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0.0: REVISIONS NOTICES

Coming soon:

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

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 (shneiders):

- 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 was 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 need to be address.

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



- 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:

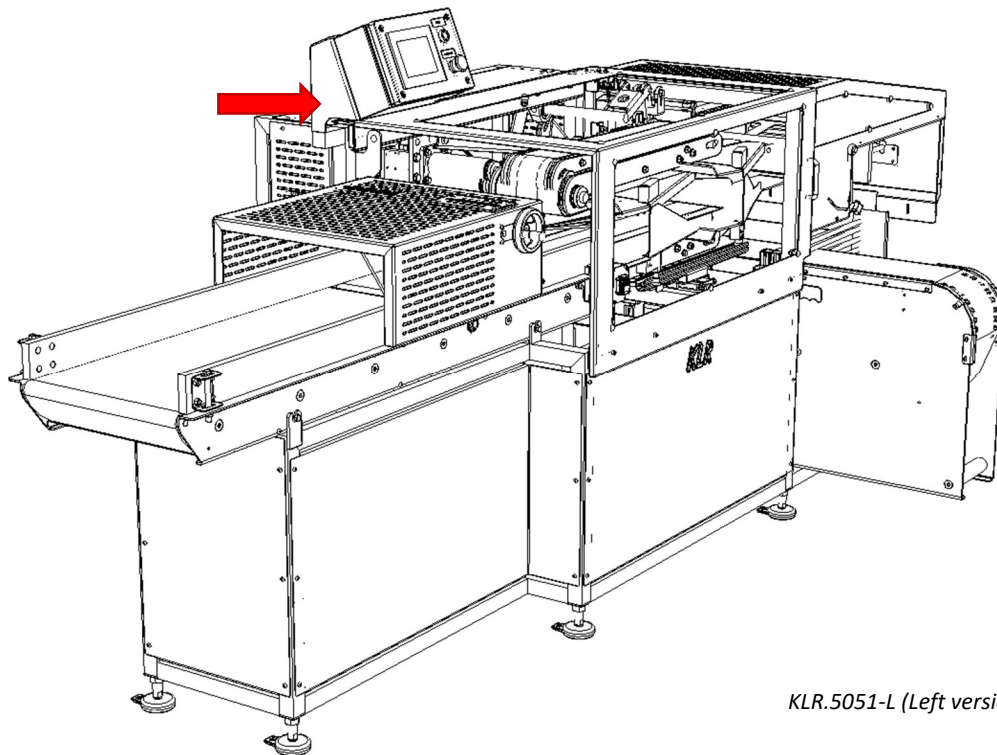
Automatic Flat Bread Bagger

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

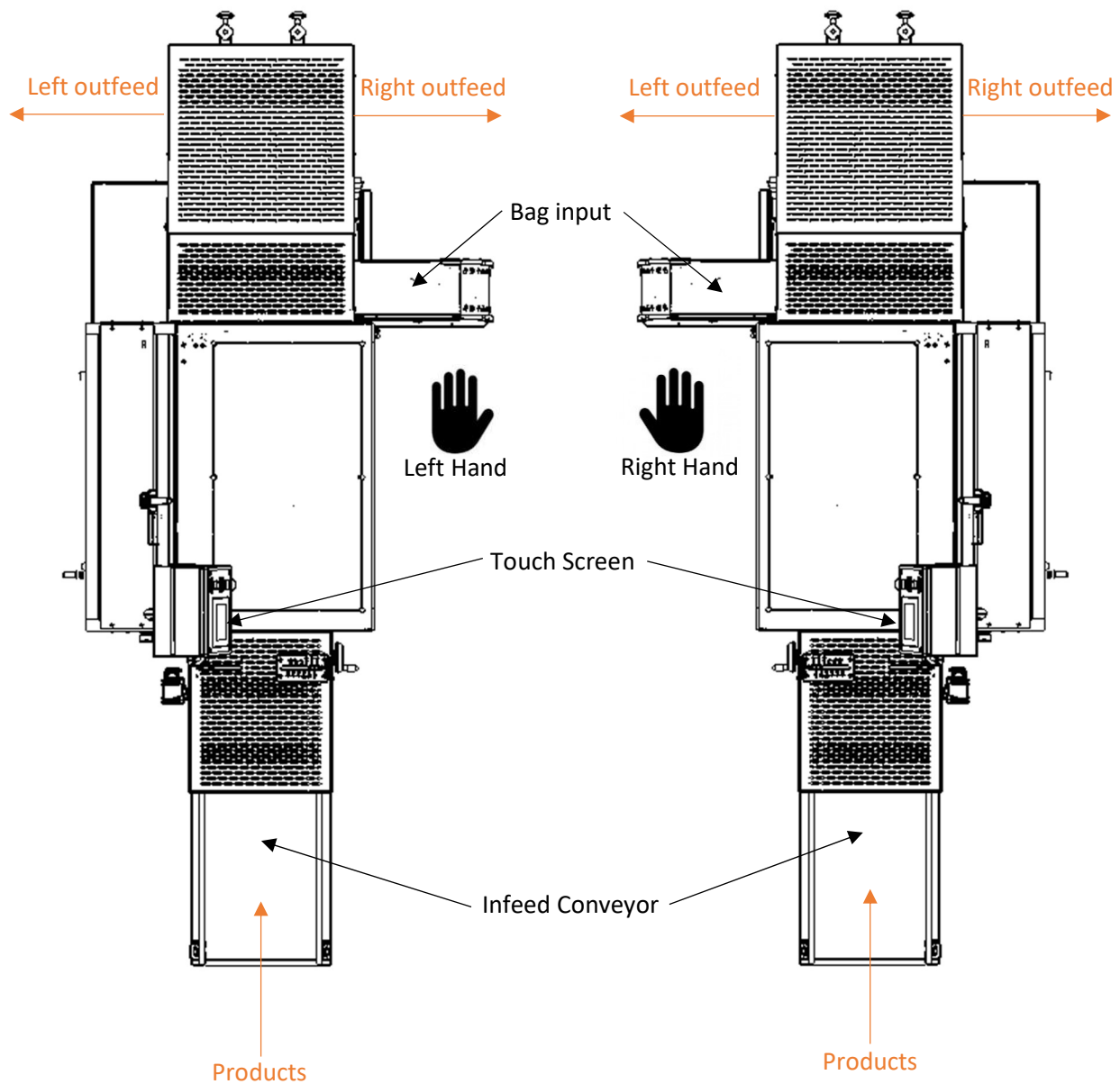
For parts order: order@klrsystems.com

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

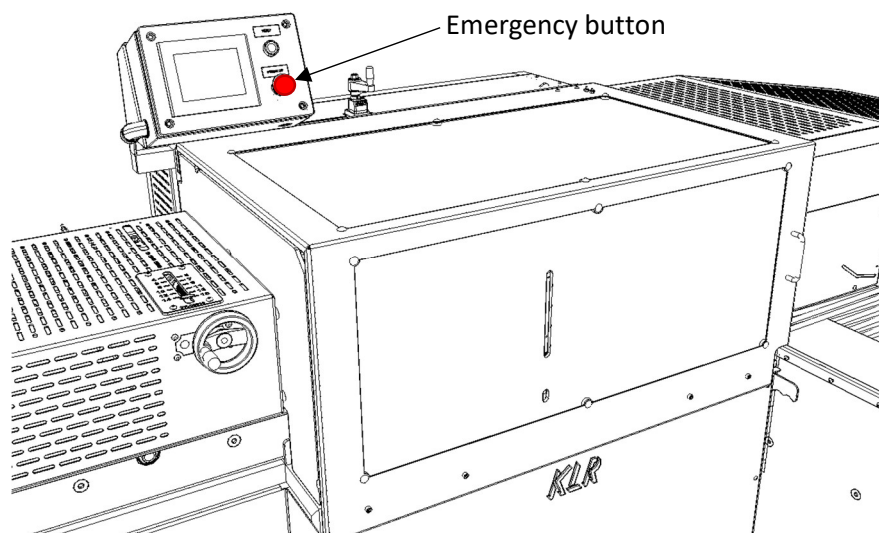
Flow: 5 CFM

Pressure: 80 PSI

3.5: Safety specification

3.5.1: Emergency button

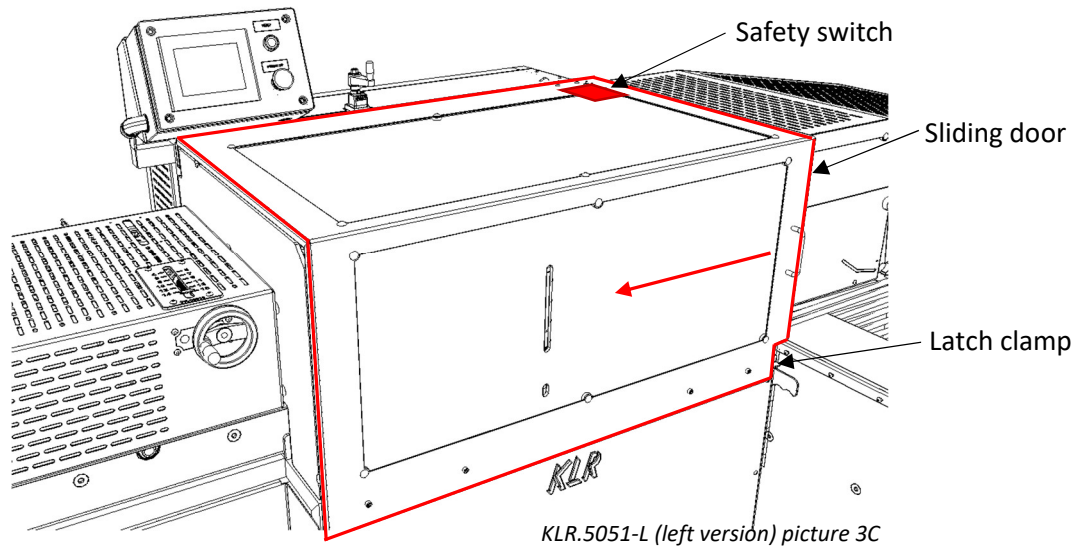
Pressing the emergency stop everything in the machine instantly. It requires a second action to reset the machine when pulled off.



