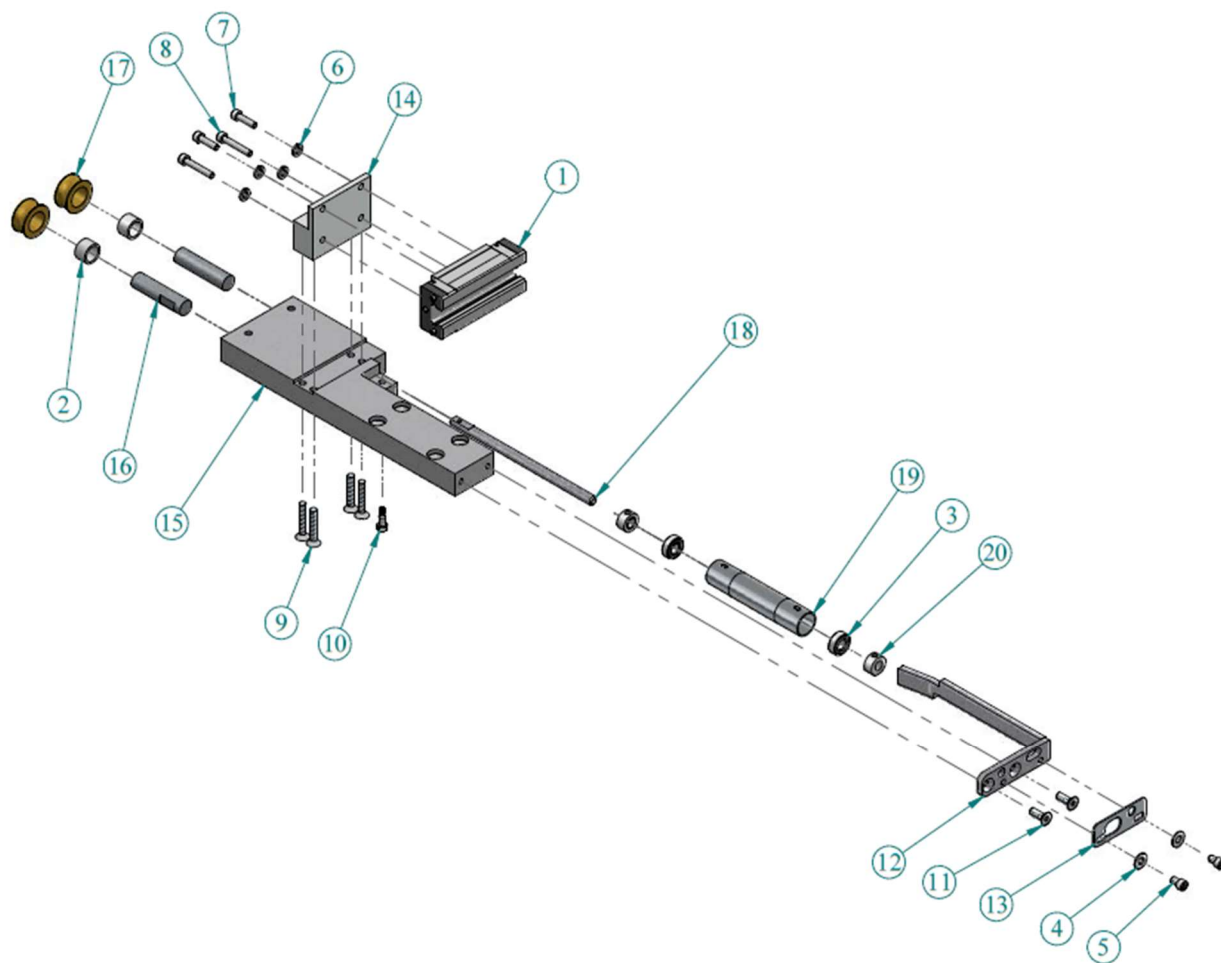


13.7.2.14: Scoop front tracking system up part list 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

| KR-5051-SCOOP-04-16-L |              |     |                                              |
|-----------------------|--------------|-----|----------------------------------------------|
| No.                   | Part number  | Qty | Title                                        |
| 1                     | PM-02133     | 2   | BEARING                                      |
| 2                     | F13-375C96FS | 1   | HEX HEAD 3/8-16 x 6 FULL TREAD STAINLESS     |
| 3                     | F13-375C80FS | 1   | HEX HEAD 3/8-16 x 5 FULL TREAD STAINLESS     |
| 4                     | F01-375S     | 6   | FLAT WASHER 3/8" STAINLESS                   |
| 5                     | F03-375CS    | 5   | NUT 3/8-16 STAINLESS                         |
| 6                     | F05-312-12S  | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 7                     | F13-375C28S  | 1   | HEX HEAD 3/8-16 x 1 3/4 STAINLESS            |
| 8                     | F11-375C20S  | 1   | BUTTON HEAD 3/8-16 X 1 1/4" STAINLESS        |
| 9                     | F03-375CNS   | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 10                    | F02-375S     | 1   | LOCK WASHER 3/8" STAINLESS                   |
| 11                    | F13-375C16S  | 1   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 12                    | PR-03712-1   | 1   | FRONT IDLER BELT                             |
| 13                    | PR-02951-L   | 1   | S/S LABEL LEFT                               |
| 14                    | PR-02866     | 1   | SWIVEL/SCREW                                 |
| 15                    | PR-02863     | 1   | SWIVEL                                       |
| 16                    | PR-02869-B   | 1   | ARM "B"                                      |
| 17                    | PR-02867     | 1   | BRACKET                                      |
| 18                    | PR-02868     | 1   | TENSIONER CAGE                               |
| 19                    | PR-02864     | 1   | SHAFT                                        |



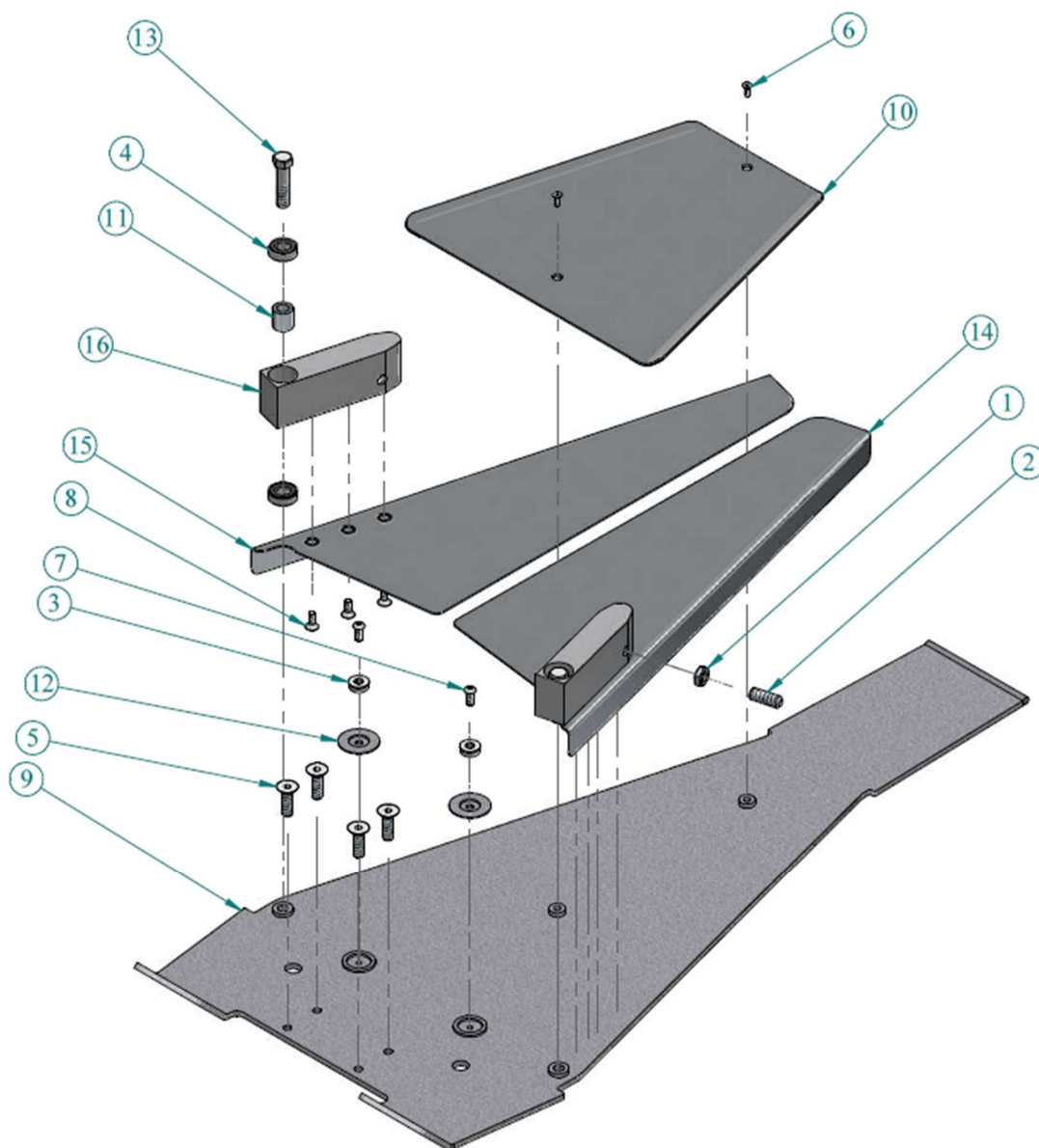
13.7.2.15: Scoop rear tracking system up 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



13.7.2.16: Scoop rear tracking system up part list 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

| KR-5051-SCOOP-04-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00199     | 2   | BEARING NEEDLE                             |
| 3                     | P02-00095     | 2   | BEARING                                    |
| 4                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 5                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 6                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 7                     | F10-M6-1X22S  | 2   | SOCKET CAP M6-1X22 STAINLESS               |
| 8                     | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 9                     | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 10                    | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 11                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 12                    | PR-02687-2    | 1   | ROLLER SIDE SUPPORT                        |
| 13                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 14                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 15                    | PR-02698-L-02 | 1   | SUPPORT TWIN LEFT                          |
| 16                    | PR-06312      | 2   | SHAFT                                      |
| 17                    | PR-06311-1    | 2   | WHEEL                                      |
| 18                    | PR-03291-2    | 1   | ROLLER SHAFT                               |
| 19                    | PR-03195-1    | 1   | IDLER BELT 1"                              |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |

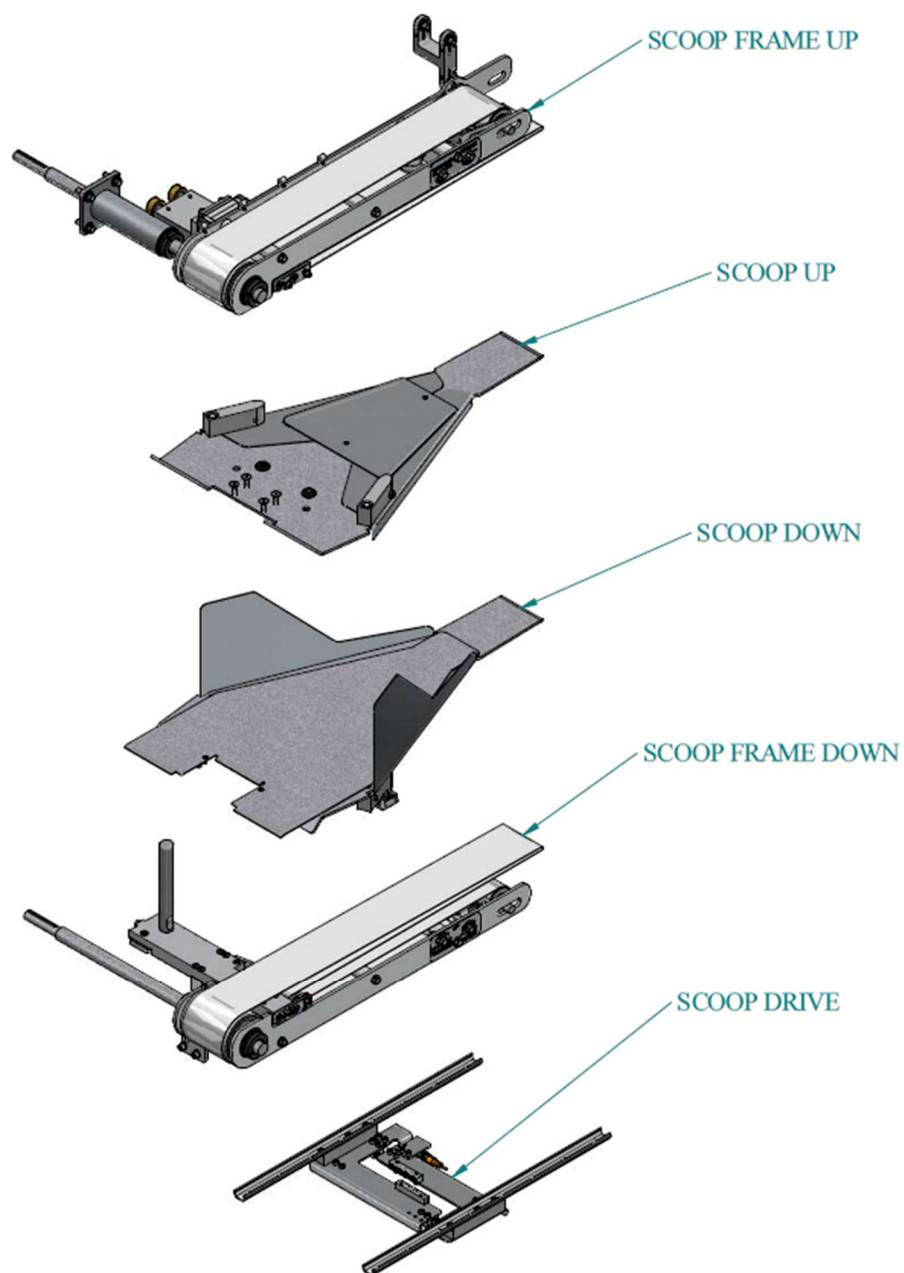
## 13.7.2.17: Scoop up 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



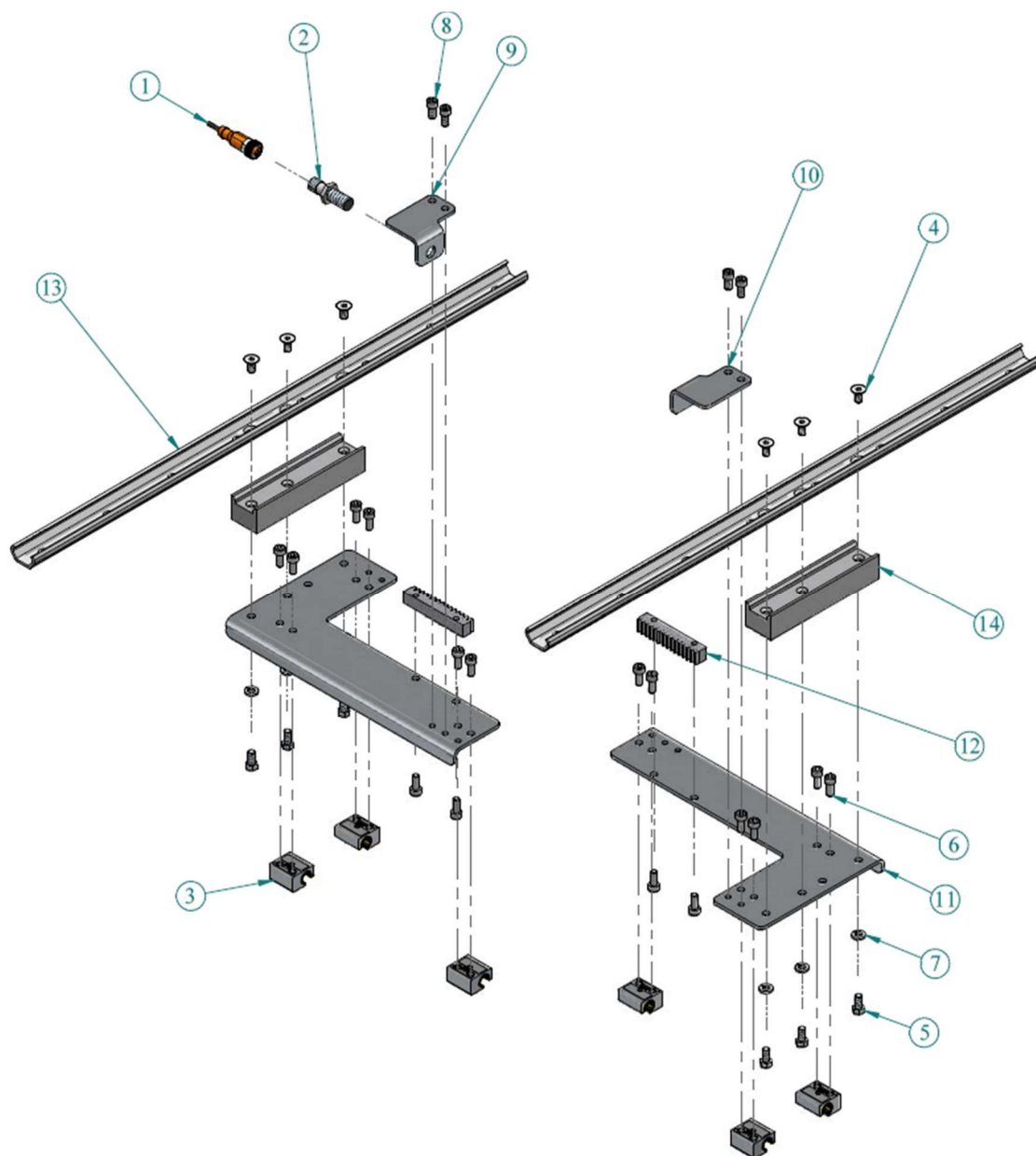
## 13.7.2.18: Scoop up part list 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

| KR-5051-SCOOP-04-12-L |               |     |                                      |
|-----------------------|---------------|-----|--------------------------------------|
| No.                   | Part number   | Qty | Title                                |
| 1                     | F03-375CLS    | 2   | HEX NUT 3/8-16 LOW PROFILE STAINLESS |
| 2                     | F06-375C16N   | 2   | SET SCREW 3/8-16 X 1" NYLON          |
| 3                     | P02-00049     | 2   | BEARING                              |
| 4                     | P02-00095     | 4   | BEARING                              |
| 5                     | F12-312C16S   | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS     |
| 6                     | F12-138C06S   | 2   | FLAT HEAD 6-32 X 3/8" STAINLESS      |
| 7                     | F11-190F08S   | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS   |
| 8                     | F12-190F08S   | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS     |
| 9                     | PR-02689-13   | 1   | S/S RETRACTABLE PLATE 04-07 ASSEMBLY |
| 10                    | PR-02918-01   | 1   | S/S BELT BRACKET                     |
| 11                    | PR-00355      | 2   | HINGES SPACER S/S                    |
| 12                    | PR-02690-02   | 2   | S/S WASHER                           |
| 13                    | PR-00352-1    | 2   | SCREW HINGE 3/8-24 S/S               |
| 14                    | PR-02700-A-02 | 1   | S/S 04-12 SCOOP "A"                  |
| 15                    | PR-02700-B-02 | 1   | S/S SCOOP "B"                        |
| 16                    | PR-02774      | 2   | ALUMINIUM HINGE UPPER SCOOP          |

## 13.7.4: Scoop 5051 4" - 16" (KR-5051-SCOOP-04-16)



## 13.7.4.1: Scoop drive 5051 4" - 16" (KR-5051-SCOOP-04-16)

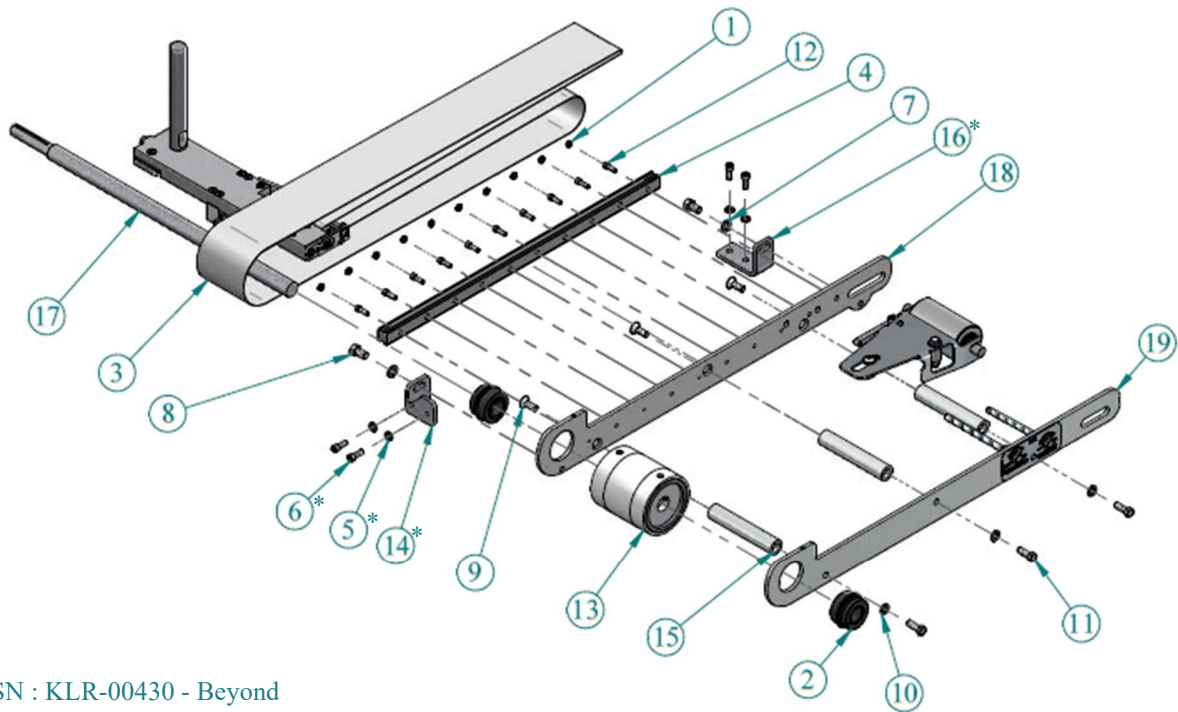




## 13.7.4.2: Scoop drive part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

| KR-5051-SCOOP-04-16-L |                 |     |                                    |
|-----------------------|-----------------|-----|------------------------------------|
| No.                   | Part number     | Qty | Title                              |
| 1                     | PE-00507-10     | 1   | PHOTOCELL CABLE 10M                |
| 2                     | PE-00141-NO-PNP | 1   | PROX SWITCH                        |
| 3                     | PM-00197        | 6   | IGUS RAIL CARRIAGE 10 MM           |
| 4                     | F12-250C08S     | 6   | FLAT HEAD 1/4-20 X 1/2" STAINLESS  |
| 5                     | F13-250C08S     | 6   | HEX HEAD 1/4-20 X 1/2" STAINLESS   |
| 6                     | F10-M6-1X14S    | 16  | SOCKET CAP M6-1X14 STAINLESS       |
| 7                     | F02-250S        | 6   | LOCK WASHER #14 STAINLESS          |
| 8                     | F10-250C08S     | 4   | SOCKET CAP 1/4-20 X 1/2" STAINLESS |
| 9                     | PR-02886-A      | 1   | S/S BRACKET SENSOR A               |
| 10                    | PR-02886-B      | 1   | S/S BRACKET SENSOR B               |
| 11                    | PR-02713-04     | 2   | S/S GUDE PLATE 04-16               |
| 12                    | PR-02715        | 2   | GEAR RACK STEEL FOR OPEN SCOOP     |
| 13                    | PR-02753-01     | 2   | RAIL FOR LOWER SCOOP S/S           |
| 14                    | PR-02754-02     | 2   | RAIL SUPPORT ALUMINIUM             |

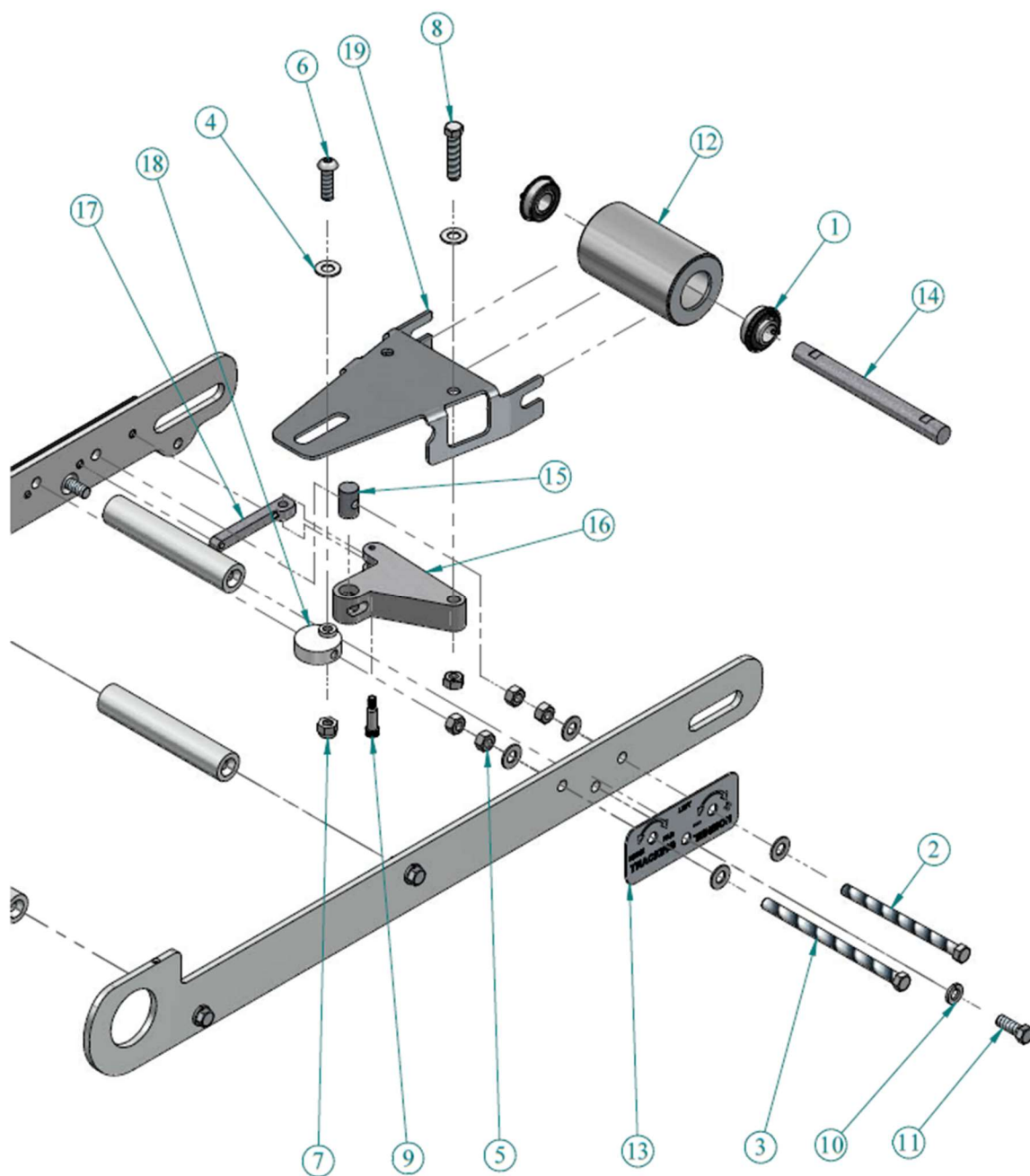
## 13.7.4.3: Scoop down frame 5051 4" - 16" (KR-5051-SCOOP-04-16)



\*SN : KLR-00430 - Beyond

| KR-5051-SCOOP-04-16-L |                   |     |                                             |
|-----------------------|-------------------|-----|---------------------------------------------|
| No.                   | Part number       | Qty | Title                                       |
| 1                     | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK                  |
| 2                     | PM-01541          | 2   | BEARING 1"                                  |
| 3                     | PB-00519-4-WH     | 1   | RETRACTABLE BELT FOR KLR.5051 4" x 116 1/2" |
| 4                     | PM-00190-0594-THK | 1   | LINEAR GUIDE RAIL SHS25 X 594MM (THK)       |
| 5                     | F02-312S          | 4   | LOCK WASHER 5/16" STAINLESS                 |
| 6                     | F10-312C12S       | 4   | SOCKET CAP 5/16-18 X 3/4" STAINLESS         |
| 7                     | F02-438S          | 2   | LOCK WASHER 7/16" STAINLESS                 |
| 8                     | F13-438C12S       | 2   | HEX. HEAD 7-16-14 X 3/4" STAINLESS          |
| 9                     | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS             |
| 10                    | F02-375S          | 3   | LOCK WASHER 3/8" STAINLESS                  |
| 11                    | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS              |
| 12                    | F10-250C12S       | 10  | SOCKET CAP 1/4-20 X 3/4" STAINLESS          |
| 13                    | PR-02678          | 1   | BELT ROLLER                                 |
| 14                    | PR-02967          | 1   | S/S BRACKET                                 |
| 15                    | PR-03188-1        | 3   | RETRACTABLE CROSS SECTION                   |
| 16                    | PR-02966          | 1   | S/S BRACKET                                 |
| 17                    | PR-02677          | 1   | LOWER DRIVE AXIS                            |
| 18                    | PR-02679          | 1   | LOWER INTERIOR SIDE RETRACTABLE             |
| 19                    | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE                   |

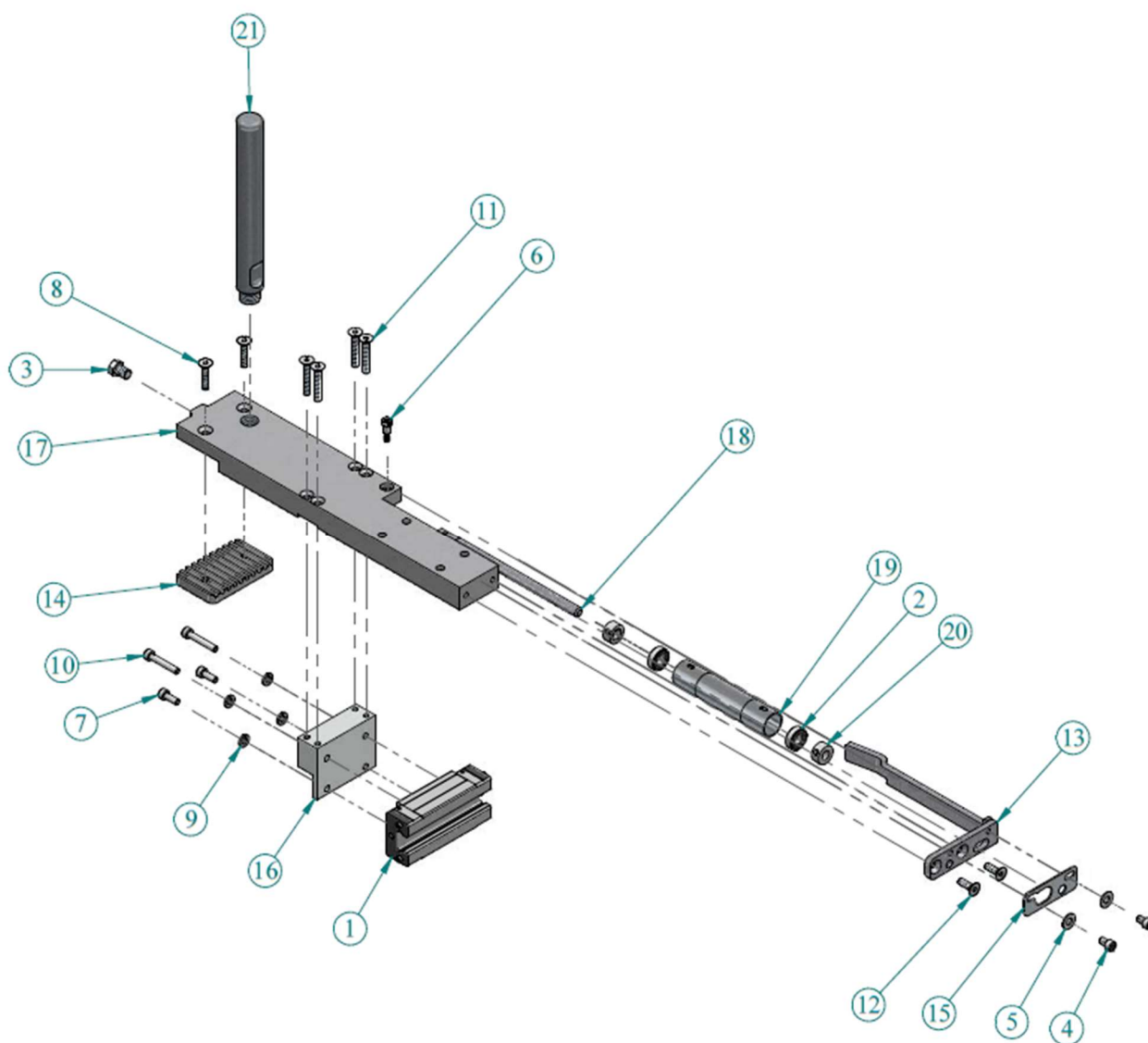
## 13.7.4.4: Scoop front tracking system 5051 4" - 16" (KR-5051-SCOOP-04-16)



## 13.7.4.5: Scoop front tracking system part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

| KR-5051-SCOOP-04-16-L |              |     |                                              |
|-----------------------|--------------|-----|----------------------------------------------|
| No.                   | Part number  | Qty | Title                                        |
| 1                     | PM-02133     | 2   | BEARING                                      |
| 2                     | F13-375C80FS | 1   | HEX HEAD 3/8-16 x 5 FULL TREAD STAINLESS     |
| 3                     | F13-375C96FS | 1   | HEX HEAD 3/8-16 x 6 FULL TREAD STAINLESS     |
| 4                     | F01-375S     | 6   | FLAT WASHER 3/8" STAINLESS                   |
| 5                     | F03-375CS    | 5   | NUT 3/8-16 STAINLESS                         |
| 6                     | F11-375C20S  | 1   | BUTTON HEAD 3/8-16 X 1 1/4" STAINLESS        |
| 7                     | F03-375CNS   | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 8                     | F13-375C28S  | 1   | HEX HEAD 3/8-16 x 1 3/4 STAINLESS            |
| 9                     | F05-312-12S  | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 10                    | F02-375S     | 1   | LOCK WASHER 3/8" STAINLESS                   |
| 11                    | F13-375C16S  | 1   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 12                    | PR-03712-1   | 1   | FRONT IDLER BELT                             |
| 13                    | PR-02951-L   | 1   | S/S LABEL LEFT                               |
| 14                    | PR-02864     | 1   | SHAFT                                        |
| 15                    | PR-02863     | 1   | SWIVEL                                       |
| 16                    | PR-02869-A   | 1   | ARM "A"                                      |
| 17                    | PR-02867     | 1   | BRACKET                                      |
| 18                    | PR-02866     | 1   | SWIVEL/SCREW                                 |
| 19                    | PR-02868     | 1   | TENSIONER CAGE                               |

## 13.7.4.6: Scoop rear tracking system 5051 4" - 16" (KR-5051-SCOOP-04-16)





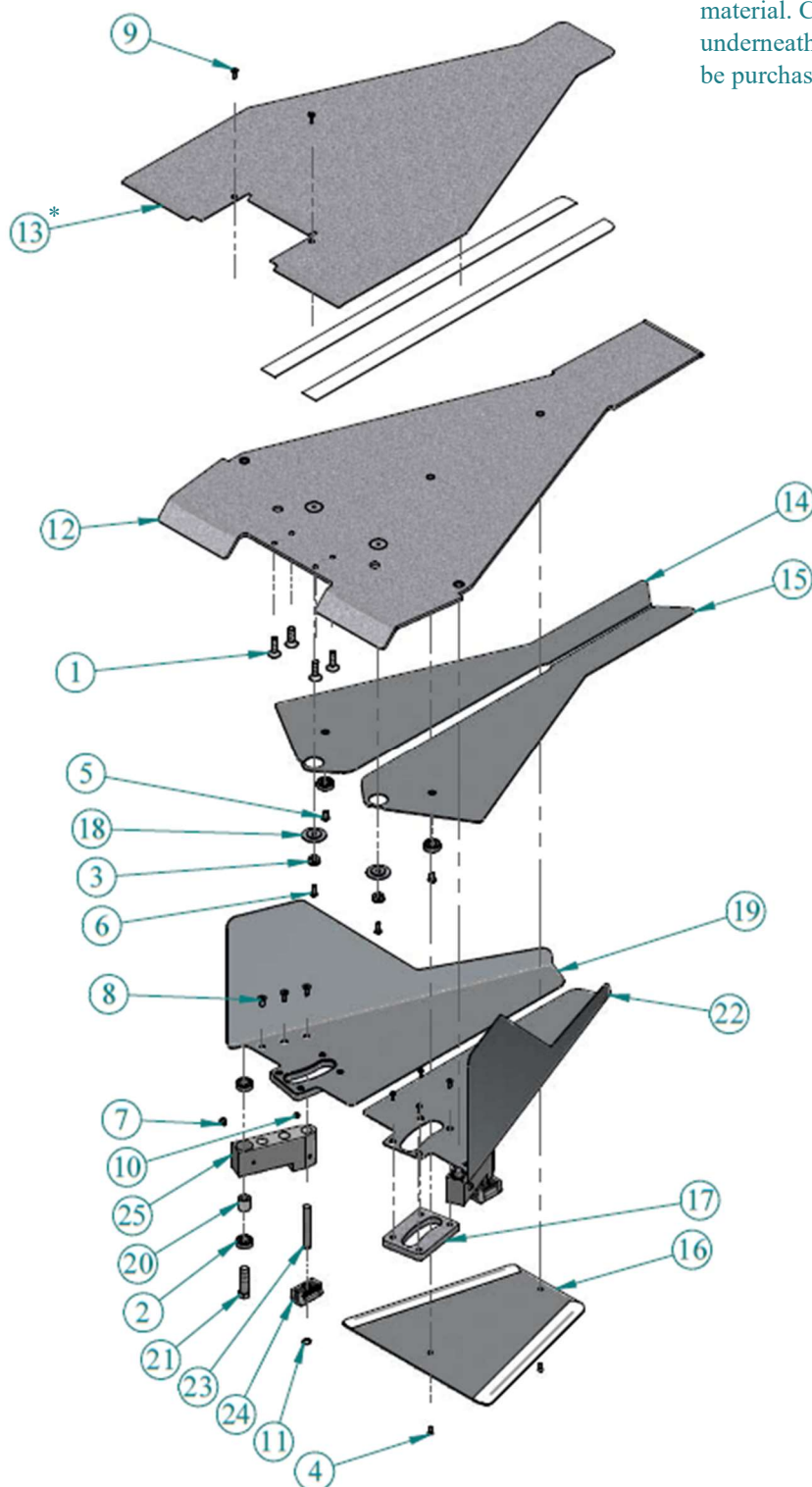
## 13.7.4.7: Scoop rear tracking system part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

| KR-5051-SCOOP-04-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00095     | 2   | BEARING                                    |
| 3                     | F13-375C08S   | 1   | HEX HEAD 3/8-16 X 1/2" STAINLESS           |
| 4                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 5                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 6                     | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 7                     | F10-M6-1X16s  | 2   | SOCKET CAP M6-1X16 MM STAINLESS            |
| 8                     | F12-250C18S   | 2   | FLAT HEAD 1/4-20 X 1-1/8" STAINLESS        |
| 9                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 10                    | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 11                    | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 12                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 13                    | PR-02687-1    | 1   | ROLLER SIDE SUPPORT                        |
| 14                    | PR-02826      | 1   | TIMING BELT LINK                           |
| 15                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 16                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 17                    | PR-02686-L-02 | 1   | SUPPORT FOR LOWER RETRACT LEFT             |
| 18                    | PR-03291-2    | 1   | ROLLER SHAFT                               |
| 19                    | PR-03195-1    | 1   | IDLER BELT 1"                              |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |
| 21                    | PR-02827      | 1   | HEIGHT ADJUSTER GUIDE                      |



## 13.7.4.8: Scoop down 5051 4" - 16" (KR-5051-SCOOP-04-16)

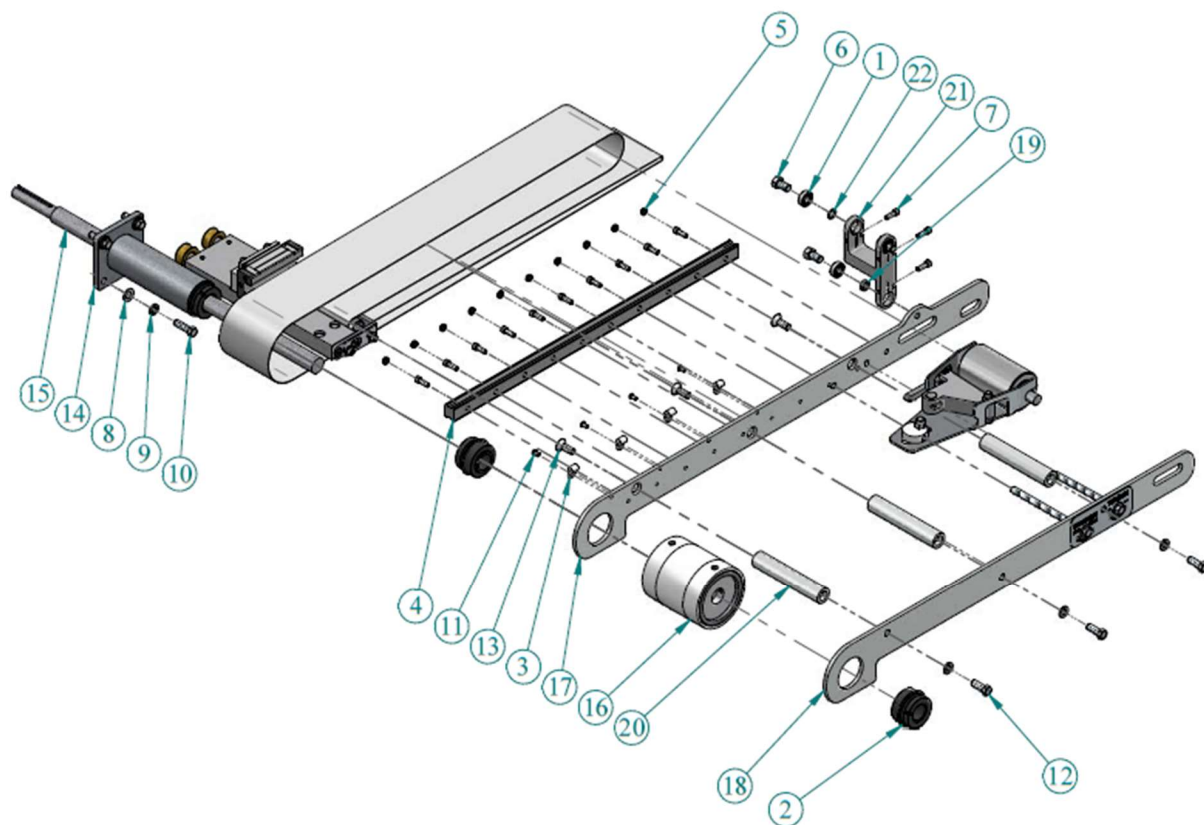
\*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)



## 13.7.4.9: Scoop down part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

| KR-5051-SCOOP-04-16-L |               |     |                                                      |
|-----------------------|---------------|-----|------------------------------------------------------|
| No.                   | Part number   | Qty | Title                                                |
| 1                     | F12-312C16S   | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS                     |
| 2                     | P02-00095     | 6   | BEARING                                              |
| 3                     | P02-00049     | 2   | BEARING                                              |
| 4                     | F12-138C06S   | 10  | FLAT HEAD 6-32 X 3/8" STAINLESS                      |
| 5                     | F11-250C06S   | 2   | BUTTON HEAD 1/4-20 X 3/8" STAINLESS                  |
| 6                     | F11-190F08S   | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS                   |
| 7                     | F11-190C04S   | 2   | BUTTON HEAD 10-24 X 1/4 STAINLESS                    |
| 8                     | F12-190F08S   | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS                     |
| 9                     | F12-164C08S   | 2   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 10                    | F06-250C04S   | 2   | SET SCREW 1/4-20 X 1/4" STAINLESS                    |
| 11                    | F14-375       | 2   | EXTERNAL RETAINING RING 3/8                          |
| 12                    | PR-02689-16   | 1   | RETRACTABLE PLATE ASSEMBLY 16"                       |
| 13                    | PR-02712-1    | 1   | TRANSFERT PLATE ASS                                  |
| 14                    | PR-02884-A-03 | 1   | ANTENNA ASSEMBLY "A" 04-16                           |
| 15                    | PR-02884-B-03 | 1   | ANTENNA ASSEMBLY "B" 04-16                           |
| 16                    | PR-02918-01   | 1   | S/S BELT BRACKET                                     |
| 17                    | PR-02885      | 2   | S/S GUIDE SCOOP 04-16                                |
| 18                    | PR-02690-02   | 2   | S/S WASHER                                           |
| 19                    | PR-02693-A    | 1   | LOWER SCOOP "A"                                      |
| 20                    | PR-00355      | 2   | HINGES SPACER S/S                                    |
| 21                    | PR-00352-1    | 2   | SCREW HINGE 3/8-24 S/S                               |
| 22                    | PR-02693-B    | 1   | LOWER SCOOP "B"                                      |
| 23                    | PR-02772-01   | 2   | SHAFT FOR TRACK TO HINGE S/S                         |
| 24                    | PR-10445-02   | 2   | BLOCK FOR TRACK NYLATRON                             |
| 25                    | PR-02694      | 2   | ALUMINIUM HINGE LOWER SCOOP                          |