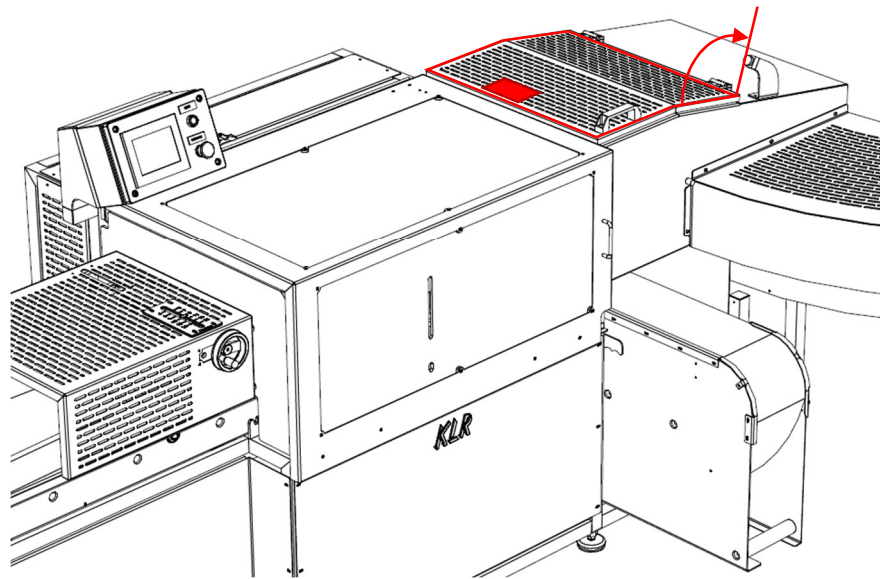
KLR.5051-L (left version) picture 3B

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.

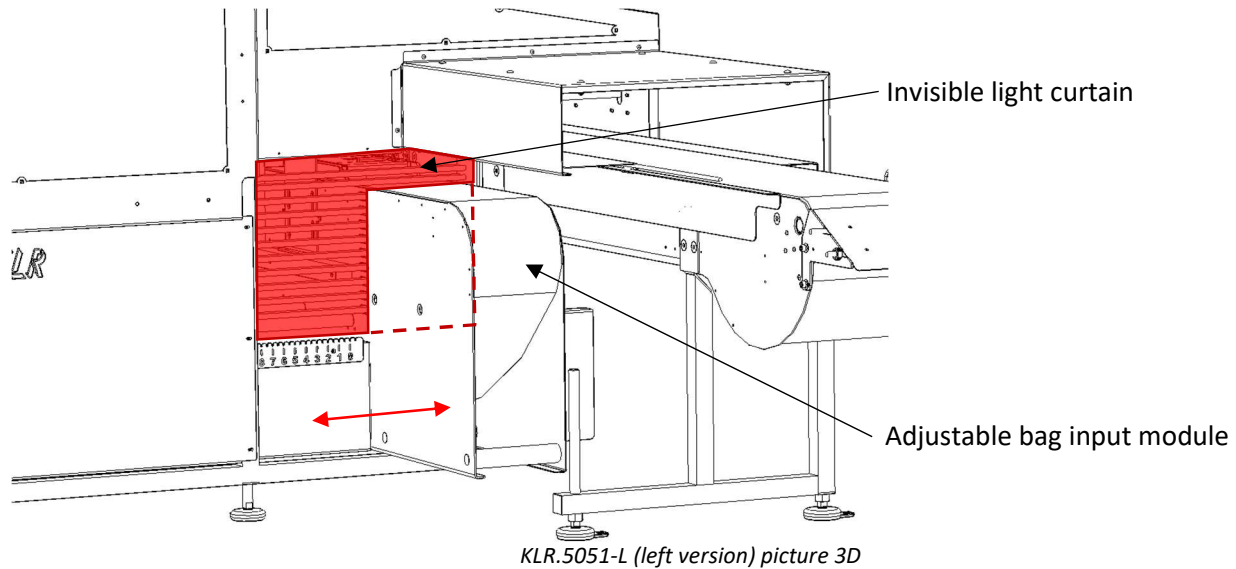


3.5.3: Bag table door



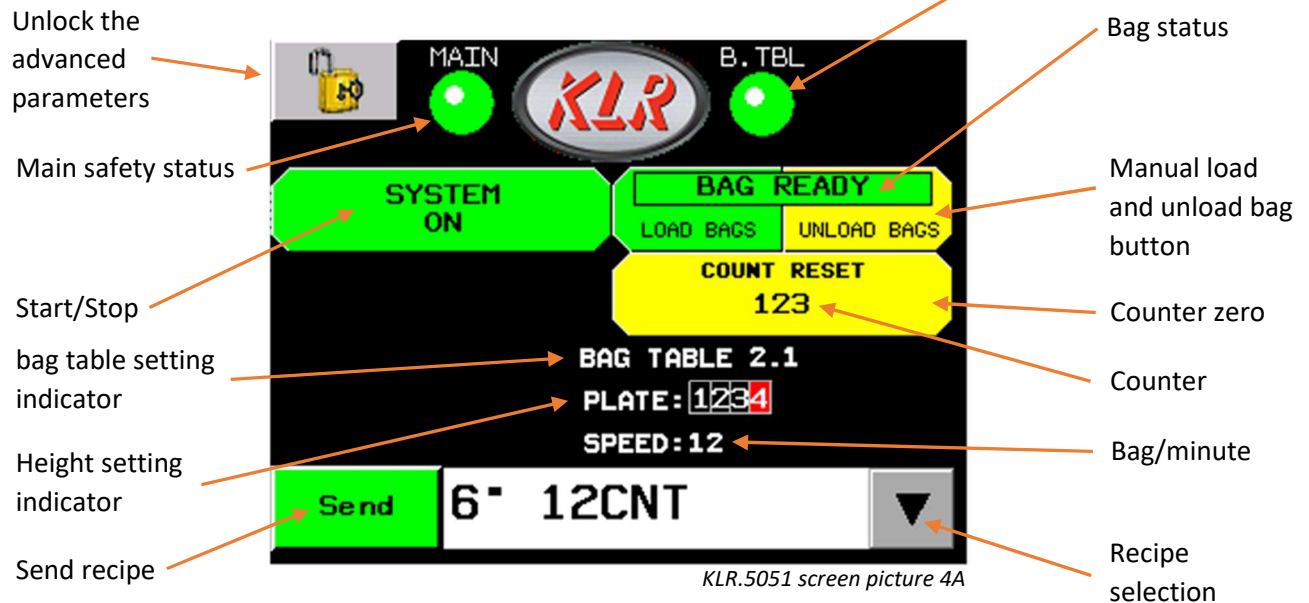
3.5.4: Safety light curtain (Feature removed in latest version)

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)

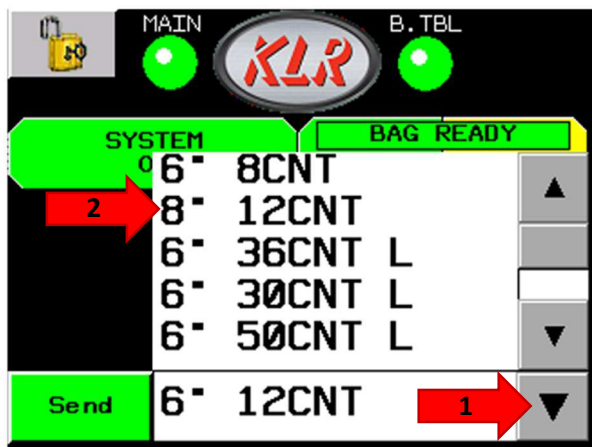


Once the power turned ON, the machine and the main page appears, follow these steps to start the bagger (refer to the "Procedure for startup" section for more information):

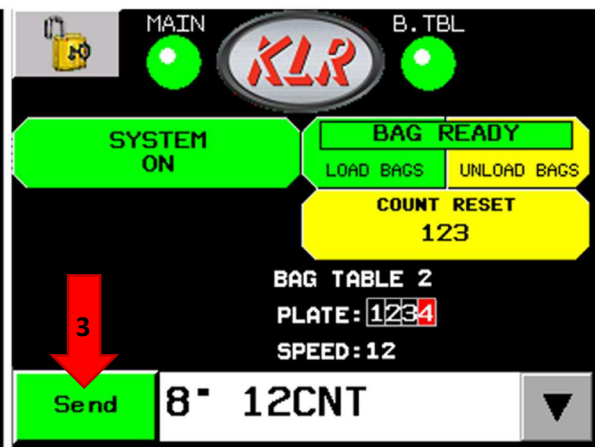
4.2: Procedure for start up

4.2.1: Choosing recipes

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



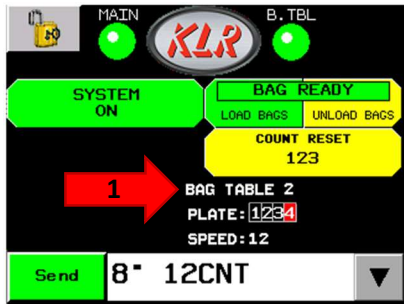
KLR.5051 screen picture 4B



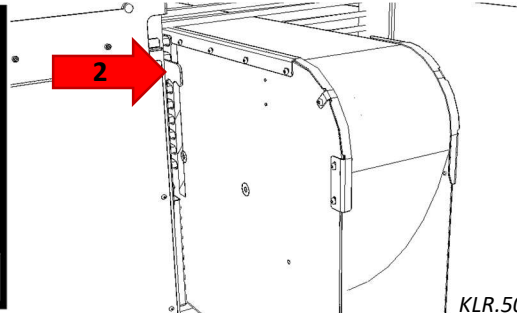
KLR.5051 screen picture 4C

4.2.2: Bag table adjustment

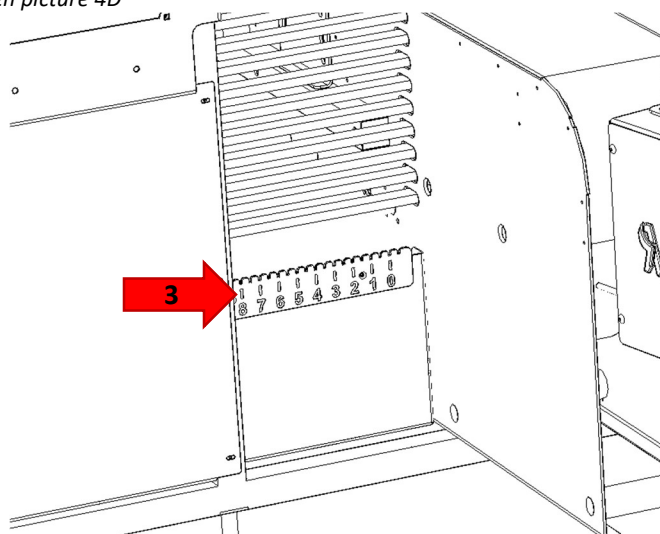
It is important to select the recipe first. See "Choosing recipe". Look at the value for BAG TABLE measurement on the display (1), Pull up the bag table latch (2) and adjust according to the measure (3). Secure with the bag table latch.



KLR.5051 screen picture 4D



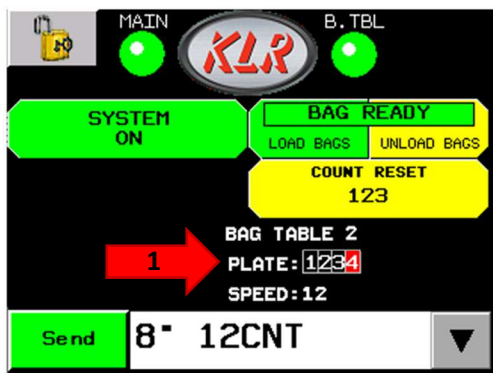
KLR.5051-L (left version) picture 4E



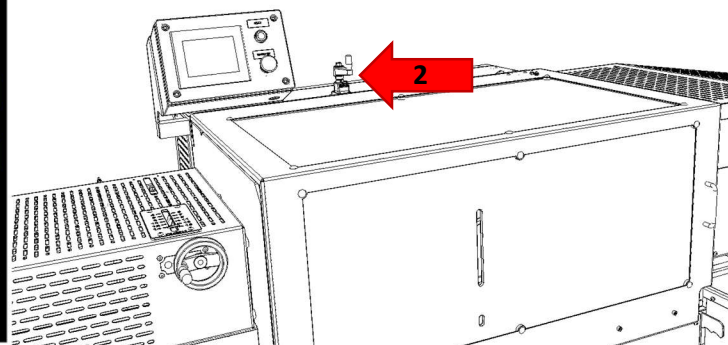
KLR.5051-L (left version) picture 4F

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).



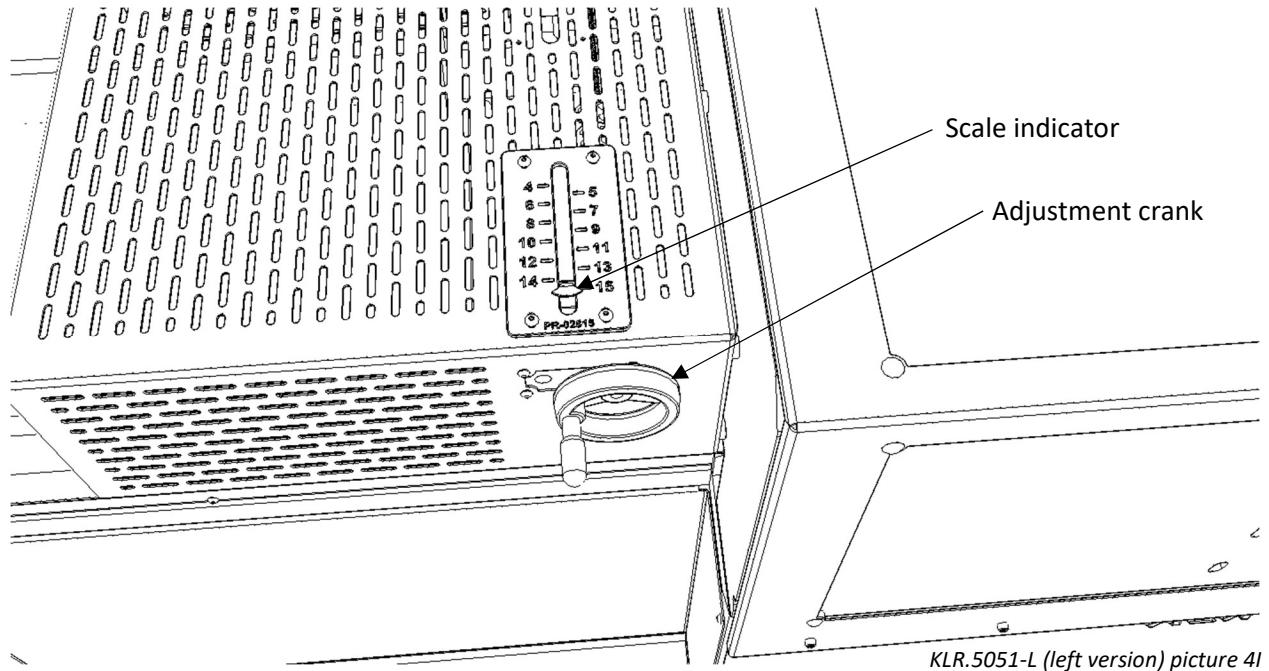
KLR.5051 screen picture 4G



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

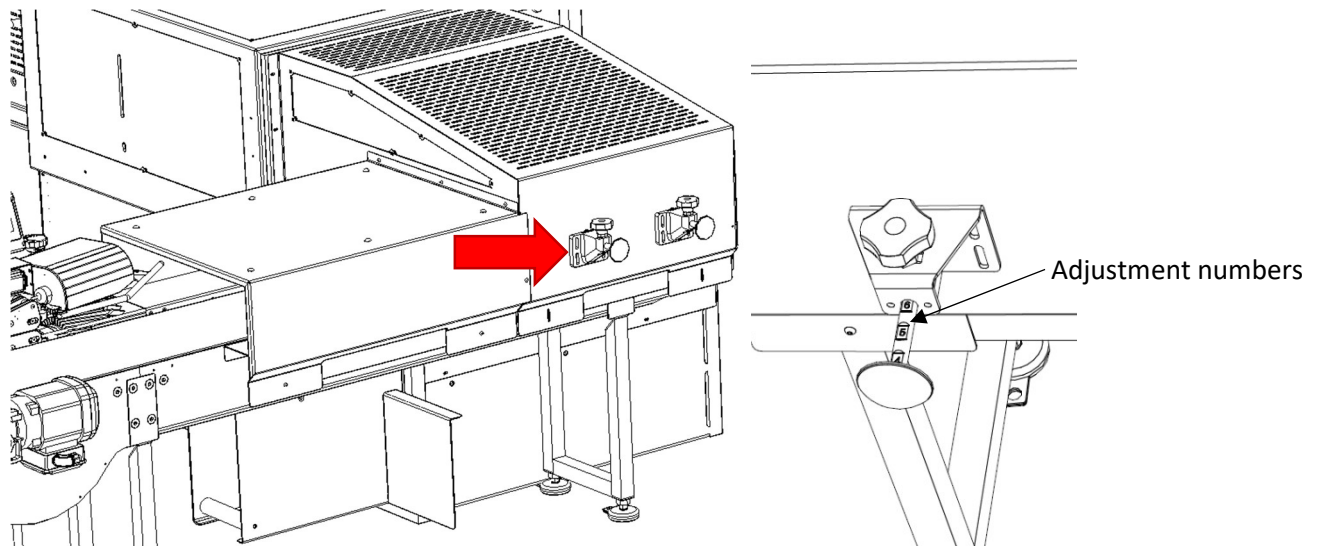
4.2.4: Infeed guides adjustment

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

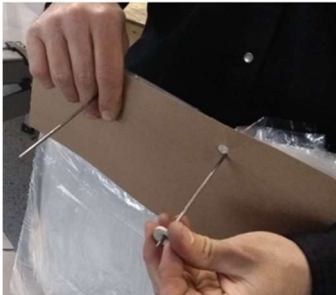
4.2.6: filling bag

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.

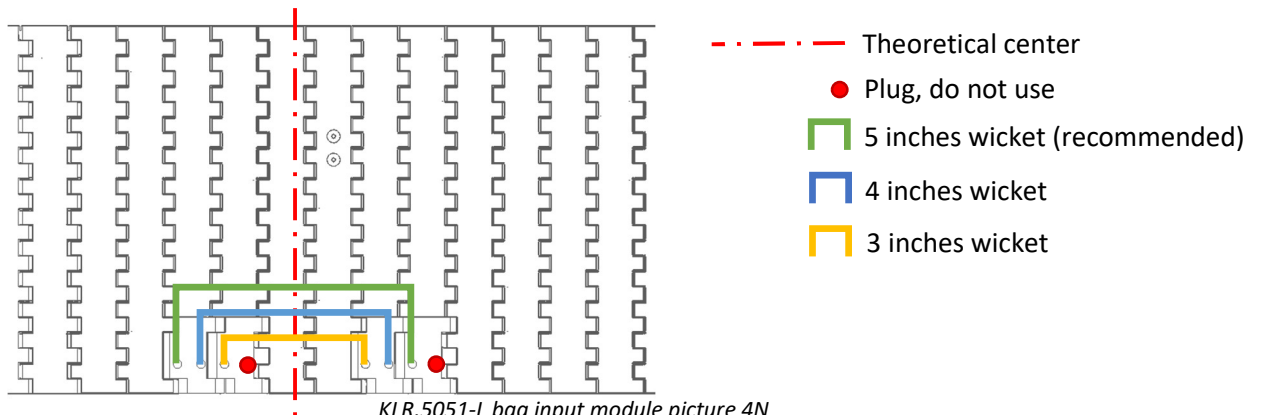


Bag picture 4L



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.

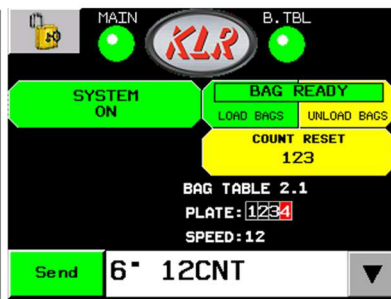


KLR.5051-L bag input module picture 4N

3. Press LOAD BAGS.



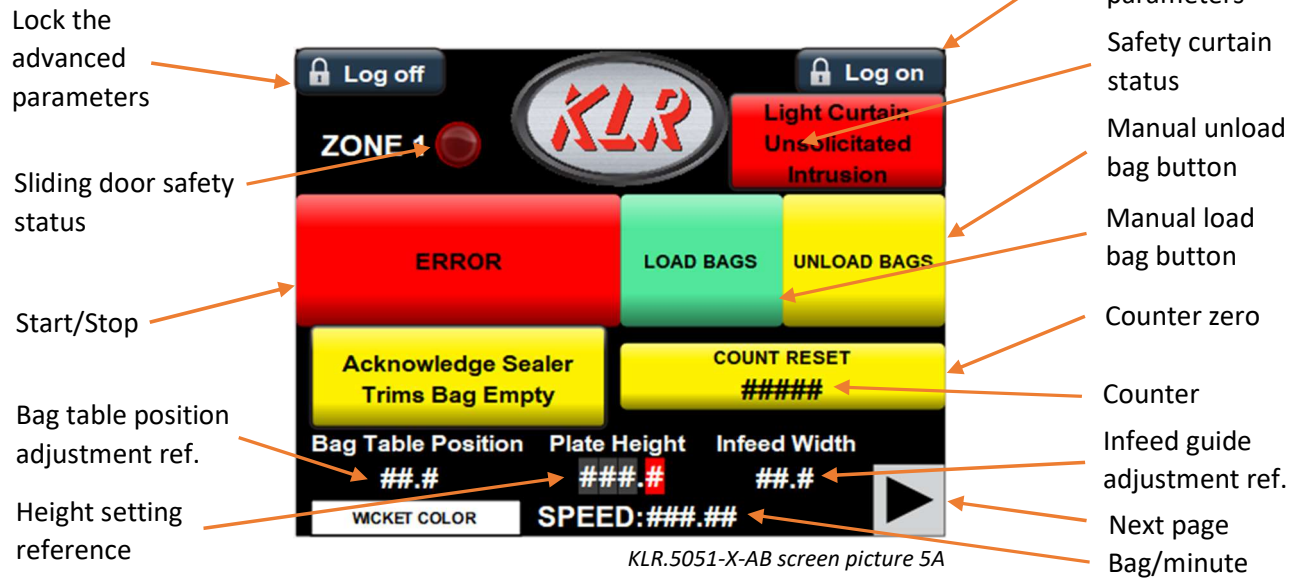
KLR.5051 screen picture 4O



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

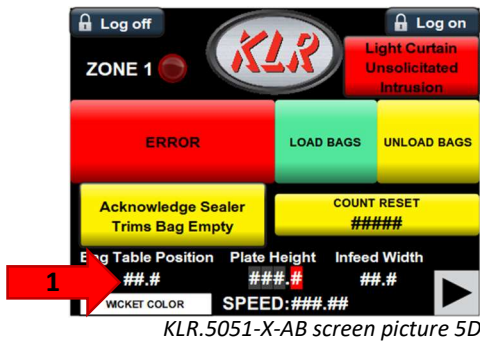
5.2.1: Choosing recipes

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.