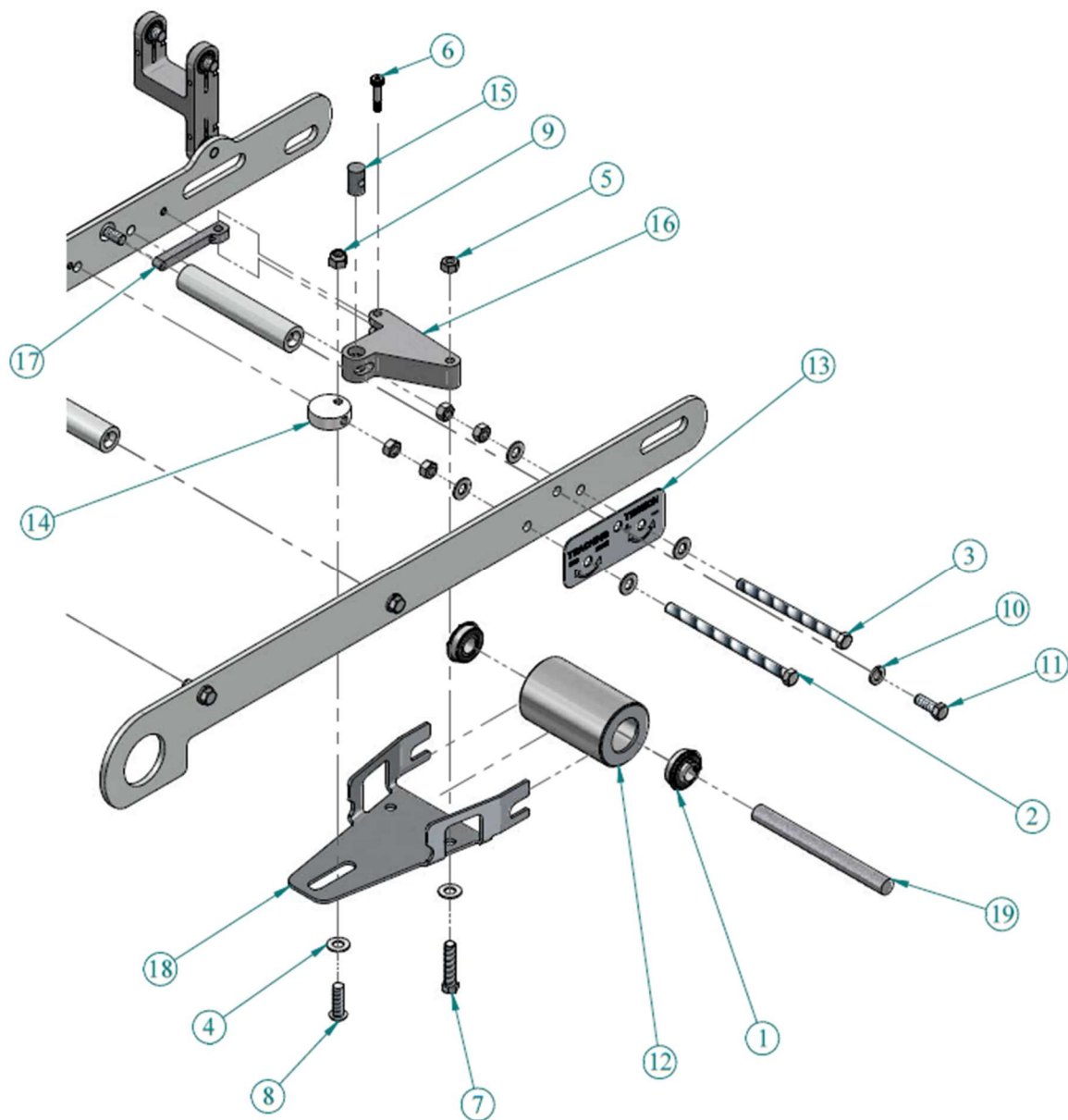
## 13.7.4.10: Scoop frame up 5051 4" - 16" (KR-5051-SCOOP-04-16)



## 13.7.4.11: Scoop frame up part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

| KR-5051-SCOOP-04-16-L |                   |     |                                       |
|-----------------------|-------------------|-----|---------------------------------------|
| No.                   | Part number       | Qty | Title                                 |
| 1                     | PM-01520          | 3   | STEEL BEARING BALL                    |
| 2                     | PM-01541          | 3   | BEARING 1"                            |
| 3                     | PE-01004          | 4   | NYLON CABLE CLIP 5/16                 |
| 4                     | PM-00190-0594-THK | 1   | LINEAR GUIDE RAIL SHS25 X 594MM (THK) |
| 5                     | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK            |
| 6                     | F13-438C12S       | 3   | HEX. HEAD 7-16-14 X 3/4" STAINLESS    |
| 7                     | F10-250C12S       | 13  | SOCKET CAP 1/4-20 X 3/4" STAINLESS    |
| 8                     | F01-375S          | 4   | FLAT WASHER 3/8" STAINLESS            |
| 9                     | F02-375S          | 7   | LOCK WASHER 3/8" STAINLESS            |
| 10                    | F13-375C20S       | 4   | HEX. HEAD 3/8-16 X 1 1/4" STAINLESS   |
| 11                    | F11-190F06S       | 4   | BUTTON HEAD 10-32 x 3/8 STAINLESS     |
| 12                    | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS        |
| 13                    | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS       |
| 14                    | PR-02764          | 1   | BLOCK BEARING                         |
| 15                    | PR-02676          | 1   | UPPER DRIVE AXIS                      |
| 16                    | PR-02678          | 1   | BELT ROLLER                           |
| 17                    | PR-02680          | 1   | INTERIOR SIDE RETRACTABLE             |
| 18                    | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE             |
| 19                    | PR-02819          | 1   | SHIM                                  |
| 20                    | PR-03188-1        | 3   | RETRACTABLE CROSS SECTION             |
| 21                    | PR-02775          | 1   | ROD END BLOCK                         |
| 22                    | PR-08238          | 2   | SHIM                                  |

## 13.7.4.12: Scoop front tracking system 5051 4" - 16" (KR-5051-SCOOP-04-16)



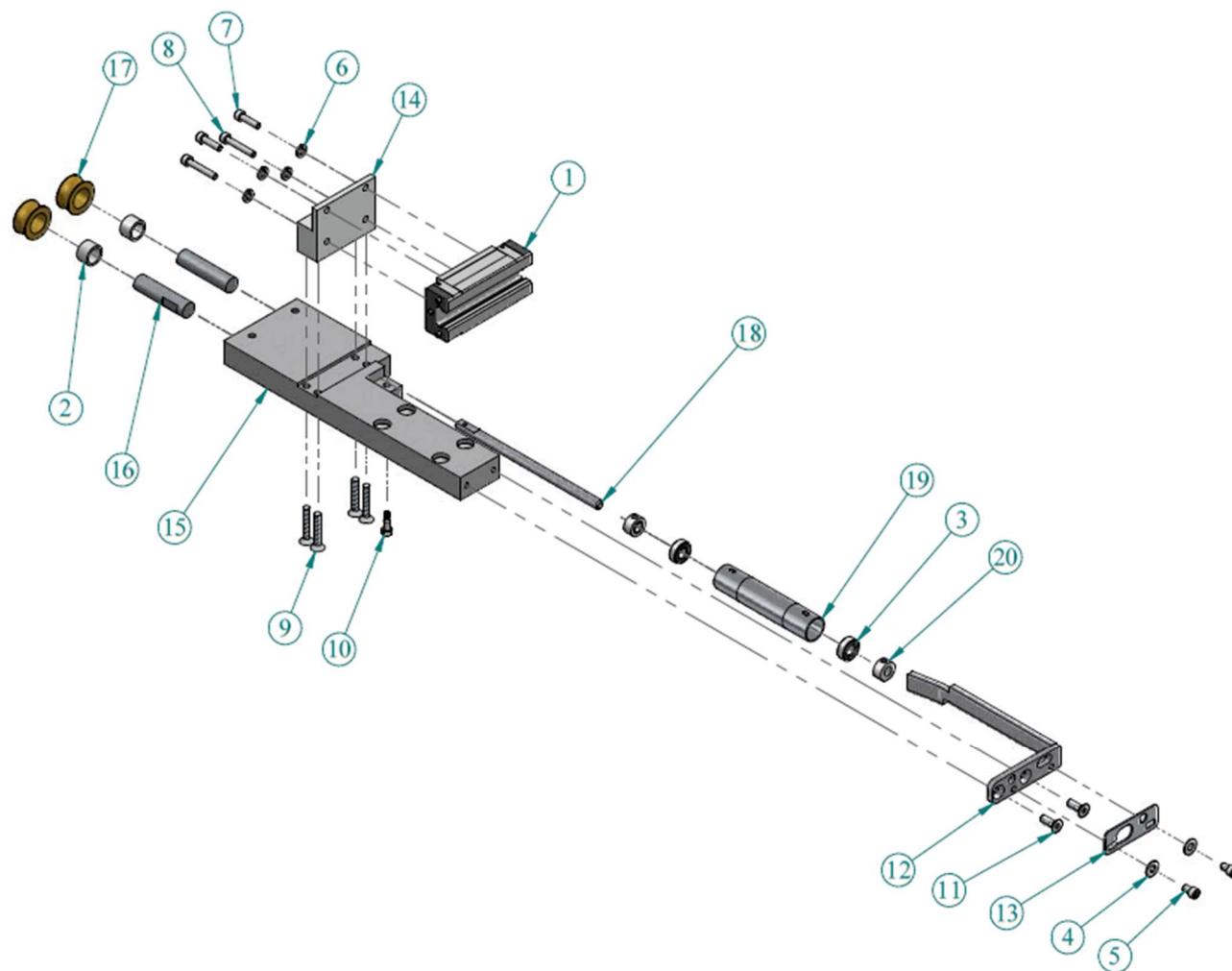


## 13.7.4.13: Scoop front tracking system part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

| KR-5051-SCOOP-04-16-L |              |     |                                              |
|-----------------------|--------------|-----|----------------------------------------------|
| No.                   | Part number  | Qty | Title                                        |
| 1                     | PM-02133     | 2   | BEARING                                      |
| 2                     | F13-375C96FS | 1   | HEX HEAD 3/8-16 x 6 FULL TREAD STAINLESS     |
| 3                     | F13-375C80FS | 1   | HEX HEAD 3/8-16 x 5 FULL TREAD STAINLESS     |
| 4                     | F01-375S     | 6   | FLAT WASHER 3/8" STAINLESS                   |
| 5                     | F03-375CS    | 5   | NUT 3/8-16 STAINLESS                         |
| 6                     | F05-312-12S  | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 7                     | F13-375C28S  | 1   | HEX HEAD 3/8-16 x 1 3/4 STAINLESS            |
| 8                     | F11-375C20S  | 1   | BUTTON HEAD 3/8-16 X 1 1/4" STAINLESS        |
| 9                     | F03-375CNS   | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 10                    | F02-375S     | 1   | LOCK WASHER 3/8" STAINLESS                   |
| 11                    | F13-375C16S  | 1   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 12                    | PR-03712-1   | 1   | FRONT IDLER BELT                             |
| 13                    | PR-02951-L   | 1   | S/S LABEL LEFT                               |
| 14                    | PR-02866     | 1   | SWIVEL/SCREW                                 |
| 15                    | PR-02863     | 1   | SWIVEL                                       |
| 16                    | PR-02869-B   | 1   | ARM "B"                                      |
| 17                    | PR-02867     | 1   | BRACKET                                      |
| 18                    | PR-02868     | 1   | TENSIONER CAGE                               |
| 19                    | PR-02864     | 1   | SHAFT                                        |



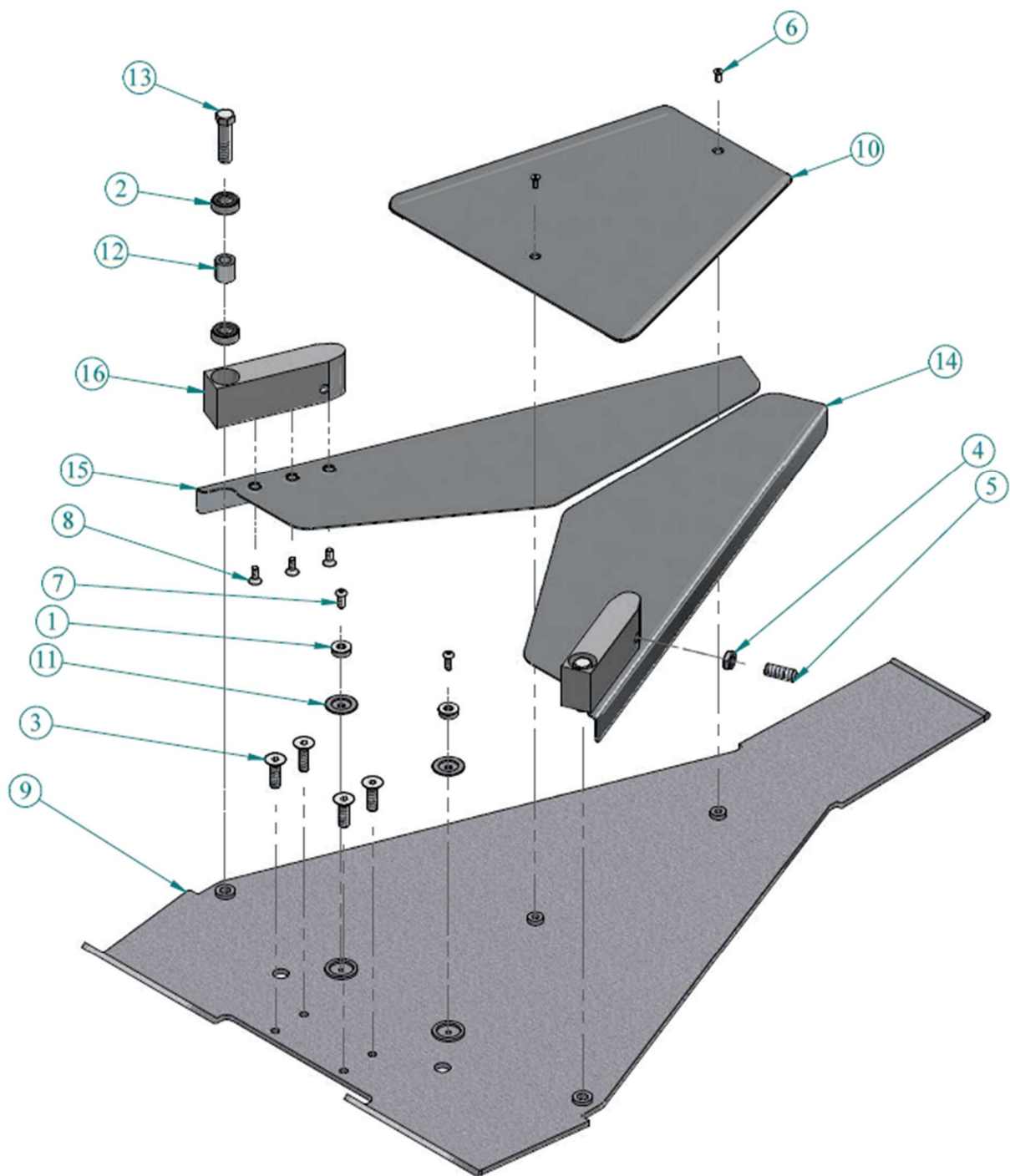
## 13.7.4.14: Scoop rear tracking system 5051 4" - 16" (KR-5051-SCOOP-04-16)



## 13.7.4.15: Scoop rear tracking system 5051 4" - 16" (KR-5051-SCOOP-04-16)

| KR-5051-SCOOP-04-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00199     | 2   | BEARING NEEDLE                             |
| 3                     | P02-00095     | 2   | BEARING                                    |
| 4                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 5                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 6                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 7                     | F10-M6-1X22S  | 2   | SOCKET CAP M6-1X22 STAINLESS               |
| 8                     | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 9                     | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 10                    | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 11                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 12                    | PR-02687-2    | 1   | ROLLER SIDE SUPPORT                        |
| 13                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 14                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 15                    | PR-02698-L-02 | 1   | SUPPORT TWIN LEFT                          |
| 16                    | PR-06312      | 2   | SHAFT                                      |
| 17                    | PR-06311-1    | 2   | WHEEL                                      |
| 18                    | PR-03291-2    | 1   | ROLLER SHAFT                               |
| 19                    | PR-03195-1    | 1   | IDLER BELT 1"                              |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |

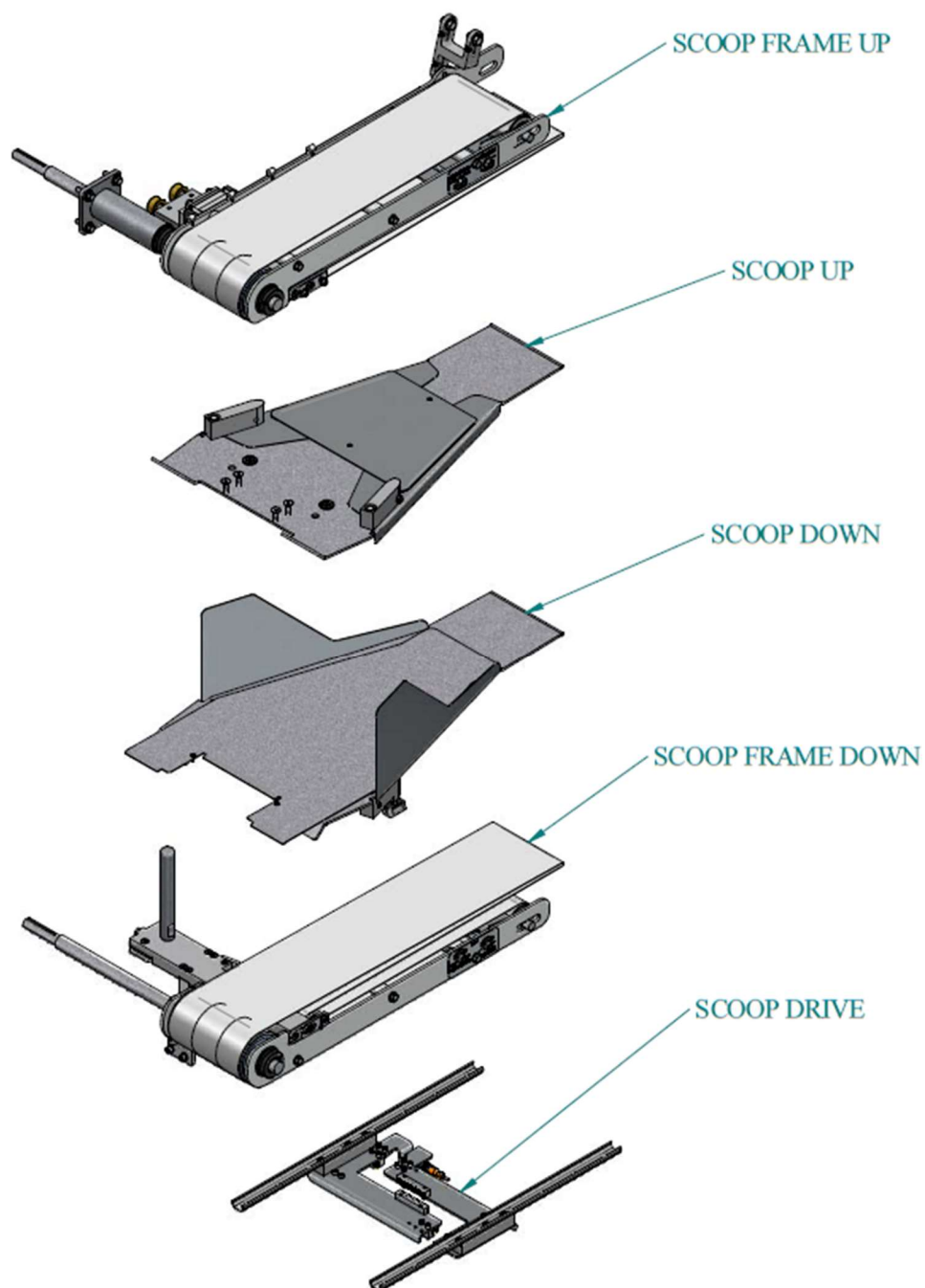
## 13.7.4.16: Scoop up 5051 4" - 16" (KR-5051-SCOOP-04-16)



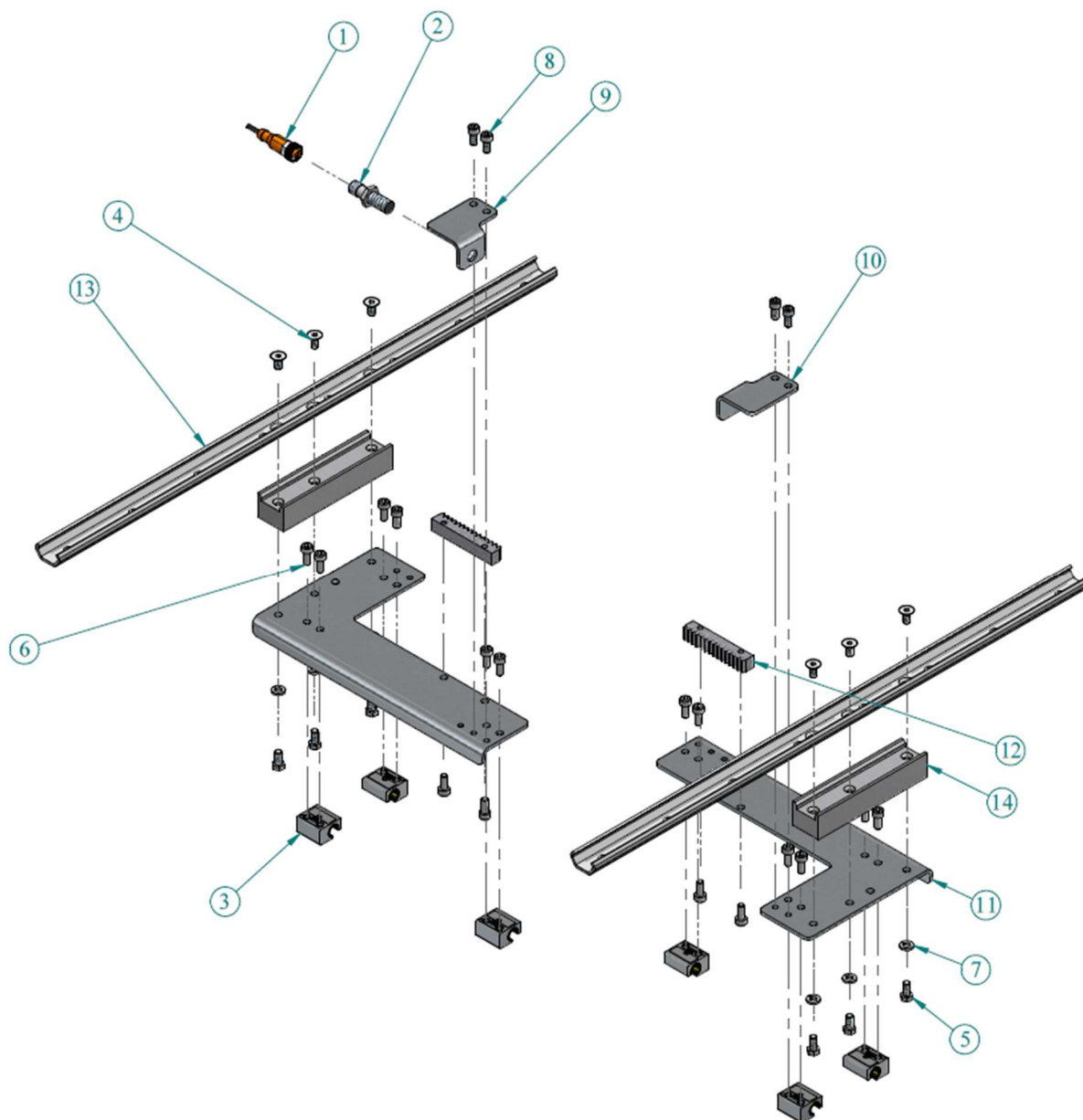
## 13.7.4.17: Scoop up part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

| KR-5051-SCOOP-04-16-L |             |     |                                      |
|-----------------------|-------------|-----|--------------------------------------|
| No.                   | Part number | Qty | Title                                |
| 1                     | P02-00049   | 2   | BEARING                              |
| 2                     | P02-00095   | 4   | BEARING                              |
| 3                     | F12-312C16S | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS     |
| 4                     | F03-375CLS  | 2   | HEX NUT 3/8-16 LOW PROFILE STAINLESS |
| 5                     | F06-375C16N | 2   | SET SCREW 3/8-16 X 1" NYLON          |
| 6                     | F12-138C06S | 2   | FLAT HEAD 6-32 X 3/8" STAINLESS      |
| 7                     | F11-190F08S | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS   |
| 8                     | F12-190F08S | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS     |
| 9                     | PR-02689-16 | 1   | RETRACTABLE PLATE ASSEMBLY 16"       |
| 10                    | PR-02918-01 | 1   | S/S BELT BRACKET                     |
| 11                    | PR-02965    | 2   | S/S WASHER                           |
| 12                    | PR-00355    | 2   | HINGES SPACER S/S                    |
| 13                    | PR-00352-1  | 2   | SCREW HINGE 3/8-24 S/S               |
| 14                    | PR-02700-A  | 1   | SCOOP "A"                            |
| 15                    | PR-02700-B  | 1   | SCOOP "B"                            |
| 16                    | PR-02774    | 2   | ALUMINIUM HINGE UPPER SCOOP          |

## 13.7.5: Scoop 5051 7" - 16" (KR-5051-SCOOP-07-16)



## 13.7.5.1: Scoop drive 5051 7" - 16" (KR-5051-SCOOP-07-16)

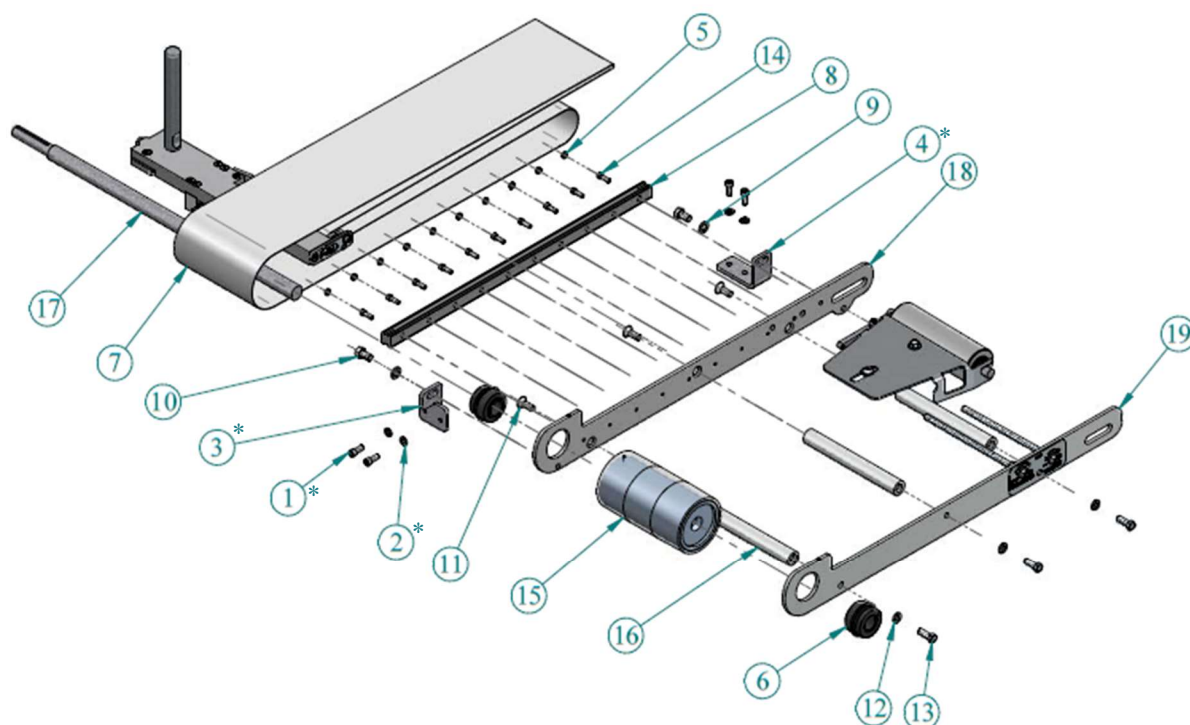




## 13.7.5.2: Scoop drive part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

| KR-5051-SCOOP-07-16-L |                 |     |                                    |
|-----------------------|-----------------|-----|------------------------------------|
| No.                   | Part number     | Qty | Title                              |
| 1                     | PE-00507-10     | 1   | PHOTOCELL CABLE 10M                |
| 2                     | PE-00141-NO-PNP | 1   | PROX SWITCH                        |
| 3                     | PM-00197        | 6   | IGUS RAIL CARRIAGE 10 MM           |
| 4                     | F12-250C08S     | 6   | FLAT HEAD 1/4-20 X 1/2" STAINLESS  |
| 5                     | F13-250C08S     | 6   | HEX HEAD 1/4-20 X 1/2 STAINLESS    |
| 6                     | F10-M6-1X14S    | 16  | SOCKET CAP M6-1X14 STAINLESS       |
| 7                     | F02-250S        | 6   | LOCK WASHER #14 STAINLESS          |
| 8                     | F10-250C08S     | 4   | SOCKET CAP 1/4-20 X 1/2" STAINLESS |
| 9                     | PR-02886-A      | 1   | S/S BRACKET SENSOR A               |
| 10                    | PR-02886-B      | 1   | S/S BRACKET SENSOR B               |
| 11                    | PR-02713-04     | 2   | S/S GUDE PLATE 04-16               |
| 12                    | PR-02715        | 2   | GEAR RACK STEEL FOR OPEN SCOOP     |
| 13                    | PR-02753-01     | 2   | RAIL FOR LOWER SCOOP S/S           |
| 14                    | PR-02754-02     | 2   | RAIL SUPPORT ALUMINIUM             |

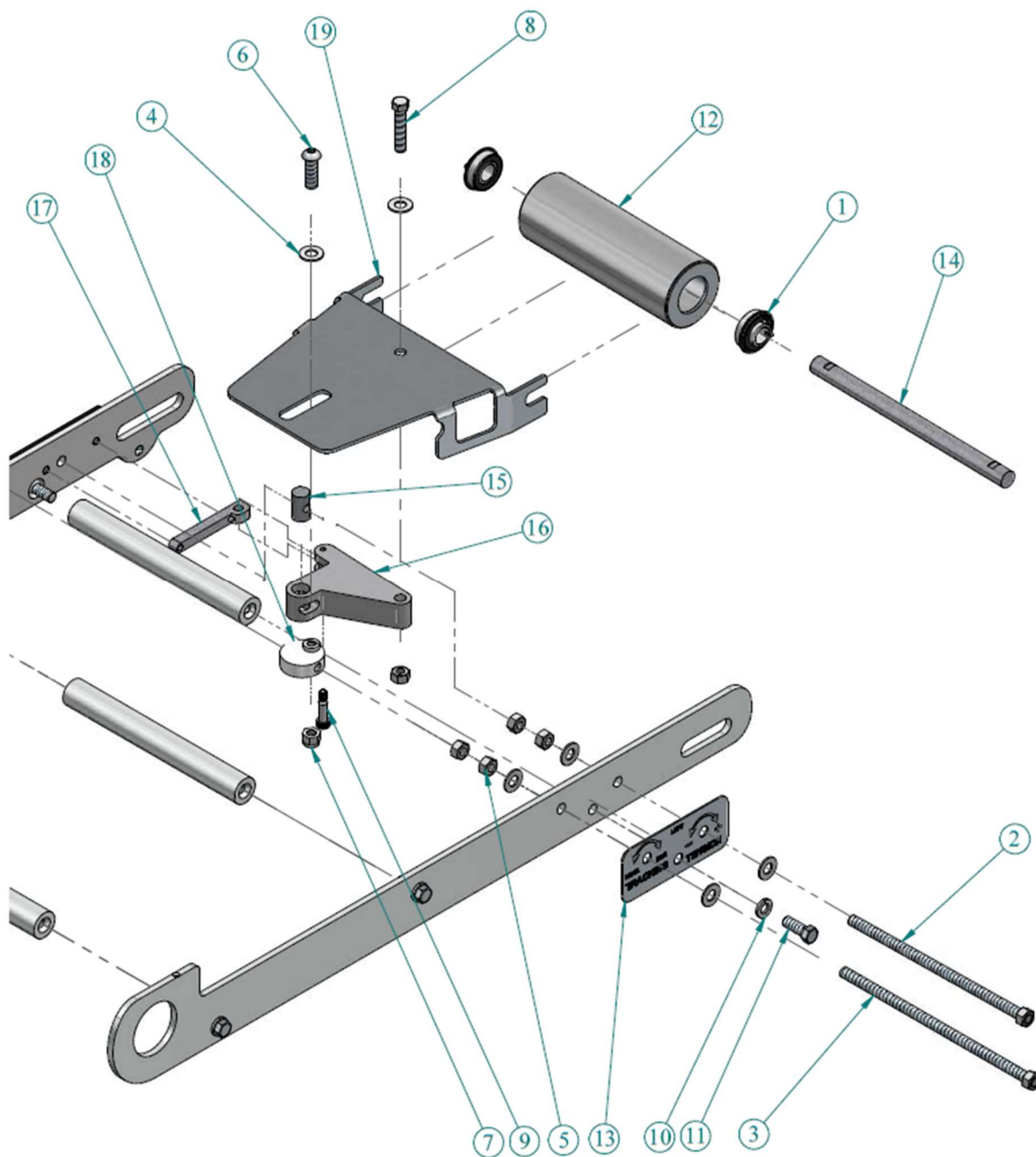
## 13.7.5.3: Scoop down frame 5051 7" - 16" (KR-5051-SCOOP-07-16)



\*SN : KLR-00430 - Beyond

| KR-5051-SCOOP-07-16-L |                   |     |                                             |
|-----------------------|-------------------|-----|---------------------------------------------|
| No.                   | Part number       | Qty | Title                                       |
| 1                     | F10-312C12S       | 4   | SOCKET CAP 5/16-18 X 3/4" STAINLESS         |
| 2                     | F02-312S          | 4   | LOCK WASHER 5/16" STAINLESS                 |
| 3                     | PR-02967          | 1   | S/S BRACKET                                 |
| 4                     | PR-02966          | 1   | S/S BRACKET                                 |
| 5                     | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK                  |
| 6                     | PM-01541          | 2   | BEARING 1"                                  |
| 7                     | PB-00519-7-WH     | 1   | RETRACTABLE BELT FOR KLR.5051 4" x 116 1/2" |
| 8                     | PM-00190-0594-THK | 1   | LINEAR GUIDE RAIL SHS25 X 594MM (THK)       |
| 9                     | F02-438S          | 2   | LOCK WASHER 7/16" STAINLESS                 |
| 10                    | F13-438C12S       | 2   | HEX. HEAD 7-16-14 X 3/4" STAINLESS          |
| 11                    | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS             |
| 12                    | F02-375S          | 3   | LOCK WASHER 3/8" STAINLESS                  |
| 13                    | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS              |
| 14                    | F10-250C12S       | 10  | SOCKET CAP 1/4-20 X 3/4" STAINLESS          |
| 15                    | PR-03555          | 1   | BACK DRIVE FOR CONVEYOR BELT                |
| 16                    | PR-03188          | 3   | RETRACTABLE CROSS SECTION                   |
| 17                    | PR-02677-01       | 1   | LOWER DRIVE AXIS                            |
| 18                    | PR-02679          | 1   | LOWER INTERIOR SIDE RETRACTABLE             |
| 19                    | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE                   |

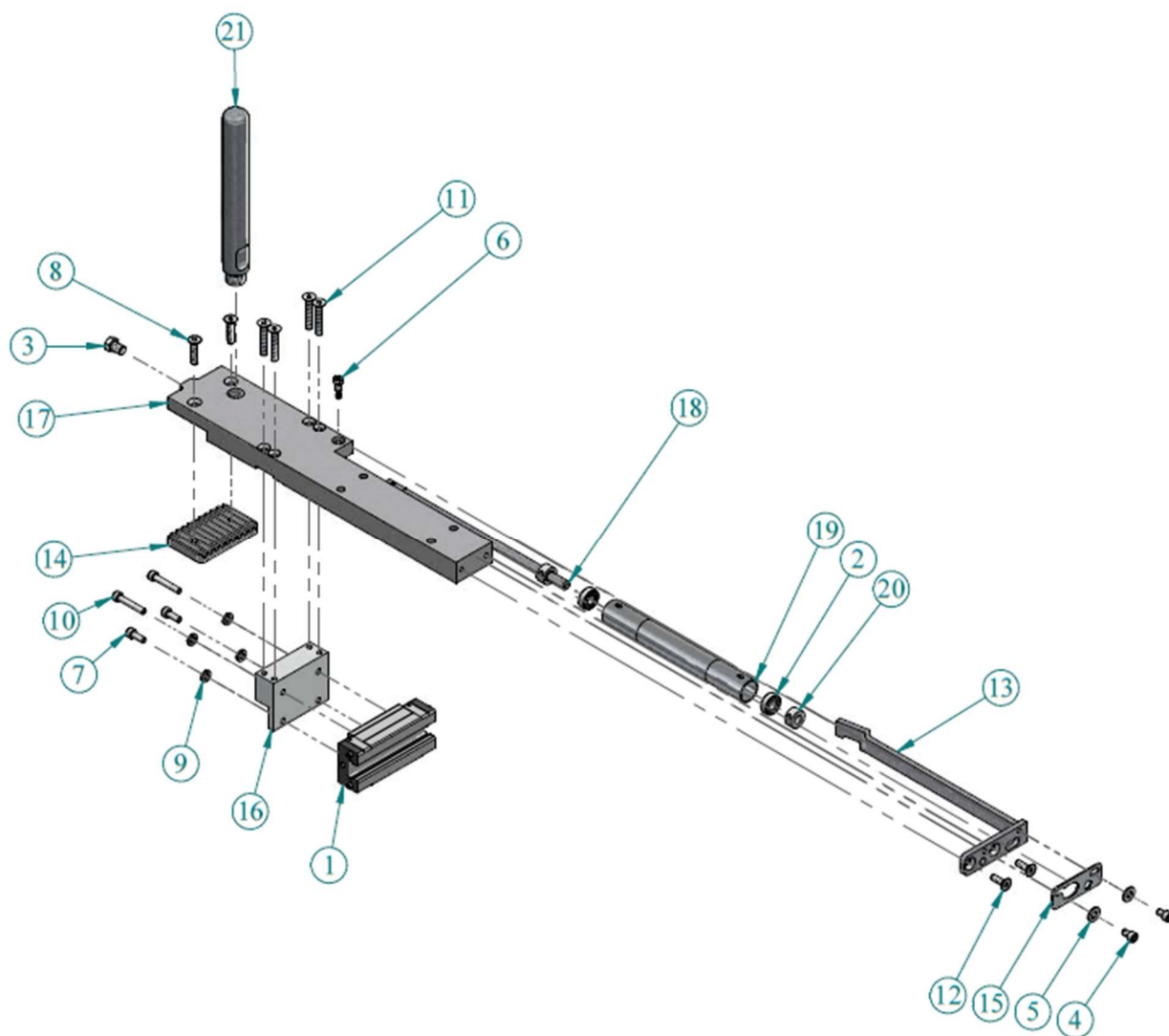
## 13.7.5.4: Scoop front tracking system 5051 7" - 16" (KR-5051-SCOOP-07-16)



## 13.7.5.5: Scoop front tracking system part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

| KR-5051-SCOOP-07-16-L |             |     |                                              |
|-----------------------|-------------|-----|----------------------------------------------|
| No.                   | Part number | Qty | Title                                        |
| 1                     | PM-02133    | 2   | BEARING                                      |
| 2                     | PR-02881-01 | 1   | SCREW                                        |
| 3                     | PR-02865-01 | 1   | SCREW                                        |
| 4                     | F01-375S    | 6   | FLAT WASHER 3/8" STAINLESS                   |
| 5                     | F03-375CS   | 5   | NUT 3/8-16 STAINLESS                         |
| 6                     | F11-375C20S | 1   | BUTTON HEAD 3/8-16 X 1 1/4" STAINLESS        |
| 7                     | F03-375CNS  | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 8                     | F13-375C28S | 1   | HEX HEAD 3/8-16 x 1 3/4 STAINLESS            |
| 9                     | F05-312-12S | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 10                    | F02-375S    | 1   | LOCK WASHER 3/8" STAINLESS                   |
| 11                    | F13-375C16S | 1   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 12                    | PR-03712    | 1   | FRONT IDLER BELT                             |
| 13                    | PR-02951-L  | 1   | S/S LABEL LEFT                               |
| 14                    | PR-02864-01 | 1   | SHAFT                                        |
| 15                    | PR-02863    | 1   | SWIVEL                                       |
| 16                    | PR-02869-A  | 1   | ARM "A"                                      |
| 17                    | PR-02867    | 1   | BRACKET                                      |
| 18                    | PR-02866    | 1   | SWIVEL/SCREW                                 |
| 19                    | PR-02868-01 | 1   | TENSIONER CAGE                               |

## 13.7.5.6: Scoop rear tracking system 5051 7" - 16" (KR-5051-SCOOP-07-16)



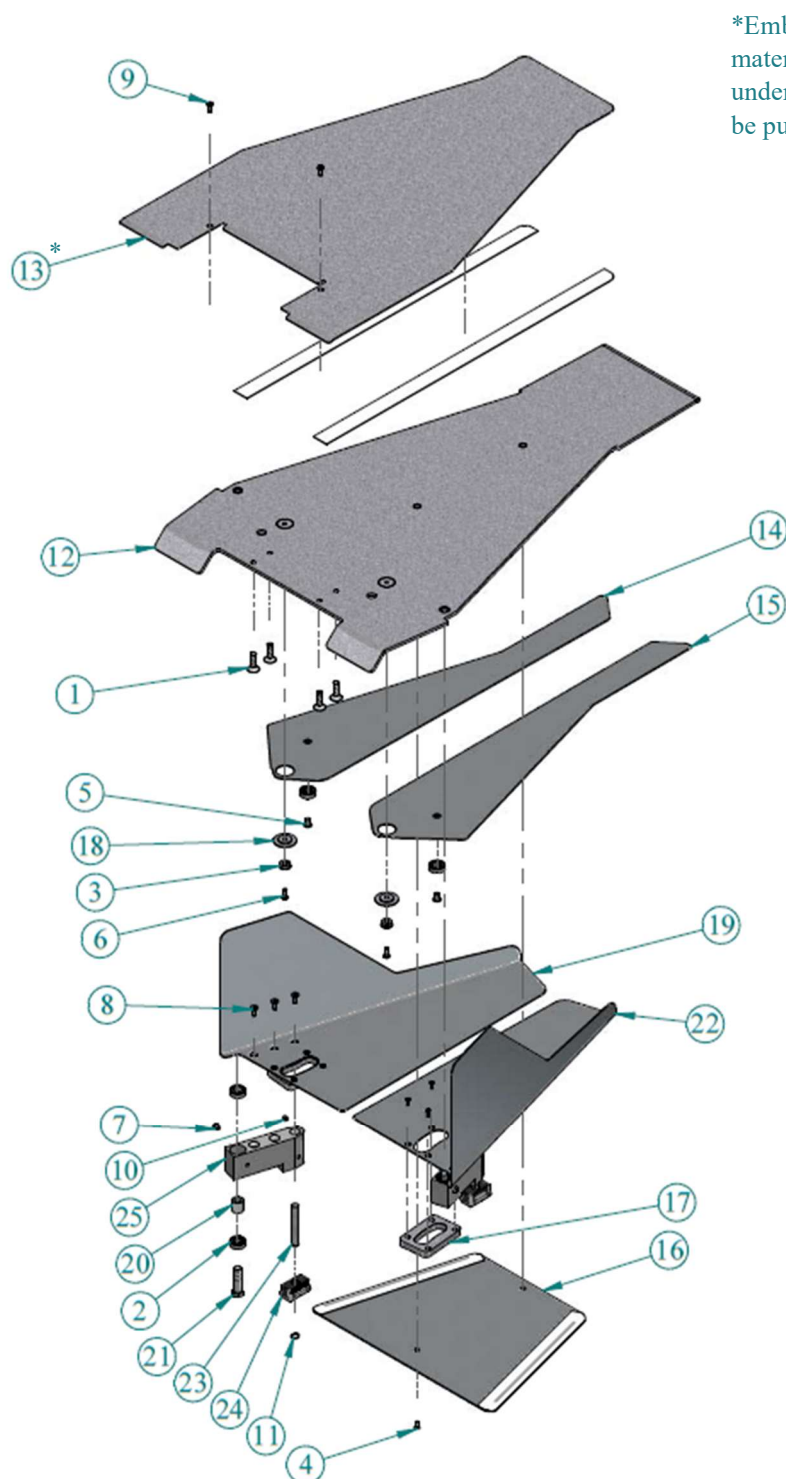


## 13.7.5.7: Scoop rear tracking system part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

| KR-5051-SCOOP-07-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00095     | 2   | BEARING                                    |
| 3                     | F13-375C08S   | 1   | HEX HEAD 3/8-16 X 1/2" STAINLESS           |
| 4                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 5                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 6                     | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 7                     | F10-M6-1X16s  | 2   | SOCKET CAP M6-1X16 MM STAINLESS            |
| 8                     | F12-250C18S   | 2   | FLAT HEAD 1/4-20 X 1-1/8" STAINLESS        |
| 9                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 10                    | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 11                    | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 12                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 13                    | PR-02687-1-01 | 1   | ROLLER SIDE SUPPORT                        |
| 14                    | PR-02826      | 1   | TIMING BELT LINK                           |
| 15                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 16                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 17                    | PR-02686-L-07 | 1   | SUPPORT FOR LOWER RETRACT LEFT 7"          |
| 18                    | PR-03291-2-07 | 1   | ROLLER SHAFT 7"                            |
| 19                    | PR-03195-07   | 1   | IDLER BELT 1" x 7"                         |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |
| 21                    | PR-02827      | 1   | HEIGHT ADJUSTER GUIDE                      |



### 13.7.5.8: Scoop down 5051 7" - 16" (KR-5051-SCOOP-07-16)

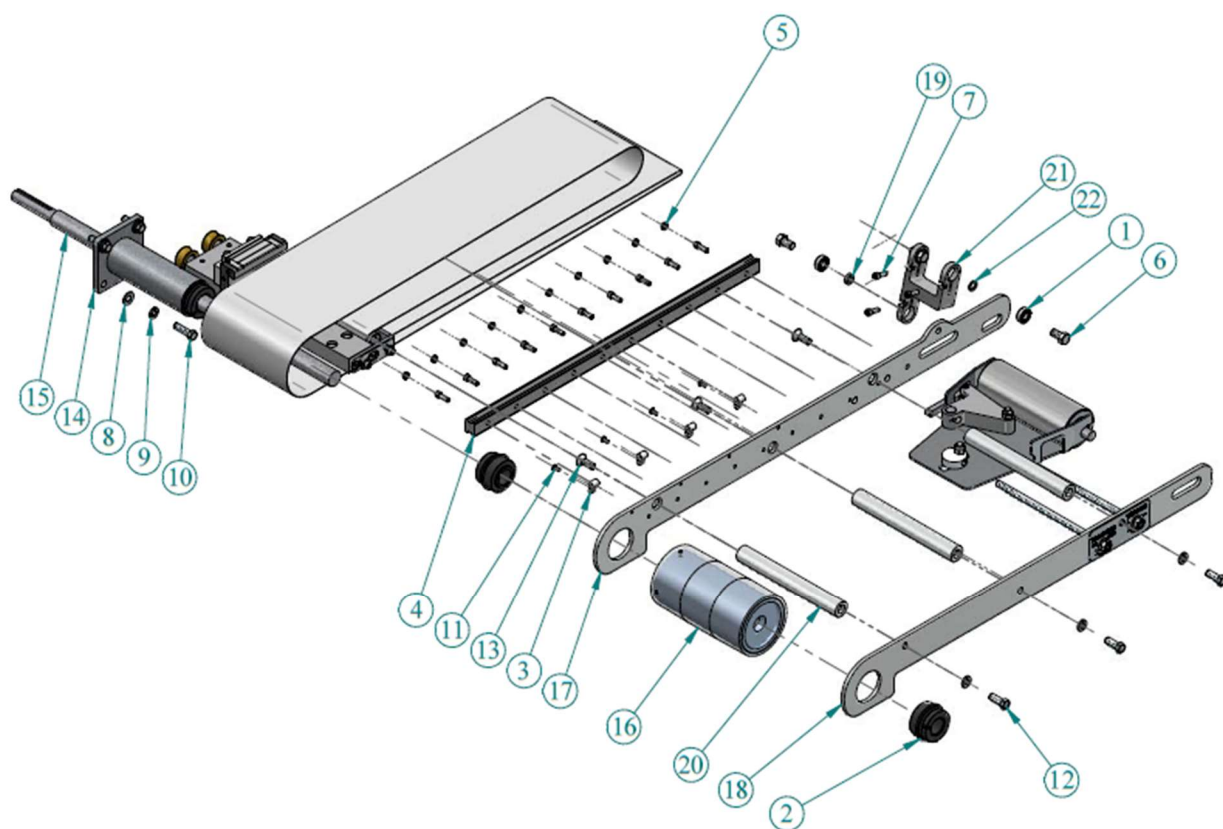


\*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)

## 13.7.5.9: Scoop down part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

| KR-5051-SCOOP-07-16-L |                |     |                                                      |
|-----------------------|----------------|-----|------------------------------------------------------|
| No.                   | Part number    | Qty | Title                                                |
| 1                     | F12-312C16S    | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS                     |
| 2                     | P02-00095      | 6   | BEARING                                              |
| 3                     | P02-00049      | 2   | BEARING                                              |
| 4                     | F12-138C06S    | 10  | FLAT HEAD 6-32 X 3/8" STAINLESS                      |
| 5                     | F11-250C06S    | 2   | BUTTON HEAD 1/4-20 X 3/8" STAINLESS                  |
| 6                     | F11-190F08S    | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS                   |
| 7                     | F11-190C04S    | 2   | BUTTON HEAD 10-24 X 1/4" STAINLESS                   |
| 8                     | F12-190F08S    | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS                     |
| 9                     | F12-164C08S    | 2   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 10                    | F06-250C04S    | 2   | SET SCREW 1/4-20 X 1/4" STAINLESS                    |
| 11                    | F14-375        | 2   | EXTERNAL RETAINING RING 3/8                          |
| 12                    | PR-02689-16-07 | 1   | RETRACTABLE PLATE ASSEMBLY 16" X 7"                  |
| 13                    | PR-02712-04    | 1   | TRANSFERT PLATE ASS 07-16                            |
| 14                    | PR-02884-AL-7  | 1   | ANTENNA ASSEMBLY "A" 07-16                           |
| 15                    | PR-02884-AR-7  | 1   | ANTENNA ASSEMBLY "B" 07-16                           |
| 16                    | PR-02918-7     | 1   | S/S BELT BRACKET 07-16                               |
| 17                    | PR-02885-7     | 2   | S/S GUIDE SCOOP 07-16                                |
| 18                    | PR-02690-02    | 2   | S/S WASHER                                           |
| 19                    | PR-02693-AL-7  | 1   | LOWER SCOOP "AL" 7-16                                |
| 20                    | PR-00355       | 2   | HINGES SPACER S/S                                    |
| 21                    | PR-00352-1     | 2   | SCREW HINGE 3/8-24 S/S                               |
| 22                    | PR-02693-AR-7  | 1   | LOWER SCOOP "AR" 7-16                                |
| 23                    | PR-02772-01    | 2   | SHAFT FOR TRACK TO HINGE S/S                         |
| 24                    | PR-10445-02    | 2   | BLOCK FOR TRACK NYLATRON                             |
| 25                    | PR-02694       | 2   | ALUMINIUM HINGE LOWER SCOOP                          |

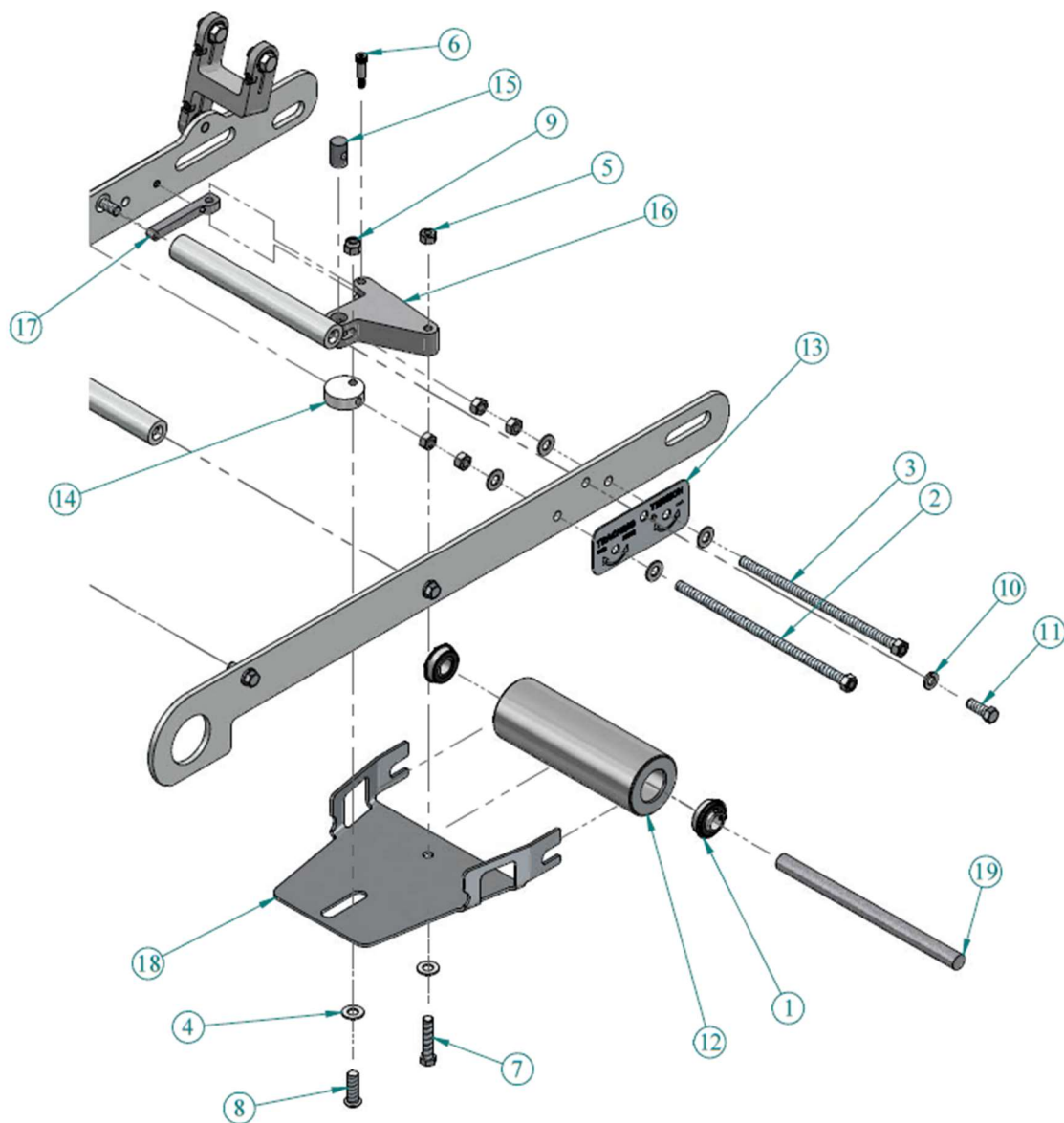
## 13.7.5.10: Scoop frame up 5051 7" - 16" (KR-5051-SCOOP-07-16)



## 13.7.5.11: Scoop frame up part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

| KR-5051-SCOOP-07-16-L |                   |     |                                       |
|-----------------------|-------------------|-----|---------------------------------------|
| No.                   | Part number       | Qty | Title                                 |
| 1                     | PM-01520          | 3   | STEEL BEARING BALL                    |
| 2                     | PM-01541          | 3   | BEARING 1"                            |
| 3                     | PE-01004          | 4   | NYLON CABLE CLIP 5/16                 |
| 4                     | PM-00190-0594-THK | 1   | LINEAR GUIDE RAIL SHS25 X 594MM (THK) |
| 5                     | PM-00191-BOU-THK  | 10  | CAP FOR LINEAR BEARING THK            |
| 6                     | F13-438C12S       | 3   | HEX. HEAD 7-16-14 X 3/4" STAINLESS    |
| 7                     | F10-250C12S       | 13  | SOCKET CAP 1/4-20 X 3/4" STAINLESS    |
| 8                     | F01-375S          | 4   | FLAT WASHER 3/8" STAINLESS            |
| 9                     | F02-375S          | 7   | LOCK WASHER 3/8" STAINLESS            |
| 10                    | F13-375C20S       | 4   | HEX. HEAD 3/8-16 X 1 1/4" STAINLESS   |
| 11                    | F11-190F06S       | 4   | BUTTON HEAD 10-32 x 3/8 STAINLESS     |
| 12                    | F13-375C16S       | 3   | HEX HEAD 3/8-16 X 1" STAINLESS        |
| 13                    | F12-375C16S       | 3   | FLAT HEAD 3/8-16 X 1" STAINLESS       |
| 14                    | PR-02764-01       | 1   | BLOCK BEARING                         |
| 15                    | PR-02676-01       | 1   | UPPER DRIVE AXIS                      |
| 16                    | PR-03555          | 1   | BACK DRIVE FOR CONVEYOR BELT          |
| 17                    | PR-02680          | 1   | INTERIOR SIDE RETRACTABLE             |
| 18                    | PR-02776          | 1   | EXTERIOR SIDE RETRACTABLE             |
| 19                    | PR-02819          | 1   | SHIM                                  |
| 20                    | PR-03188          | 3   | RETRACTABLE CROSS SECTION             |
| 21                    | PR-02775          | 1   | ROD END BLOCK                         |
| 22                    | PR-08238          | 2   | SHIM                                  |

## 13.7.5.12: Scoop front tracking systems up 5051 7" - 16" (KR-5051-SCOOP-07-16)



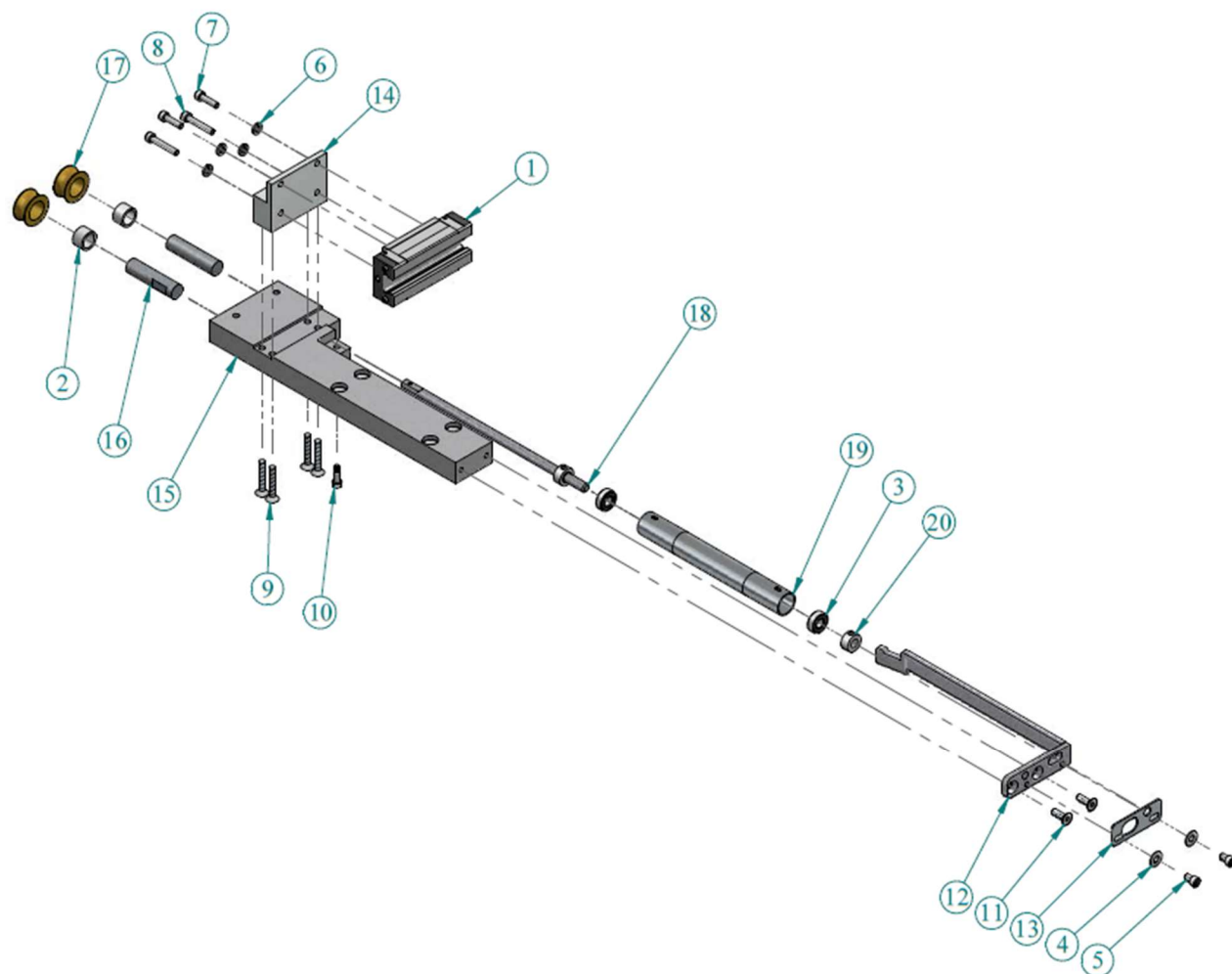


## 13.7.5.13: Scoop front tracking systems up part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

| KR-5051-SCOOP-07-16-L |             |     |                                              |
|-----------------------|-------------|-----|----------------------------------------------|
| No.                   | Part number | Qty | Title                                        |
| 1                     | PM-02133    | 2   | BEARING                                      |
| 2                     | PR-02865-01 | 1   | SCREW                                        |
| 3                     | PR-02881-01 | 1   | SCREW                                        |
| 4                     | F01-375S    | 6   | FLAT WASHER 3/8" STAINLESS                   |
| 5                     | F03-375CS   | 5   | NUT 3/8-16 STAINLESS                         |
| 6                     | F05-312-12S | 1   | SHOULDER SCREW 5/16 X 3/4 X 1/4-20 STAINLESS |
| 7                     | F13-375C28S | 1   | HEX HEAD 3/8-16 x 1 3/4 STAINLESS            |
| 8                     | F11-375C20S | 1   | BUTTON HEAD 3/8-16 X 1 1/4" STAINLESS        |
| 9                     | F03-375CNS  | 1   | NYLON LOCK NUT 3/8-16 NC S.S.                |
| 10                    | F02-375S    | 1   | LOCK WASHER 3/8" STAINLESS                   |
| 11                    | F13-375C16S | 1   | HEX HEAD 3/8-16 X 1" STAINLESS               |
| 12                    | PR-03712    | 1   | FRONT IDLER BELT                             |
| 13                    | PR-02951-L  | 1   | S/S LABEL LEFT                               |
| 14                    | PR-02866    | 1   | SWIVEL/SCREW                                 |
| 15                    | PR-02863    | 1   | SWIVEL                                       |
| 16                    | PR-02869-B  | 1   | ARM "B"                                      |
| 17                    | PR-02867    | 1   | BRACKET                                      |
| 18                    | PR-02868-01 | 1   | TENSIONER CAGE                               |
| 19                    | PR-02864-01 | 1   | SHAFT                                        |



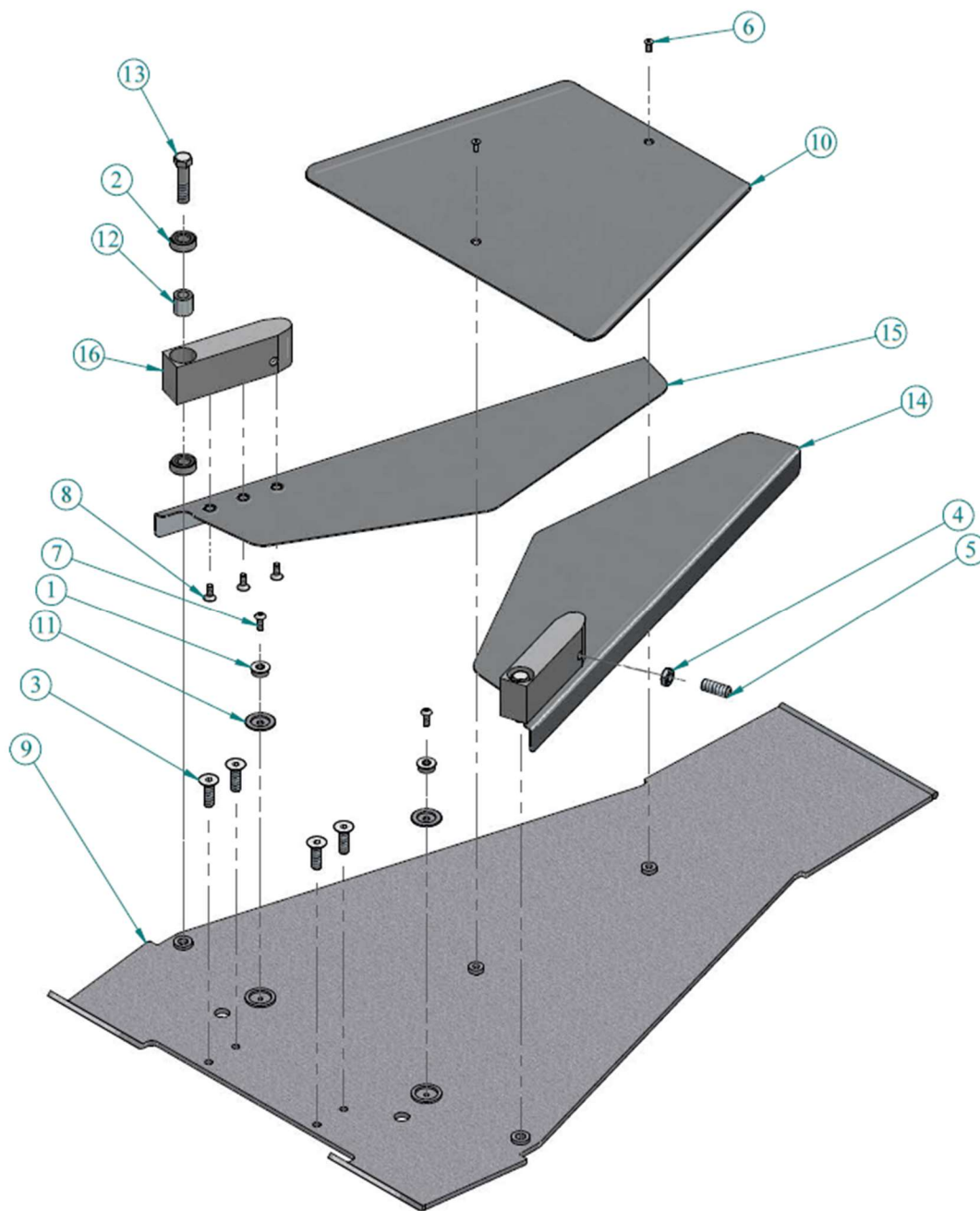
## 13.7.5.14: Scoop rear tracking systems up 5051 7" - 16" (KR-5051-SCOOP-07-16)



## 13.7.5.15: Scoop rear tracking systems up part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

| KR-5051-SCOOP-07-16-L |               |     |                                            |
|-----------------------|---------------|-----|--------------------------------------------|
| No.                   | Part number   | Qty | Title                                      |
| 1                     | PM-00191-THK  | 1   | LINEAR COMPACT GUIDE BLOCK THK             |
| 2                     | P02-00199     | 2   | BEARING NEEDLE                             |
| 3                     | P02-00095     | 2   | BEARING                                    |
| 4                     | F01-250S      | 2   | FLAT WASHER 1/4 STAINLESS                  |
| 5                     | F10-250C06S   | 2   | SOCKET CAP 1/4-20 X 3/8" STAINLESS         |
| 6                     | F02-250S      | 4   | LOCK WASHER #14 STAINLESS                  |
| 7                     | F10-M6-1X22S  | 2   | SOCKET CAP M6-1X22 STAINLESS               |
| 8                     | F10-M6-1X35S  | 2   | SOCKET CAP M6-1X35 MM STAINLESS            |
| 9                     | F12-250C24S   | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS        |
| 10                    | F05-250-06S   | 1   | SHOULDER SCREW 1/4 X 3/8 X 10-24 STAINLESS |
| 11                    | F12-250C12S   | 2   | FLAT HEAD 1/4-20 X 3/4" STAINLESS          |
| 12                    | PR-02687-2-01 | 1   | ROLLER SIDE SUPPORT                        |
| 13                    | PR-02952      | 1   | S/S MOVE PLATE                             |
| 14                    | PR-02685      | 1   | HOLDER SUPPORT                             |
| 15                    | PR-02698-L-07 | 1   | SUPPORT TWIN LEFT                          |
| 16                    | PR-06312      | 2   | SHAFT                                      |
| 17                    | PR-06311-1    | 2   | WHEEL                                      |
| 18                    | PR-03291-2-07 | 1   | ROLLER SHAFT 7"                            |
| 19                    | PR-03195-07   | 1   | IDLER BELT 1" x 7"                         |
| 20                    | PR-03195-A    | 2   | 3/8 COLLAR                                 |

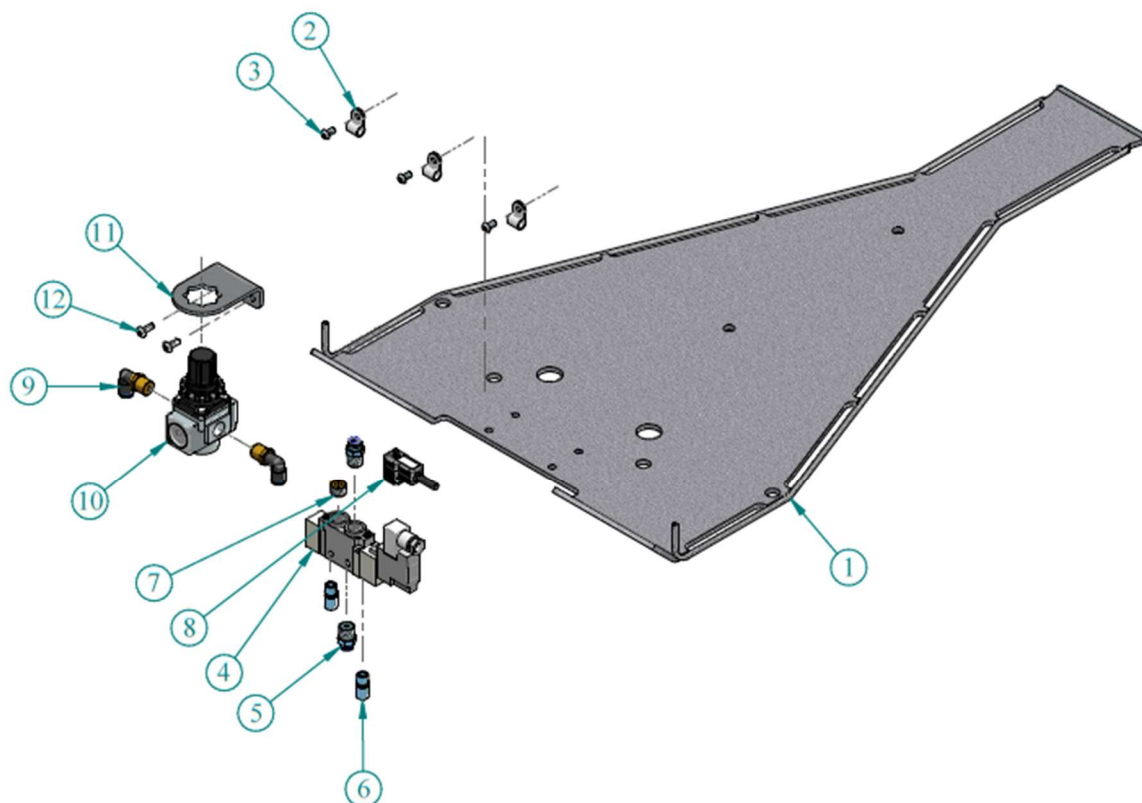
## 13.7.5.16: Scoop up 5051 7" - 16" (KR-5051-SCOOP-07-16)



## 13.7.5.17: Scoop up part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

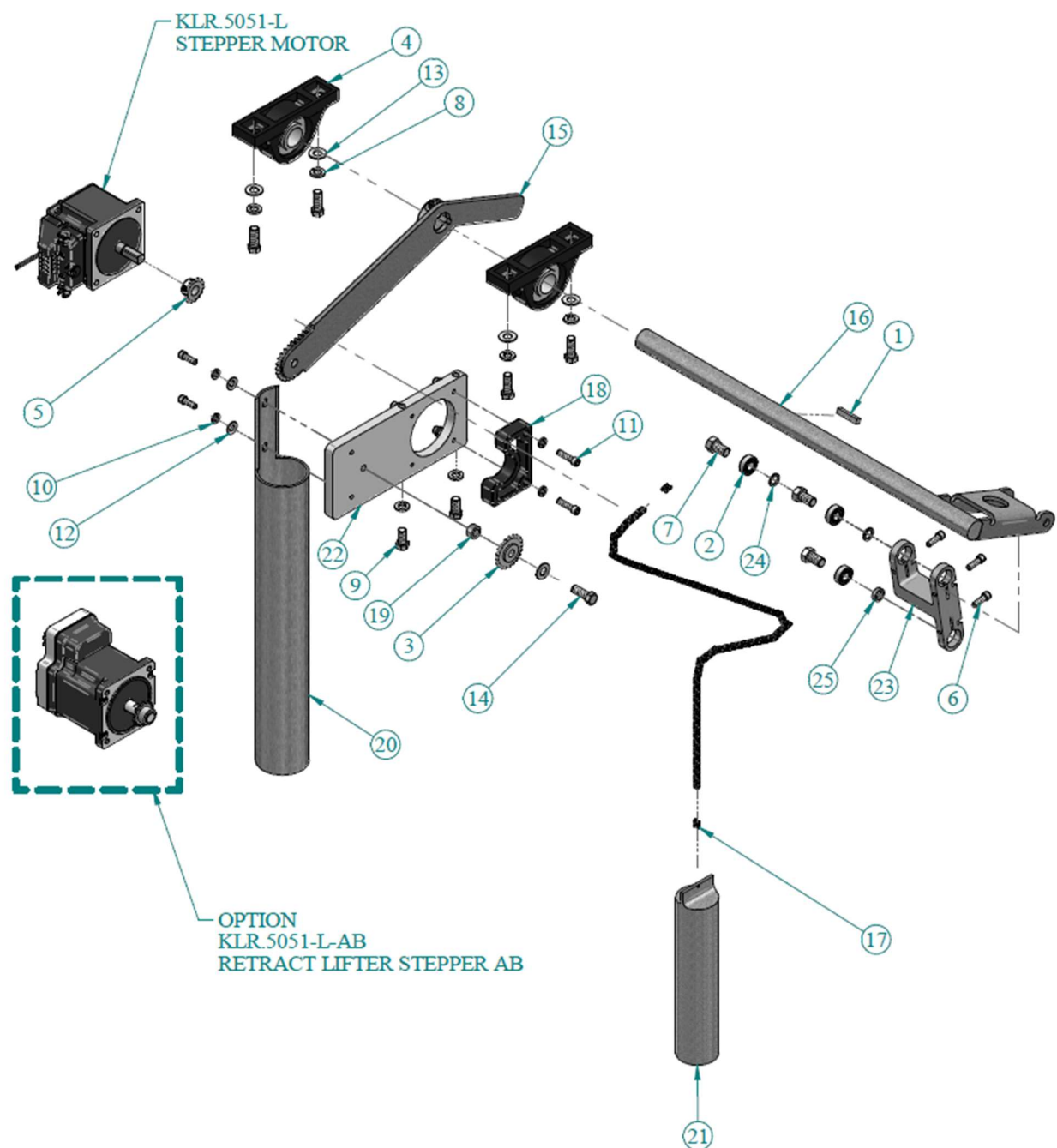
| KR-5051-SCOOP-07-16-L |                |     |                                      |
|-----------------------|----------------|-----|--------------------------------------|
| No.                   | Part number    | Qty | Title                                |
| 1                     | P02-00049      | 2   | BEARING                              |
| 2                     | P02-00095      | 4   | BEARING                              |
| 3                     | F12-312C16S    | 4   | FLAT HEAD 5/16-18 X 1" STAINLESS     |
| 4                     | F03-375CLS     | 2   | HEX NUT 3/8-16 LOW PROFILE STAINLESS |
| 5                     | F06-375C16N    | 2   | SET SCREW 3/8-16 X 1" NYLON          |
| 6                     | F12-138C06S    | 2   | FLAT HEAD 6-32 X 3/8" STAINLESS      |
| 7                     | F11-190F08S    | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS   |
| 8                     | F12-190F08S    | 6   | FLAT HEAD 10-32 X 1/2" STAINLESS     |
| 9                     | PR-02689-16-07 | 1   | RETRACTABLE PLATE ASSEMBLY 16" X 7"  |
| 10                    | PR-02918-7     | 1   | S/S BELT BRACKET 07-16               |
| 11                    | PR-02965       | 2   | S/S WASHER                           |
| 12                    | PR-00355       | 2   | HINGES SPACER S/S                    |
| 13                    | PR-00352-1     | 2   | SCREW HINGE 3/8-24 S/S               |
| 14                    | PR-02700-A     | 1   | SCOOP "A"                            |
| 15                    | PR-02700-B     | 1   | SCOOP "B"                            |
| 16                    | PR-02774       | 2   | ALUMINIUM HINGE UPPER SCOOP          |

### 13.8: OPTION Nitrogen nozzle 4" - 16" (KR-5051-AZOTE)



| KR-5051-AZOTE-L |             |     |                                             |
|-----------------|-------------|-----|---------------------------------------------|
| No.             | Part number | Qty | Title                                       |
| 1               | PR-02689-AZ | 1   | RETRACTABLE PLATE ASSEMBLY AZOTE            |
| 2               | PE-01004    | 3   | NYLON CABLE CLIP 5/16                       |
| 3               | F11-190F06S | 3   | BUTTON HEAD 10-32 x 3/8 STAINLESS           |
| 4               | PR-00050    | 1   | VALVE 5 PORTS 2 POSITIONS COIL 24 VDC (14B) |
| 5               | PP-00159    | 2   | CONNECTOR UNION 1/4 TUB - 1/4 NPT           |
| 6               | PP-00185    | 2   | MUFFLER 1/8 NPT                             |
| 7               | PP-00121    | 1   | PLUG 1/4 NPT                                |
| 8               | PE-00622    | 1   | MSUD VALVE                                  |
| 9               | PP-00161    | 2   | 90 DEGREES ELBOW 1/4 TUB X 1/4 NPT          |
| 10              | PP-00693    | 1   | PRESSURE REGULATOR WITH MANOMETER           |
| 11              | PR-09957    | 1   | SUPPORT FOR PRESSURE REGULATOR              |
| 12              | F11-190C08S | 2   | BUTTON HEAD 10-24 X 1/2 STAINLESS           |

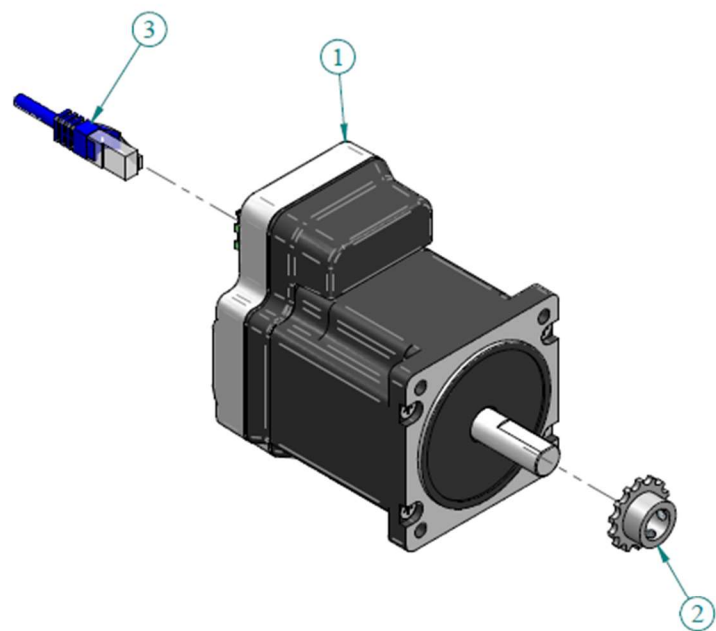


**13.9: Retract lifter**

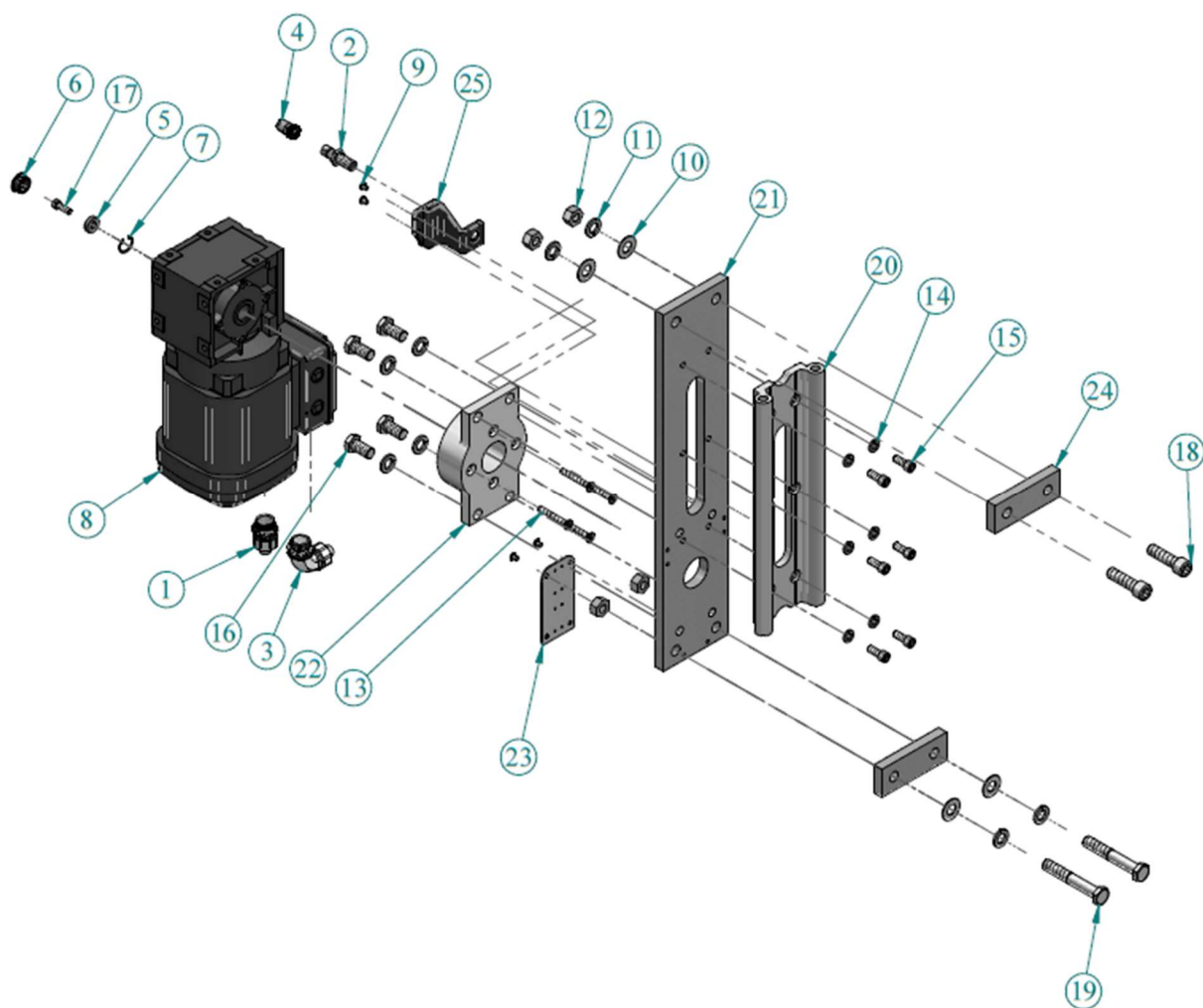


| RETRACT LIFTER |             |     |                                    |
|----------------|-------------|-----|------------------------------------|
| No.            | Part number | Qty | Title                              |
| 1              | PM-01422    | 1   | MACHINE KEY 1/4 ZINC               |
| 2              | PM-01520    | 3   | STEEL BEARING BALL                 |
| 3              | PM-04004    | 1   | IDLER SPROCKET #25 - 3/8"          |
| 4              | PM-01533    | 2   | FLANGE BEARING                     |
| 5              | SSB25-14IS  | 1   | SPROCKET 25B 14T BORE 1/2"         |
| 6              | F10-250C12S | 7   | SOCKET CAP 1/4-20 X 3/4" STAINLESS |
| 7              | F13-438C12S | 3   | HEX. HEAD 7-16-14 X 3/4" STAINLESS |
| 8              | F02-375S    | 6   | LOCK WASHER 3/8" STAINLESS         |
| 9              | F13-375C12S | 2   | HEX HEAD 3/8-16 X 3/4" STAINLESS   |
| 10             | F02-250S    | 8   | LOCK WASHER #14 STAINLESS          |
| 11             | F10-250C16S | 4   | SOCKET CAP 1/4-20 X 1" STAINLESS   |
| 12             | F01-250S    | 2   | FLAT WASHER 1/4 STAINLESS          |
| 13             | F01-375S    | 5   | FLAT WASHER 3/8" STAINLESS         |
| 14             | F13-375C16S | 5   | HEX HEAD 3/8-16 X 1" STAINLESS     |
| 15             | PR-02793    | 1   | ARM                                |
| 16             | PR-02670    | 1   | FRONT REINFORCEMENT SHAFT          |
| 17             | KR-02794    | 1   | Chain assembly #25                 |
| 18             | PR-02907    | 1   | GUIDE                              |
| 19             | PR-02795    | 1   | SPACER                             |
| 20             | PR-08052    | 1   | SQUARE TUBING                      |
| 21             | PR-02796    | 1   | WEIGHT                             |
| 22             | PR-02668    | 1   | SERVO MOTOR PLATE                  |
| 23             | PR-02775    | 1   | ROD END BLOCK                      |
| 24             | PR-08238    | 2   | SHIM                               |
| 25             | PR-02819    | 1   | SHIM                               |

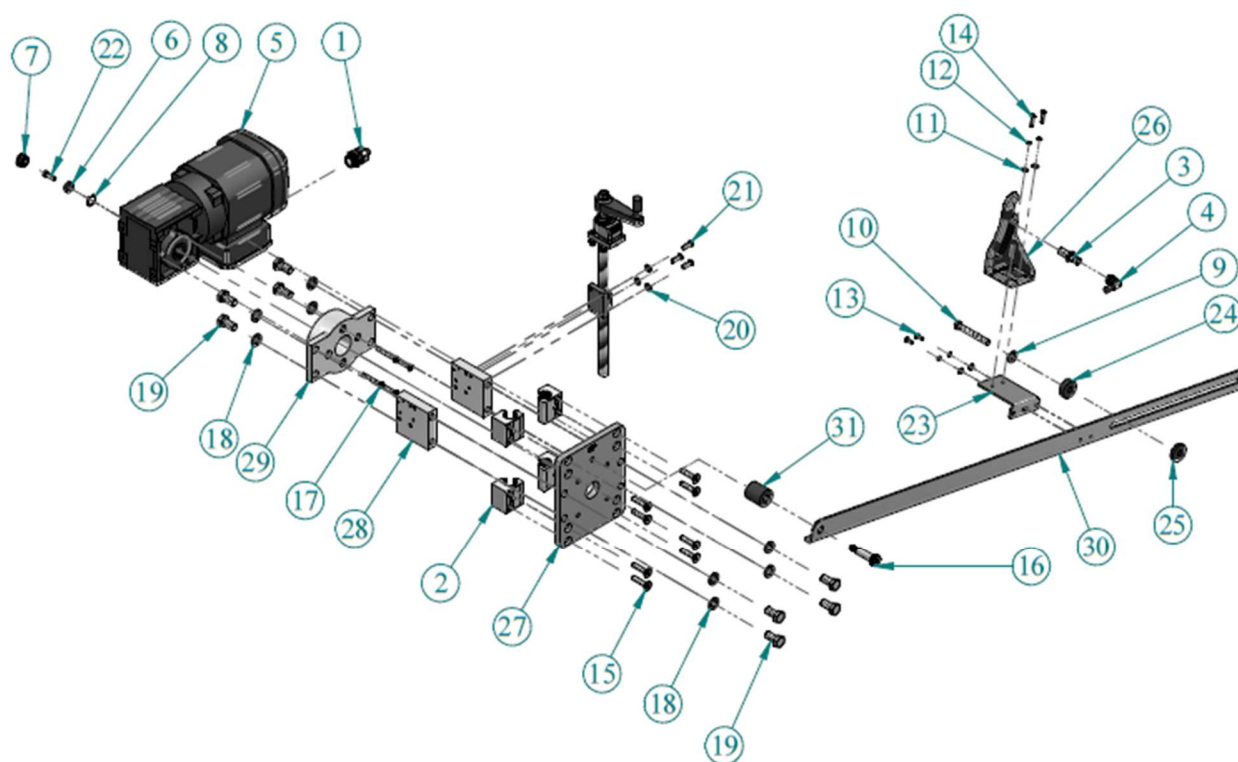
13.9.1: Retract lifter stepper motor for KLR.5051-AB



| KLR.5051-L-AB |             |     |                                             |
|---------------|-------------|-----|---------------------------------------------|
| No.           | Part number | Qty | Title                                       |
| 1             | PE-00628    | 1   | LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK |
| 2             | PR-02831    | 1   | SPROCKET 25B 14T BORE 14mm                  |
| 3             | PE-00626-10 | 1   | ETHERNET CABLE 10 FEET                      |