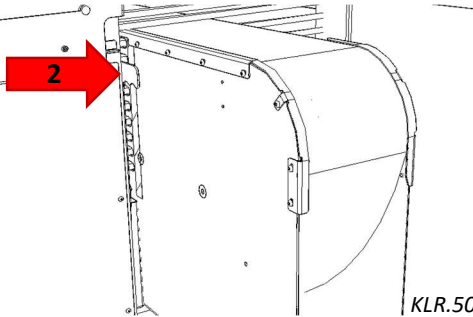


5.2.2: Bag table adjustment

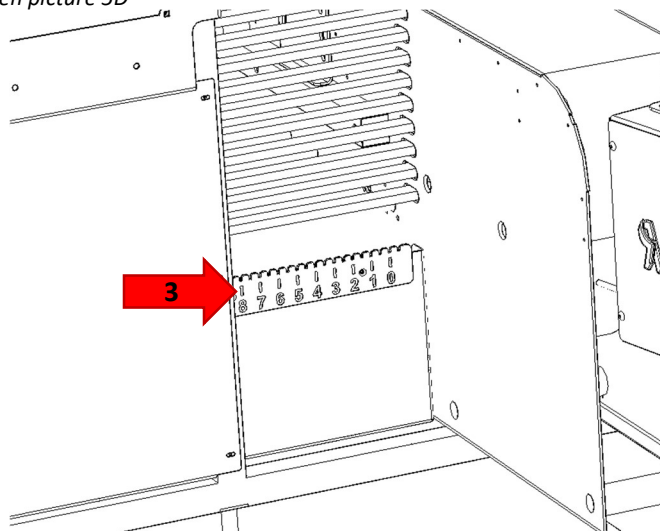
It is important to select the recipe first. See "Choosing recipe". Look at the value for BAG TABLE measurement on the display (1), Pull up the bag table latch (2) and adjust according to the measure (3). Secure with the bag table latch.



KLR.5051-X-AB screen picture 5D



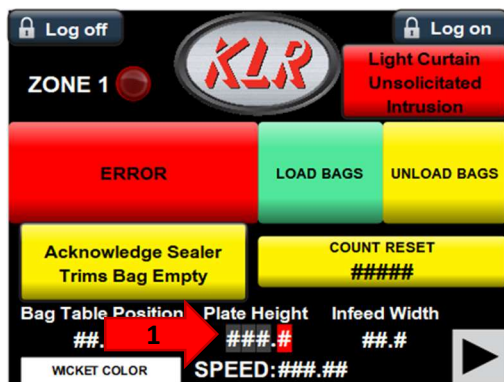
KLR.5051-L-AB (left version) picture 5E



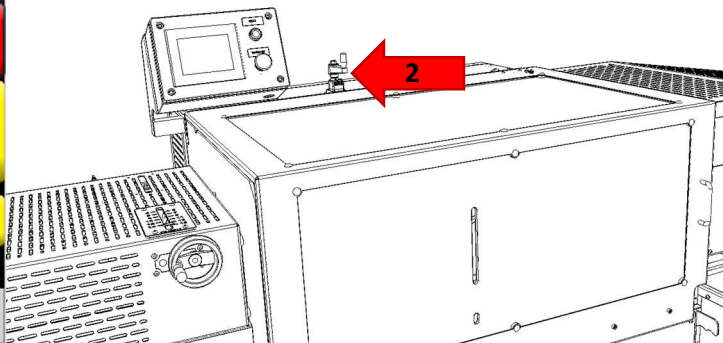
KLR.5051-L-AB (left version) picture 5F

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).



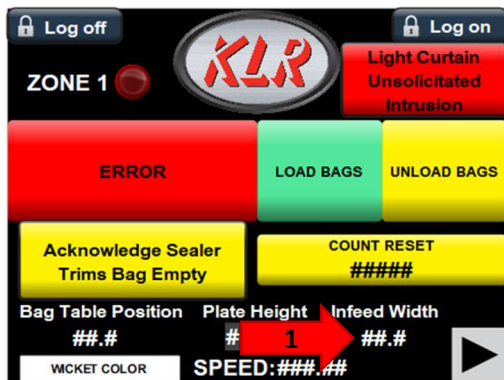
KLR.5051-L-AB (left version) picture 5G



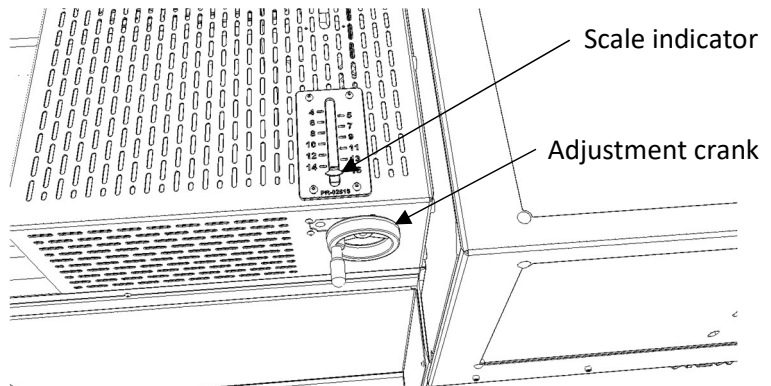
KLR.5051-L-AB (left version) picture 5H

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).



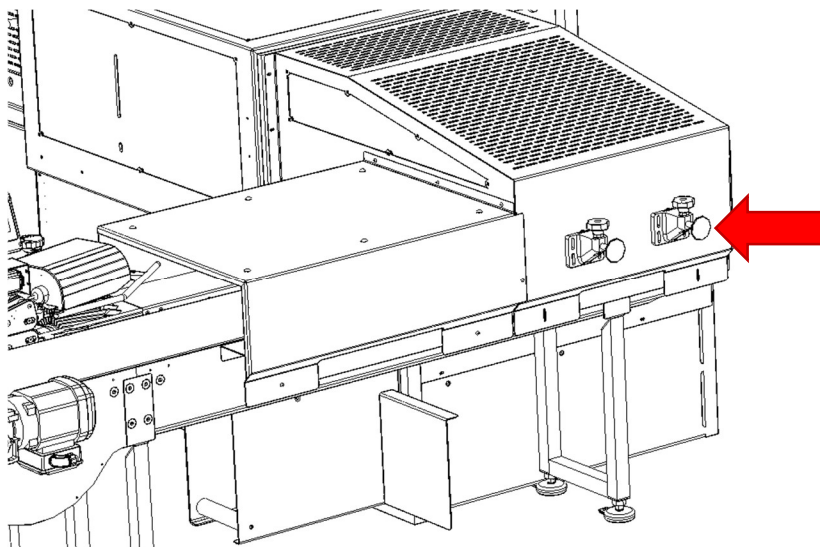
KLR.5051-X-AB screen picture 5I



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

5.2.5: Outfeed guides adjustment

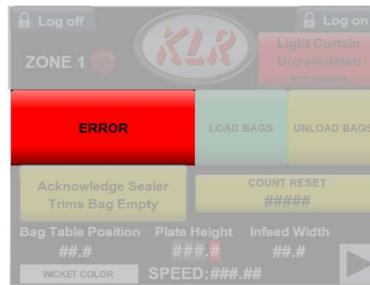
Adjust the back gauge on the outfeed conveyor so the products sit on the belt as close as possible to the bag closing machine without shifting on the side. If needed, fine tune on production.



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

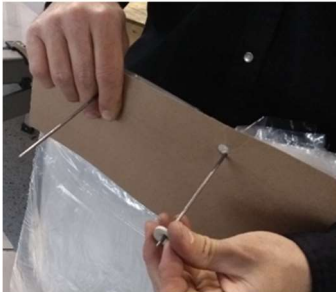
5.2.6: filling bag

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.

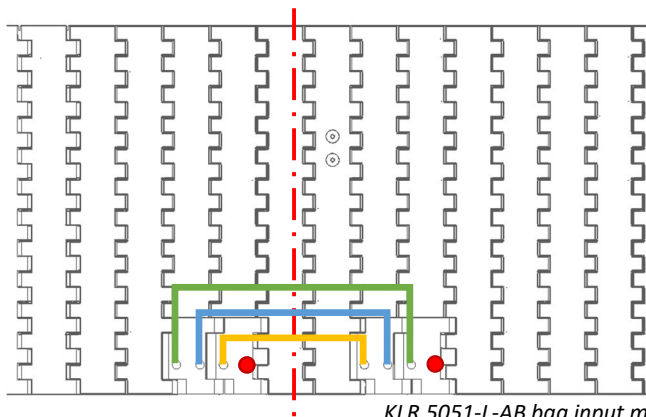


Bag picture 5O



Bag picture 5P

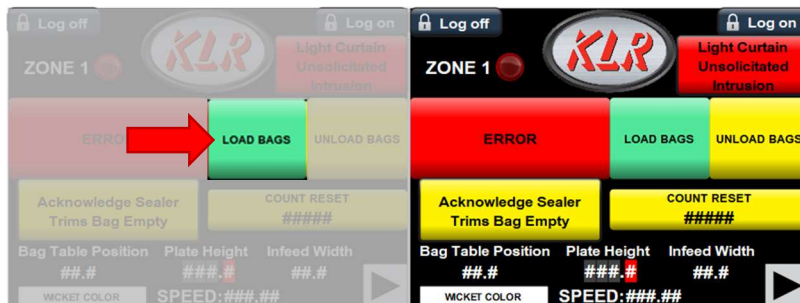
2. Insert wicket tips into intended holes of the bag input belt. Flatten the bags and verify under the stack for good placement. The following drawing is for a left version, A right version is a mirror of this.



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.