**13.10: Retract motors****13.10.1: Lower retract motor**

| KLR.5051-L |                           |     |                                            |
|------------|---------------------------|-----|--------------------------------------------|
| No.        | Part number               | Qty | Title                                      |
| 1          | PE-00116                  | 1   | CONNECTOR 3/8" STRAIGHT                    |
| 2          | PE-00141-NO-PNP           | 1   | PROX SWITCH                                |
| 3          | PE-00116-A                | 1   | CONNECTOR 3/8" - 90 DEGRÉES                |
| 4          | PE-00508                  | 1   | WIRE CONNECTOR                             |
| 5          | PE-00582-WASHER           | 1   | FLAT WASHER 3/8" ZINC                      |
| 6          | PE-00582-PLUG             | 1   | PLUG 3/4" (BLACK, NYLON) FOR SEW GEARDRIVE |
| 7          | PE-00582-RINGS            | 1   | INTERNAL SNAP RING Ø3/4" F16-0750          |
| 8          | PE-00583(CONFIGURATION 1) | 1   | MOTOR EURO DRIVE 10.25:1 - 1/2 HP          |
| 9          | F11-190F04S               | 4   | BUTTON HEAD 10-32 x 1/4" STAINLESS         |
| 10         | F01-500S                  | 4   | FLAT WASHER 1/2" STAINLESS                 |
| 11         | F02-500S                  | 8   | LOCK WASHER 1/2" STAINLESS                 |
| 12         | F03-500CS                 | 4   | HEX NUT 1/2-13 STAINLESS                   |
| 13         | F12-M6-1X45S              | 4   | FLAT HEAD M6X45 X 1 3/4" STAINLESS         |
| 14         | F02-312S                  | 6   | LOCK WASHER 5/16" STAINLESS                |
| 15         | F10-312C12S               | 6   | SOCKET CAP 5/16-18 X 3/4" STAINLESS        |
| 16         | F13-500C16S               | 4   | HEX. HEAD 1/2-13 x 1" STAINLESS            |
| 17         | F13-250C12S               | 1   | HEX HEAD 1/4-20 X 3/4" STAINLESS           |
| 18         | F10-500C28S               | 2   | SOCKET CAP 1/2-13 X 1 3/4" STAINLESS       |
| 19         | F13-500C52S               | 2   | HEX HEAD 1/2-13 x 3 1/4" STAINLESS         |
| 20         | PR-03357-16               | 1   | IGUS RAIL                                  |
| 21         | PR-02664                  | 1   | RETRACT SUPPORT                            |
| 22         | PR-02665                  | 1   | GEAR SUPPORT HOLDER                        |
| 23         | PR-04556                  | 1   | HOSE CLAMP PLATE                           |
| 24         | PR-02726                  | 2   | SPACER                                     |
| 25         | PR-02740-L                | 1   | SENSOR BRACKET LEFT                        |

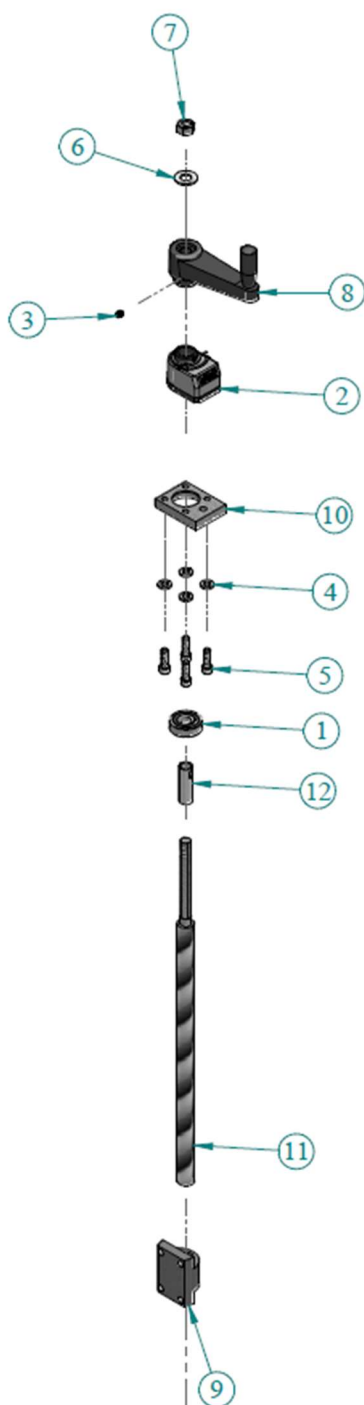
**13.10.2: Upper retract motor**



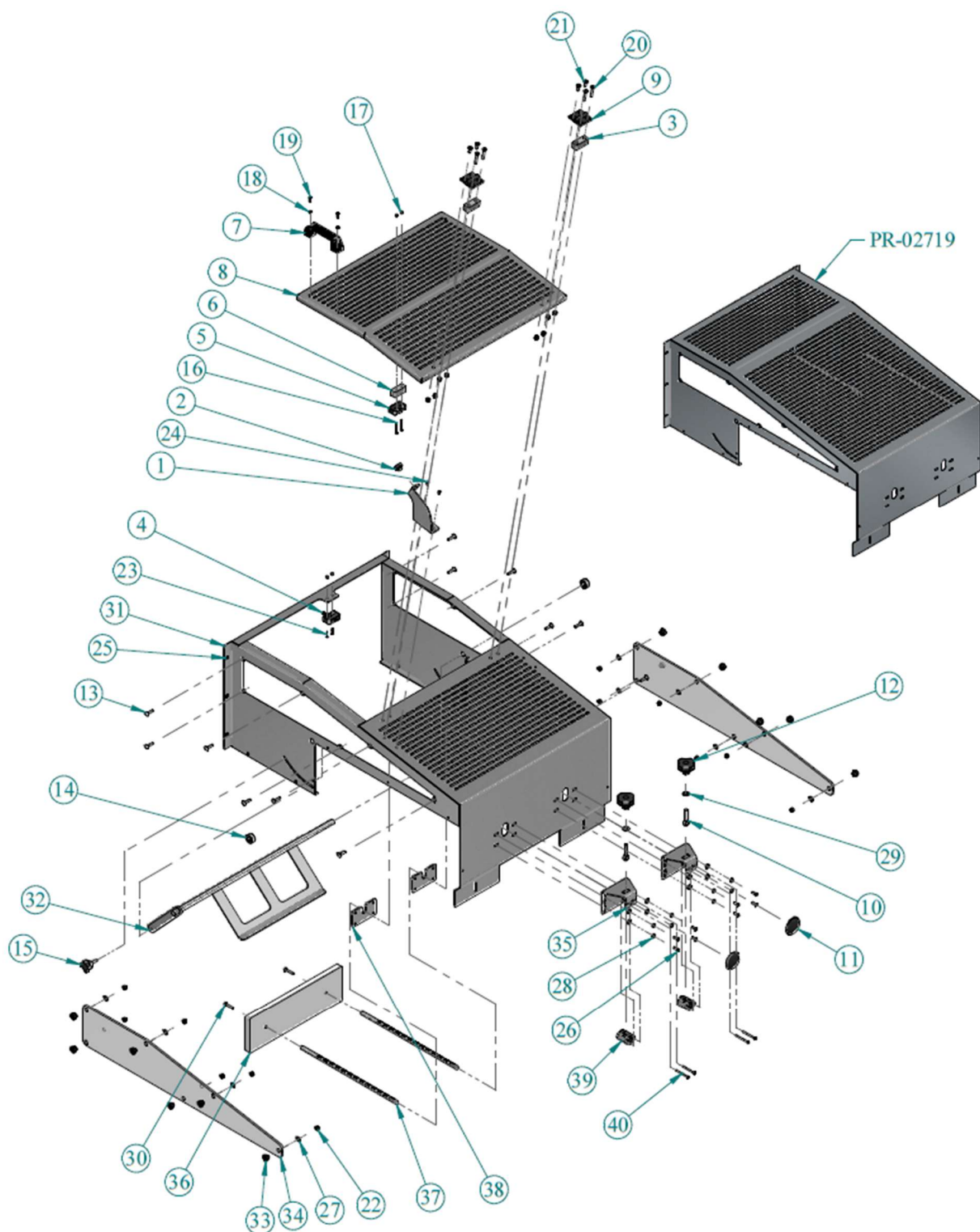
| UPPER RETRACT MOTOR |                 |     |                                                |
|---------------------|-----------------|-----|------------------------------------------------|
| No.                 | Part number     | Qty | Title                                          |
| 1                   | PE-00116        | 1   | CONNECTOR 3/8 STRAIGHT                         |
| 2                   | PM-00198        | 4   | RAIL SUPPORT                                   |
| 3                   | PE-00141-NO-PNP | 1   | PROX SWITCH                                    |
| 4                   | PE-00508        | 1   | WIRE CONNECTOR                                 |
| 5                   | PE-00583        | 1   | GEARMOTOR SEW EURODRIVE 10.25:1 - 1/2HP        |
| 6                   | PE-00582-WASHER | 1   | FLAT WASHER 3/8" ZINC                          |
| 7                   | PE-00582-PLUG   | 1   | PLUG 3/4" (BLACK, NYLON) FOR SEW GEARDRIVE     |
| 8                   | PE-00582-RINGS  | 1   | INTERNAL SNAP RING Ø3/4" F16-0750              |
| 9                   | F01-375S        | 1   | FLAT WASHER 3/8" STAINLESS                     |
| 10                  | F13-375C44S     | 1   | HEX HEAD 3/8-16 X 2 3/4" STAINLESS             |
| 11                  | F01-190S        | 4   | FLAT WASHER #10 STAINLESS                      |
| 12                  | F02-190S        | 4   | LOCK WASHER #10 STAINLESS                      |
| 13                  | F11-190F08S     | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS             |
| 14                  | F11-190F12S     | 2   | BUTTON HEAD 10-32 X 3/4" STAINLESS             |
| 15                  | F12-M8-1.25X35S | 8   | FLAT HEAD M8-1.25 X 35 STAINLESS               |
| 16                  | F05-500-24S     | 1   | SHOULDER SCREW 1/2 X 1 1/2" X 3/8-16 STAINLESS |
| 17                  | F12-M6-1X45S    | 4   | FLAT HEAD M6X45 X 1 3/4" STAINLESS             |
| 18                  | F02-500S        | 8   | LOCK WASHER 1/2" STAINLESS                     |
| 19                  | F13-500C16S     | 8   | HEX. HEAD 1/2-13 x 1" STAINLESS                |
| 20                  | F02-250S        | 3   | LOCK WASHER #14 STAINLESS                      |
| 21                  | F11-250C12S     | 3   | BUTTON HEAD 1/4-20 X 3/4" STAINLESS            |
| 22                  | F13-250C12S     | 1   | HEX HEAD 1/4-20 X 3/4" STAINLESS               |
| 23                  | PR-02882        | 1   | HOME SENSOR BRACKET 2                          |
| 24                  | PR-02906        | 1   | WASHER 3/8"                                    |
| 25                  | PR-02905        | 1   | WASHER 3/8"                                    |
| 26                  | PR-02883-L      | 1   | HOME SENSOR BRACKET LEFT                       |
| 27                  | PR-02666        | 1   | MAST SUPPORT PLATE                             |
| 28                  | PR-02667        | 2   | SUPPORT FOR ADJUSTMENT SCREW                   |
| 29                  | PR-02665        | 1   | GEAR SUPPORT HOLDER                            |
| 30                  | PR-02797-L      | 1   | RAIL LEFT                                      |
| 31                  | PR-02808        | 1   | BUSHING                                        |



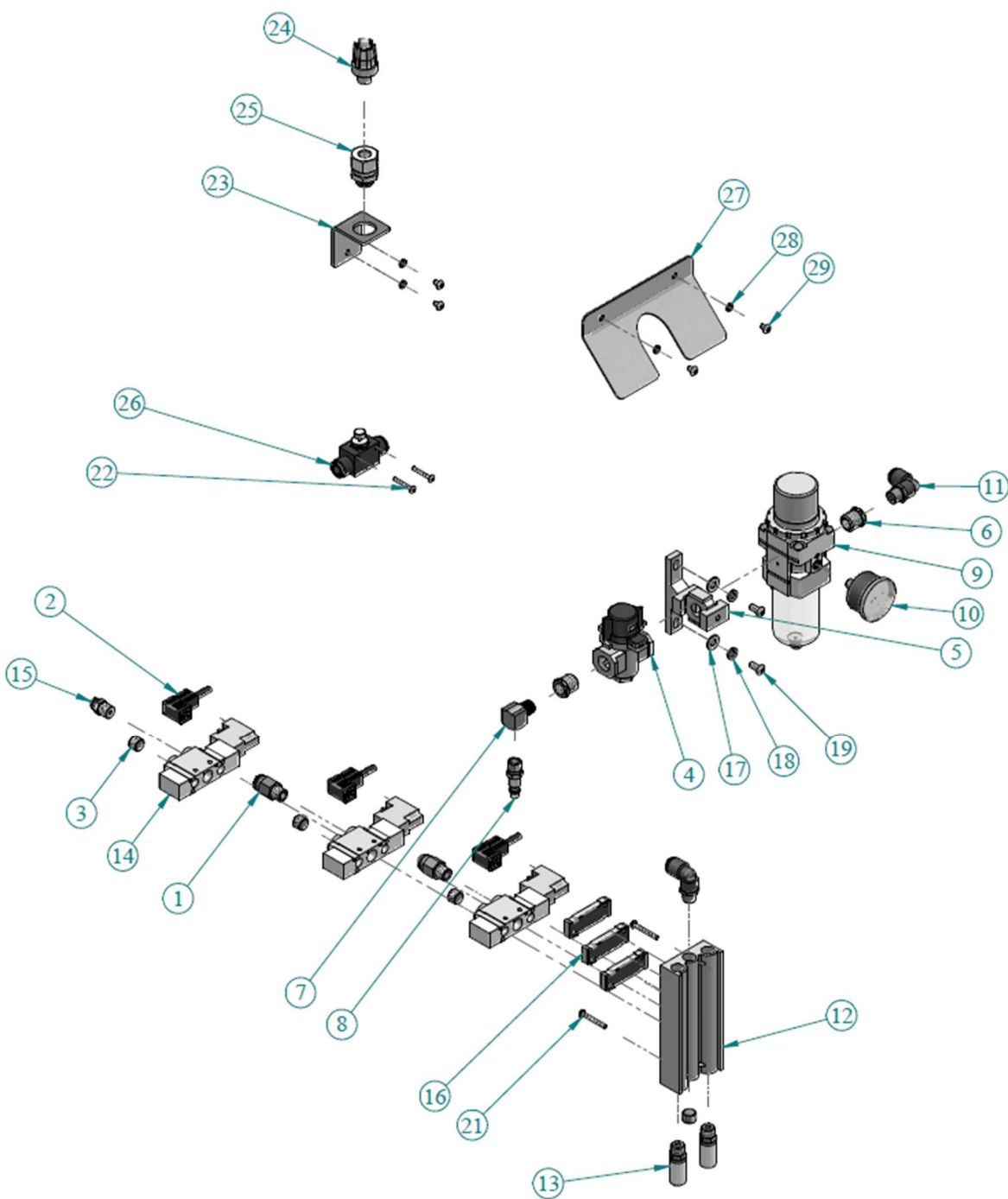
## 13.10.3: Height adjustment



| HEIGHT ADJUSTMENT |             |     |                                           |
|-------------------|-------------|-----|-------------------------------------------|
| No.               | Part number | Qty | Title                                     |
| 1                 | PM-00106    | 1   | BEARING                                   |
| 2                 | PM-00704    | 1   | DIGITAL POSITION INDICATOR INCLINED LOWER |
| 3                 | F06-190C04S | 1   | SET SCREW 10-24 X 1/4" STAINLESS          |
| 4                 | F02-250S    | 4   | LOCK WASHER #14 STAINLESS                 |
| 5                 | F10-250C12S | 4   | SOCKET CAP 1/4-20 X 3/4" STAINLESS        |
| 6                 | F01-375S    | 1   | FLAT WASHER 3/8" STAINLESS                |
| 7                 | F03-375CS   | 1   | NUT 3/8-16 STAINLESS                      |
| 8                 | PR-01065-A  | 1   | CRANK HANDLE                              |
| 9                 | pr-03065    | 1   | ROD HOLDER                                |
| 10                | PR-02724    | 1   | BEARING HOLDER                            |
| 11                | PR-02722    | 1   | ADJUSTMENT SCREW                          |
| 12                | PR-02725    | 1   | SPACER                                    |

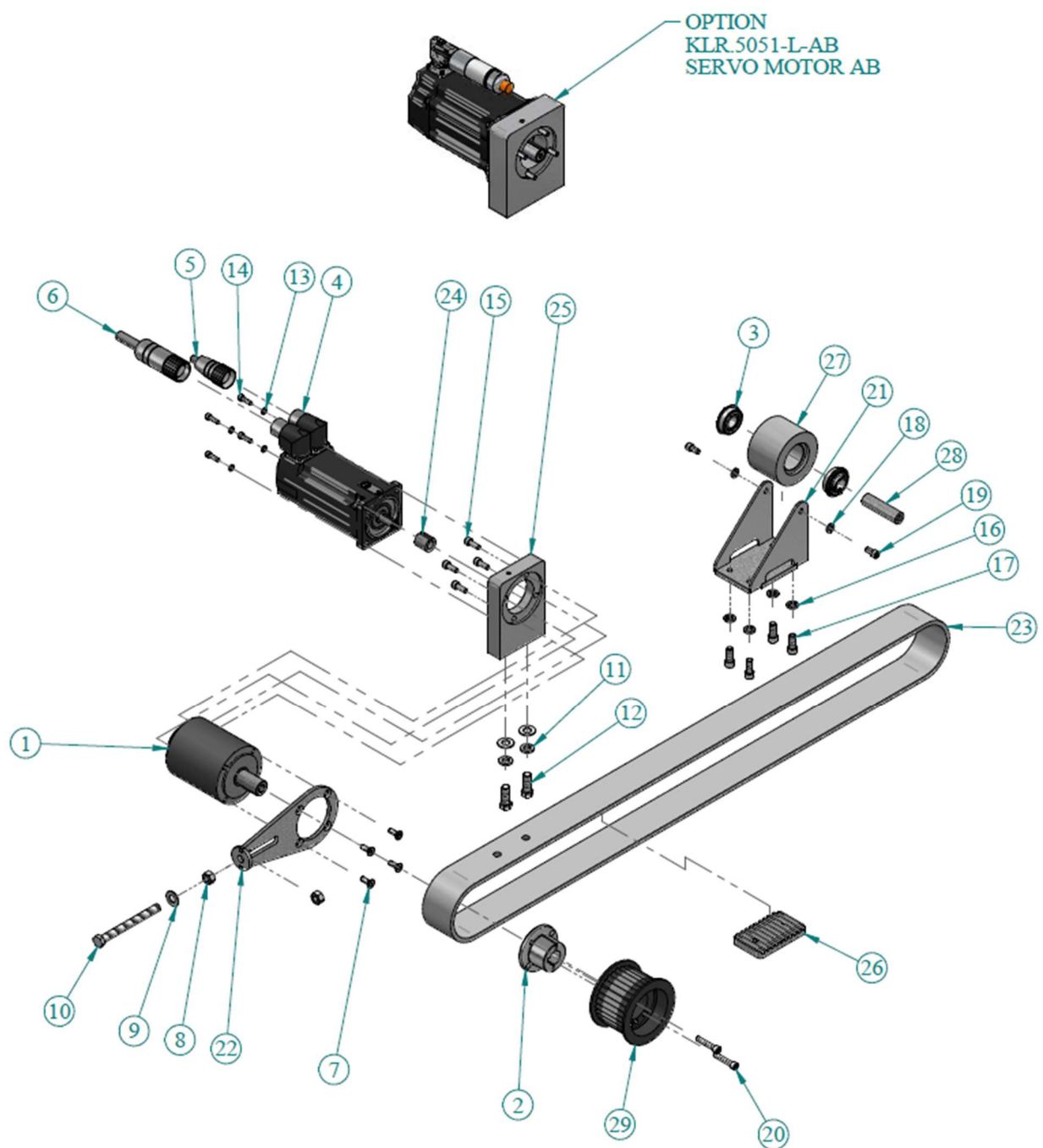
**13.11: Slanted guard**

| SLANTED GUARD |             |     |                                                  |
|---------------|-------------|-----|--------------------------------------------------|
| No.           | Part number | Qty | Title                                            |
| 1             | PR-02924-B  | 1   | DOOR STOP                                        |
| 2             | PM-00182    | 1   | END CAP                                          |
| 3             | PR-10182    | 2   | SPACER                                           |
| 4             | PE-00538    | 1   | SAFETY SWITCH                                    |
| 5             | PE-00538-A  | 1   | SAFETY SWITCH                                    |
| 6             | PR-10184    | 1   | SPACER                                           |
| 7             | PM-03030    | 1   | HANDLE BLACK POLYCARBONATE                       |
| 8             | PR-02922    | 1   | TUNNEL DOOR                                      |
| 9             | PM-03029    | 2   | HINGE                                            |
| 10            | PM-00143B   | 2   | EYELETS BOLT FOR LEVELER SOCKET                  |
| 11            | PM-00526    | 2   | RUBBER CAP                                       |
| 12            | PM-00143D   | 2   | POIGNÉE FEMALE 3/8-16 NOLU                       |
| 13            | PM-04022    | 12  | 18-8 SS SQUARE-NECK CARRIAGE BOLT 1/4-20, 1 LONG |
| 14            | PM-00253    | 2   | SHAFT COLLAR 5/8"                                |
| 15            | PM-00174    | 1   | FOUR PRONG KNOB, MALE 1/4-20 UNC x 1" LG.        |
| 16            | F11-138C24S | 2   | BUTTON HEAD #6-32 UNC x 1 1/2" LG. STAINLESS     |
| 17            | F03-138CNS  | 4   | NYLON LOCK NUT 6-32 STAINLESS                    |
| 18            | F01-190S    | 2   | FLAT WASHER #10 STAINLESS                        |
| 19            | F11-190C10S | 2   | BUTTON HEAD 10-24 X 5/8 STAINLESS                |
| 20            | F12-250C24S | 4   | FLAT HEAD 1/4-20 X 1 1/2" STAINLESS              |
| 21            | F12-250C12S | 4   | FLAT HEAD 1/4-20 X 3/4" STAINLESS                |
| 22            | F03-250CNS  | 20  | NYLON LOCK NUT 1/4" STAINLESS                    |
| 23            | F11-138C12S | 2   | BUTTON HEAD 6-32 X 3/4" STAINLESS                |
| 24            | F11-190F06S | 2   | BUTTON HEAD 10-32 x 3/8 STAINLESS                |
| 25            | F11-190F04S | 10  | BUTTON HEAD 10-32 x 1/4" STAINLESS               |
| 26            | F11-250F10S | 8   | BUTTON HEAD 1/4-28 X 5/8" STAINLESS              |
| 27            | F01-250S    | 20  | FLAT WASHER 1/4 STAINLESS                        |
| 28            | F02-250S    | 8   | LOCK WASHER #14 STAINLESS                        |
| 29            | F01-375S    | 2   | FLAT WASHER 3/8" STAINLESS                       |
| 30            | F12-250C20S | 2   | FLAT HEAD 1/4-20 X 1 1/4 STAINLESS               |
| 31            | PR-02719-01 | 1   | GUARD WITH DOOR                                  |
| 32            | PR-02856-L  | 1   | KLR.5051 LEFT BUMPER LEFT                        |
| 33            | PR-06756    | 12  | THREADED SPACER                                  |
| 34            | PR-02604    | 2   | LEXAN                                            |
| 35            | PR-02551    | 2   | BLOCK SUPPORT FOR 1/2" ROD                       |
| 36            | PR-02552    | 1   | STOPPER                                          |
| 37            | PR-02553-16 | 2   | ROD 16                                           |
| 38            | PR-02768    | 2   | BACK PLATE                                       |
| 39            | PR-11095    | 2   | NYLON SPACER                                     |
| 40            | F11-190F32S | 4   | BUTTON HEAD 10-32 X 2" STAINLESS                 |

**13.12: Pneumatic**

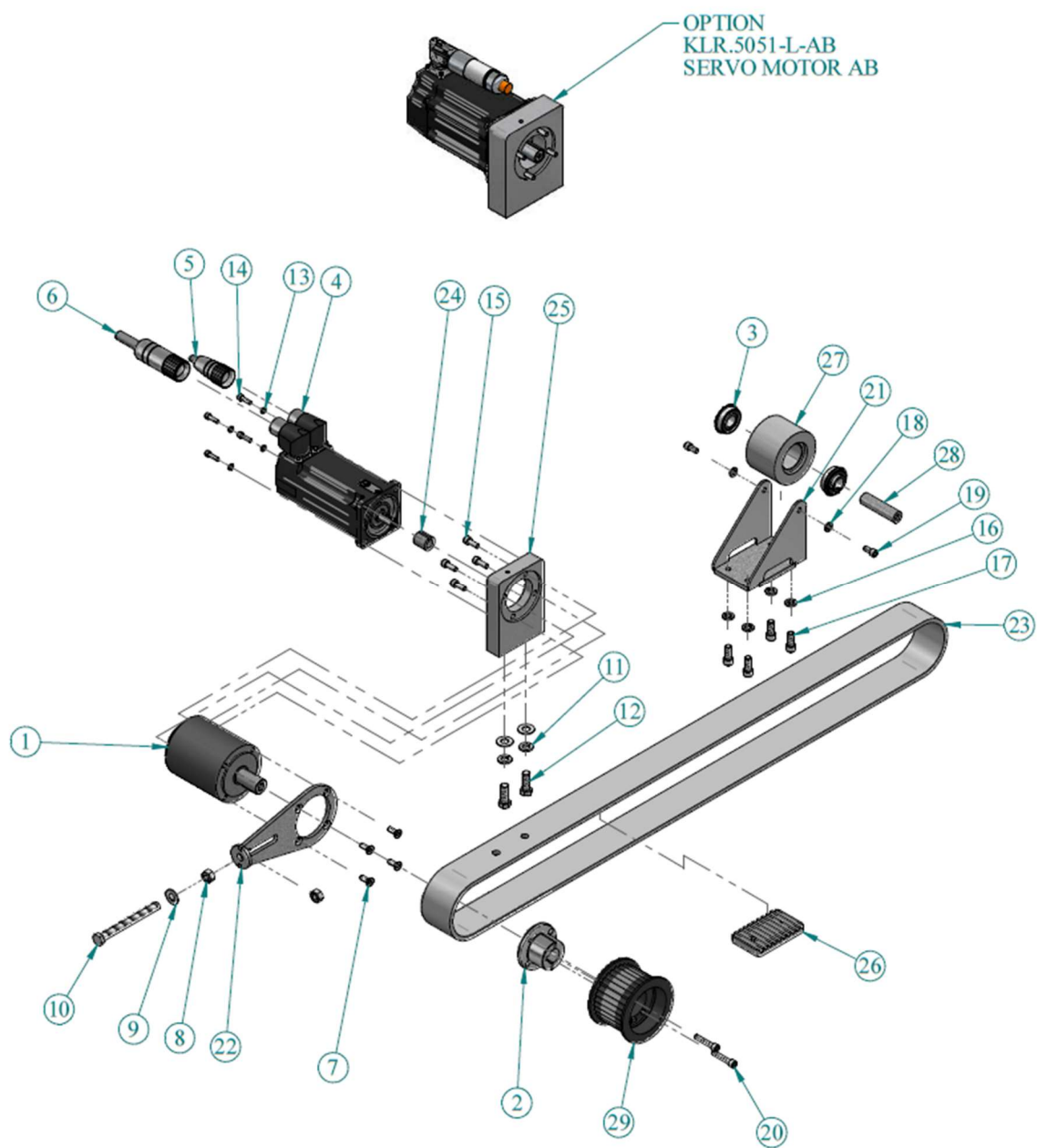


| PNEUMATIC |              |     |                                              |
|-----------|--------------|-----|----------------------------------------------|
| No.       | Part number  | Qty | Title                                        |
| 1         | PP-00160     | 2   | 3/8 TUBE FITTING 1/4 NPT                     |
| 2         | PE-00622     | 3   | MSUD VALVE                                   |
| 3         | PP-00121     | 6   | PLUG 1/4 NPT                                 |
| 4         | PP-00535     | 1   | VALVE PURGE                                  |
| 5         | PP-00533     | 1   | T-BRACKET FOR REGULATOR SERIE 3000           |
| 6         | PP-00205     | 2   | REDUCTOR 1/4" F - 3/8" M BRASS               |
| 7         | PP-00166     | 1   | 90 ELBOW 1/4 NPT F / 1/4 NPT M               |
| 8         | PP-00194     | 1   | QUICK COUPLERS 1/4 NPT MALE                  |
| 9         | PP-00534     | 1   | PRESSURE REGULATOR 3/8"                      |
| 10        | PP-00501     | 1   | PRESSION GAUGE                               |
| 11        | PP-00162     | 2   | 90 COUDE 3/8 TUB 1/4 NPT                     |
| 12        | PP-00531     | 1   | MANIFOLD 6 STATIONS                          |
| 13        | PP-00193     | 2   | MUFFLER 1/4 NPT                              |
| 14        | PP-00518-DIN | 3   | VALVE 5 PORT 2 POSITIONS COIL 24 VDC -MOLDED |
| 15        | PP-00159     | 1   | CONNECTOR UNION 1/4 TUB - 1/4 NPT            |
| 16        | PP-00523     | 3   | PLATE TO BLOCK MANIFOLD STATION              |
| 17        | F01-250S     | 2   | FLAT WASHER 1/4 STAINLESS                    |
| 18        | F02-250S     | 2   | LOCK WASHER #14 STAINLESS                    |
| 19        | F11-250F08S  | 2   | BUTTON HEAD 1/4-28 X 1/2" STAINLESS          |
| 20*       | F02-164S     | 2   | LOCK WASHER #8 STAINLESS                     |
| 21        | F11-164C20S  | 2   | BUTTON HEAD 8-32 X 1 1/4" STAINLESS          |
| 22        | F11-138C16S  | 2   | #6-32 X 1 IN BUTTON HEAD S                   |
| 23        | PR-02923     | 1   | PP-00589 BRACKET                             |
| 24        | PP-00589     | 1   | WINDJET BUSE                                 |
| 25        | PP-00213     | 1   | BULKHEAD UNION 3/8" TUB - 1/4 NPT (F)        |
| 26        | PP-00192     | 1   | SPEED CONTROL 3/8 TUB-3/8 TUB                |
| 27        | PR-02925     | 1   | DEFLECTOR                                    |
| 28        | F02-190S     | 4   | LOCK WASHER #10 STAINLESS                    |
| 29        | F11-190C04S  | 4   | BUTTON HEAD 10-24 X 1/4 STAINLESS            |

**13.13: Servo motor**

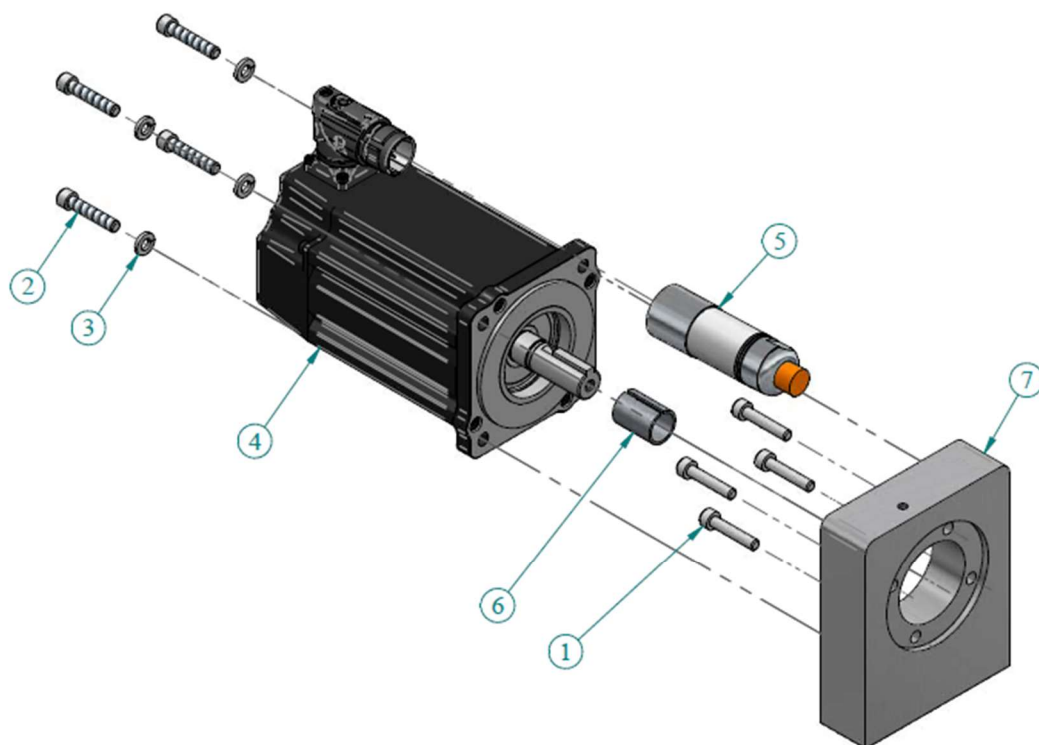


| SERVO MOTOR |              |     |                                      |
|-------------|--------------|-----|--------------------------------------|
| No.         | Part number  | Qty | Title                                |
| 1           | PM-00513     | 1   | PLANETARY GEAR BOX PLE 80 I=20       |
| 2           | PM-01702-20  | 1   | TAPER LOCK                           |
| 3           | PM-02133     | 2   | BEARING                              |
| 4           | PE-00555     | 1   | SERVO MOTOR                          |
| 5           | PE-00563A    | 1   | CABLE ENCODER FOR SERVO MOTOR        |
| 6           | PE-00562A    | 1   | POWER CABLE FOR SERVO MOTOR          |
| 7           | F12-M6-1X16S | 4   | FLAT HEAD M6X1 x 16mm STAINLESS      |
| 8           | F03-375CS    | 2   | NUT 3/8-16 STAINLESS                 |
| 9           | F01-375S     | 3   | FLAT WASHER 3/8" STAINLESS           |
| 10          | F13-375C64FS | 1   | CLAMPING SCREW                       |
| 11          | F02-375S     | 2   | LOCK WASHER 3/8" STAINLESS           |
| 12          | F13-375C16S  | 2   | HEX HEAD 3/8-16 X 1" STAINLESS       |
| 13          | F02-190S     | 4   | LOCK WASHER #10 STAINLESS            |
| 14          | F10-190F10S  | 4   | SOCKET CAP 10-32 X 5/8" STAINLESS    |
| 15          | F10-M6-1X16s | 4   | SOCKET CAP M6-1X16 MM STAINLESS      |
| 16          | F02-312S     | 4   | LOCK WASHER 5/16" STAINLESS          |
| 17          | F10-312C12S  | 4   | SOCKET CAP 5/16-18 X 3/4" STAINLESS  |
| 18          | F02-250S     | 2   | LOCK WASHER #14 STAINLESS            |
| 19          | F10-250C08S  | 2   | SOCKET CAP 1/4-20 X 1/2" STAINLESS   |
| 20          | F10-250C20   | 2   | SOCKET CAP 1/4-20 X 1 1/4" STAINLESS |
| 21          | PR-02822     | 1   | WHEEL SUPPORT                        |
| 22          | PR-02757     | 1   | TENSIONER                            |
| 23          | PR-04522-B   | 1   | TIMING BELT KLR.5051                 |
| 24          | PR-03961-1   | 1   | BUSHING FOR SERVO MOTOR              |
| 25          | PR-02697     | 1   | SERVO MOTOR COUPLING                 |
| 26          | PR-02826     | 1   | TIMING BELT LINK                     |
| 27          | PR-04918     | 1   | IDLER ROLLER                         |
| 28          | PR-04919     | 1   | IDLER ROLLER SHAFT                   |
| 29          | PR-02762     | 1   | TIMING PULLEY                        |

**13.13: Servo motor**

| SERVO MOTOR |              |     |                                      |
|-------------|--------------|-----|--------------------------------------|
| No.         | Part number  | Qty | Title                                |
| 1           | PM-00513     | 1   | PLANETARY GEAR BOX PLE 80 I=20       |
| 2           | PM-01702-20  | 1   | TAPER LOCK                           |
| 3           | PM-02133     | 2   | BEARING                              |
| 4           | PE-00555     | 1   | SERVO MOTOR                          |
| 5           | PE-00563A    | 1   | CABLE ENCODER FOR SERVO MOTOR        |
| 6           | PE-00562A    | 1   | POWER CABLE FOR SERVO MOTOR          |
| 7           | F12-M6-1X16S | 4   | FLAT HEAD M6X1 x 16mm STAINLESS      |
| 8           | F03-375CS    | 2   | NUT 3/8-16 STAINLESS                 |
| 9           | F01-375S     | 3   | FLAT WASHER 3/8" STAINLESS           |
| 10          | F13-375C64FS | 1   | CLAMPING SCREW                       |
| 11          | F02-375S     | 2   | LOCK WASHER 3/8" STAINLESS           |
| 12          | F13-375C16S  | 2   | HEX HEAD 3/8-16 X 1" STAINLESS       |
| 13          | F02-190S     | 4   | LOCK WASHER #10 STAINLESS            |
| 14          | F10-190F10S  | 4   | SOCKET CAP 10-32 X 5/8" STAINLESS    |
| 15          | F10-M6-1X16s | 4   | SOCKET CAP M6-1X16 MM STAINLESS      |
| 16          | F02-312S     | 4   | LOCK WASHER 5/16" STAINLESS          |
| 17          | F10-312C12S  | 4   | SOCKET CAP 5/16-18 X 3/4" STAINLESS  |
| 18          | F02-250S     | 2   | LOCK WASHER #14 STAINLESS            |
| 19          | F10-250C08S  | 2   | SOCKET CAP 1/4-20 X 1/2" STAINLESS   |
| 20          | F10-250C20   | 2   | SOCKET CAP 1/4-20 X 1 1/4" STAINLESS |
| 21          | PR-02822     | 1   | WHEEL SUPPORT                        |
| 22          | PR-02757     | 1   | TENSIONER                            |
| 23          | PR-04522-B   | 1   | TIMING BELT KLR.5051                 |
| 24          | PR-03961-1   | 1   | BUSHING FOR SERVO MOTOR              |
| 25          | PR-02697     | 1   | SERVO MOTOR COUPLING                 |
| 26          | PR-02826     | 1   | TIMING BELT LINK                     |
| 27          | PR-04918     | 1   | IDLER ROLLER                         |
| 28          | PR-04919     | 1   | IDLER ROLLER SHAFT                   |
| 29          | PR-02762     | 1   | TIMING PULLEY                        |

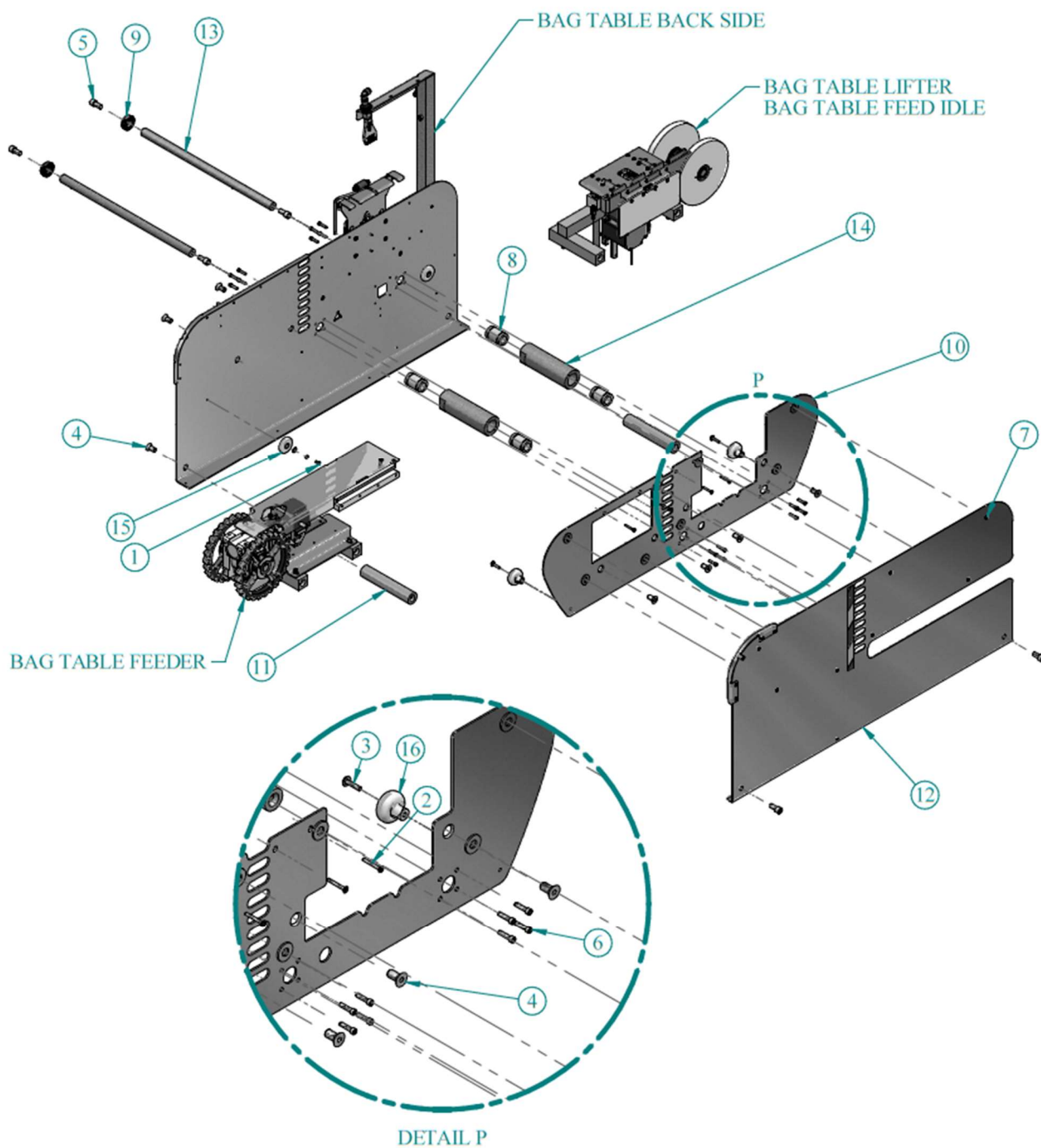
## 13.13.1: Servo motor for KLR.5051-AB



| SERVO MOTOR AB |              |     |                                      |
|----------------|--------------|-----|--------------------------------------|
| No.            | Part number  | Qty | Title                                |
| 1              | F10-M6-1X30S | 4   | SOCKET CAP M6-1X30 STAINLESS         |
| 2              | F10-250C20S  | 4   | SOCKET CAP 1/4-20 X 1 1/4" STAINLESS |
| 3              | F02-250S     | 4   | LOCK WASHER #14 STAINLESS            |
| 4              | PE-00660     | 1   | LOW INERTIA SERVO MOTOR              |
| 5              | PE-00664     | 1   | CABLE POWER NON-FLEX 10 M            |
| 6              | PR-03961     | 1   | SLEEVE                               |
| 7              | PR-02697-AB  | 1   | SERVO MOTOR COUPLING                 |