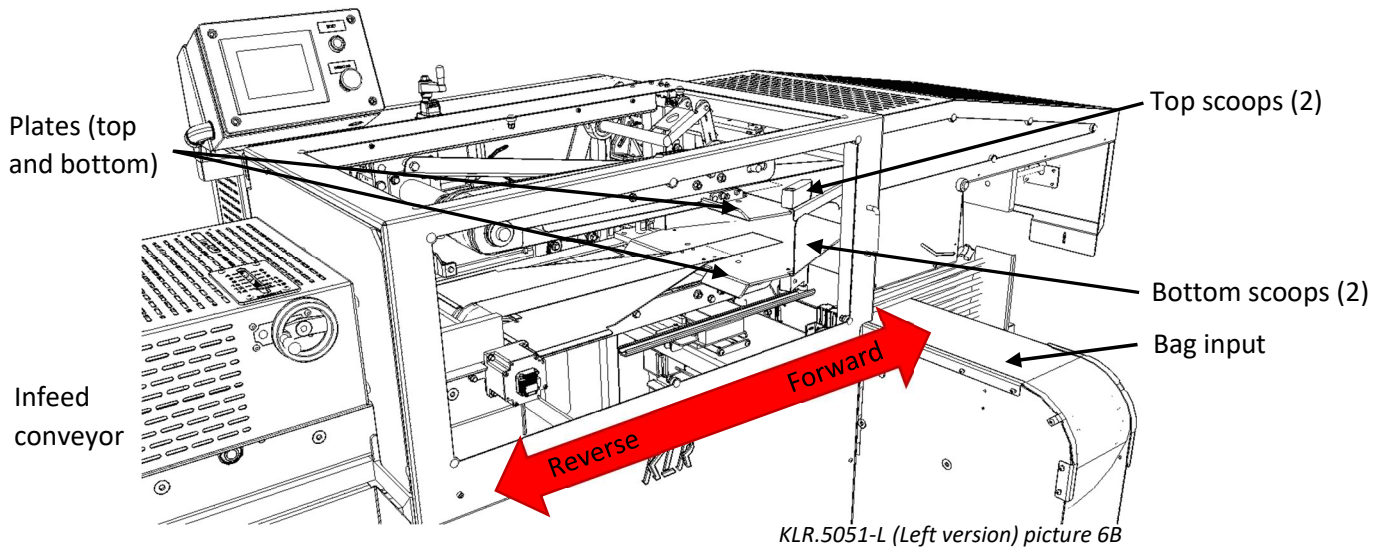
Advanced Settings must be unlocked on the Main Screen to change recipe parameters.

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	▼
◀ Send Save ▶		

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.

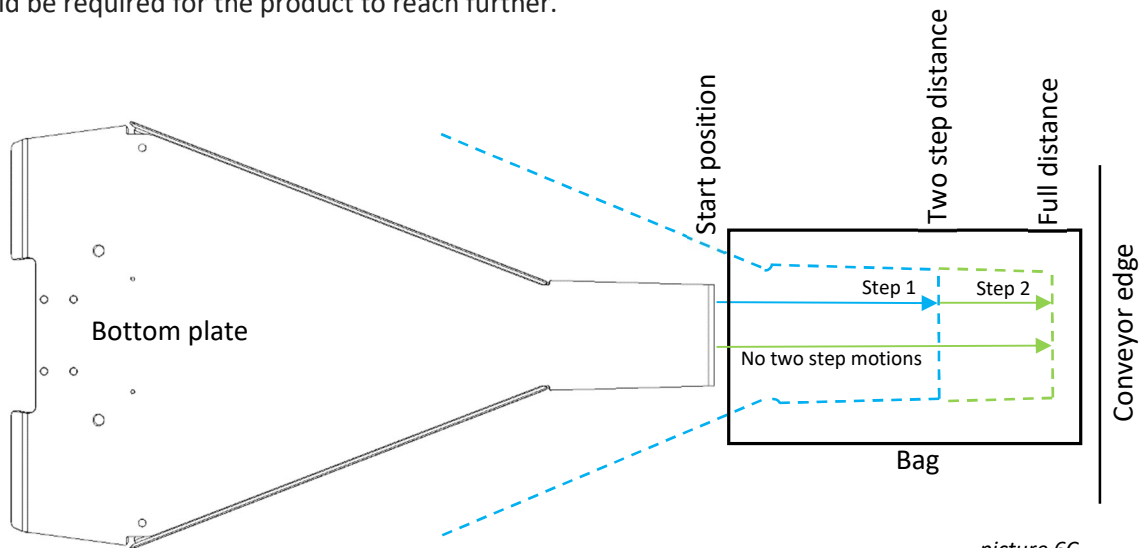
ABS: Stand for absolute. The actual value or measurement nonrelative to another value.

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.

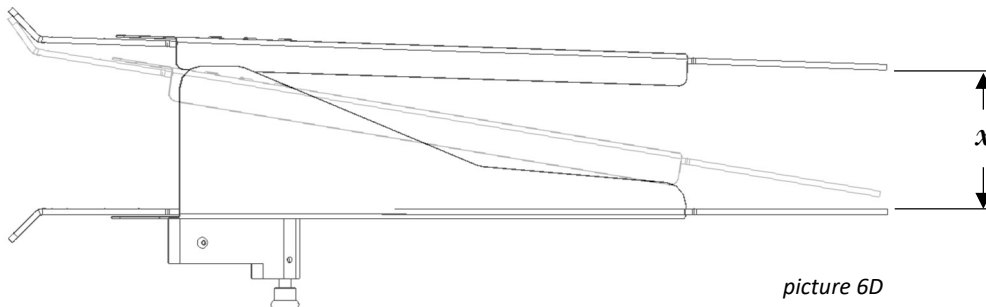


picture 6C

6.2: Definitions of parameters

6.2.1: Height

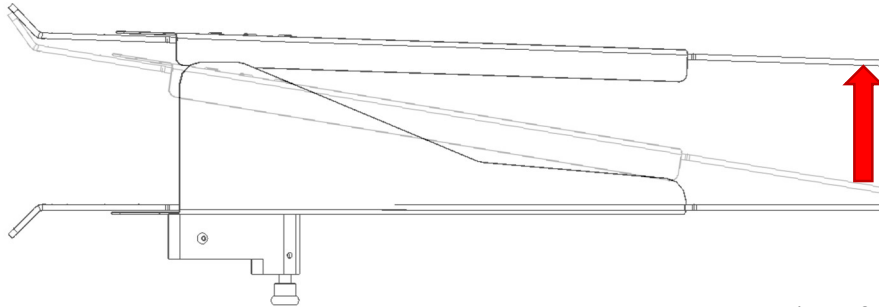
Value given to "the retract lifter motor" to raise the top plate at the height value during the bagging sequence. The value is associated to the thickness of the product stacks. The higher the value is, the bigger it will raise. A too low value will create a slack in the chain when the product is leaving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



picture 6D

6.2.2: Retract lifter up (°)

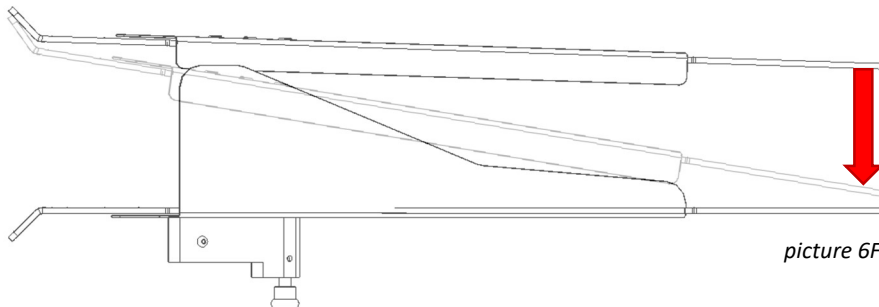
It reacts in relation of the parameter "**Height**". Between 0 and 360°, this value requests the retract lifter to start raising at that moment during one cycle. Raise the value will make it raise later. The speed and acceleration are managed by the controller. A too high value will create a slack in 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 (°)

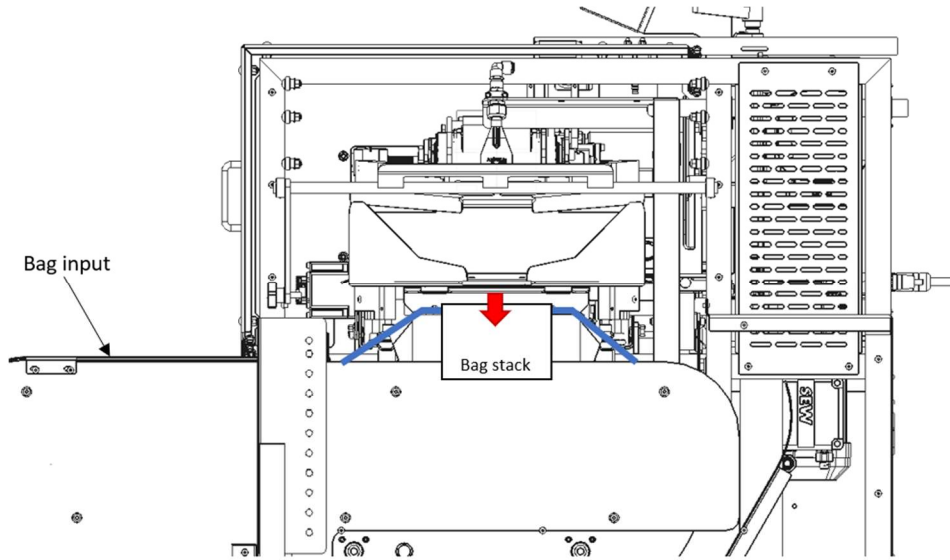
It reacts in relation of the parameter "**Height**". Between 0 and 360°, this value requests the retract lifter to start lowering at that moment during one cycle. Raise the value will make it raise later. The speed and acceleration are managed by the controller. A too high value will create a slack in 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.