## 13.14: Bag table

## 13.14.1: Bag table (SN: KLR-422 – Beyond)

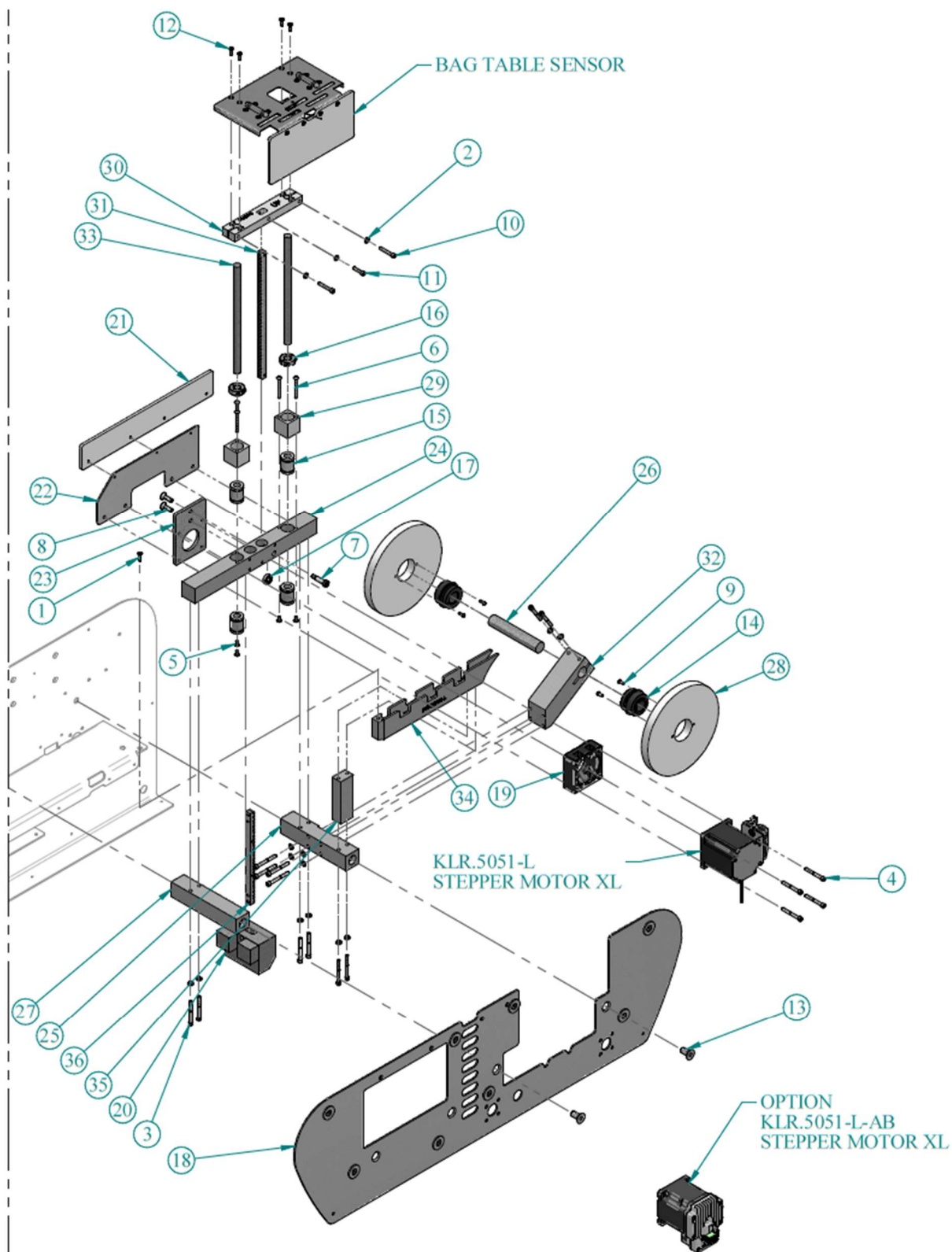




| <b>KLR.5051-L</b> |                    |            |                                       |
|-------------------|--------------------|------------|---------------------------------------|
| <b>No.</b>        | <b>Part number</b> | <b>Qty</b> | <b>Title</b>                          |
| 1                 | F11-250F08S        | 1          | BUTTON HEAD 1/4-28 X 1/2" STAINLESS   |
| 2                 | F12-190F24S        | 4          | FLAT HEAD 10-32 X 1 1/2" STAINLESS    |
| 3                 | F11-250F20S        | 2          | BUTTON HEAD 1/4-28 X 1 1/4" STAINLESS |
| 4                 | F12-500C16S        | 8          | FLAT HEAD 1/2-13 x 1" STAINLESS       |
| 5                 | F10-500C16S        | 6          | SOCKET CAP 1/2-13 X 1" STAINLESS      |
| 6                 | F10-250C16S        | 16         | SOCKET CAP 1/4-20 X 1" STAINLESS      |
| 7                 | F12-190F06S        | 7          | FLAT HEAD 10-32 X 3/8" STAINLESS      |
| 8                 | PM-00114-1000      | 4          | LINEAR BEARING 1"                     |
| 9                 | PM-00263           | 2          | SPLIT COLLAR 1"                       |
| 10                | PR-02801-L         | 1          | TABLE BAG FRAME LEFT                  |
| 11                | PR-02746           | 2          | CROSS MEMBER                          |
| 12                | PR-02802-L         | 1          | BAG TABLE SIDE 2 LEFT                 |
| 13                | PR-02830           | 2          | BAG TABLE RAIL                        |
| 14                | PR-02767           | 2          | BEARING FRAME                         |
| 15                | PR-02858           | 2          | SLIDER PUCK Ø2"                       |
| 16                | PR-02858-01        | 2          | SLIDER PUCK Ø2" SHIM                  |

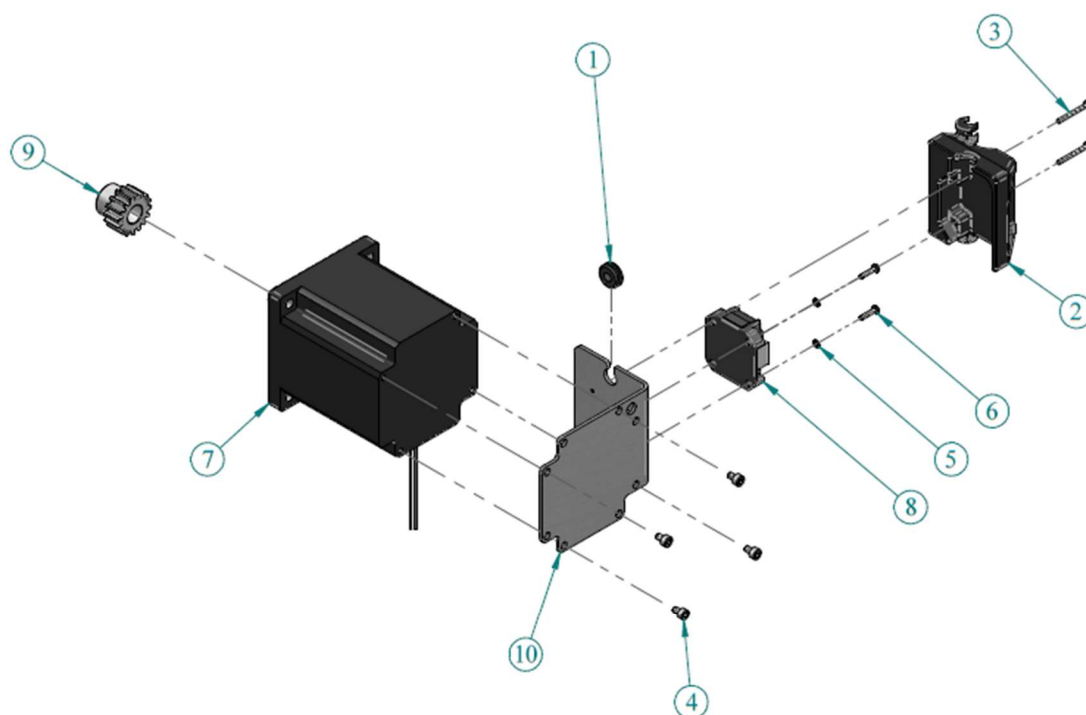


## 13.14.1.1: Bag lifter (KLR-00422 – Beyond)



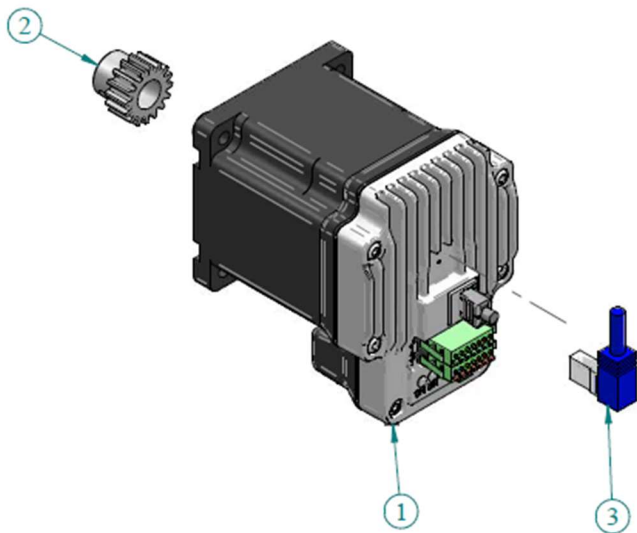
| KLR.5051-L |             |     |                                          |
|------------|-------------|-----|------------------------------------------|
| No.        | Part number | Qty | Title                                    |
| 1          | F12-190F12S | 1   | FLAT HEAD 10-32 X 3/4" STAINLESS         |
| 2          | F02-250S    | 15  | LOCK WASHER #14 STAINLESS                |
| 3          | F10-250C36S | 10  | SOCKET CAP 1/4-20 X 2-1/4" STAINLESS     |
| 4          | F10-250C32S | 6   | SOCKET CAP 1/4-20 X 2" STAINLESS         |
| 5          | F11-250C06S | 4   | BUTTON HEAD 1/4-20 X 3/8" STAINLESS      |
| 6          | F11-250C32S | 4   | BUTTON HEAD 1/4-20 X 2" STAINLESS        |
| 7          | F05-375-16  | 1   | SHOULDER SCREW 3/8 X 1 X 5/16-18 STEEL   |
| 8          | F12-312C16S | 2   | FLAT HEAD 5/16-18 X 1" STAINLESS         |
| 9          | F11-190F08S | 4   | BUTTON HEAD 10-32 X 1/2" STAINLESS       |
| 10         | F10-250C24S | 2   | SOCKET CAP 1/4-20 X 1 1/2" STAINLESS     |
| 11         | F10-250C16S | 1   | SOCKET CAP 1/4-20 X 1" STAINLESS         |
| 12         | F12-190F10S | 4   | FLAT HEAD 10-32 X 5/8" STAINLESS         |
| 13         | F12-500C16S | 2   | FLAT HEAD 1/2-13 x 1" STAINLESS          |
| 14         | PM-01541    | 2   | BEARING 1"                               |
| 15         | PM-00114    | 4   | LINEAR BEARING                           |
| 16         | PM-00261    | 2   | SPLIT COLAR 5/8"                         |
| 17         | P02-00095   | 1   | BEARING                                  |
| 18         | PR-02801-L  | 1   | TABLE BAG FRAME LEFT                     |
| 19         | PR-02632-AB | 1   | MOTOR BRACKET FOR SLIDING TABLE ASSEMBLY |
| 20         | PR-02821    | 1   | WEIGHT "8.5 LBS"                         |
| 21         | PR-02960    | 1   | SIDE GUIDE                               |
| 22         | PR-02959    | 1   | GUIDE PLATE                              |
| 23         | PR-02833    | 1   | MOTOR BRACKET FOR SLIDING TABLE          |
| 24         | PR-02631-L  | 1   | SLIDING TABLE GUIDE LEFT                 |
| 25         | PR-02629    | 1   | CROSSMEMBER                              |
| 26         | PR-02635    | 1   | IDLER AXIS                               |
| 27         | PR-02628    | 1   | CROSSMEMBER                              |
| 28         | PR-02639    | 2   | WHEEL                                    |
| 29         | PR-03711-B  | 2   | BEARING HOLDER                           |
| 30         | PR-02645    | 1   | SHAFT HOLDER                             |
| 31         | PR-02755    | 1   | RACK FOR SLIDING TABLE                   |
| 32         | PR-02633    | 1   | IDLER AXIS SUPPORT                       |
| 33         | PR-02646    | 2   | SLIDING TABLE AXIS                       |
| 34         | PR-02734-L  | 1   | SIDE GUIDE LEFT                          |
| 35         | PR-02744    | 1   | CROSSMEMBER                              |
| 36         | PR-02820    | 1   | RACK FOR SLIDING TABLE                   |

## 13.14.1.2: Stepper motor XL



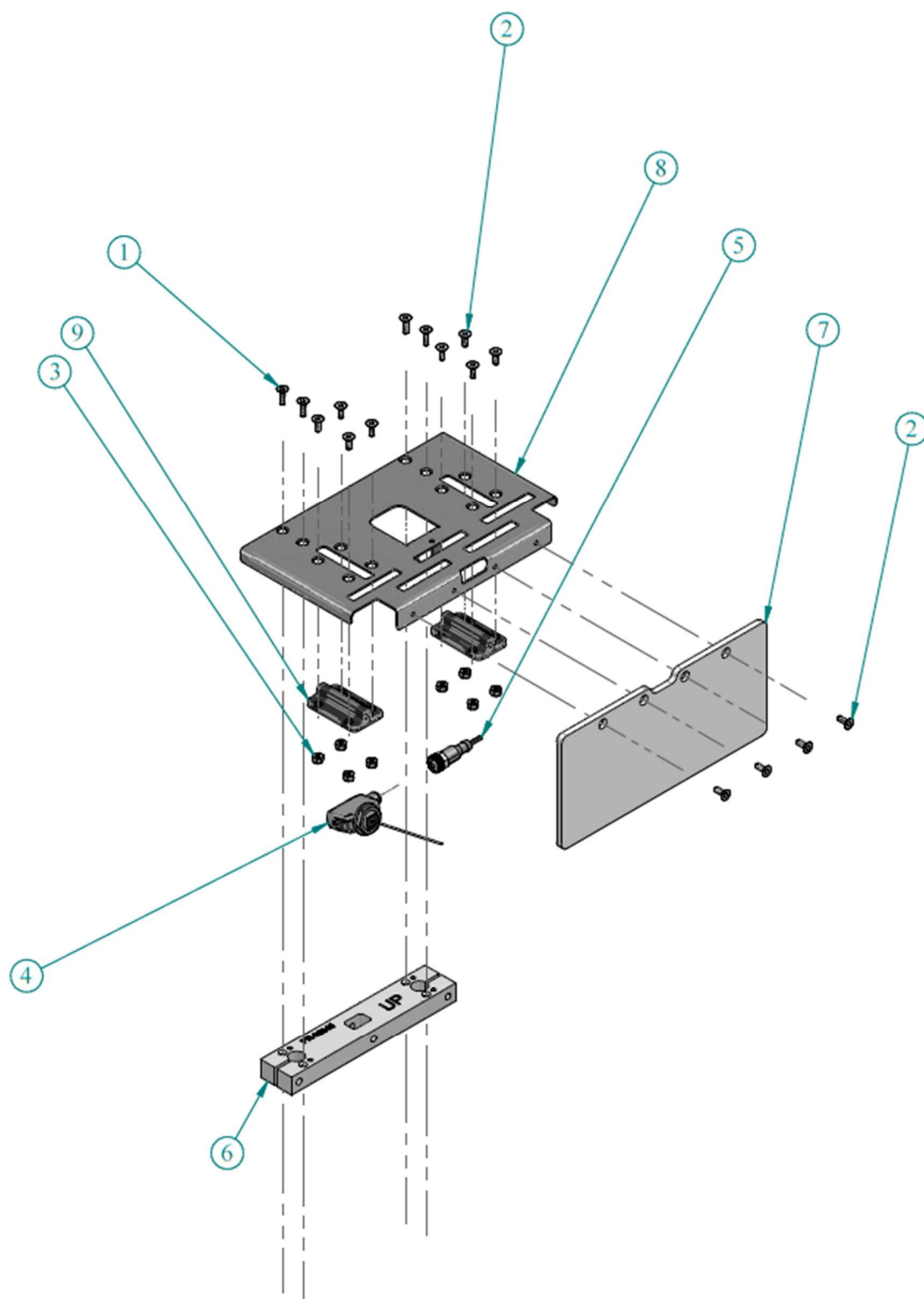
| STEPPER MOTOR XL |                |     |                                                 |
|------------------|----------------|-----|-------------------------------------------------|
| No.              | Part number    | Qty | Title                                           |
| 1                | PM-03217-01    | 1   | GROMMET 1/4 ID X 5/8 OD X 1/8 WALL              |
| 2                | PR-95164-02    | 1   | WIRE GUARD 02                                   |
| 3                | F11-112C16S    | 2   | BUTTON HEAD 4-40 X 1" STAINLESS                 |
| 4                | F10-M4-0.7X06S | 4   | SOCKET CAP M3 X 0.5 X6 MM STAINLESS             |
| 5                | F02-112S       | 2   | LOCK WASHER #4 STAINLESS                        |
| 6                | F11-112C08S    | 2   | BUTTON HEAD 4-40 X 1/2 STAINLESS                |
| 7                | PE-01538-XL    | 1   | STEPPER MOTOR                                   |
| 8                | PE-01533-8     | 1   | STEPPER MOTOR DRIVE 3-8A 10-40VDC NEMA 17/23/24 |
| 9                | PR-02908       | 1   | GEAR SPUR, BORE 1/2"                            |
| 10               | PR-02512-2     | 1   | DRIVE SUPPORT FOR PE-01538 SIDE MOUNT           |

13.14.1.3: Bag stepper motor for KLR.5051-X-AB



| BAG TABLE LIFTER STEPPER MOTOR AB |                  |     |                                                          |
|-----------------------------------|------------------|-----|----------------------------------------------------------|
| No.                               | Part number      | Qty | Title                                                    |
| 1                                 | PE-00628         | 1   | LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK              |
| 2                                 | PR-02824         | 1   | GEAR SPUR, BORE 14mm                                     |
| 3                                 | PE-00626-10-90-R | 1   | CABLE ETHERNET 90° RIGHT CAT 6 LONGUEUR 10 PIEDS / 3.0 M |

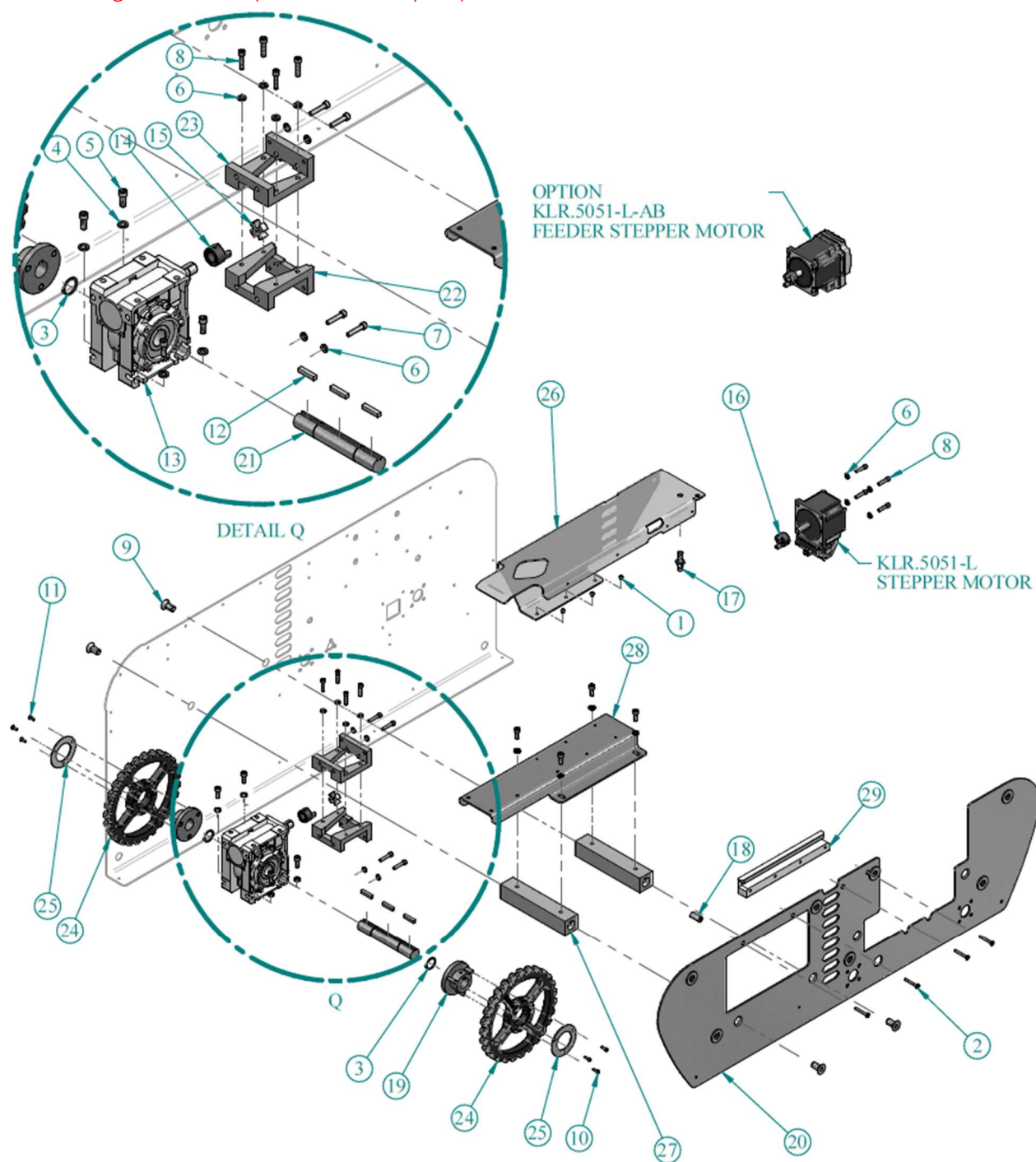
#### 13.14.1.4: Bag table sensor (KLR-00422– Beyond)



| BAG TABLE SENSOR |             |     |                                  |
|------------------|-------------|-----|----------------------------------|
| No.              | Part number | Qty | Title                            |
| 1                | F12-190F10S | 4   | FLAT HEAD 10-32 X 5/8" STAINLESS |
| 2                | F12-190F08S | 12  | FLAT HEAD 10-32 X 1/2" STAINLESS |
| 3                | F03-164CNS  | 8   | NYLON NUT 8-32 STAINLESS         |
| 4                | PE-00957    | 1   | LASER SENSOR 25-90MM             |
| 5                | PE-00507-10 | 1   | PHOTOCELL CABLE 10M              |
| 6                | PR-02645    | 1   | SHAFT HOLDER                     |
| 7                | PR-02751    | 1   | SIDE GUIDE                       |
| 8                | PR-02777    | 1   | SLIDING TABLE                    |
| 9                | PR-02761    | 2   | GUIDE                            |

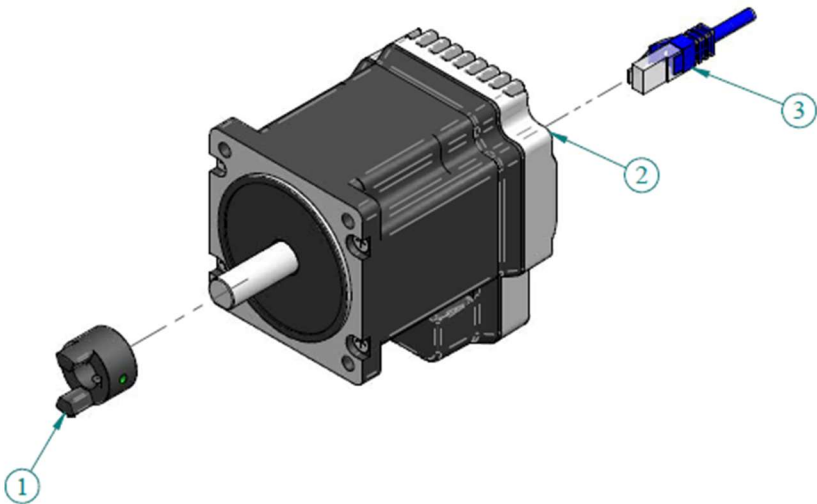


## 13.14.1.5: Bag table feeder (KLR-00422 – Beyond)



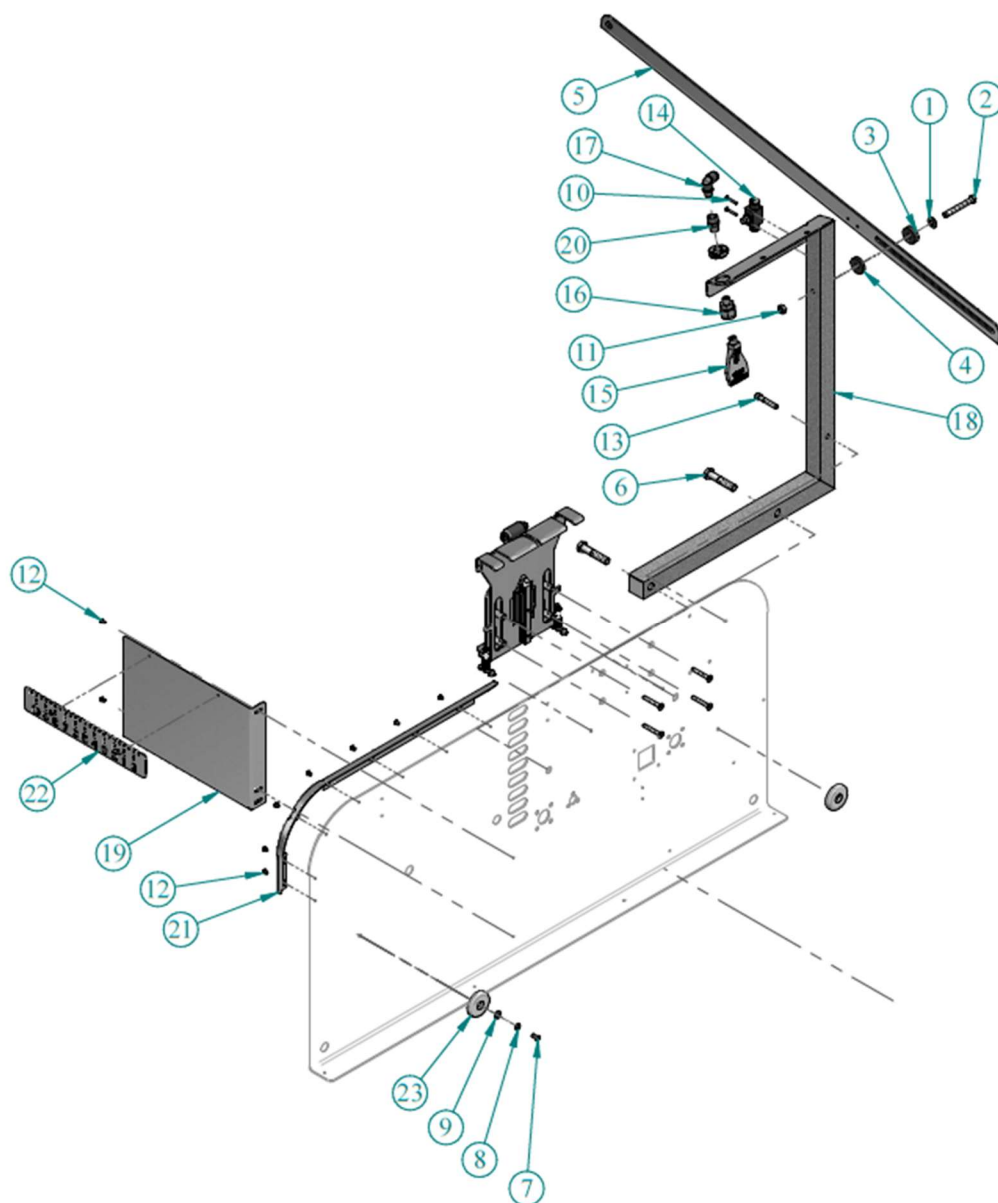
| BAG TABLE FEEDER |                  |     |                                                      |
|------------------|------------------|-----|------------------------------------------------------|
| No.              | Part number      | Qty | Title                                                |
| 1                | F11-190C04S      | 3   | BUTTON HEAD 10-24 X 1/4 STAINLESS                    |
| 2                | F12-190F24S      | 4   | FLAT HEAD 10-32 X 1 1/2" STAINLESS                   |
| 3                | f16-1000S        | 2   | SNAP RING INT 1 STAINLESS S 3000                     |
| 4                | F02-312S         | 8   | LOCK WASHER 5/16" STAINLESS                          |
| 5                | F10-312C12S      | 8   | SOCKET CAP 5/16-18 X 3/4" STAINLESS                  |
| 6                | F02-250S         | 12  | LOCK WASHER #14 STAINLESS                            |
| 7                | F10-M6-1X30S     | 4   | SOCKET CAP M6-1X30 STAINLESS                         |
| 8                | F10-250C16S      | 8   | SOCKET CAP 1/4-20 X 1" STAINLESS                     |
| 9                | F12-500C16S      | 4   | FLAT HEAD 1/2-13 x 1" STAINLESS                      |
| 10               | F10-164C08S      | 3   | SOCKET CAP 8-32 X 1/2" STAINLESS                     |
| 11               | F12-164C08S      | 3   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 12               | PM-01422         | 3   | MACHINE KEY 1/4 ZINC                                 |
| 13               | PM-00495         | 1   | GEAR BOX 18:1                                        |
| 14               | PM-01414-16MM    | 1   | HUB 5/16"L050 STOCK BORE                             |
| 15               | PM-01415         | 1   | SPACER FOR SERVO MOTOR HUB                           |
| 16               | PR-02904         | 1   | HUB .500 SHAFT 1/2"                                  |
| 17               | PE-00141-NO-PNP  | 1   | PROX SWITCH                                          |
| 18               | B0500-0205-1000S | 1   | BUSHING                                              |
| 19               | PR-02728         | 2   | HUB                                                  |
| 20               | PR-02801-L       | 1   | TABLE BAG FRAME LEFT                                 |
| 21               | PR-02636         | 1   | DRIVE AXIS                                           |
| 22               | PR-02637         | 1   | MOTOR COUPLING                                       |
| 23               | PR-02638         | 1   | MOTOR COUPLING                                       |
| 24               | PR-02675-A       | 2   | SPROCKET "A"                                         |
| 25               | PR-02735         | 2   | HUB WASHER                                           |
| 26               | PR-02805-L-01    | 1   | BELT SUPPORT TABLE LEFT                              |
| 27               | PR-02806         | 2   | CROSSMEMBER                                          |
| 28               | PR-02630         | 1   | SUPPORT                                              |
| 29               | PR-02849-01      | 1   | GUIDE                                                |

13.14.1.6: Bag feeder stepper for KLR.5051-X-AB



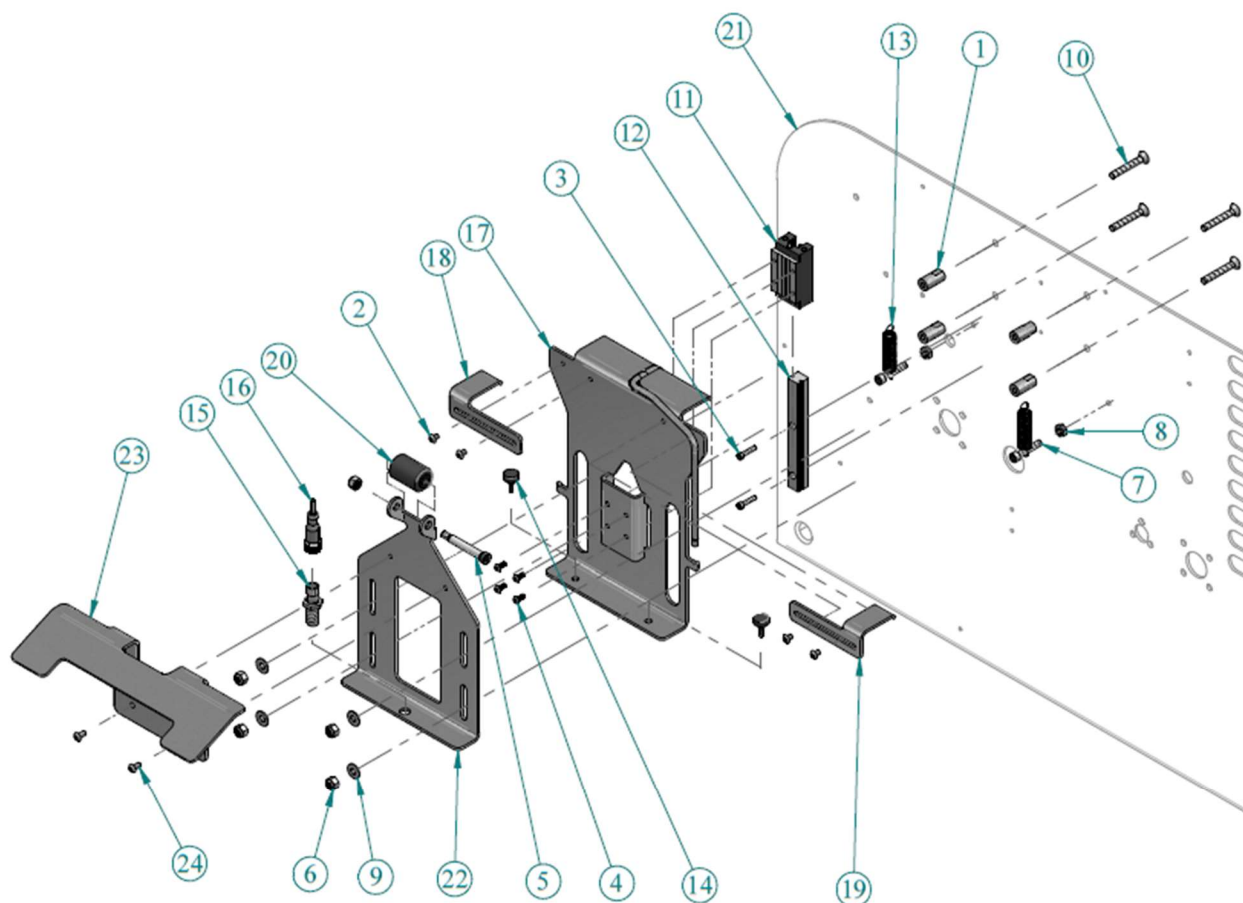
| FEEDER STEPPER MOTOR AB |             |     |                                             |
|-------------------------|-------------|-----|---------------------------------------------|
| No.                     | Part number | Qty | Title                                       |
| 1                       | PR-02903    | 1   | HUB 5/16"L050 STOCK BORE                    |
| 2                       | PE-00628    | 1   | LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK |
| 3                       | PE-00626-10 | 1   | ETHERNET CABLE 10 FEET                      |

## 13.14.1.7: Bag table back side (KLR-00422 – Beyond)



| BAG TABLE BACK SIDE |             |     |                                       |
|---------------------|-------------|-----|---------------------------------------|
| No.                 | Part number | Qty | Title                                 |
| 1                   | F01-375S    | 1   | FLAT WASHER 3/8" STAINLESS            |
| 2                   | F13-375C44S | 1   | HEX HEAD 3/8-16 X 2 3/4" STAINLESS    |
| 3                   | PR-02906    | 1   | WASHER 3/8"                           |
| 4                   | PR-02905    | 1   | WASHER 3/8"                           |
| 5                   | PR-02797-L  | 1   | RAIL LEFT                             |
| 6                   | F13-500C40S | 2   | HEX HEAD 1/2-13 X 2 1/2" STAINLESS    |
| 7                   | F11-250F08S | 1   | BUTTON HEAD 1/4-28 X 1/2" STAINLESS   |
| 8                   | F02-250S    | 1   | LOCK WASHER #14 STAINLESS             |
| 9                   | F01-250S    | 1   | FLAT WASHER 1/4 STAINLESS             |
| 10                  | F11-138C16S | 2   | #6-32 X 1 IN BUTTON HEAD S            |
| 11                  | F03-375CS   | 1   | NUT 3/8-16 STAINLESS                  |
| 12                  | F11-190F04S | 9   | BUTTON HEAD 10-32 x 1/4" STAINLESS    |
| 13                  | F10-312C28S | 1   | SOCKET CAP 5/16-18 X 1 3/4" STAINLESS |
| 14                  | PP-00192    | 1   | SPEED CONTROL 3/8 TUB-3/8 TUB         |
| 15                  | PP-00588S   | 1   | BUSE PLATE WINDJET STAINLESS          |
| 16                  | PP-00591    | 1   | ADJUSTABLE BALL FITTING 1/4           |
| 17                  | PP-00162    | 1   | 90 COUDE 3/8 TUB 1/4 NPT              |
| 18                  | PR-02770-L  | 1   | TABLE FRAME LEFT                      |
| 19                  | PR-02750-L  | 1   | GUARD LEFT                            |
| 20                  | PR-06626    | 1   | PP-00182 MODIFIED                     |
| 21                  | PR-02804-L  | 1   | GUARD LEFT                            |
| 22                  | PR-02813-L  | 1   | GUIDE LEFT                            |
| 23                  | PR-02858    | 2   | SLIDER PUCK Ø2"                       |

## 13.14.1.8: Bag table holder

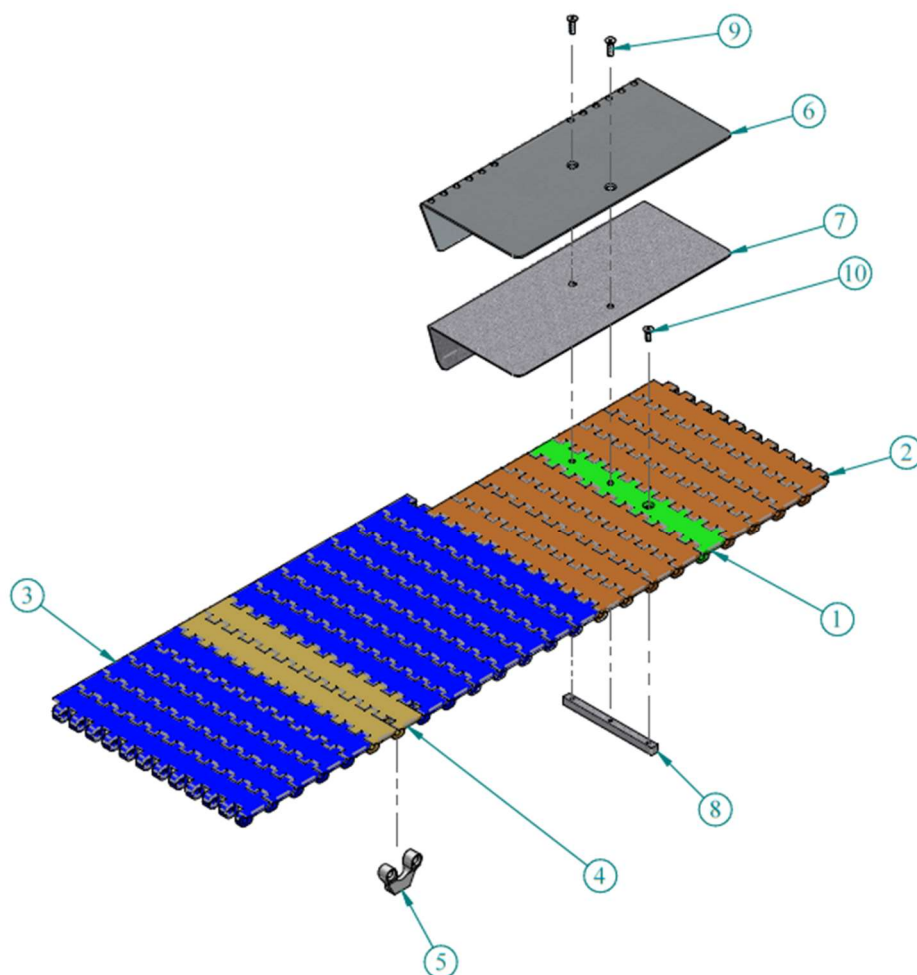




| BAG TABLE HOLDER |                  |     |                                                 |
|------------------|------------------|-----|-------------------------------------------------|
| No.              | Part number      | Qty | Title                                           |
| 1                | PR-02910         | 4   | BUSHING                                         |
| 2                | F11-190F04S      | 4   | BUTTON HEAD 10-32 x 1/4" STAINLESS              |
| 3                | F10-164C12S      | 2   | SOCKET CAP 8-32 X 3/4 STAINLESS                 |
| 4                | F11-M4-0.7X10S   | 4   | BUTTON HEAD M4-0.7 X 10 STAINLESS STEEL         |
| 5                | F05-312-28S      | 1   | SHOULDER SCREW 5/16 X 1 3/4" X 1/4-20 STAINLESS |
| 6                | F03-250CNS       | 5   | NYLON LOCK NUT 1/4" STAINLESS                   |
| 7                | F10-250C20S      | 2   | SOCKET CAP 1/4-20 X 1 1/4" STAINLESS            |
| 8                | F03-250CS        | 2   | NUT 1/4 -20 STAINLESS                           |
| 9                | F01-250S         | 4   | FLAT WASHER 1/4 STAINLESS                       |
| 10               | F12-250C28S      | 4   | FLAT HEAD 1/4-20 X 1 3/4" STAINLESS             |
| 11               | PM-00196-1       | 1   | LINEAR BEARING, SERIE SHS-R FOR RAIL 15MM       |
| 12               | PM-00196-5.125PO | 1   | GUIDE LINEAIRE KLR.950 - 15 MM x L 5.125"       |
| 13               | OS-008           | 2   | TENSION SPRING                                  |
| 14               | PM-00180         | 2   | RUBBER PLUG                                     |
| 15               | PE-00141-NO-PNP  | 1   | PROX SWITCH                                     |
| 16               | PE-00507-10      | 1   | PHOTOCELL CABLE 10M                             |
| 17               | PR-02657-02      | 1   | BAG CLAMP                                       |
| 18               | PR-02901-A       | 1   | BAG TABLE CLAMP "A"                             |
| 19               | PR-02901-B       | 1   | BAG TABLE CLAMP "B"                             |
| 20               | PR-02658         | 1   | ROLLER FOR BAG TABLE CLAMP                      |
| 21*              | PR-02800-L       | 1   | BAG TABLE SIDE 1 LEFT                           |
| 22               | PR-02760         | 1   | BAG TABLE ROLLER                                |
| 23               | PR-02949         | 1   | S/S DEFLECTOR                                   |
| 24               | F11-190F06S      | 2   | BUTTON HEAD 10-32 x 3/8 STAINLESS               |

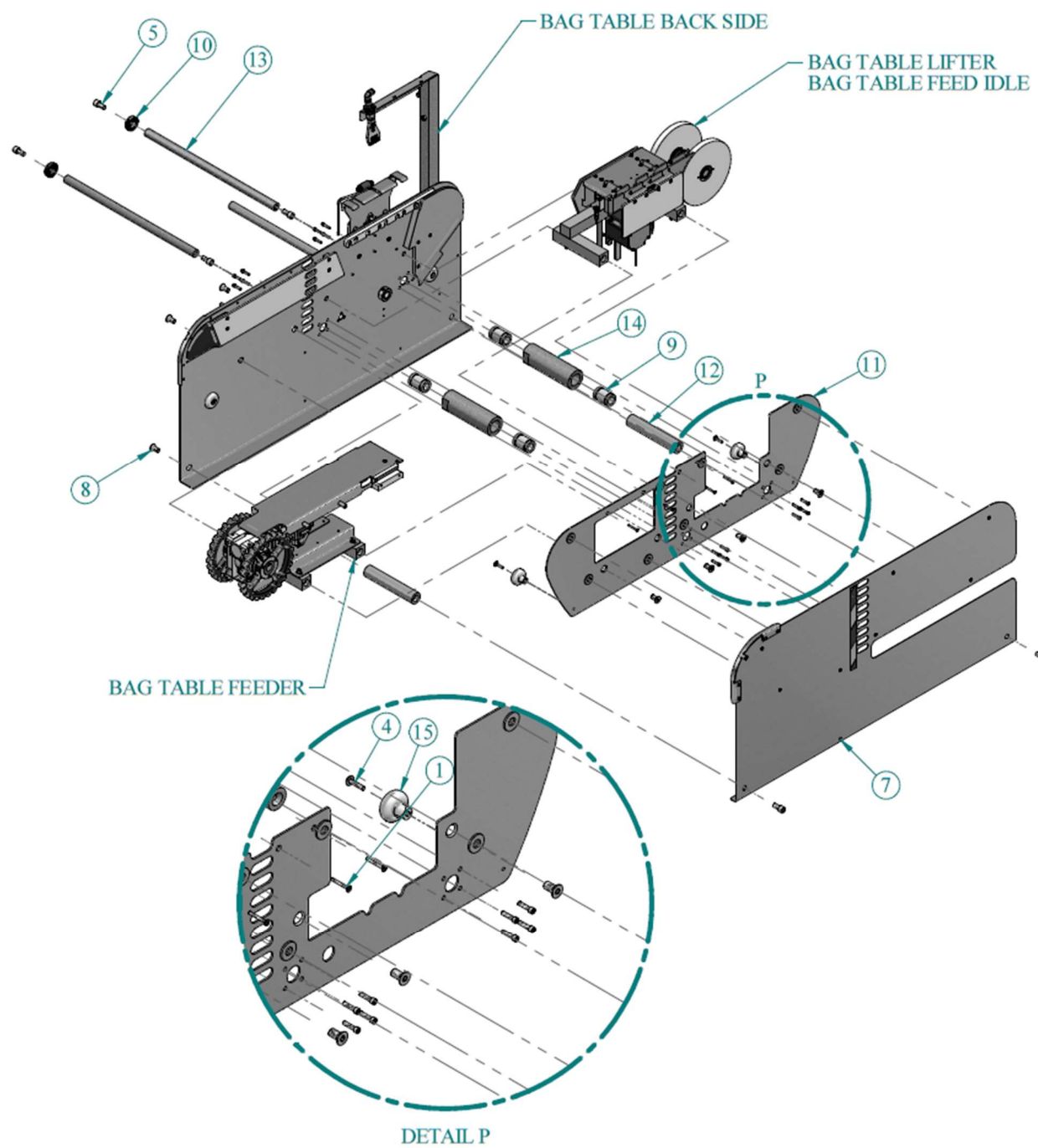
### 13.14.1.9: Bag table belt section (KLR-00422 – Beyond)

This drawing represents 1 section out of 5 in total. Work on left and right-handed machines.