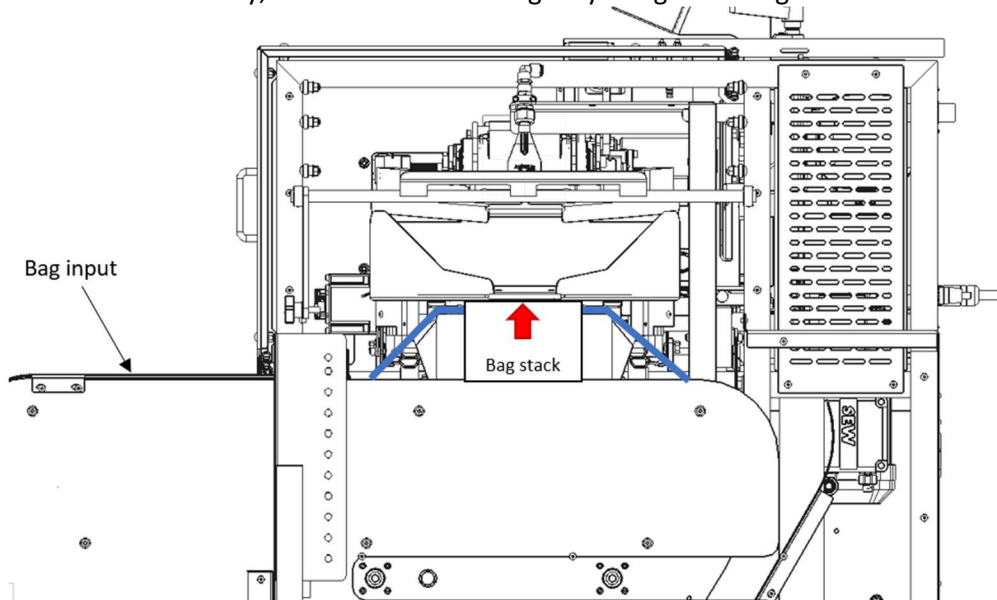
KLR.5051-L (Left version) picture 6G

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 (°)

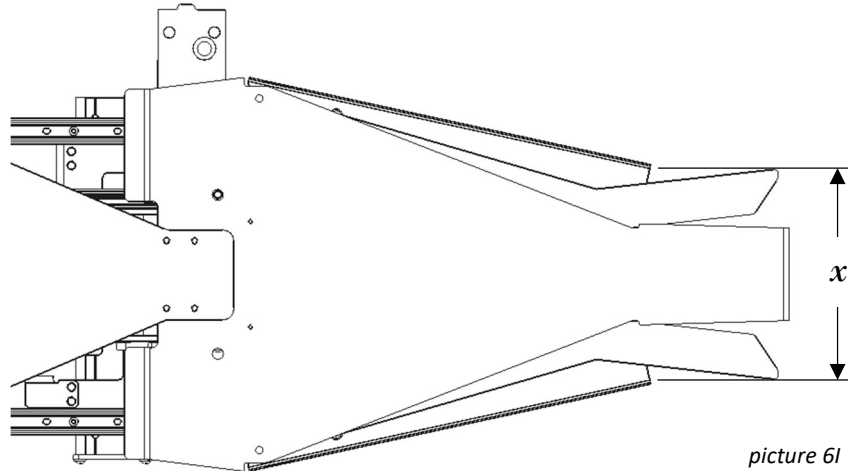
The value is in degree, which is between 0° and end at 360°. The bag lifter will hold the bags at the setting. If the value is too early, the belts while turning may bring some bags with it on the way back.



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

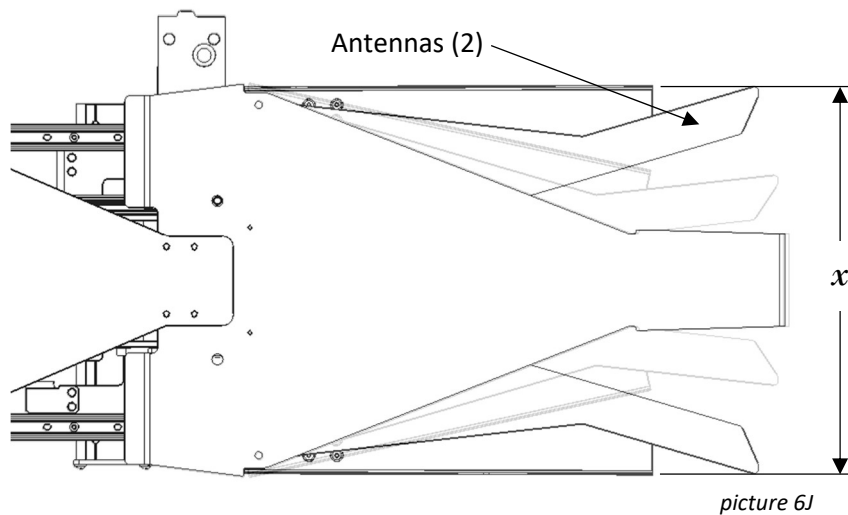
6.2.7: Scoop opening (Unit)

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 (°)

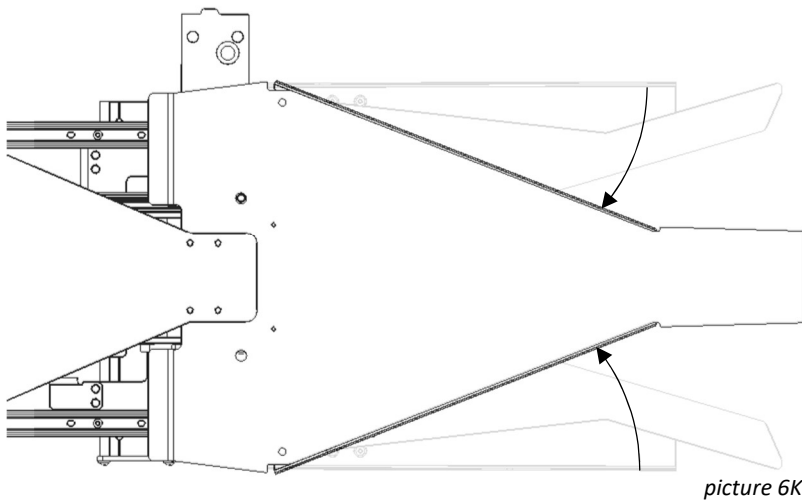
The value is in degree, which a bagging cycle starts at 0° and end at 360°. On the way forward, this value tells when to open the scoop. See picture 6I

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.

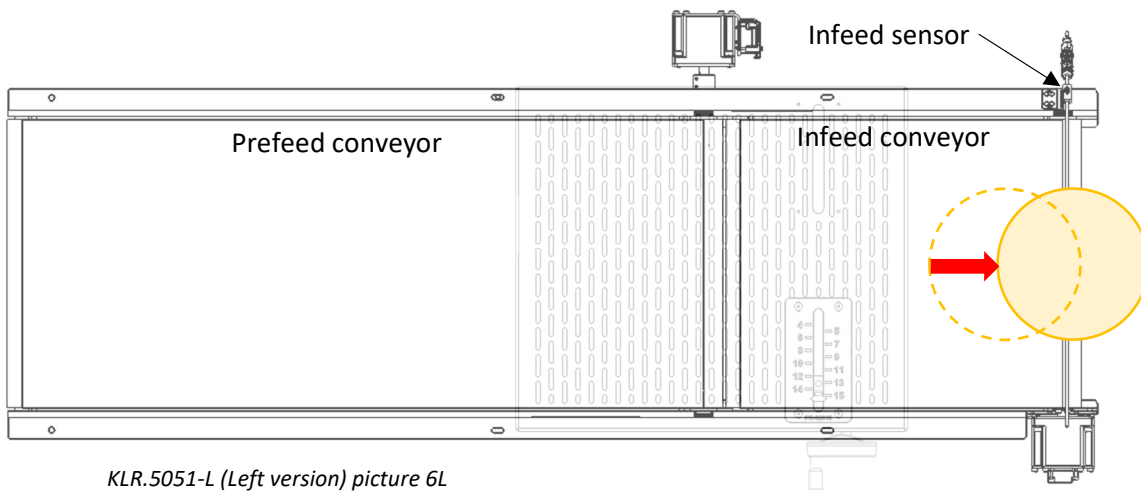
6.2.11: Close scoop (°)

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".



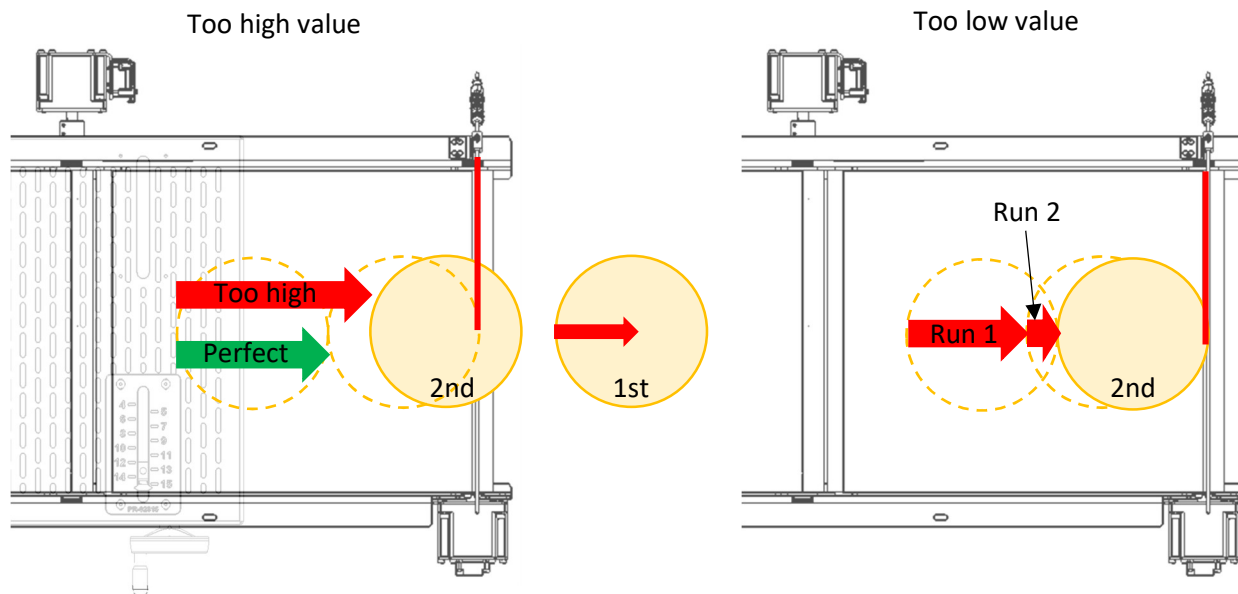
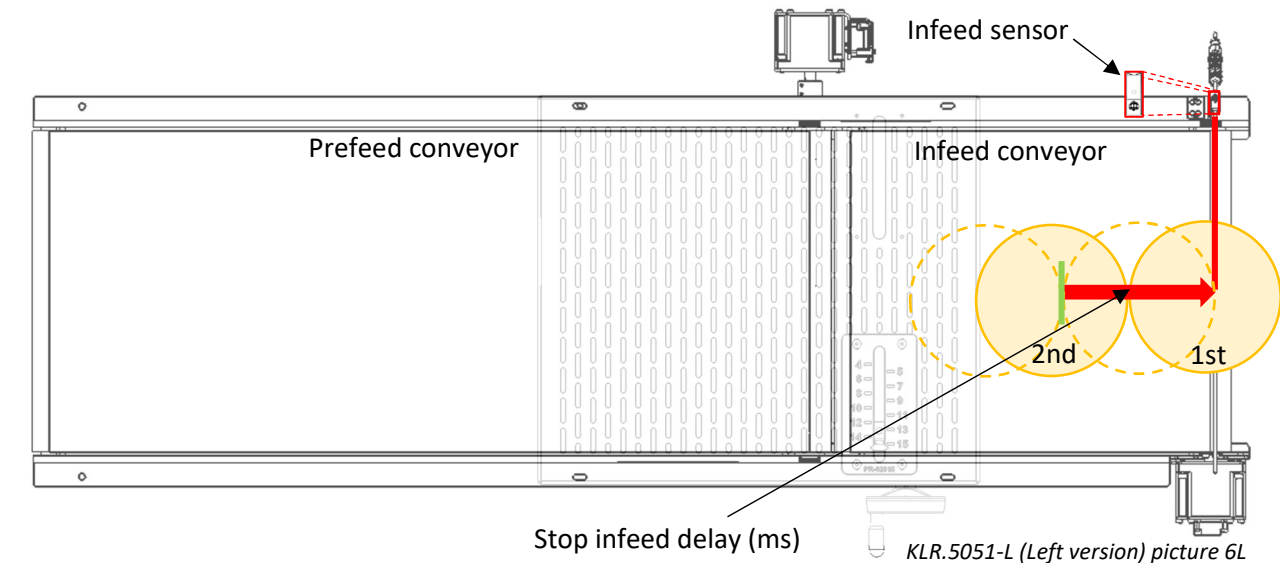
6.2.12: Product launch (°)

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.