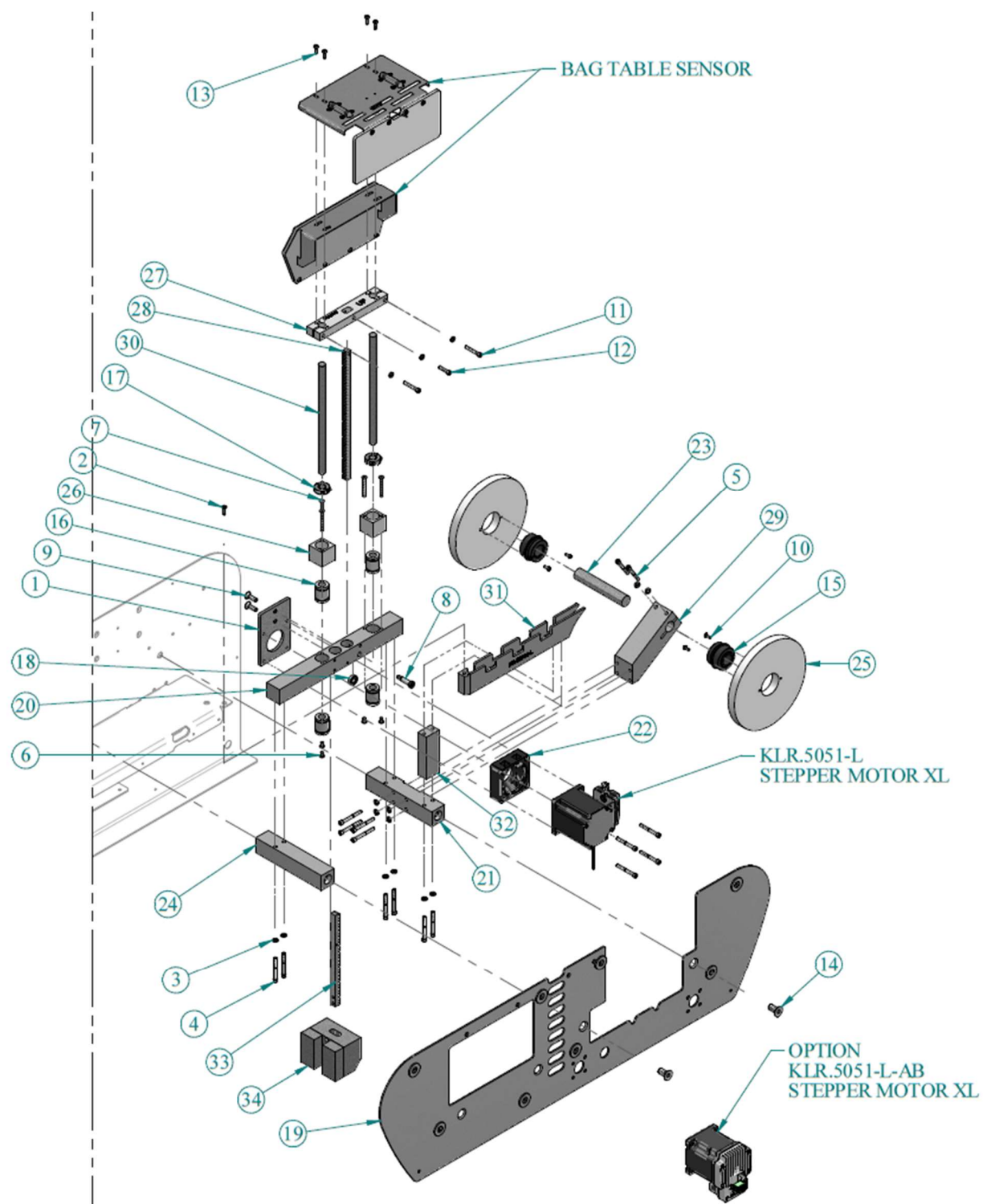
| PB-00517-01 |             |     |                                        |
|-------------|-------------|-----|----------------------------------------|
| No.         | Part number | Qty | Title                                  |
| 1           | PR-02855    | 5   | MODIFIED HABA-LINK M2510               |
| 2           | PR-02958    | 40  | MODIFIED HABA-LINK M2510               |
| 3           | PB-02510-08 | 60  | COURROIE HABA-LINK M2510 x 8" LG. BLEU |
| 4           | PR-02851    | 10  | MODIFIED HABA-LINK M2510               |
| 5           | PR-02848    | 5   | GUIDE                                  |
| 6           | PR-02957    | 5   | WICKET #8 PART "A" LEFT                |
| 7           | PR-02956    | 5   | WICKET SPRING                          |
| 8           | PR-02656-02 | 5   | SENSOR BLOCK                           |
| 9           | F12-138C08S | 10  | FLAT HEAD 6-32 X 1/2" STAINLESS        |
| 10          | F12-138C06S | 5   | FLAT HEAD 6-32 X 3/8" STAINLESS        |

## 13.14.2: Bag table (SN: KLR-00001 - KLR-00421)



| <b>BAG TABLE</b> |                    |            |                                       |
|------------------|--------------------|------------|---------------------------------------|
| <b>No.</b>       | <b>Part number</b> | <b>Qty</b> | <b>Title</b>                          |
| 1                | F12-190F24S        | 4          | FLAT HEAD 10-32 X 1 1/2" STAINLESS    |
| 2*               | F01-250S           | 2          | FLAT WASHER 1/4 STAINLESS             |
| 3*               | F02-250S           | 2          | LOCK WASHER #14 STAINLESS             |
| 4                | F11-250F20S        | 2          | BUTTON HEAD 1/4-28 X 1 1/4" STAINLESS |
| 5                | F10-500C16S        | 6          | SOCKET CAP 1/2-13 X 1" STAINLESS      |
| 6*               | F10-250C16S        | 8          | SOCKET CAP 1/4-20 X 1" STAINLESS      |
| 7                | F11-190F04S        | 1          | BUTTON HEAD 10-32 x 1/4" STAINLESS    |
| 8                | F12-500C16S-OBS    | 7          | FLAT HEAD 1/2-13 x 1" STAINLESS       |
| 9                | PM-00114-1000      | 4          | LINEAR BEARING 1"                     |
| 10               | PM-00263           | 2          | SPLIT COLLAR 1"                       |
| 11               | PR-02801-L         | 1          | TABLE BAG FRAME LEFT                  |
| 12               | PR-02746           | 2          | CROSS MEMBER                          |
| 13               | PR-02830           | 2          | BAG TABLE RAIL                        |
| 14               | PR-02767           | 2          | BEARING FRAME                         |
| 15               | PR-02858-01        | 2          | SLIDER PUCK Ø2" SHIM                  |

## 13.14.2.1: Bag lifter (KLR-00001 – KLR-00421)

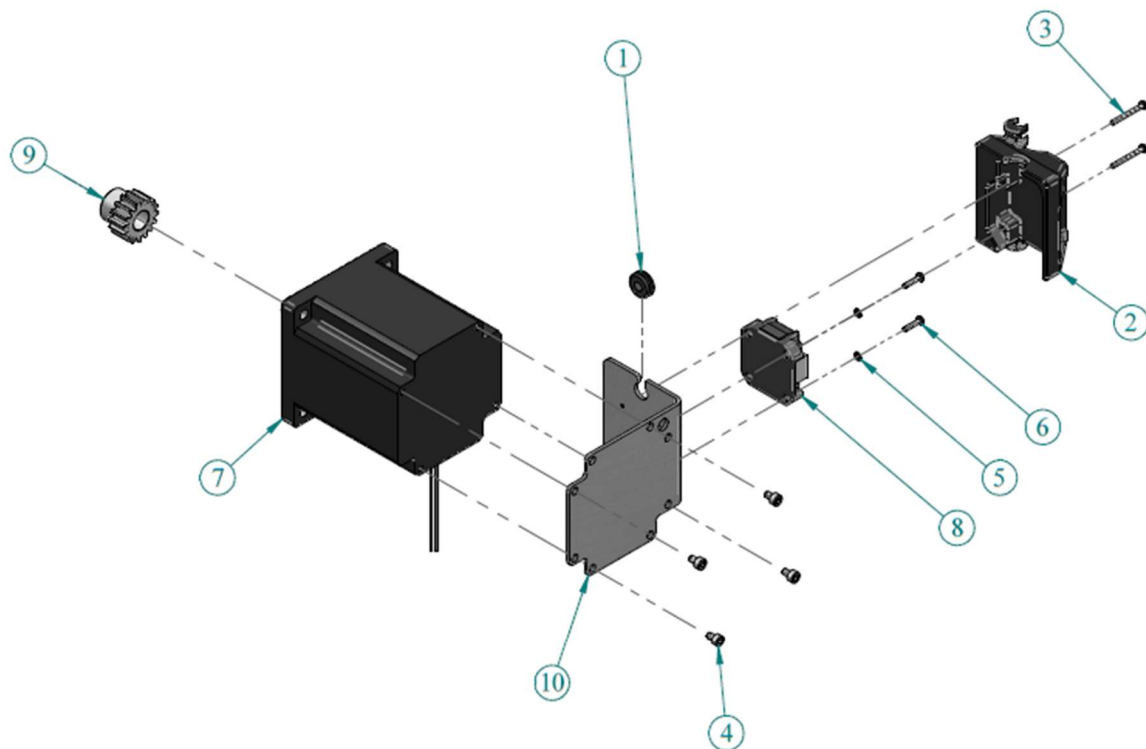




| BAG TABLE LIFTER |             |     |                                          |
|------------------|-------------|-----|------------------------------------------|
| No.              | Part number | Qty | Title                                    |
| 1                | PR-02833    | 1   | MOTOR BRACKET FOR SLIDING TABLE          |
| 2                | F12-190F12S | 1   | FLAT HEAD 10-32 X 3/4" STAINLESS         |
| 3                | F02-250S    | 15  | LOCK WASHER #14 STAINLESS                |
| 4                | F10-250C36S | 10  | SOCKET CAP 1/4-20 X 2-1/4" STAINLESS     |
| 5                | F10-250C32S | 6   | SOCKET CAP 1/4-20 X 2" STAINLESS         |
| 6                | F11-250C06S | 4   | BUTTON HEAD 1/4-20 X 3/8" STAINLESS      |
| 7                | F11-250C32S | 4   | BUTTON HEAD 1/4-20 X 2" STAINLESS        |
| 8                | F05-375-16  | 1   | SHOULDER SCREW 3/8 X 1 X 5/16-18 STEEL   |
| 9                | F12-312C16S | 2   | FLAT HEAD 5/16-18 X 1" STAINLESS         |
| 10               | F11-190F08S | 4   | BUTTON HEAD 10-32 X 1/2" STAINLESS       |
| 11               | F10-250C24S | 2   | SOCKET CAP 1/4-20 X 1 1/2" STAINLESS     |
| 12               | F10-250C16S | 1   | SOCKET CAP 1/4-20 X 1" STAINLESS         |
| 13               | F10-190F10S | 4   | SOCKET CAP 10-32 X 5/8" STAINLESS        |
| 14               | F12-500C16S | 2   | FLAT HEAD 1/2-13 x 1" STAINLESS          |
| 15               | PM-01541    | 2   | BEARING 1"                               |
| 16               | PM-00114    | 4   | LINEAR BEARING                           |
| 17               | PM-00261    | 2   | SPLIT COLAR 5/8"                         |
| 18               | P02-00095   | 1   | BEARING                                  |
| 19               | PR-02801-L  | 1   | TABLE BAG FRAME LEFT                     |
| 20               | PR-02631-L  | 1   | SLIDING TABLE GUIDE LEFT                 |
| 21               | PR-02629    | 1   | CROSSMEMBER                              |
| 22               | PR-02632-AB | 1   | MOTOR BRACKET FOR SLIDING TABLE ASSEMBLY |
| 23               | PR-02635    | 1   | IDLER AXIS                               |
| 24               | PR-02628    | 1   | CROSSMEMBER                              |
| 25               | PR-02639    | 2   | WHEEL                                    |
| 26               | PR-03711-B  | 2   | BEARING HOLDER                           |
| 27               | PR-02645    | 1   | SHAFT HOLDER                             |
| 28               | PR-02755    | 1   | RACK FOR SLIDING TABLE                   |
| 29               | PR-02633    | 1   | IDLER AXIS SUPPORT                       |
| 30               | PR-02646    | 2   | SLIDING TABLE AXIS                       |
| 31               | PR-02734-L  | 1   | SIDE GUIDE LEFT                          |
| 32               | PR-02744    | 1   | CROSSMEMBER                              |
| 33               | PR-02820    | 1   | RACK FOR SLIDING TABLE                   |
| 34               | PR-02821    | 1   | WEIGHT "8.5 LBS"                         |

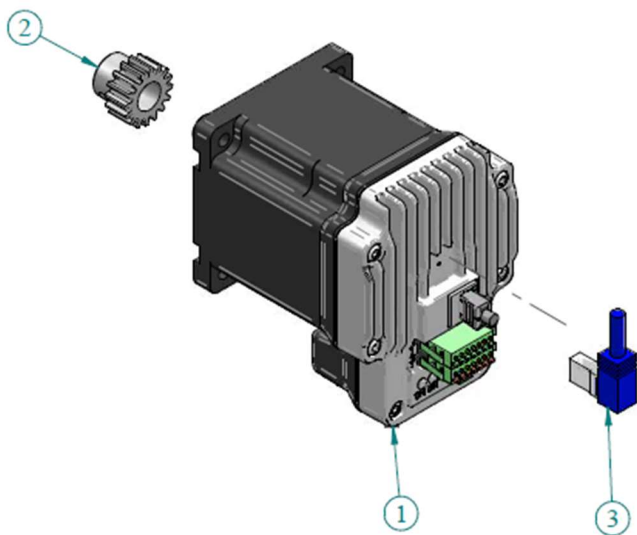


## 13.14.2.2: Stepper motor XL



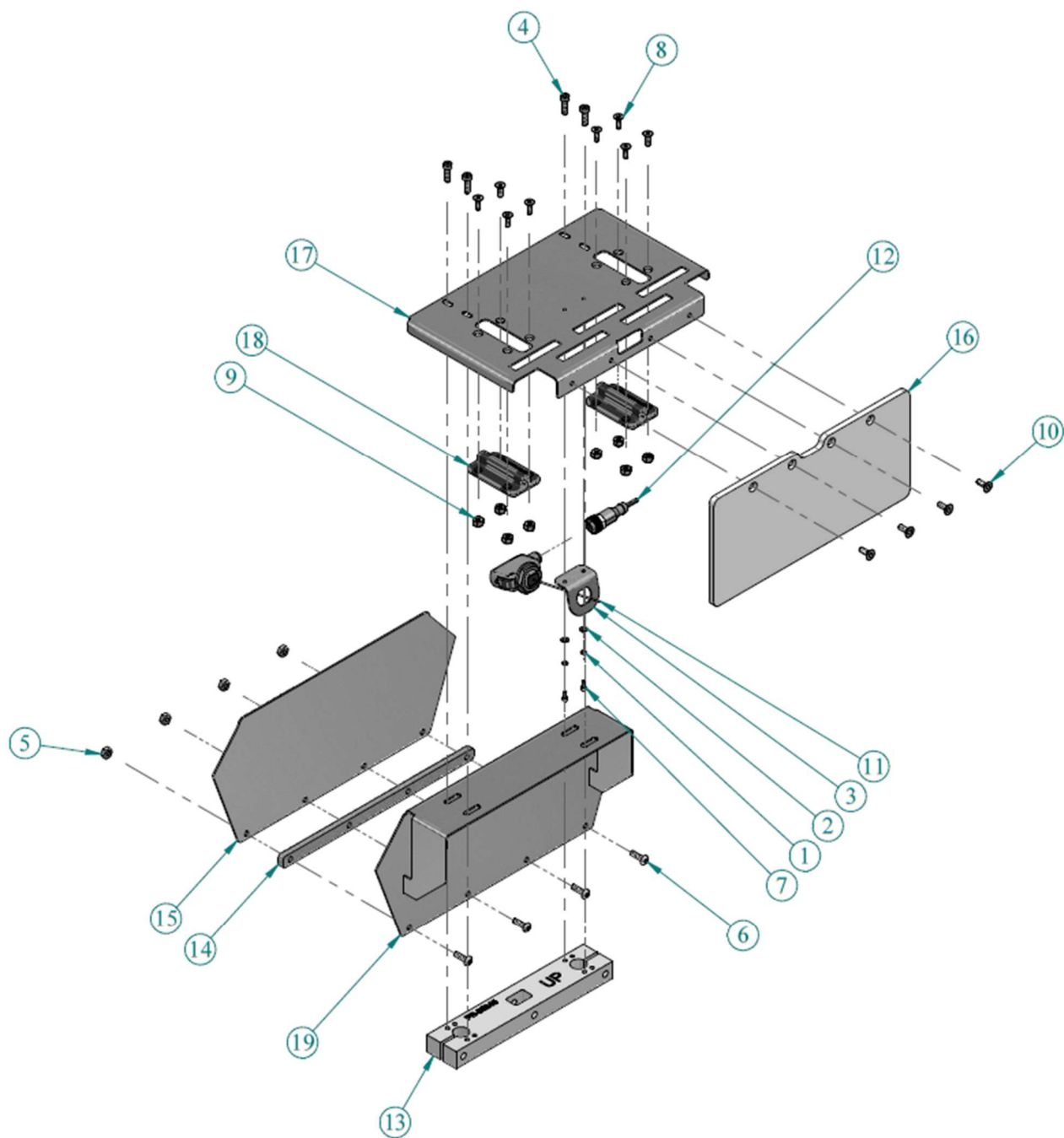
| STEPPER MOTOR XL |                |     |                                                 |
|------------------|----------------|-----|-------------------------------------------------|
| No.              | Part number    | Qty | Title                                           |
| 1                | PM-03217-01    | 1   | GROMMET 1/4 ID X 5/8 OD X 1/8 WALL              |
| 2                | PR-95164-02    | 1   | WIRE GUARD 02                                   |
| 3                | F11-112C16S    | 2   | BUTTON HEAD 4-40 X 1" STAINLESS                 |
| 4                | F10-M4-0.7X06S | 4   | SOCKET CAP M3 X 0.5 X6 MM STAINLESS             |
| 5                | F02-112S       | 2   | LOCK WASHER #4 STAINLESS                        |
| 6                | F11-112C08S    | 2   | BUTTON HEAD 4-40 X 1/2 STAINLESS                |
| 7                | PE-01538-XL    | 1   | STEPPER MOTOR                                   |
| 8                | PE-01533-8     | 1   | STEPPER MOTOR DRIVE 3-8A 10-40VDC NEMA 17/23/24 |
| 9                | PR-02908       | 1   | GEAR SPUR, BORE 1/2"                            |
| 10               | PR-02512-2     | 1   | DRIVE SUPPORT FOR PE-01538 SIDE MOUNT           |

13.14.2.3: Bag table stepper motor for KLR.5051-X-AB



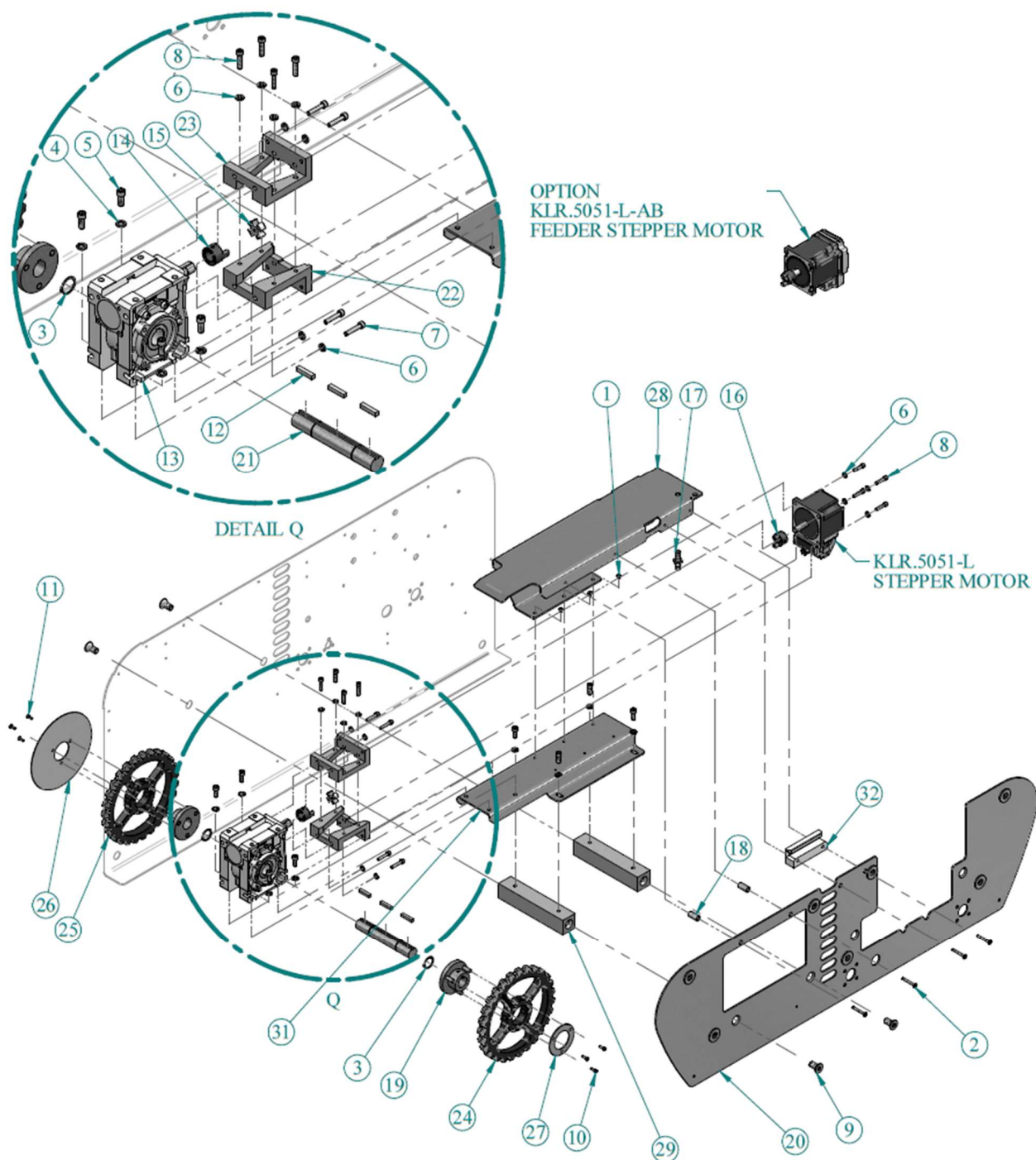
| BAG TABLE LIFTER STEPPER MOTOR AB |                  |     |                                                          |
|-----------------------------------|------------------|-----|----------------------------------------------------------|
| No.                               | Part number      | Qty | Title                                                    |
| 1                                 | PE-00628         | 1   | LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK              |
| 2                                 | PR-02824         | 1   | GEAR SPUR, BORE 14mm                                     |
| 3                                 | PE-00626-10-90-R | 1   | CABLE ETHERNET 90° RIGHT CAT 6 LONGUEUR 10 PIEDS / 3.0 M |

## 13.14.2.4: Bag table sensor (KLR-00001 – KLR-00421)



| BAG TABLE SENSOR |             |     |                                                      |
|------------------|-------------|-----|------------------------------------------------------|
| No.              | Part number | Qty | Title                                                |
| 1                | F02-112S    | 2   | LOCK WASHER #4 STAINLESS                             |
| 2                | F01-112S    | 2   | FLAT WASHER #4 STAINLESS                             |
| 3                | PR-02921    | 1   | BRACKET POUR CAPTEUR LASER                           |
| 4                | F10-190F10S | 4   | SOCKET CAP 10-32 X 5/8" STAINLESS                    |
| 5                | F03-190FNS  | 4   | JAM NUT HEX 10-32 STAINLESS                          |
| 6                | F11-190F10S | 4   | BUTTON HEAD 10-32 X 5/8" STAINLESS                   |
| 7                | F10-112C04S | 2   | SOCKET CAP 4-40 X 1/4" STAINLESS                     |
| 8                | F12-164C08S | 8   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 9                | F03-164CNS  | 8   | NYLON NUT 8-32 STAINLESS                             |
| 10               | F12-190F08S | 4   | FLAT HEAD 10-32 X 1/2" STAINLESS                     |
| 11               | PE-00957    | 1   | LASER SENSOR 25-90MM                                 |
| 12               | PE-00507-10 | 1   | PHOTOCELL CABLE 10M                                  |
| 13               | PR-02645    | 1   | SHAFT HOLDER                                         |
| 14               | PR-02648    | 1   | WICKET RAIL SPACER                                   |
| 15               | PR-02649    | 1   | WICKET RAIL                                          |
| 16               | PR-02751    | 1   | SIDE GUIDE                                           |
| 17               | PR-02777-L  | 1   | SLIDING TABLE                                        |
| 18               | PR-02761    | 2   | GUIDE                                                |
| 19               | PR-02778    | 1   | SLIDING TABLE                                        |

## 13.14.2.5: Bag table feeder (KLR-00001 – KLR-00421)

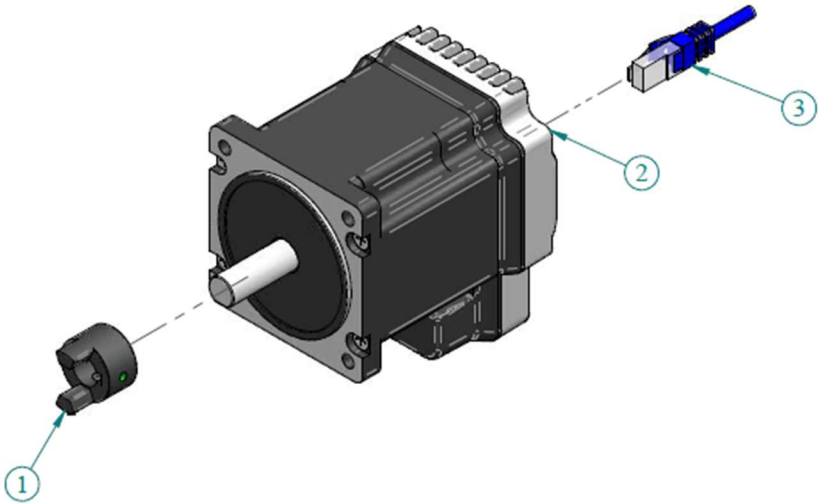




| BAG TABLE FEEDER |                  |     |                                                      |
|------------------|------------------|-----|------------------------------------------------------|
| No.              | Part number      | Qty | Title                                                |
| 1                | F11-190C04S      | 3   | BUTTON HEAD 10-24 X 1/4 STAINLESS                    |
| 2                | F12-190F24S      | 4   | FLAT HEAD 10-32 X 1 1/2" STAINLESS                   |
| 3                | f16-1000S        | 2   | SNAP RING INT 1 STAINLESS S 3000                     |
| 4                | F02-312S         | 8   | LOCK WASHER 5/16" STAINLESS                          |
| 5                | F10-312C12S      | 8   | SOCKET CAP 5/16-18 X 3/4" STAINLESS                  |
| 6                | F02-250S         | 12  | LOCK WASHER #14 STAINLESS                            |
| 7                | F10-M6-1X30S     | 4   | SOCKET CAP M6-1X30 STAINLESS                         |
| 8                | F10-250C16S      | 8   | SOCKET CAP 1/4-20 X 1" STAINLESS                     |
| 9                | F12-500C16S      | 4   | FLAT HEAD 1/2-13 x 1" STAINLESS                      |
| 10               | F10-164C08S      | 3   | SOCKET CAP 8-32 X 1/2" STAINLESS                     |
| 11               | F12-164C08S      | 3   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 12               | PM-01422         | 3   | MACHINE KEY 1/4 ZINC                                 |
| 13               | PM-00495         | 1   | GEAR BOX 18:1                                        |
| 14               | PM-01414-16MM    | 1   | HUB 5/16"L050 STOCK BORE                             |
| 15               | PM-01415         | 1   | SPACER FOR SERVO MOTOR HUB                           |
| 16               | PR-02904         | 1   | HUB .500 SHAFT 1/2"                                  |
| 17               | PE-00141-NO-PNP  | 1   | PROX SWITCH                                          |
| 18               | B0500-0205-1000S | 2   | BUSHING                                              |
| 19               | PR-02728         | 2   | HUB                                                  |
| 20               | PR-02801-L       | 1   | TABLE BAG FRAME LEFT                                 |
| 21               | PR-02636         | 1   | DRIVE AXIS                                           |
| 22               | PR-02637         | 1   | MOTOR COUPLING                                       |
| 23               | PR-02638         | 1   | MOTOR COUPLING                                       |
| 24               | PR-02675-A       | 1   | SPROCKET "A"                                         |
| 25               | PR-02675         | 1   | SPROCKET                                             |
| 26               | PR-02859         | 1   | HUB WASHER                                           |
| 27               | PR-02735         | 1   | HUB WASHER                                           |
| 28               | PR-02805-L       | 1   | BELT SUPPORT TABLE LEFT                              |
| 29               | PR-02806         | 2   | CROSSMEMBER                                          |
| 30*              | PR-02800-L       | 1   | BAG TABLE SIDE 1 LEFT                                |
| 31               | PR-02630         | 1   | SUPPORT                                              |
| 32               | PR-02849         | 1   | GUIDE                                                |

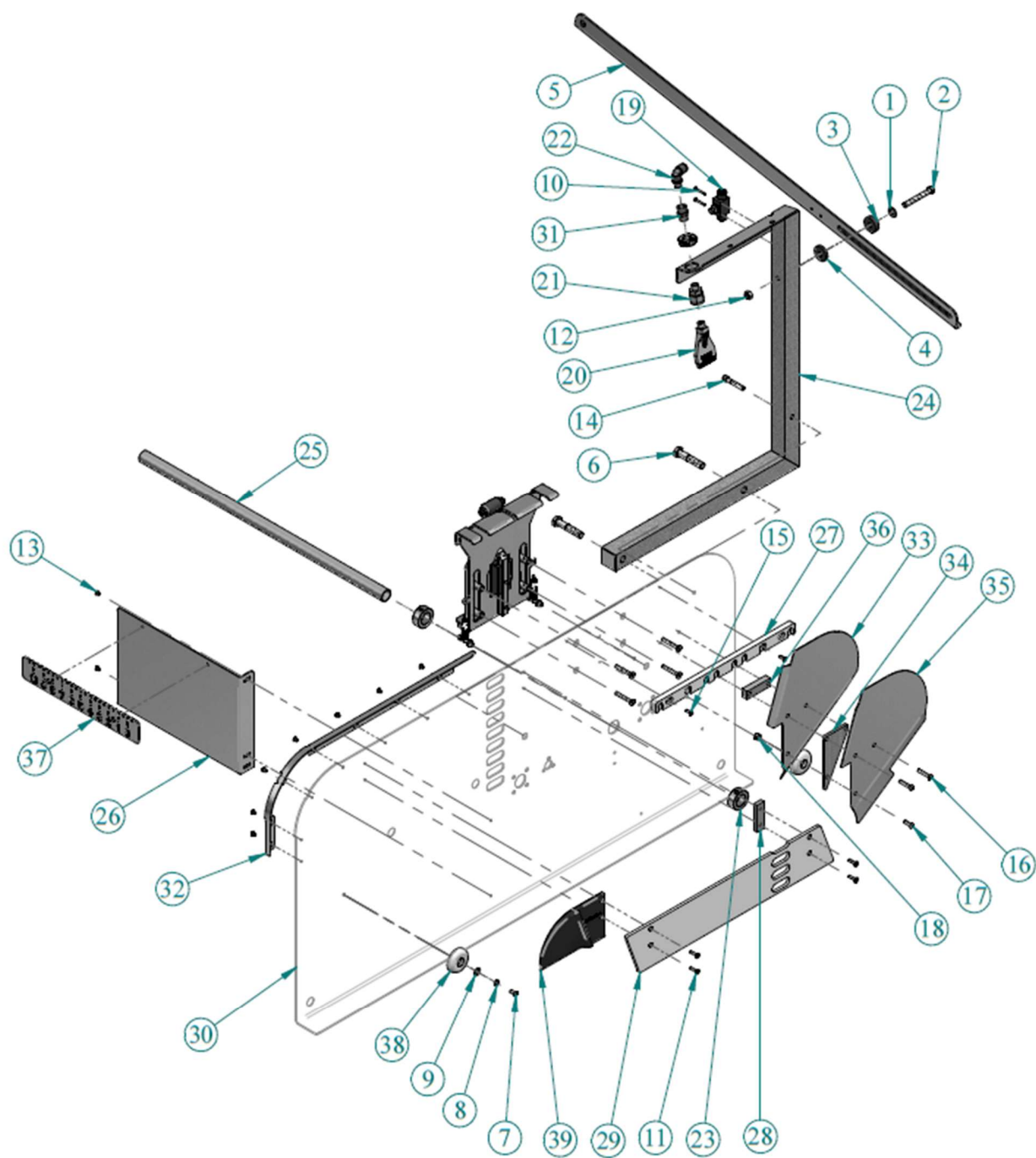


13.14.2.6: Bag feeder stepper for KLR.5051-AB



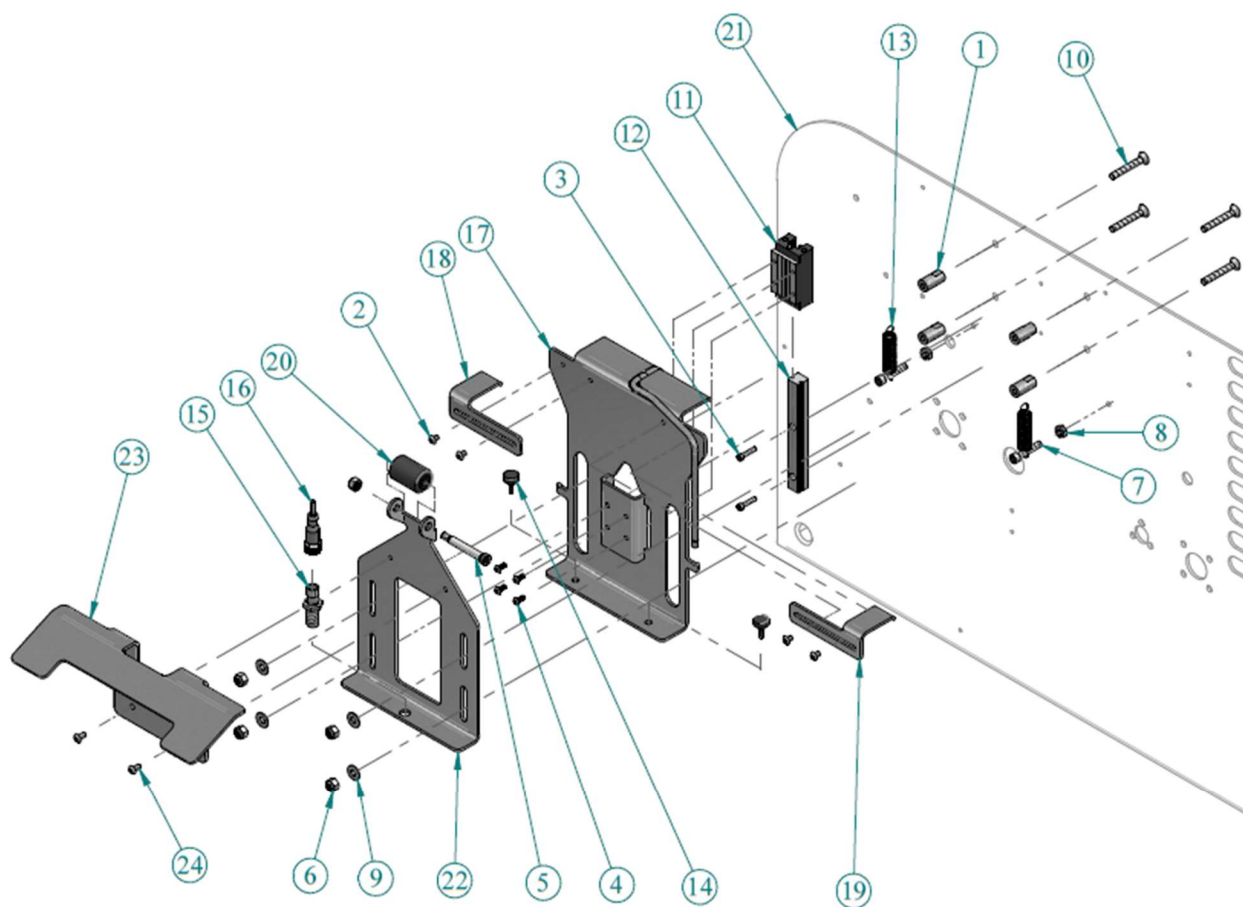
| FEEDER STEPPER MOTOR AB |             |     |                                             |
|-------------------------|-------------|-----|---------------------------------------------|
| No.                     | Part number | Qty | Title                                       |
| 1                       | PR-02903    | 1   | HUB 5/16"L050 STOCK BORE                    |
| 2                       | PE-00628    | 1   | LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK |
| 3                       | PE-00626-10 | 1   | ETHERNET CABLE 10 FEET                      |

## 13.14.2.7: Bag table back side (KLR-00001 – KLR-00421)



| BAG TABLE BACK SIDE |              |     |                                       |
|---------------------|--------------|-----|---------------------------------------|
| No.                 | Part number  | Qty | Title                                 |
| 1                   | F01-375S     | 1   | FLAT WASHER 3/8" STAINLESS            |
| 2                   | F13-375C44S  | 1   | HEX HEAD 3/8-16 X 2 3/4" STAINLESS    |
| 3                   | PR-02906     | 1   | WASHER 3/8"                           |
| 4                   | PR-02905     | 1   | WASHER 3/8"                           |
| 5                   | PR-02797-L   | 1   | RAIL LEFT                             |
| 6                   | F13-500C40S  | 2   | HEX HEAD 1/2-13 X 2 1/2" STAINLESS    |
| 7                   | F11-250F08S  | 1   | BUTTON HEAD 1/4-28 X 1/2" STAINLESS   |
| 8                   | F02-250S     | 1   | LOCK WASHER #14 STAINLESS             |
| 9                   | F01-250S     | 1   | FLAT WASHER 1/4 STAINLESS             |
| 10                  | F11-138C16S  | 2   | #6-32 X 1 IN BUTTON HEAD S            |
| 11                  | F12-190F12S  | 4   | FLAT HEAD 10-32 X 3/4" STAINLESS      |
| 12                  | F03-375CS    | 1   | NUT 3/8-16 STAINLESS                  |
| 13                  | F11-190F04S  | 9   | BUTTON HEAD 10-32 x 1/4" STAINLESS    |
| 14                  | F10-312C28S  | 1   | SOCKET CAP 5/16-18 X 1 3/4" STAINLESS |
| 15                  | F11-190F08S  | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS    |
| 16                  | F11-250C20S  | 2   | BUTTON HEAD 1/4-20 X 1 1/4" STAINLESS |
| 17                  | F11-250C12S  | 1   | BUTTON HEAD 1/4-20 X 3/4" STAINLESS   |
| 18                  | F03-250CNS   | 1   | NYLON LOCK NUT 1/4" STAINLESS         |
| 19                  | PP-00192     | 1   | SPEED CONTROL 3/8 TUB-3/8 TUB         |
| 20                  | PP-00588S    | 1   | BUSE PLATE WINDJET STAINLESS          |
| 21                  | PP-00591     | 1   | ADJUSTABLE BALL FITTING 1/4           |
| 22                  | PP-00162     | 1   | 90 COUDE 3/8 TUB 1/4 NPT              |
| 23                  | PM-00255     | 2   | SHAFT COLLAR 1"                       |
| 24                  | PR-02770-L   | 1   | TABLE FRAME LEFT                      |
| 25                  | PR-02709     | 1   | CABLE GUIDE                           |
| 26                  | PR-02750-L   | 1   | GUARD LEFT                            |
| 27                  | PR-02732     | 1   | SIDE GUIDE                            |
| 28                  | PR-02745     | 1   | SAPCER                                |
| 29                  | PR-02741     | 1   | WICKET RAIL                           |
| 30                  | PR-02800-L   | 1   | BAG TABLE SIDE 1 LEFT                 |
| 31                  | PR-06626     | 1   | PP-00182 MODIFIED                     |
| 32                  | PR-02804-L   | 1   | GUARD LEFT                            |
| 33                  | PR-02807-A-L | 1   | WICKET GUIDE "A" LEFT                 |
| 34                  | PR-02809     | 1   | WICKET RAIL SPACER                    |
| 35                  | PR-02807-B-L | 1   | WICKET GUIDE "B" LEFT                 |
| 36                  | PR-02810     | 1   | SPACER                                |
| 37                  | PR-02813-L   | 1   | GUIDE LEFT                            |
| 38                  | PR-02858     | 2   | SLIDER PUCK Ø2"                       |
| 39                  | PR-02861-L   | 1   | BLOCK LEFT                            |

## 13.14.2.8: Bag table holder



| BAG TABLE HOLDER |                  |     |                                                 |
|------------------|------------------|-----|-------------------------------------------------|
| No.              | Part number      | Qty | Title                                           |
| 1                | PR-02910         | 4   | BUSHING                                         |
| 2                | F11-190F04S      | 4   | BUTTON HEAD 10-32 x 1/4" STAINLESS              |
| 3                | F10-164C12S      | 2   | SOCKET CAP 8-32 X 3/4 STAINLESS                 |
| 4                | F11-M4-0.7X10S   | 4   | BUTTON HEAD M4-0.7 X 10 STAINLESS STEEL         |
| 5                | F05-312-28S      | 1   | SHOULDER SCREW 5/16 X 1 3/4" X 1/4-20 STAINLESS |
| 6                | F03-250CNS       | 5   | NYLON LOCK NUT 1/4" STAINLESS                   |
| 7                | F10-250C20S      | 2   | SOCKET CAP 1/4-20 X 1 1/4" STAINLESS            |
| 8                | F03-250CS        | 2   | NUT 1/4 -20 STAINLESS                           |
| 9                | F01-250S         | 4   | FLAT WASHER 1/4 STAINLESS                       |
| 10               | F12-250C28S      | 4   | FLAT HEAD 1/4-20 X 1 3/4" STAINLESS             |
| 11               | PM-00196-1       | 1   | LINEAR BEARING, SERIE SHS-R FOR RAIL 15MM       |
| 12               | PM-00196-5.125PO | 1   | GUIDE LINEAIRE KLR.950 - 15 MM x L 5.125"       |
| 13               | OS-008           | 2   | TENSION SPRING                                  |
| 14               | PM-00180         | 2   | RUBBER PLUG                                     |
| 15               | PE-00141-NO-PNP  | 1   | PROX SWITCH                                     |
| 16               | PE-00507-10      | 1   | PHOTOCELL CABLE 10M                             |
| 17               | PR-02657-02      | 1   | BAG CLAMP                                       |
| 18               | PR-02901-A       | 1   | BAG TABLE CLAMP "A"                             |
| 19               | PR-02901-B       | 1   | BAG TABLE CLAMP "B"                             |
| 20               | PR-02658         | 1   | ROLLER FOR BAG TABLE CLAMP                      |
| 21*              | PR-02800-L       | 1   | BAG TABLE SIDE 1 LEFT                           |
| 22               | PR-02760         | 1   | BAG TABLE ROLLER                                |
| 23               | PR-02949         | 1   | S/S DEFLECTOR                                   |
| 24               | F11-190F06S      | 2   | BUTTON HEAD 10-32 x 3/8 STAINLESS               |

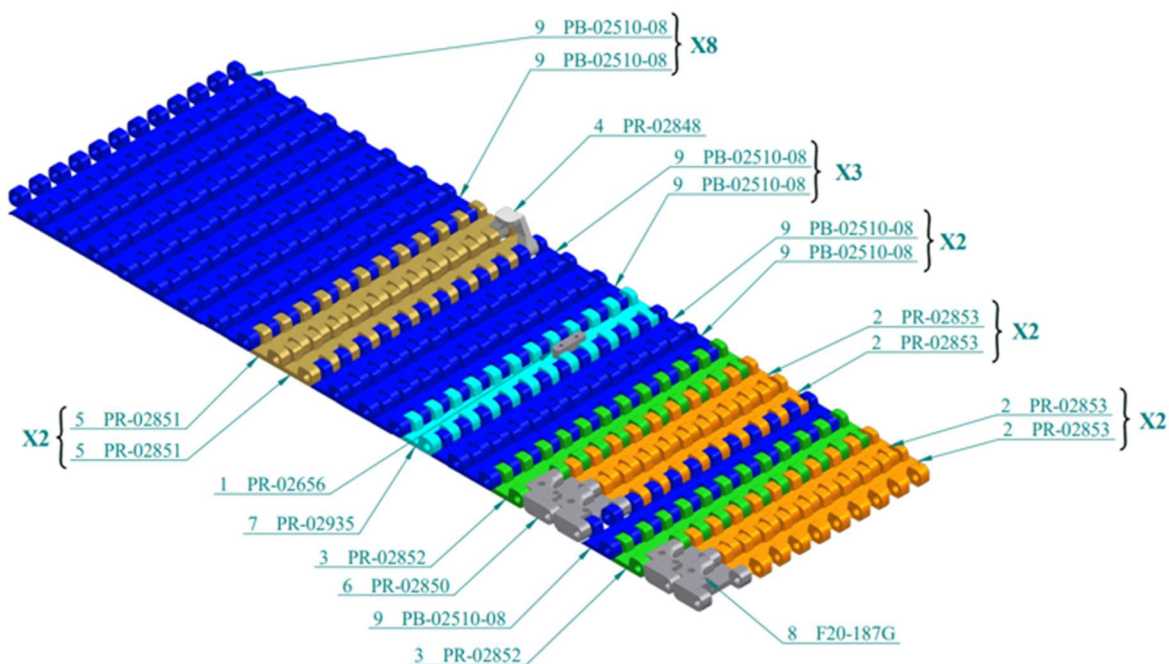


### 13.14.2.9: Bag table belt section (KLR.5051; KLR-00001-KLR-00421 or program rev. + 231206)

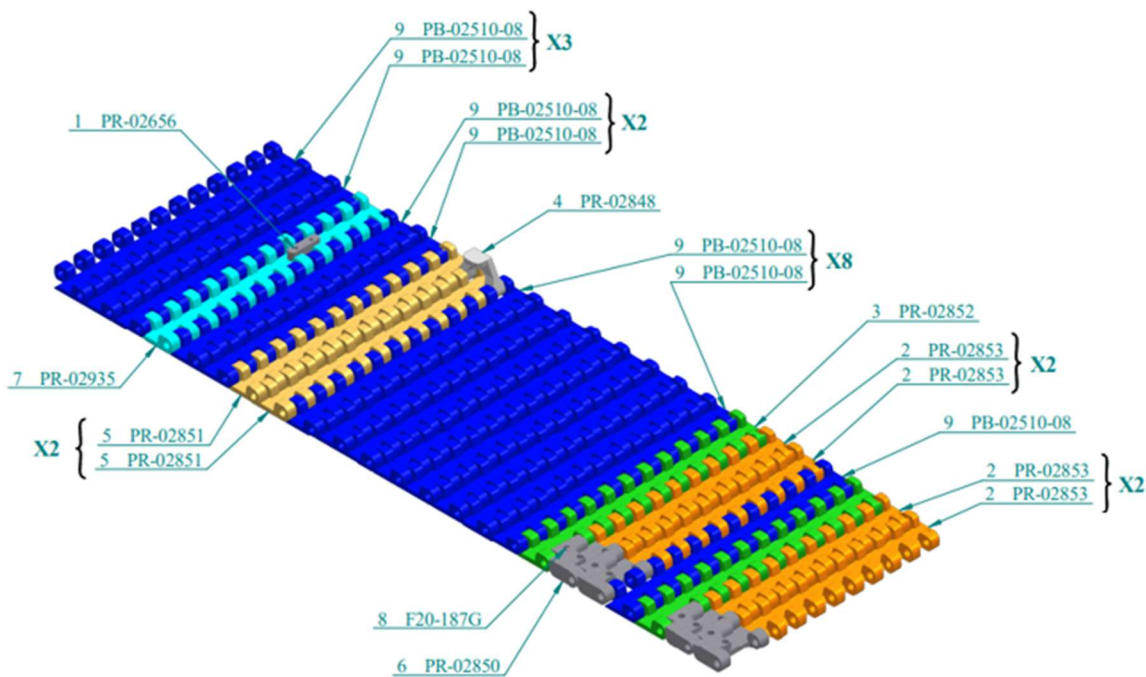


Left and right-handed version are similar but have difference in the assembly. Use caution in using this exact assembly. Anything else then that will end up with a bag table not loading properly.

**LEFT VERSION Full belt: PB-00517-L (use this section 5 times)**



**RIGHT VERSION Full belt: PB-00517-R (use this section 5 times)**



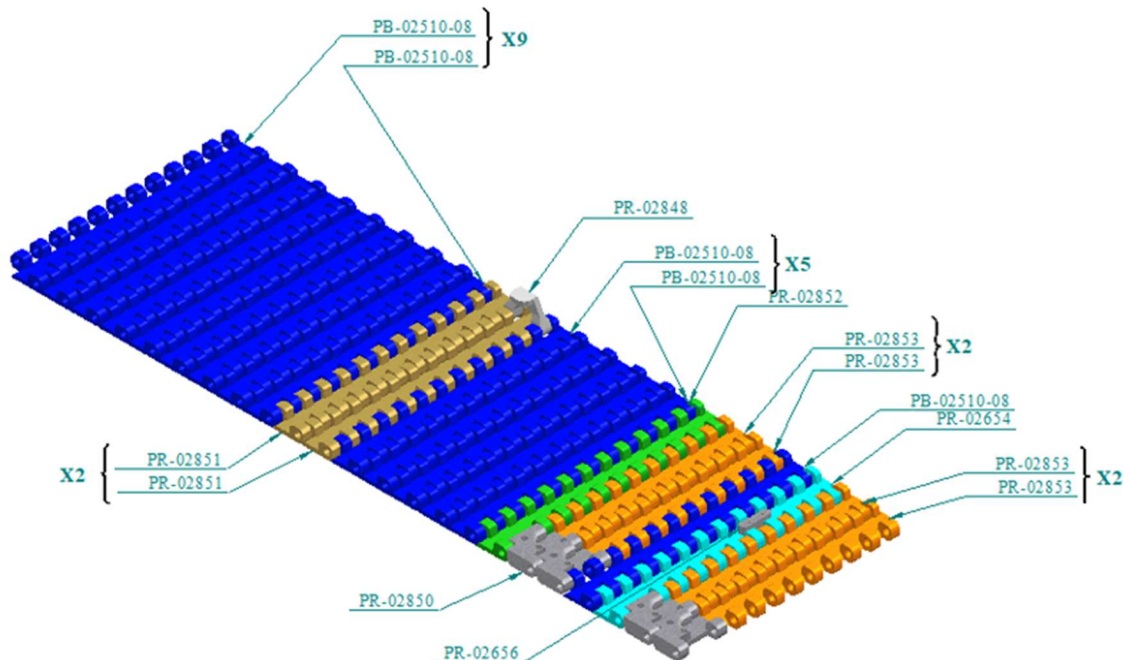


### 13.14.2.10: Bag table belt section (KLR.5051-AB and KLR.5051 with SN: 2415 – 2642; 2681 – 2682)

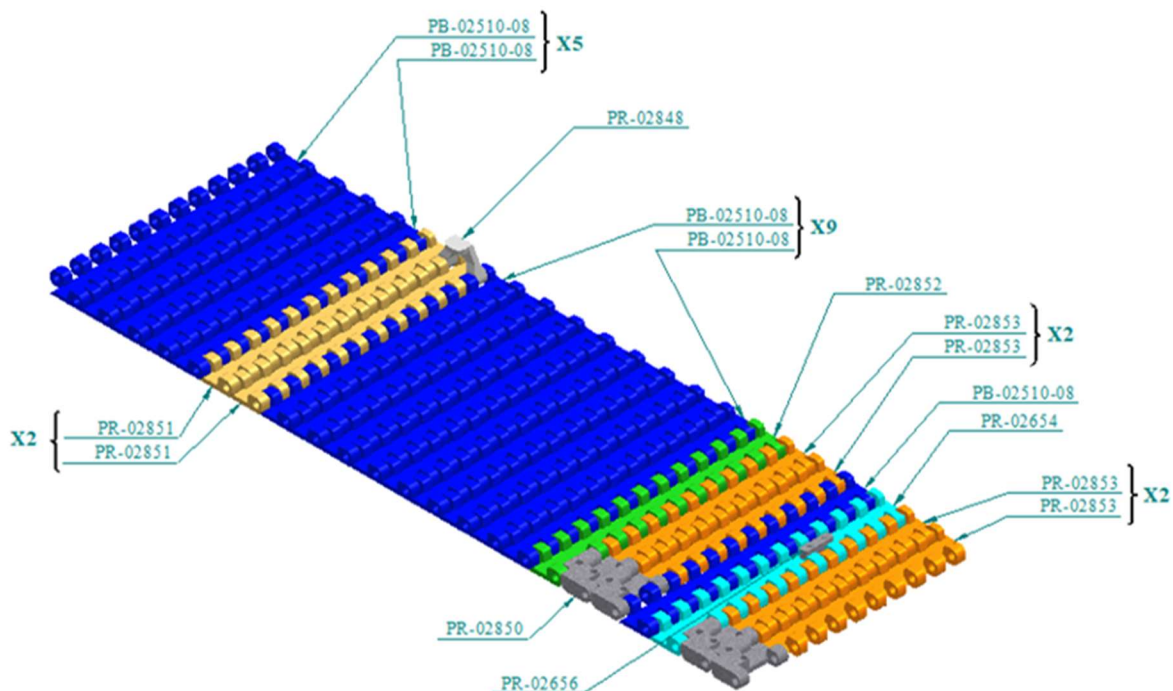


Left and right handed version are similar but have difference in the assembly. Use caution in using this exact assembly. Anything else then that will end up with a bag table not loading properly.

**LEFT VERSION Full belt: PB-00517-L (use this section 5 times)**



**RIGHT VERSION Full belt: PB-00517-R (use this section 5 times)**



KLR.5051

Serial numbers: 2415 – 3097 (KLR-00001 – beyond)



Revision: 2026-08-07

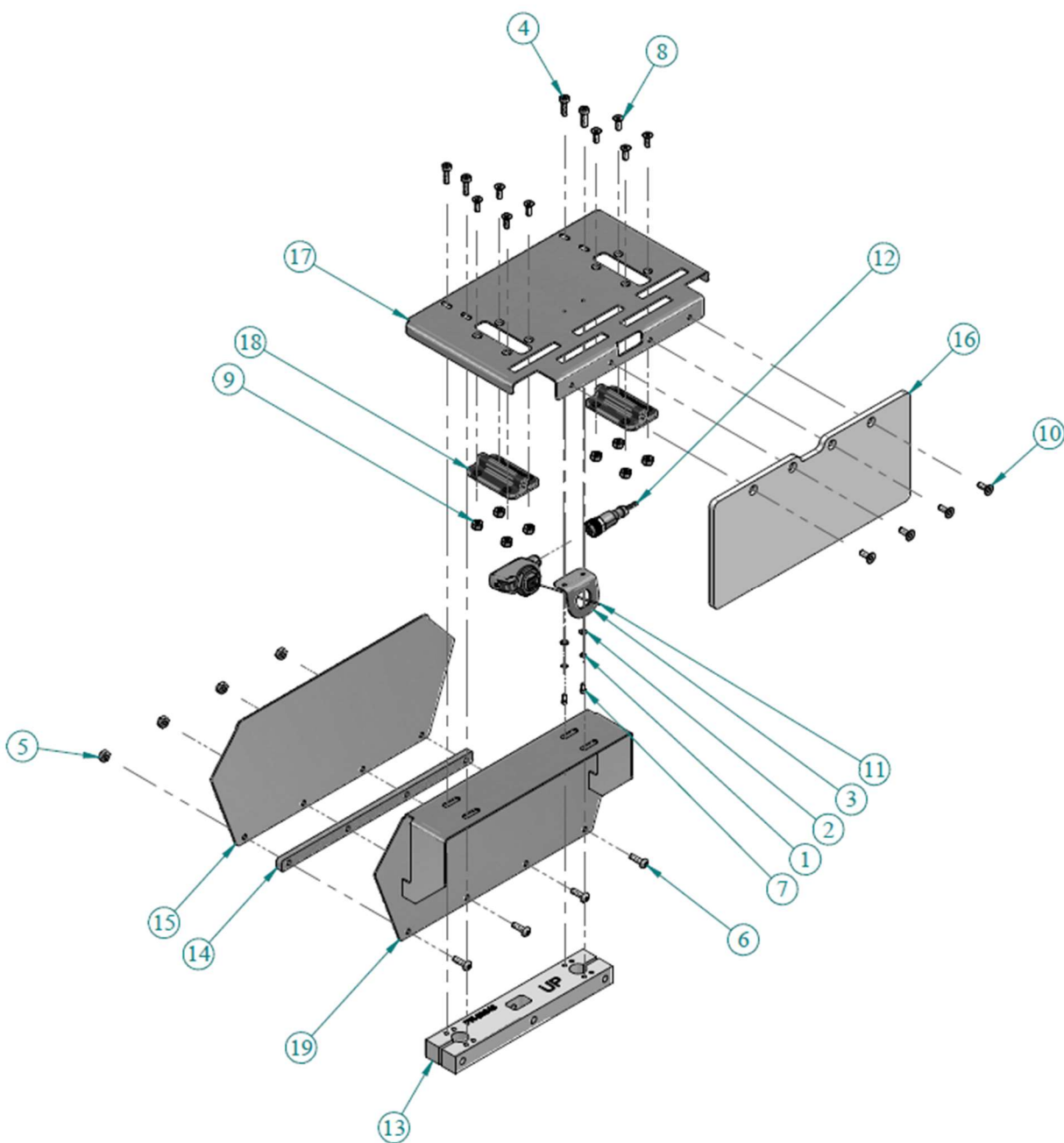
KLR.5051

Serial numbers: 2415 – 3097 (KLR-00001 – beyond)

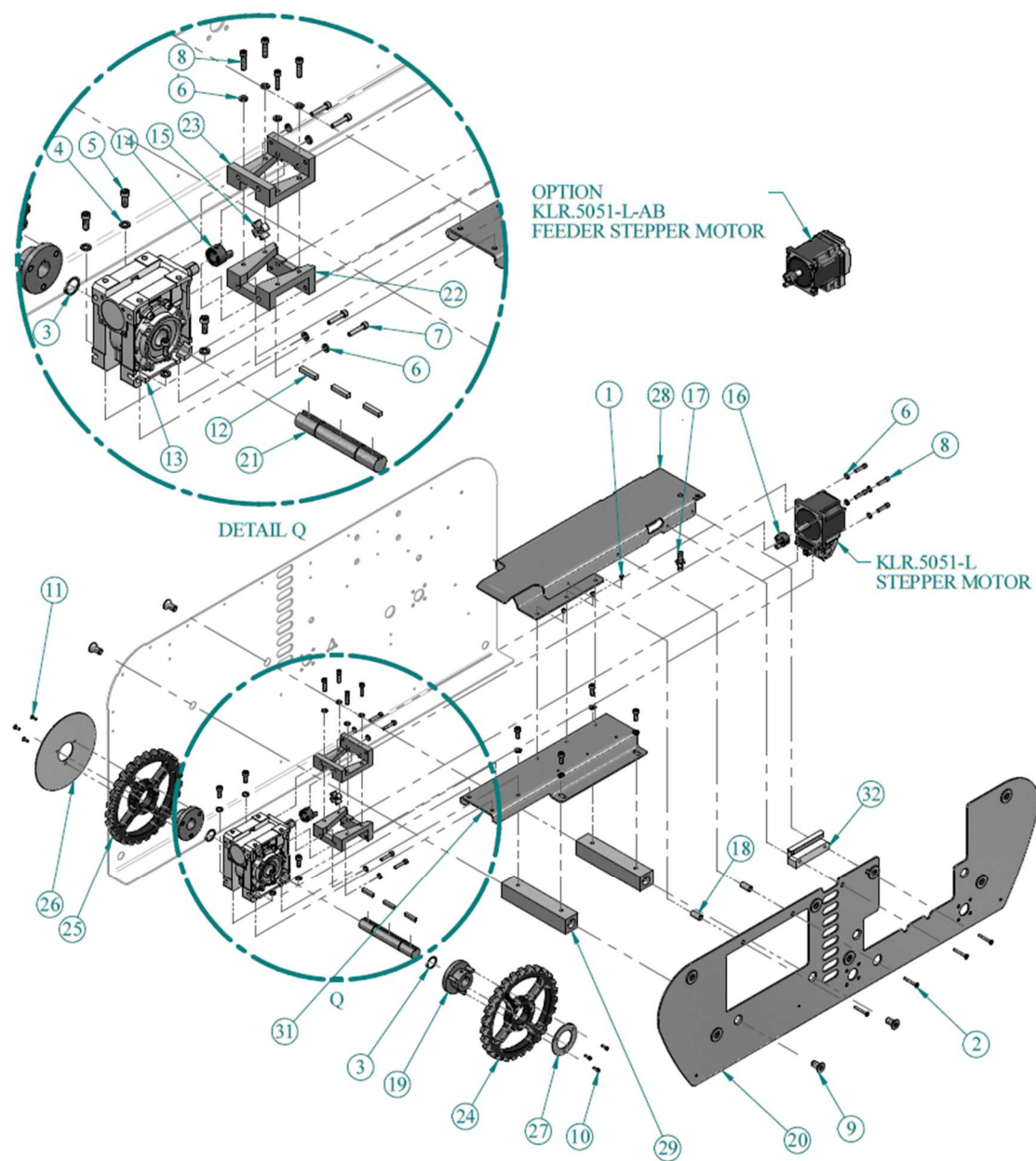


Revision: 2026-08-07

## 13.15.3: Bag table sensor



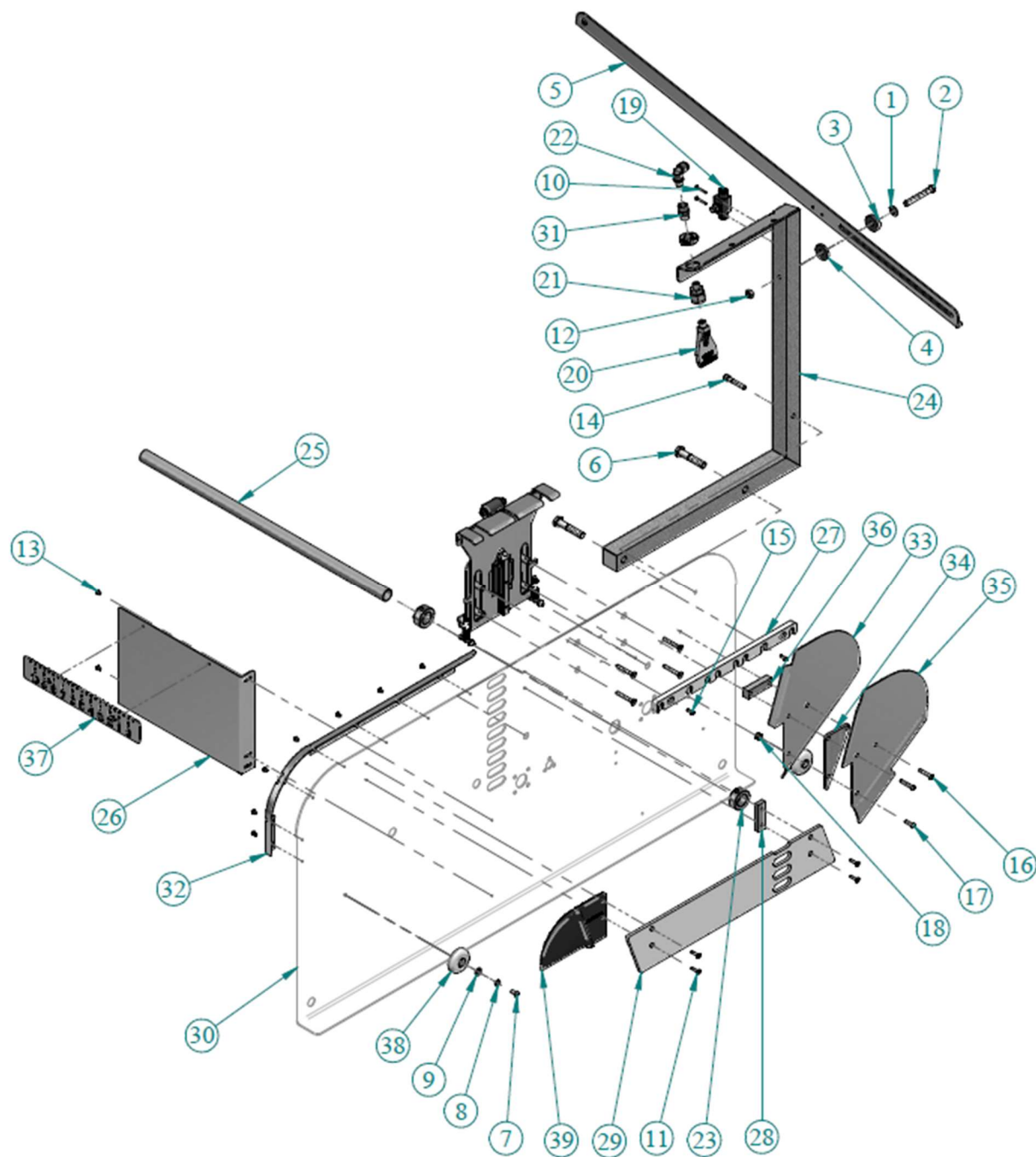
| <b>BAG TABLE SENSOR</b> |                    |            |                                                      |
|-------------------------|--------------------|------------|------------------------------------------------------|
| <b>No.</b>              | <b>Part number</b> | <b>Qty</b> | <b>Title</b>                                         |
| 1                       | F02-112S           | 2          | LOCK WASHER #4 STAINLESS                             |
| 2                       | F01-112S           | 2          | FLAT WASHER #4 STAINLESS                             |
| 3                       | PR-02921           | 1          | BRACKET POUR CAPTEUR LASER                           |
| 4                       | F10-190F10S        | 4          | SOCKET CAP 10-32 X 5/8" STAINLESS                    |
| 5                       | F03-190FNS         | 4          | JAM NUT HEX 10-32 STAINLESS                          |
| 6                       | F11-190F10S        | 4          | BUTTON HEAD 10-32 X 5/8" STAINLESS                   |
| 7                       | F10-112C04S        | 2          | SOCKET CAP 4-40 X 1/4" STAINLESS                     |
| 8                       | F12-164C08S        | 8          | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 9                       | F03-164CNS         | 8          | NYLON NUT 8-32 STAINLESS                             |
| 10                      | F12-190F08S        | 4          | FLAT HEAD 10-32 X 1/2" STAINLESS                     |
| 11                      | PE-00957           | 1          | LASER SENSOR 25-90MM                                 |
| 12                      | PE-00507-10        | 1          | PHOTOCELL CABLE 10M                                  |
| 13                      | PR-02645           | 1          | SHAFT HOLDER                                         |
| 14                      | PR-02648           | 1          | WICKET RAIL SPACER                                   |
| 15                      | PR-02649           | 1          | WICKET RAIL                                          |
| 16                      | PR-02751           | 1          | SIDE GUIDE                                           |
| 17                      | PR-02777-L         | 1          | SLIDING TABLE                                        |
| 18                      | PR-02761           | 2          | GUIDE                                                |
| 19                      | PR-02778           | 1          | SLIDING TABLE                                        |

**13.16: Bag table feeder**



| BAG TABLE FEEDER |                  |     |                                                      |
|------------------|------------------|-----|------------------------------------------------------|
| No.              | Part number      | Qty | Title                                                |
| 1                | F11-190C04S      | 3   | BUTTON HEAD 10-24 X 1/4 STAINLESS                    |
| 2                | F12-190F24S      | 4   | FLAT HEAD 10-32 X 1 1/2" STAINLESS                   |
| 3                | f16-1000S        | 2   | SNAP RING INT 1 STAINLESS S 3000                     |
| 4                | F02-312S         | 8   | LOCK WASHER 5/16" STAINLESS                          |
| 5                | F10-312C12S      | 8   | SOCKET CAP 5/16-18 X 3/4" STAINLESS                  |
| 6                | F02-250S         | 12  | LOCK WASHER #14 STAINLESS                            |
| 7                | F10-M6-1X30S     | 4   | SOCKET CAP M6-1X30 STAINLESS                         |
| 8                | F10-250C16S      | 8   | SOCKET CAP 1/4-20 X 1" STAINLESS                     |
| 9                | F12-500C16S      | 4   | FLAT HEAD 1/2-13 x 1" STAINLESS                      |
| 10               | F10-164C08S      | 3   | SOCKET CAP 8-32 X 1/2" STAINLESS                     |
| 11               | F12-164C08S      | 3   | SOCKET FLAT CONTERSINK HEAD CAP 8-32 x 1/2 STAINLESS |
| 12               | PM-01422         | 3   | MACHINE KEY 1/4 ZINC                                 |
| 13               | PM-00495         | 1   | GEAR BOX 18:1                                        |
| 14               | PM-01414-16MM    | 1   | HUB 5/16"L050 STOCK BORE                             |
| 15               | PM-01415         | 1   | SPACER FOR SERVO MOTOR HUB                           |
| 16               | PR-02904         | 1   | HUB .500 SHAFT 1/2"                                  |
| 17               | PE-00141-NO-PNP  | 1   | PROX SWITCH                                          |
| 18               | B0500-0205-1000S | 2   | BUSHING                                              |
| 19               | PR-02728         | 2   | HUB                                                  |
| 20               | PR-02801-L       | 1   | TABLE BAG FRAME LEFT                                 |
| 21               | PR-02636         | 1   | DRIVE AXIS                                           |
| 22               | PR-02637         | 1   | MOTOR COUPLING                                       |
| 23               | PR-02638         | 1   | MOTOR COUPLING                                       |
| 24               | PR-02675-A       | 1   | SPROCKET "A"                                         |
| 25               | PR-02675         | 1   | SPROCKET                                             |
| 26               | PR-02859         | 1   | HUB WASHER                                           |
| 27               | PR-02735         | 1   | HUB WASHER                                           |
| 28               | PR-02805-L       | 1   | BELT SUPPORT TABLE LEFT                              |
| 29               | PR-02806         | 2   | CROSSMEMBER                                          |
| 30*              | PR-02800-L       | 1   | BAG TABLE SIDE 1 LEFT                                |
| 31               | PR-02630         | 1   | SUPPORT                                              |
| 32               | PR-02849         | 1   | GUIDE                                                |

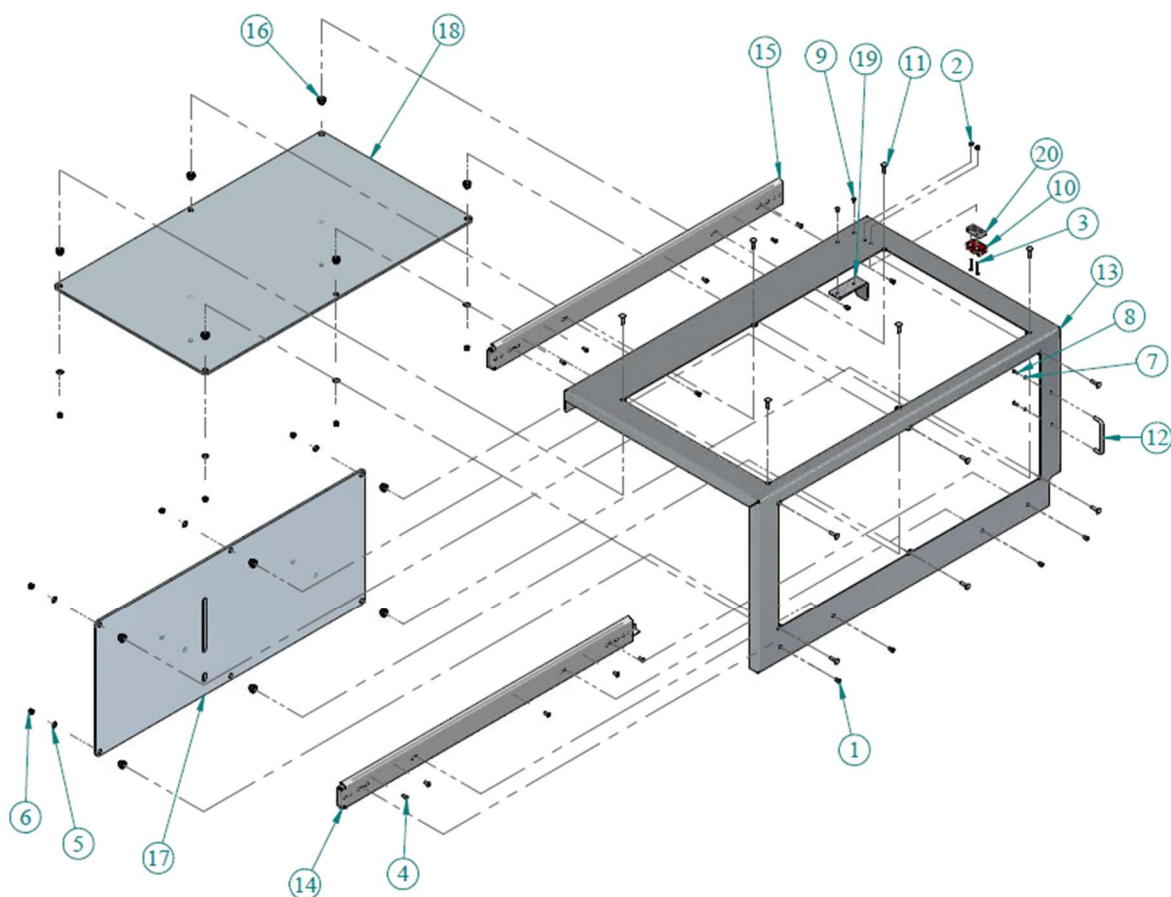
## 13.17: Bag table back side



| BAG TABLE BACK SIDE |              |     |                                       |
|---------------------|--------------|-----|---------------------------------------|
| No.                 | Part number  | Qty | Title                                 |
| 1                   | F01-375S     | 1   | FLAT WASHER 3/8" STAINLESS            |
| 2                   | F13-375C44S  | 1   | HEX HEAD 3/8-16 X 2 3/4" STAINLESS    |
| 3                   | PR-02906     | 1   | WASHER 3/8"                           |
| 4                   | PR-02905     | 1   | WASHER 3/8"                           |
| 5                   | PR-02797-L   | 1   | RAIL LEFT                             |
| 6                   | F13-500C40S  | 2   | HEX HEAD 1/2-13 X 2 1/2" STAINLESS    |
| 7                   | F11-250F08S  | 1   | BUTTON HEAD 1/4-28 X 1/2" STAINLESS   |
| 8                   | F02-250S     | 1   | LOCK WASHER #14 STAINLESS             |
| 9                   | F01-250S     | 1   | FLAT WASHER 1/4 STAINLESS             |
| 10                  | F11-138C16S  | 2   | #6-32 X 1 IN BUTTON HEAD S            |
| 11                  | F12-190F12S  | 4   | FLAT HEAD 10-32 X 3/4" STAINLESS      |
| 12                  | F03-375CS    | 1   | NUT 3/8-16 STAINLESS                  |
| 13                  | F11-190F04S  | 9   | BUTTON HEAD 10-32 x 1/4" STAINLESS    |
| 14                  | F10-312C28S  | 1   | SOCKET CAP 5/16-18 X 1 3/4" STAINLESS |
| 15                  | F11-190F08S  | 2   | BUTTON HEAD 10-32 X 1/2" STAINLESS    |
| 16                  | F11-250C20S  | 2   | BUTTON HEAD 1/4-20 X 1 1/4" STAINLESS |
| 17                  | F11-250C12S  | 1   | BUTTON HEAD 1/4-20 X 3/4" STAINLESS   |
| 18                  | F03-250CNS   | 1   | NYLON LOCK NUT 1/4" STAINLESS         |
| 19                  | PP-00192     | 1   | SPEED CONTROL 3/8 TUB-3/8 TUB         |
| 20                  | PP-00588S    | 1   | BUSE PLATE WINDJET STAINLESS          |
| 21                  | PP-00591     | 1   | ADJUSTABLE BALL FITTING 1/4           |
| 22                  | PP-00162     | 1   | 90 COUDE 3/8 TUB 1/4 NPT              |
| 23                  | PM-00255     | 2   | SHAFT COLLAR 1"                       |
| 24                  | PR-02770-L   | 1   | TABLE FRAME LEFT                      |
| 25                  | PR-02709     | 1   | CABLE GUIDE                           |
| 26                  | PR-02750-L   | 1   | GUARD LEFT                            |
| 27                  | PR-02732     | 1   | SIDE GUIDE                            |
| 28                  | PR-02745     | 1   | SAPCER                                |
| 29                  | PR-02741     | 1   | WICKET RAIL                           |
| 30                  | PR-02800-L   | 1   | BAG TABLE SIDE 1 LEFT                 |
| 31                  | PR-06626     | 1   | PP-00182 MODIFIED                     |
| 32                  | PR-02804-L   | 1   | GUARD LEFT                            |
| 33                  | PR-02807-A-L | 1   | WICKET GUIDE "A" LEFT                 |
| 34                  | PR-02809     | 1   | WICKET RAIL SPACER                    |
| 35                  | PR-02807-B-L | 1   | WICKET GUIDE "B" LEFT                 |
| 36                  | PR-02810     | 1   | SPACER                                |
| 37                  | PR-02813-L   | 1   | GUIDE LEFT                            |
| 38                  | PR-02858     | 2   | SLIDER PUCK Ø2"                       |
| 39                  | PR-02861-L   | 1   | BLOCK LEFT                            |

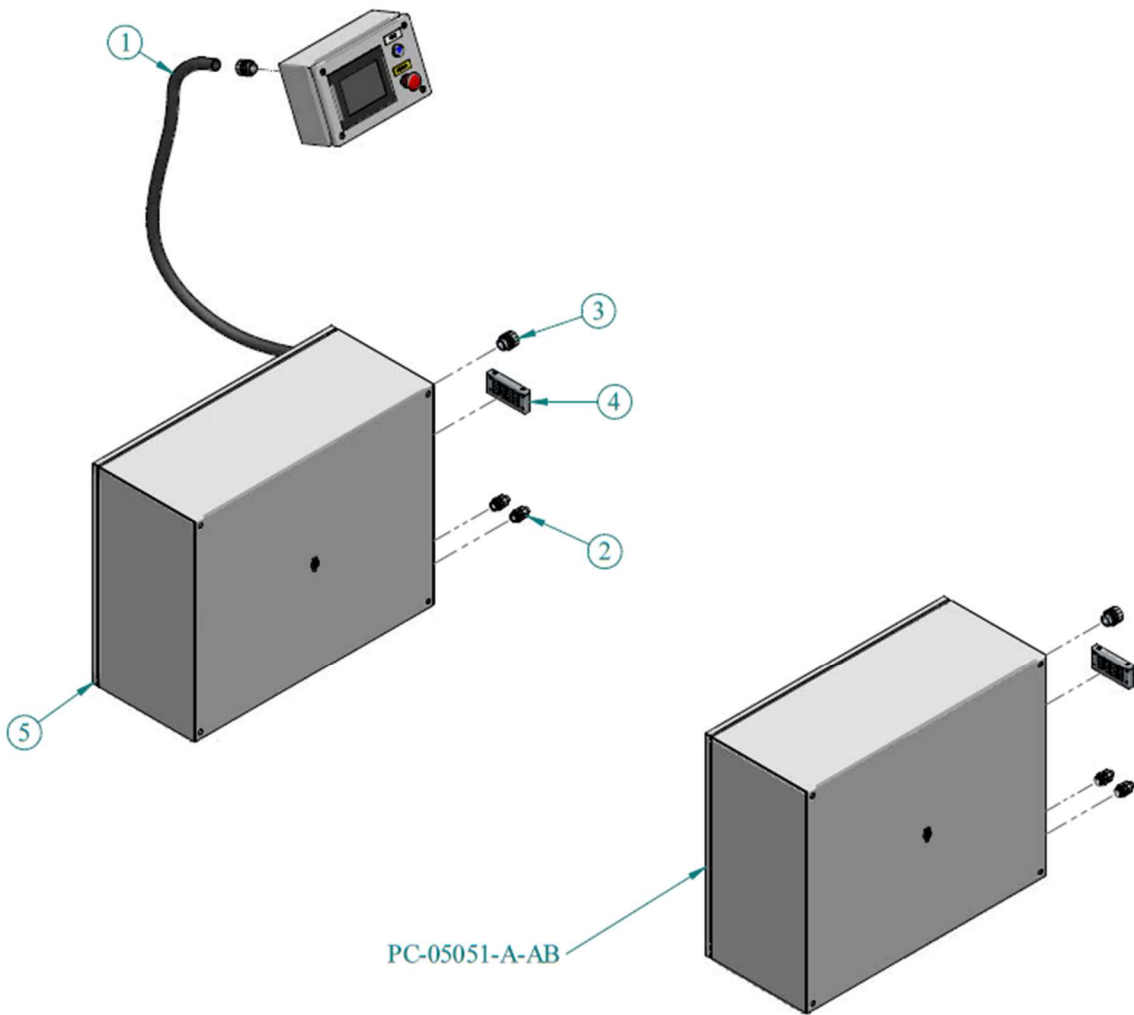


## 13.15: Sliding door

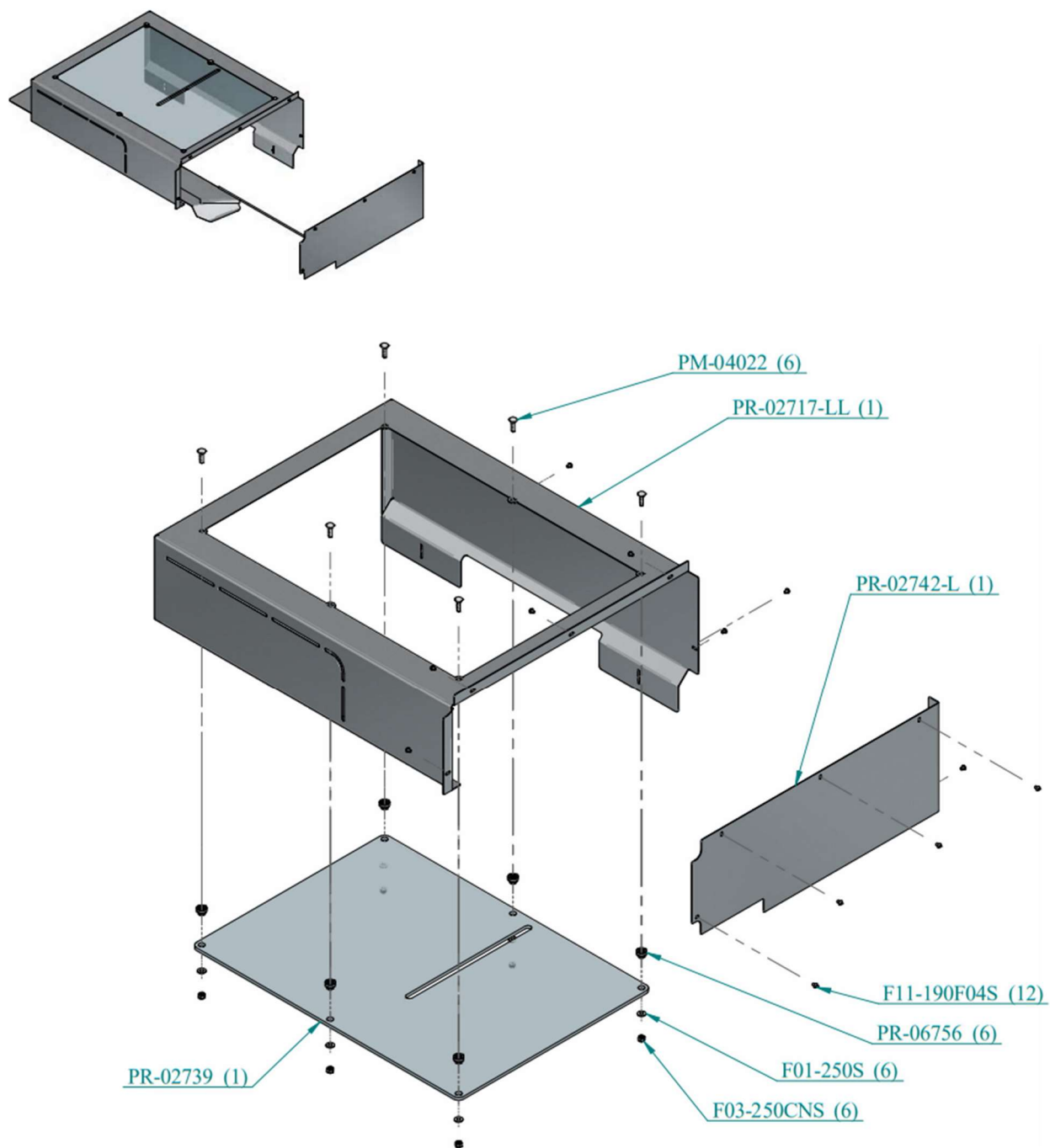


| DOOR |             |     |                                                  |  |
|------|-------------|-----|--------------------------------------------------|--|
| No.  | Part number | Qty | Title                                            |  |
| 1    | F10-250C05S | 8   | SOCKET CAP 1/4-20 X 5/16" STAINLESS              |  |
| 2    | F03-164CNS  | 2   | NYLON NUT 8-32 STAINLESS                         |  |
| 3    | F11-164C20S | 2   | BUTTON HEAD 8-32 X 1 1/4" STAINLESS              |  |
| 4    | F11-250C08S | 10  | BUTTON HEAD 1/4-20 X 1/2" STAINLESS              |  |
| 5    | F01-250S    | 12  | FLAT WASHER 1/4 STAINLESS                        |  |
| 6    | F03-250CNS  | 12  | NYLON LOCK NUT 1/4" STAINLESS                    |  |
| 7    | F02-164S    | 2   | LOCK WASHER #8 STAINLESS                         |  |
| 8    | F11-164C08S | 2   | BUTTON HEAD 8-32 X 1/2" STAINLESS                |  |
| 9    | F11-250C06S | 2   | BUTTON HEAD 1/4-20 X 3/8" STAINLESS              |  |
| 10   | PE-00538-A  | 1   | SAFETY SWITCH                                    |  |
| 11   | PM-04022    | 12  | 18-8 SS SQUARE-NECK CARRIAGE BOLT 1/4-20, 1 LONG |  |
| 12   | PM-00184    | 1   | HANDLE                                           |  |
| 13   | PR-02704-L  | 1   | ACCES DOOR LEFT                                  |  |
| 14   | PR-02716-A  | 1   | RETRACTABLE TRACT                                |  |
| 15   | PR-02716-B  | 1   | RETRACTABLE TRACT                                |  |
| 16   | PR-06756    | 12  | THREADED SPACER                                  |  |
| 17   | PR-02705    | 1   | WINDOWS                                          |  |
| 18   | PR-02706    | 1   | WINDOWS                                          |  |
| 19   | PR-02707    | 1   | DOOR STOPPER                                     |  |
| 20   | PR-02763-1  | 1   | PE-00538-A SPACER                                |  |

13.20: Control panel

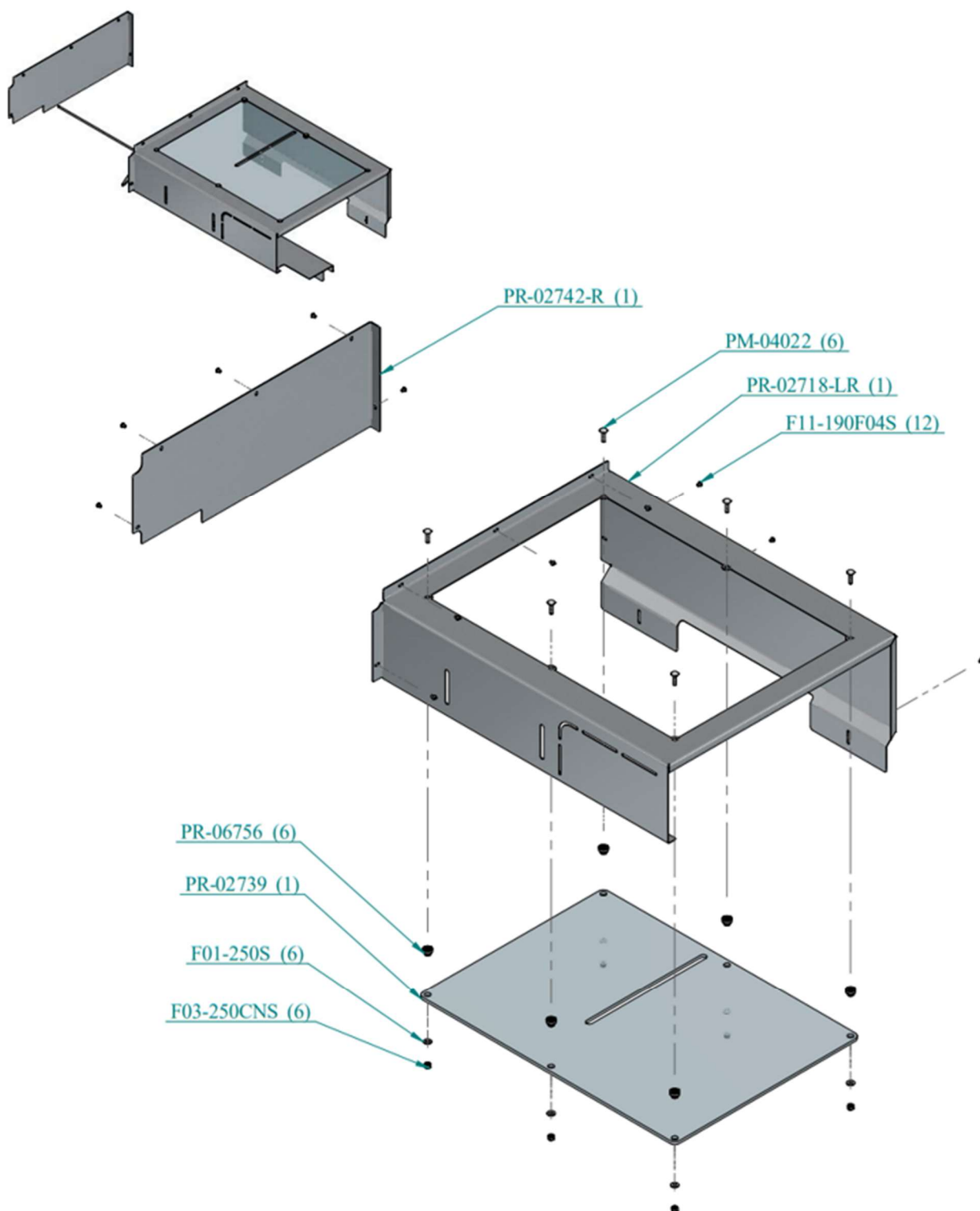


| KLR.5051-L |             |     |                                  |
|------------|-------------|-----|----------------------------------|
| No.        | Part number | Qty | Title                            |
| 1          | PR-02919    | 1   | LIQUID-TIGHT FLEXIBLE METAL PIPE |
| 2          | PE-00110    | 2   | CONNECTOR 1/2                    |
| 3          | PE-00111    | 2   | CONNENTOR 3/4"                   |
| 4          | PFA-5051    | 1   | PASSE-FIL - CADRE AVEC GROMMETS  |
| 5          | PC-05051-A  | 1   | CONTROL BOARD                    |