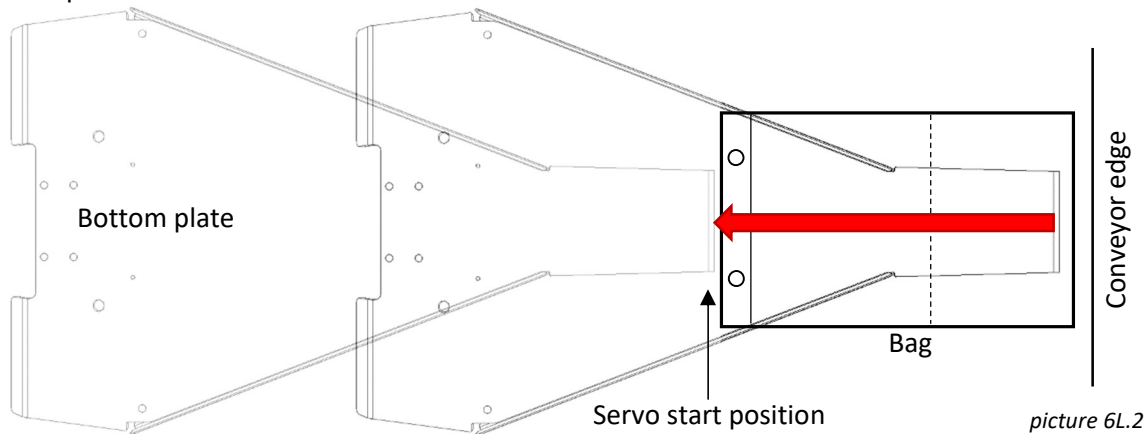
6.2.13: Stop infeed delay (ms)

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.

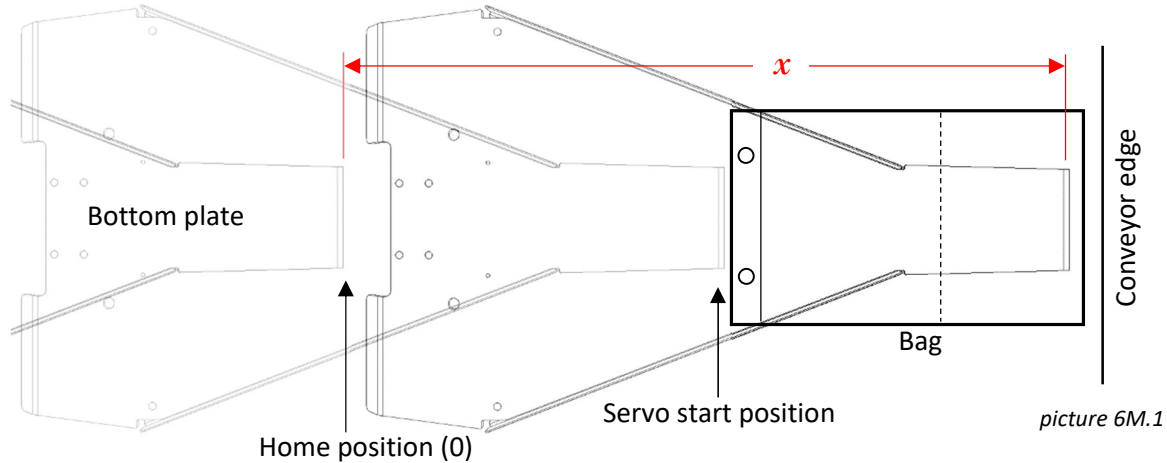
Changing this parameter may required to revisit other parameters. Check: retract belt speed and delay plates (ms).

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.

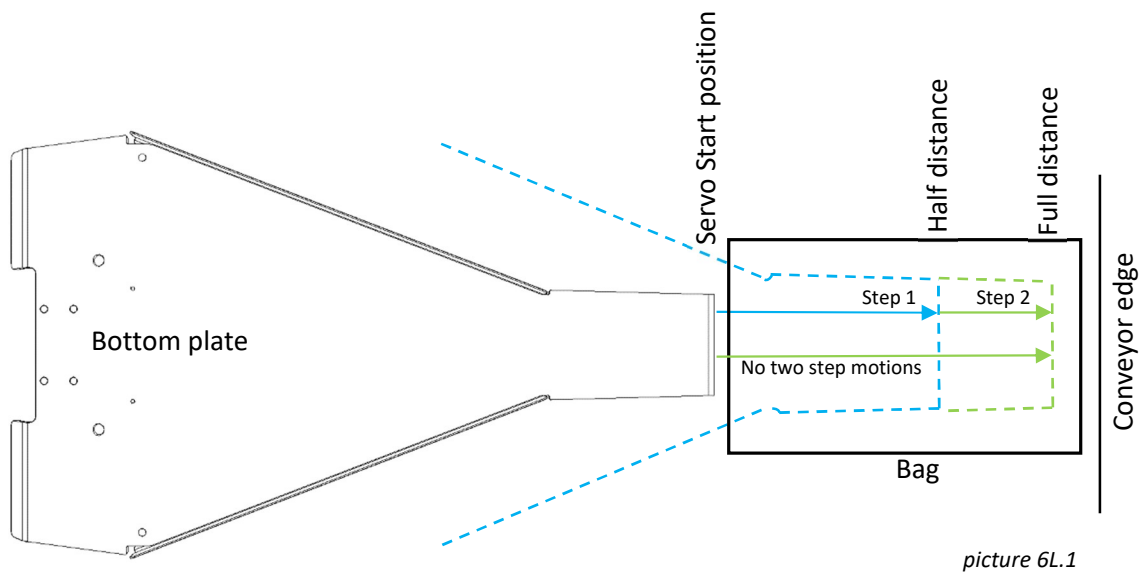


6.2.18: Half distance (in) (absolute)

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.

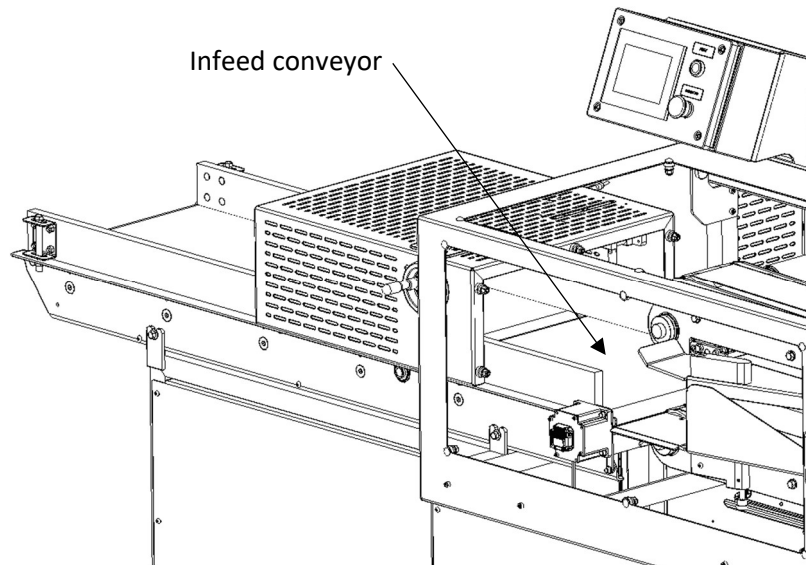
6.2.19: Half restart (°)

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

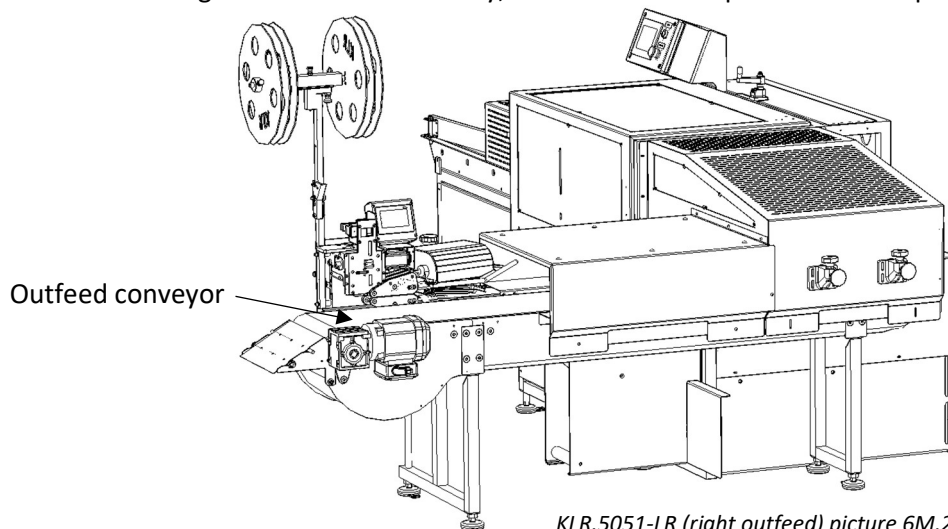
Setting is in pulse per minutes. Raise the number to raise the speed. If the speed needs to be changed, verify that the machine creates double products. In that case, increase "Stop infeed delay (ms)".