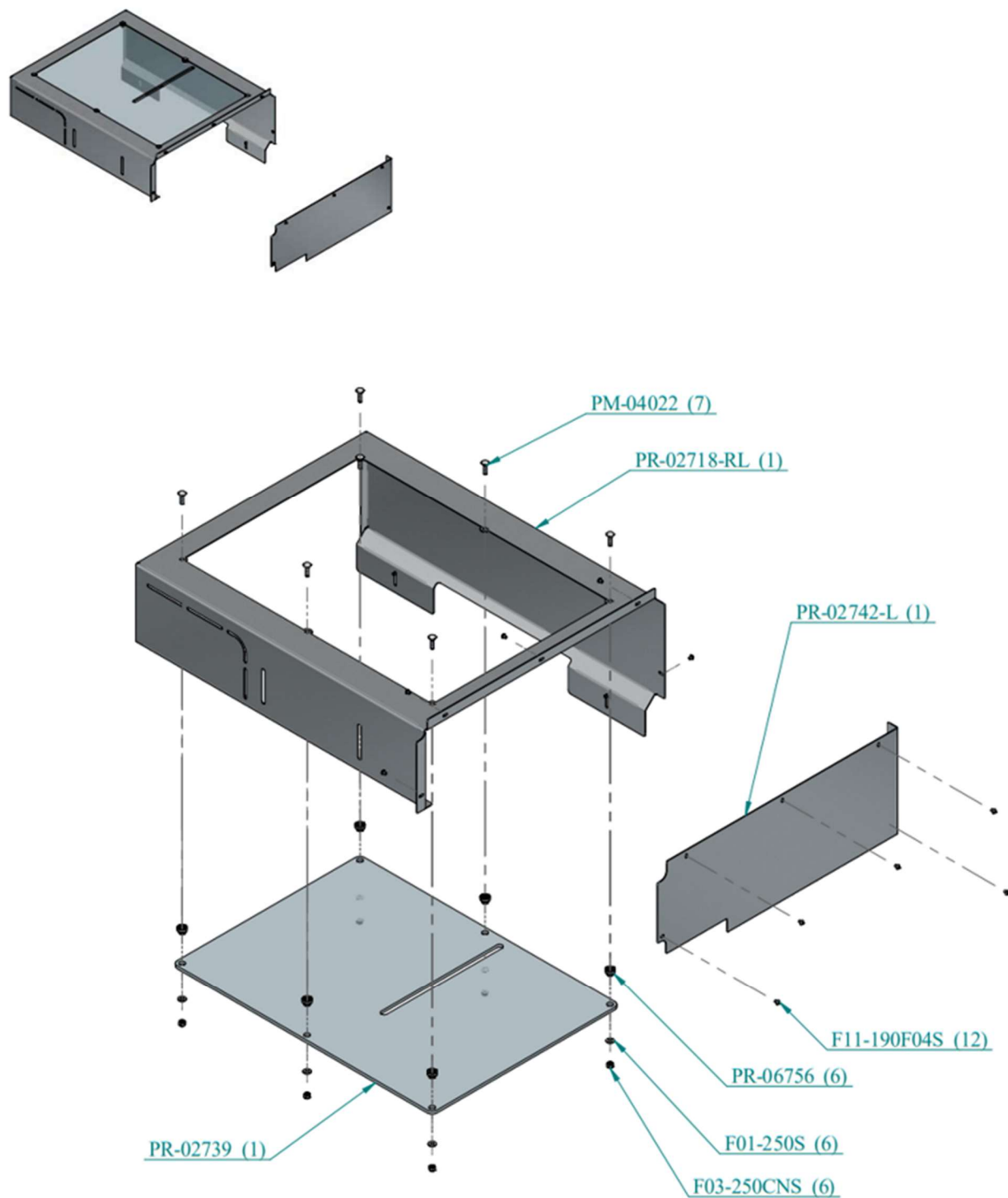
**13.21: SAFETY GUARD OPTIONS****13.21.1: KR-5051-SG-LL**



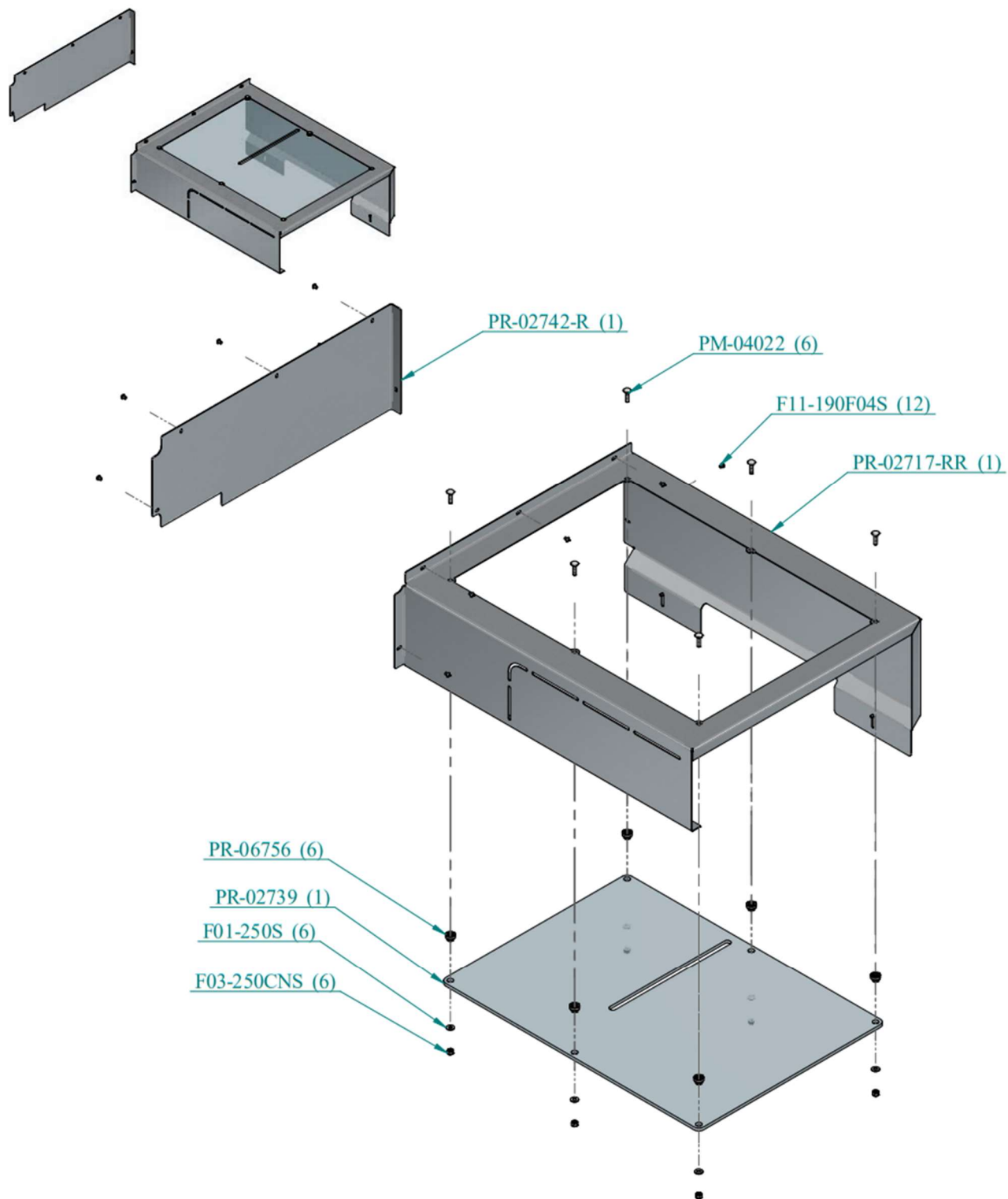
## 13.21.2: KR-5051-SG-LR



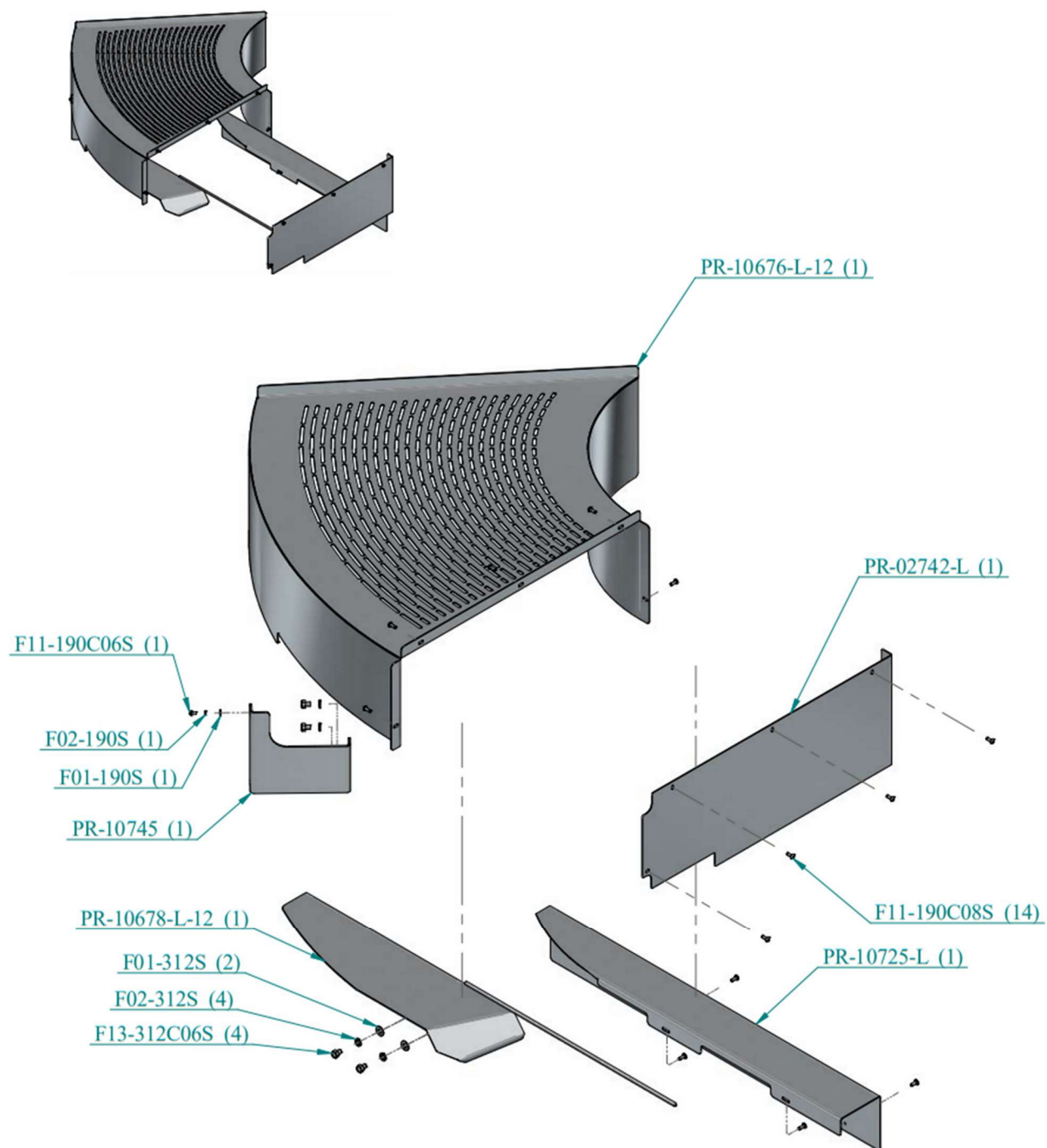
## 13.21.3: KR- 5051-SG-RL



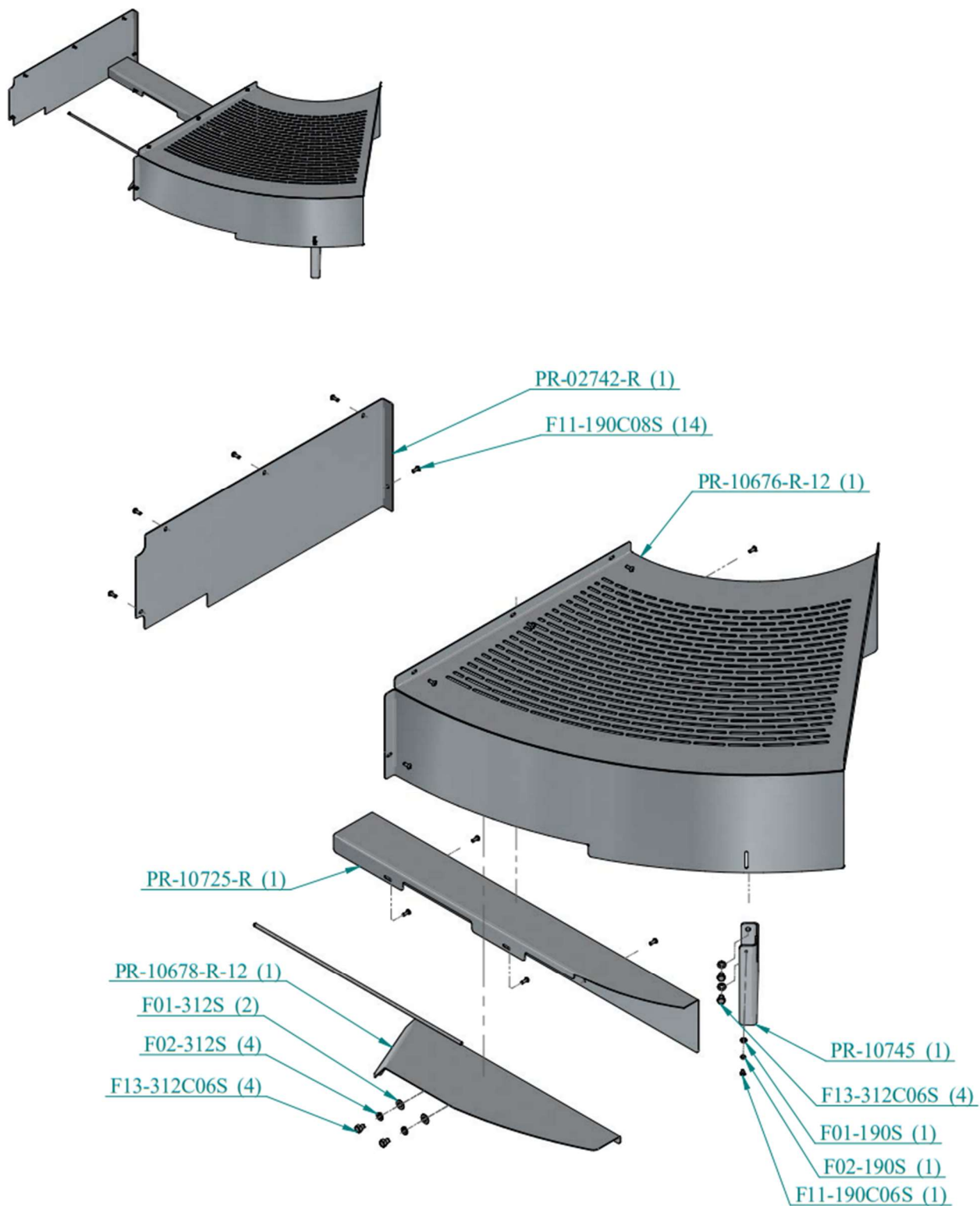
## 13.21.4: KR-5051-SG-RR



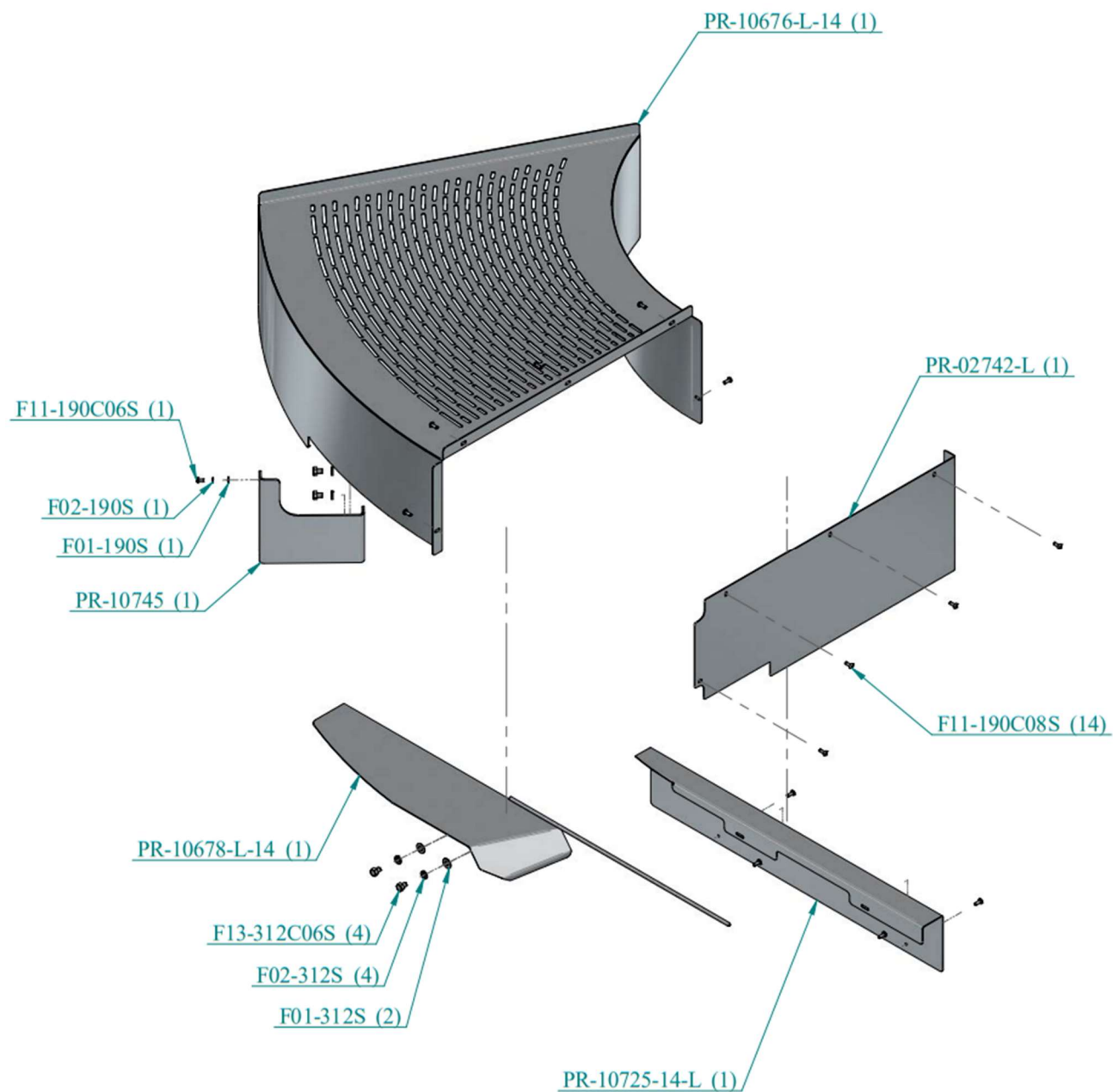
## 13.21.5: KR-5051-SG-CO-L-12



## 13.21.6: KR-5051-SG-CO-R-12

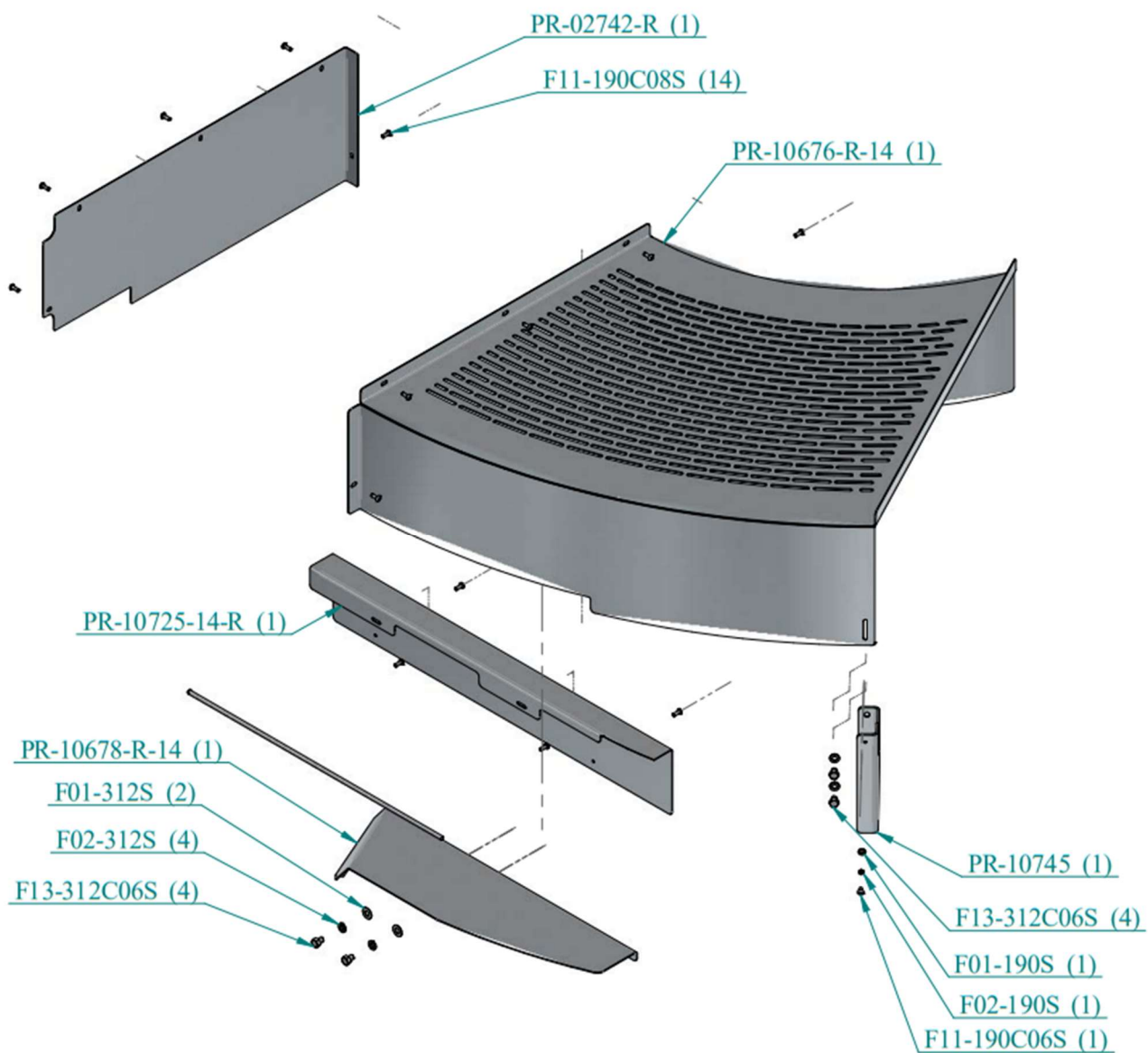


## 13.21.7: KR-5051-SG-CO-L-14

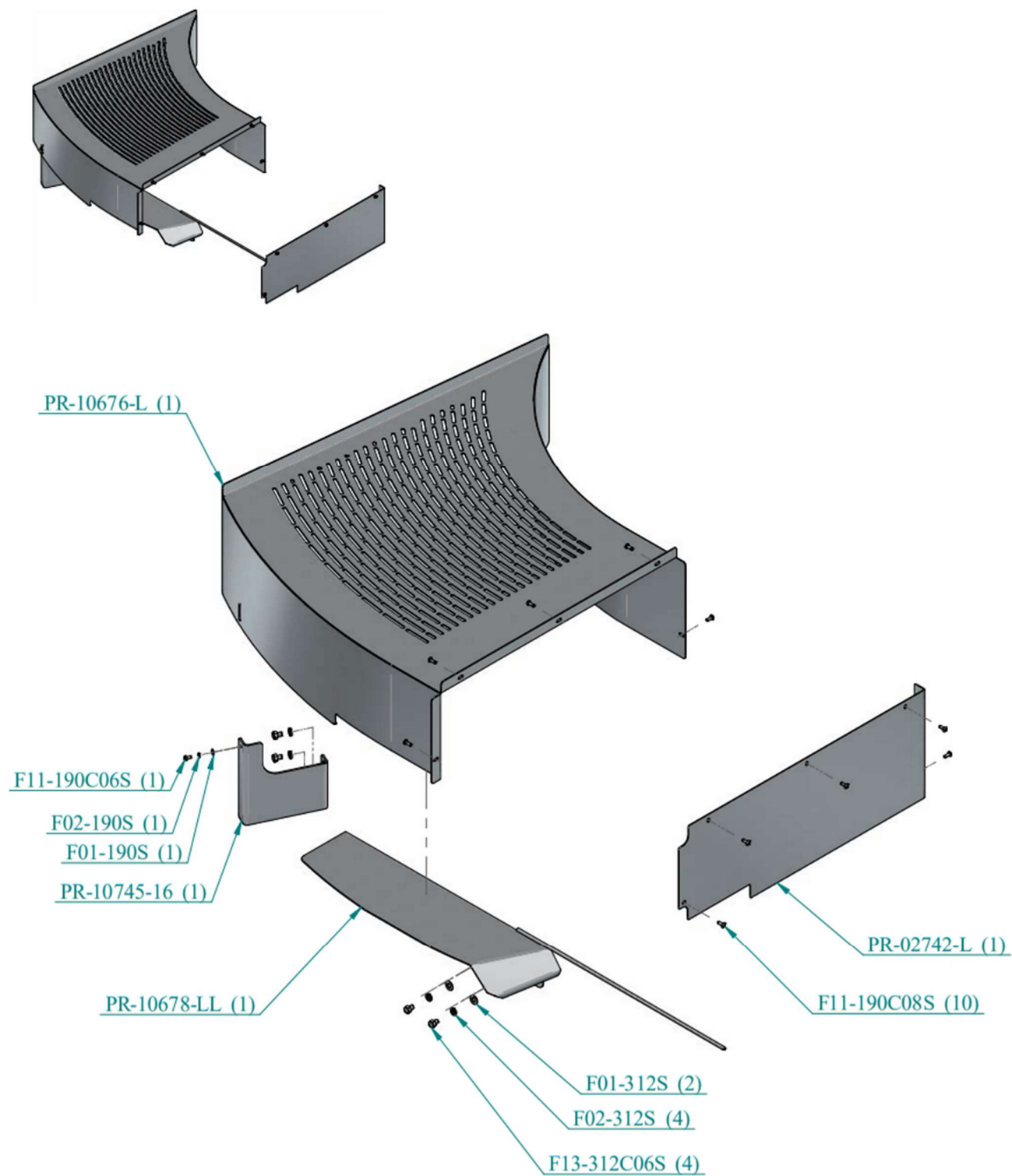




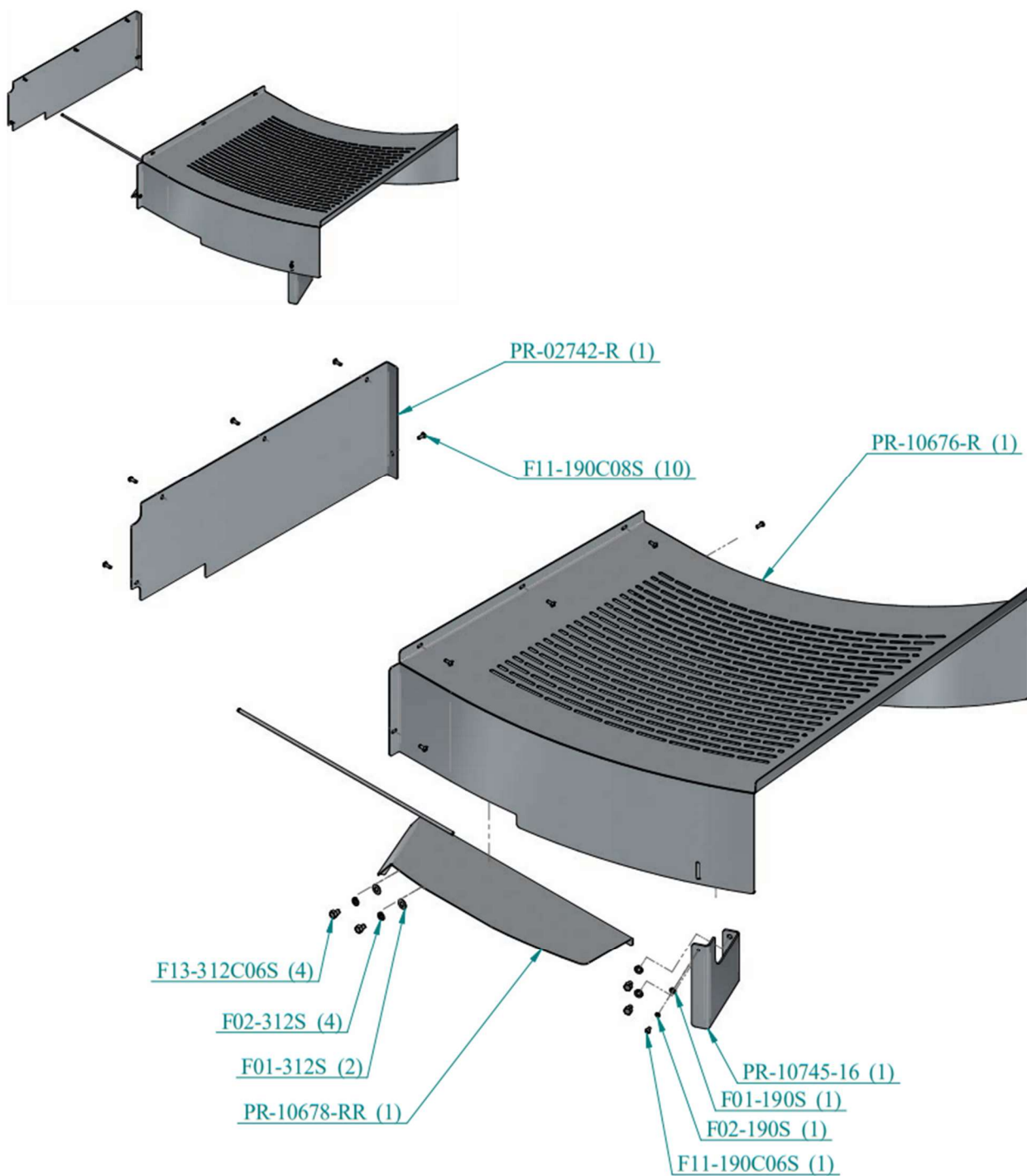
## 13.21.8: KR-5051-SG-CO-R-14



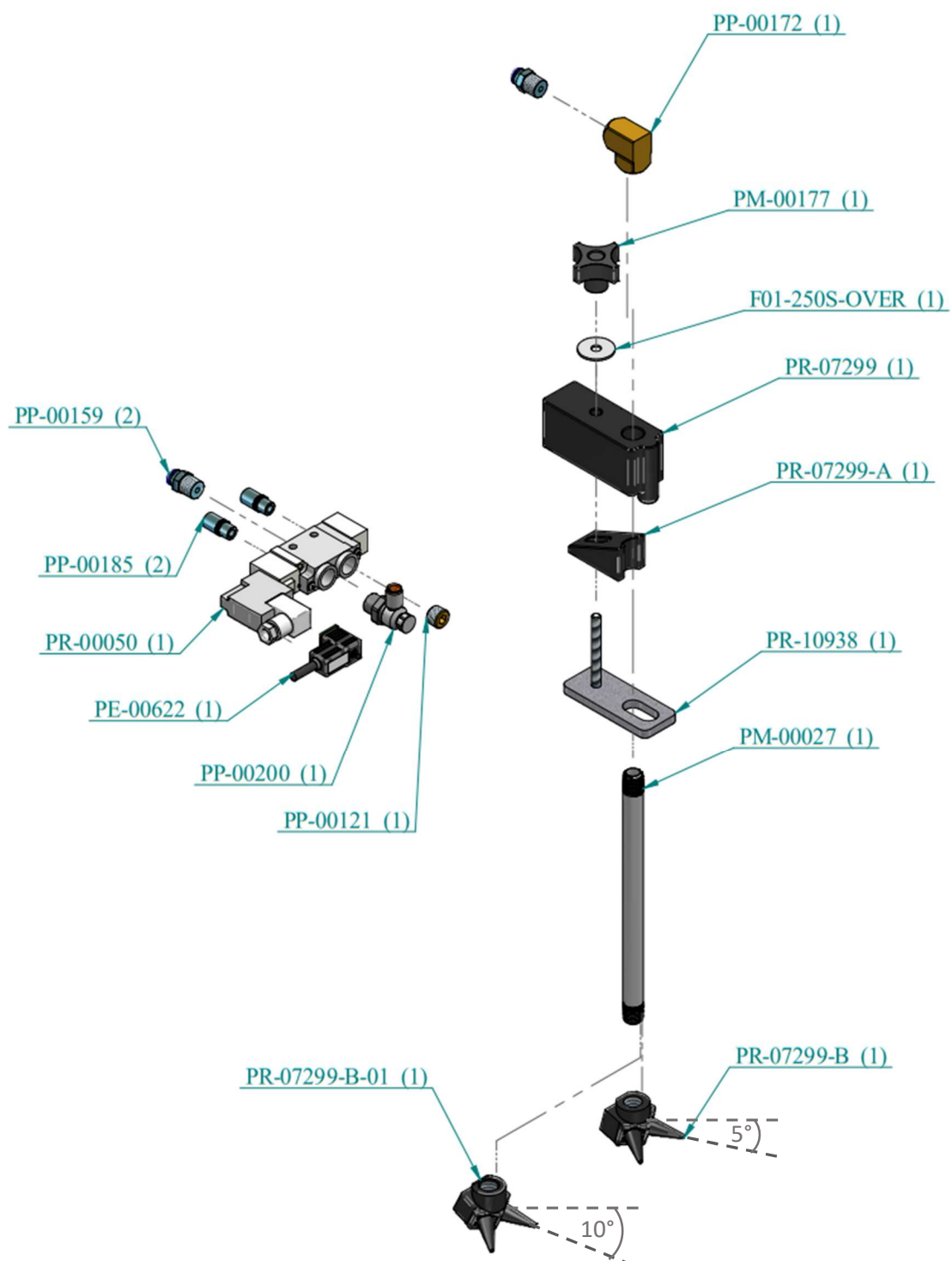
## 13.21.9: KR-5051-SG-CO-L-16



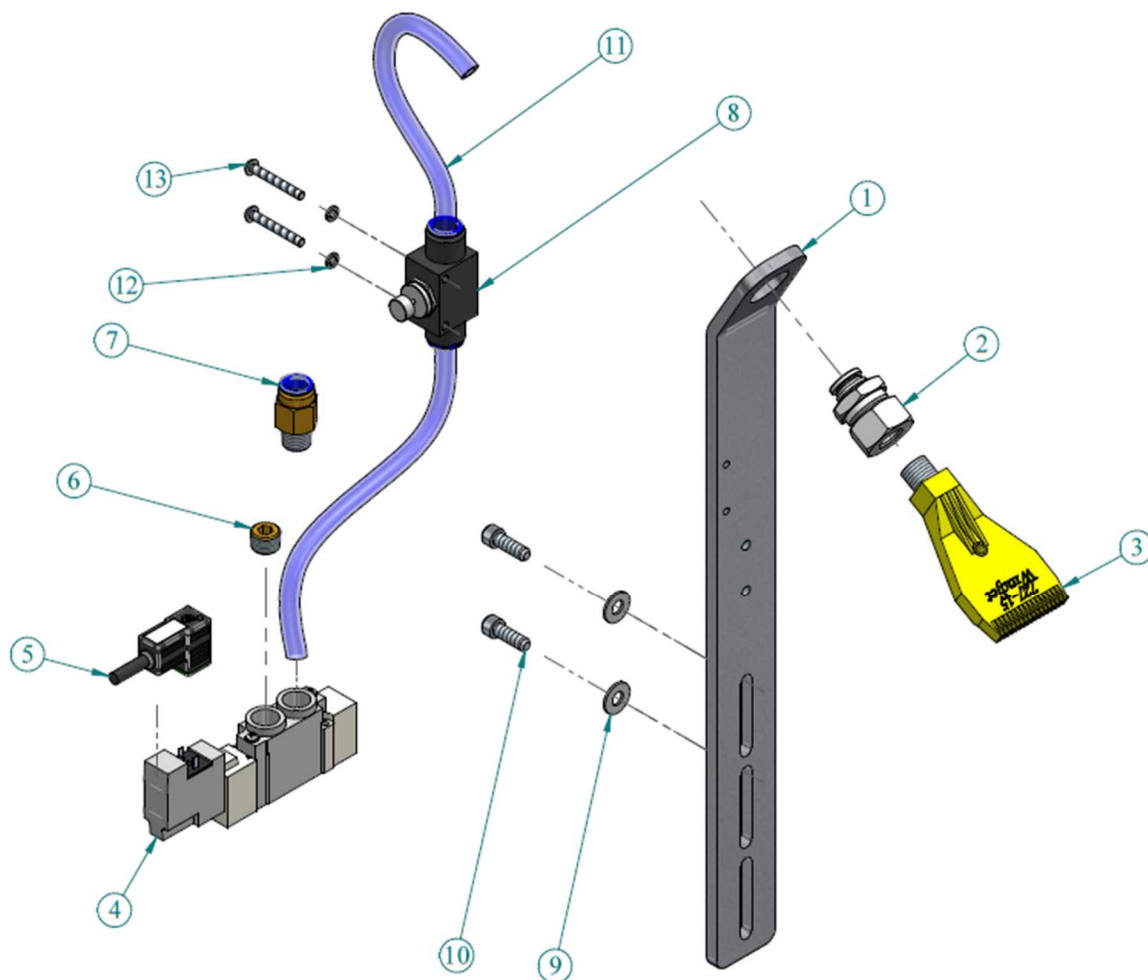
## 13.21.9: KR-5051-SG-CO-R-16



## 13.21.10: KR-HS70B-FLATBAG-G (option)

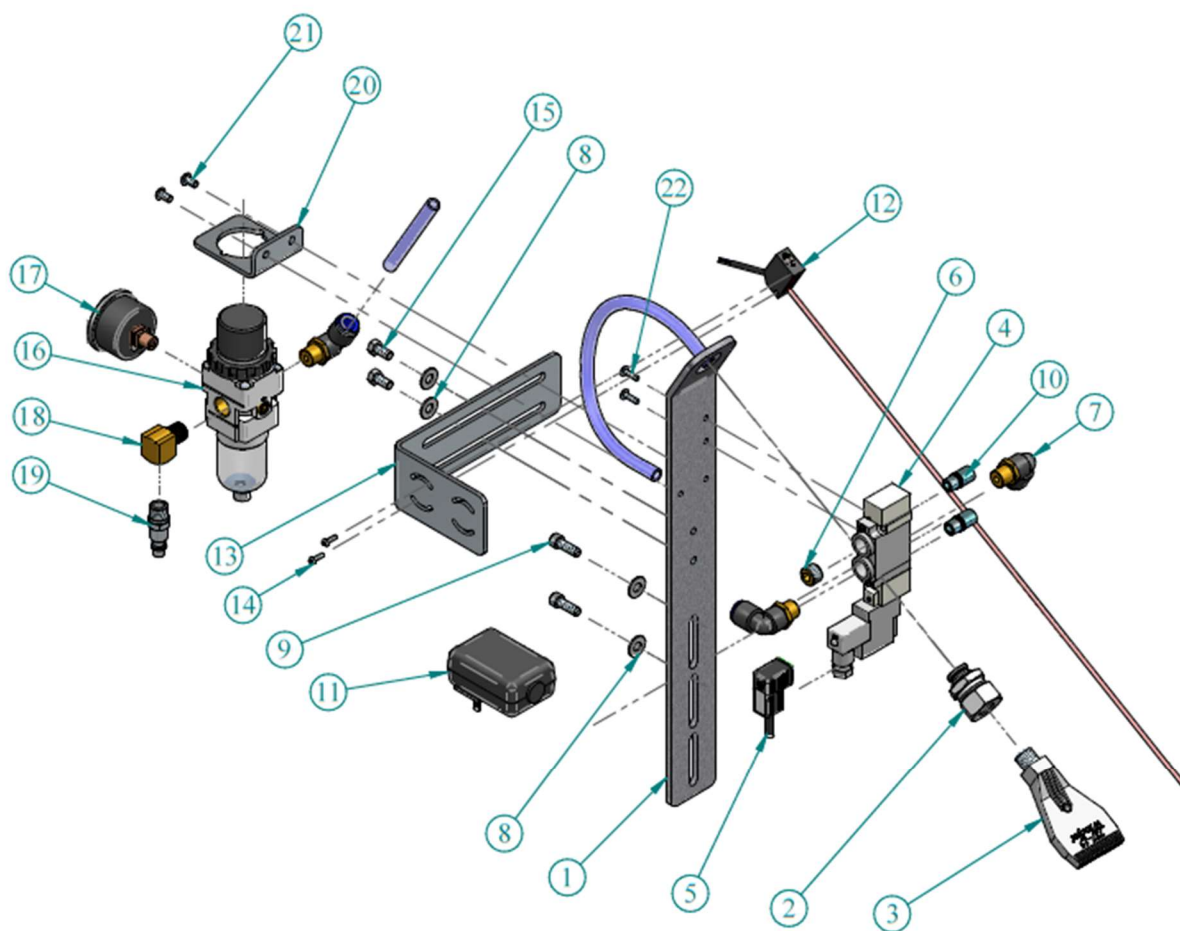


## 13.21.11: KR-HS70B-FLATBAG-C (option)



| KR-HS70B-FLATBAG-C |              |     |                                              |
|--------------------|--------------|-----|----------------------------------------------|
| No.                | Part number  | Qty | Title                                        |
| 1                  | PR-10747     | 1   | FLAT BAG BRACKET                             |
| 2                  | PP-00213     | 1   | BULKHEAD UNION 3/8" TUB - 1/4 NPT (F)        |
| 3                  | PP-00588     | 1   | BUSE PLATE WINDJET (15C)                     |
| 4                  | PP-00518-DIN | 1   | VALVE 5 PORT 2 POSITIONS COIL 24 VDC -MOLDED |
| 5                  | PE-00622     | 1   | MSUD VALVE                                   |
| 6                  | PP-00121     | 1   | PLUG 1/4 NPT                                 |
| 7                  | PP-00160     | 1   | 3/8 TUBE FITTING 1/4 NPT                     |
| 8                  | PP-00192     | 1   | SPEED CONTROL 3/8 TUB-3/8 TUB                |
| 9                  | F01-250S     | 2   | FLAT WASHER 1/4 STAINLESS                    |
| 10                 | F10-250C12S  | 2   | SOCKET CAP 1/4-20 X 3/4" STAINLESS           |
| 11                 | PP-00602     | 1   | 3/8 AIR HOSE, BLUE                           |
| 12                 | F02-164S     | 2   | LOCK WASHER #8 STAINLESS                     |
| 13                 | F11-164C20S  | 2   | BUTTON HEAD 8-32 X 1 1/4" STAINLESS          |

## 13.21.12: KR-HS70B-FLATBAG-A (option autonomous)





| <b>KR-HS70B-FLATBAG-A</b> |                    |            |                                           |
|---------------------------|--------------------|------------|-------------------------------------------|
| <b>No.</b>                | <b>Part number</b> | <b>Qty</b> | <b>Title</b>                              |
| 1                         | PR-10747           | 1          | FLAT BAG BRACKET                          |
| 2                         | PP-00213           | 1          | BULKHEAD UNION 3/8" TUB - 1/4 NPT (F)     |
| 3                         | PP-00588S          | 1          | BUSE PLATE WINDJET STAINLESS              |
| 4                         | PP-00521           | 1          | VALVE CONNEXION-2 POSITIONS- 24 VDC - DIN |
| 5                         | PE-00622           | 1          | MSUD VALVE                                |
| 6                         | PP-00121           | 1          | PLUG 1/4 NPT                              |
| 7                         | PP-00162           | 3          | 90 COUDE 3/8 TUB 1/4 NPT                  |
| 8                         | F01-250S           | 4          | FLAT WASHER 1/4 STAINLESS                 |
| 9                         | F10-250C12S        | 2          | SOCKET CAP 1/4-20 X 3/4" STAINLESS        |
| 10                        | PP-00185           | 2          | MUFFLER 1/8 NPT                           |
| 11                        | PE-01331           | 1          | POWER SUPPLY 100-240VAC IN - 24VDC 5A OUT |
| 12                        | PE-00900-PNP       | 1          | PHOTOCELL PNP                             |
| 13                        | PR-11129           | 1          | S/S BRACKET PE-00900                      |
| 14                        | F11-M3-0.5X10S     | 2          | BUTTON HEAD M3 X 10MM" STAINLESS          |
| 15                        | F13-250C08S        | 2          | HEX HEAD 1/4-20 X 1/2 STAINLESS           |
| 16                        | PP-00500           | 1          | REGULATEUR DE PRESSION 1/4                |
| 17                        | PP-00501           | 1          | PRESSION GAUGE                            |
| 18                        | PP-00166           | 1          | 90 ELBOW 1/4 NPT F / 1/4 NPT M            |
| 19                        | PP-00194           | 1          | QUICK COUPLERS 1/4 NPT MALE               |
| 20                        | PR-11143           | 1          | S/S PP-00500 BRACKET                      |
| 21                        | F11-190F06S        | 2          | BUTTON HEAD 10-32 x 3/8 STAINLESS         |
| 22                        | F11-138C08S        | 2          | BUTTON HEAD 6-32 X 1/2" STAINLESS         |

KLR.5051

Serial numbers: 2415 – 3097 (KLR-00001 – beyond)



Revision: 2026-08-07