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

6.2.21: Outfeed speed

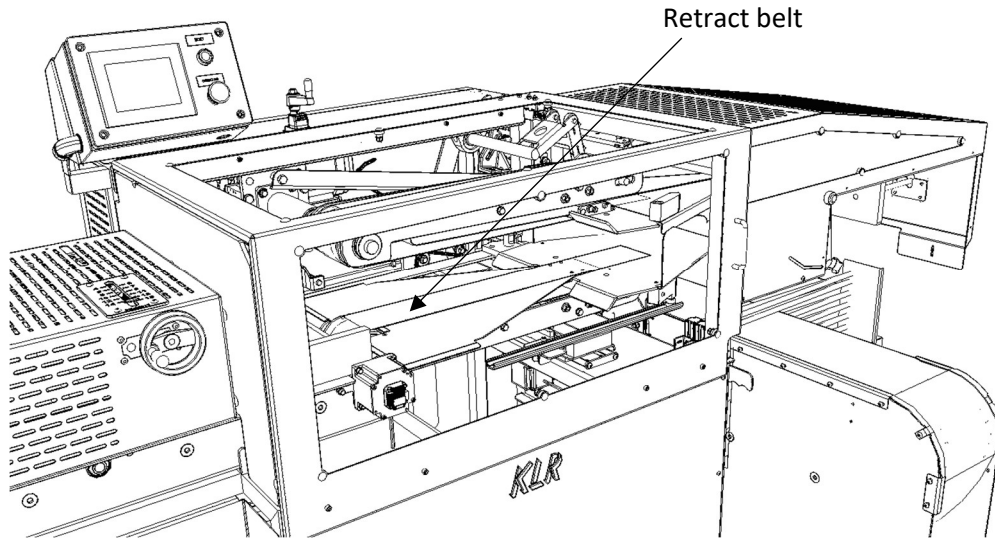
Speed in hertz of the outfeed conveyor. Set this value to create a certain gap in between each product to facilitate the bag closer machine. Usually, sealer method requires a slower speed than a clip method.



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.

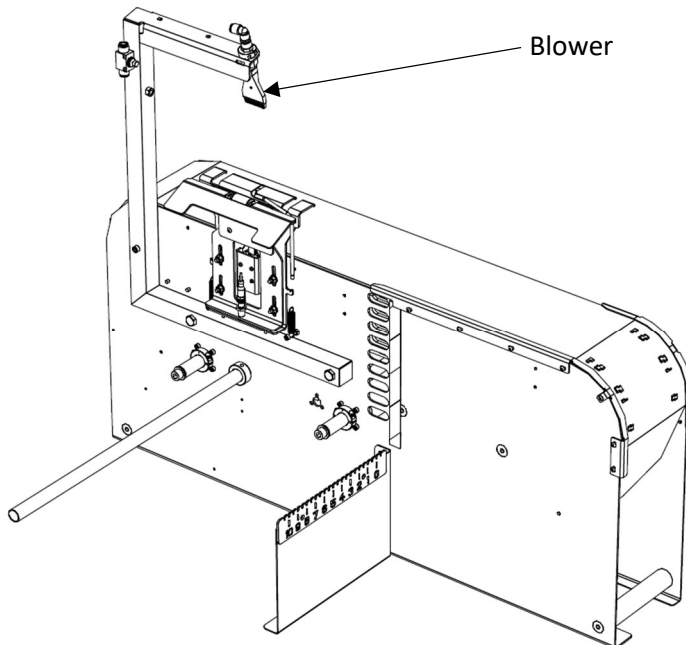


6.2.23: Start bag blower (°)

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

6.2.24: Stop bag blower (°)

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

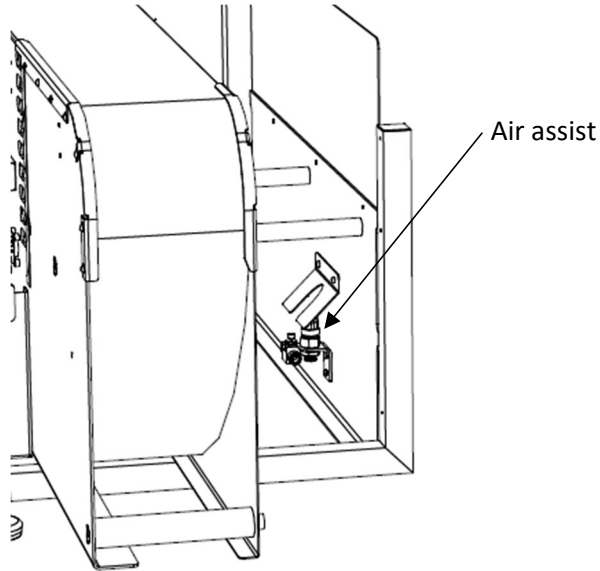


6.2.25: Start air assist (°)

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 (°)

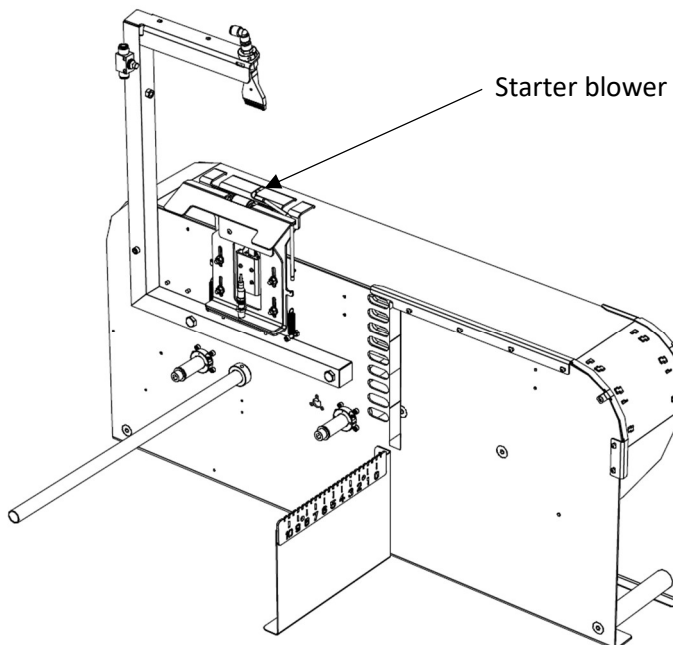
Moment in degrees (°) the air assist turns OFF.

**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)

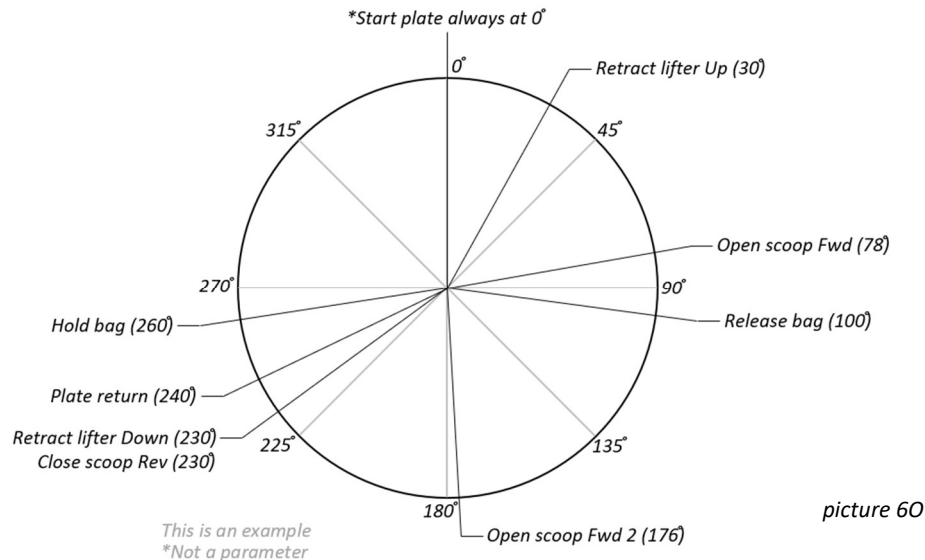
The parameter set the machine to start the blower after the product landed onto the conveyor. The value is in milliseconds.

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.

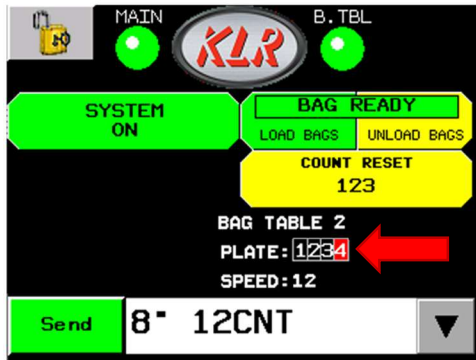


6.2.33: Delay stop Outfeed

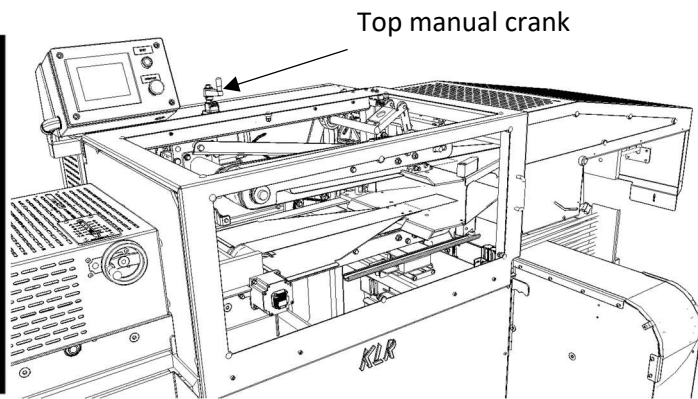
This value should be set to the time it takes for a product to travel from the point it lands on the conveyor until it is completely sealed. This depends on how far the sealer or closing machine is from the bagger. When stopping the bagger using the system OFF button on the screen, the outfeed conveyor 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.



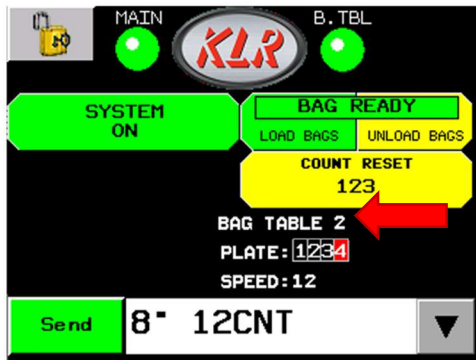
KLR.5051 screen picture 6R



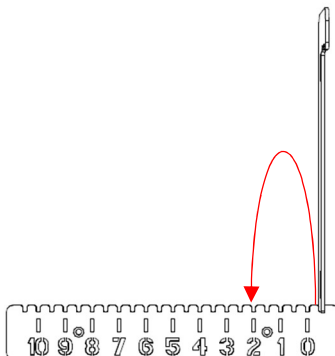
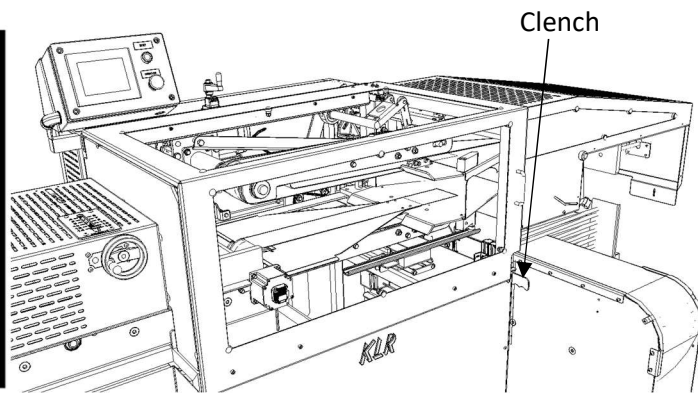
KLR.5051-L (Left version) picture 6S

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



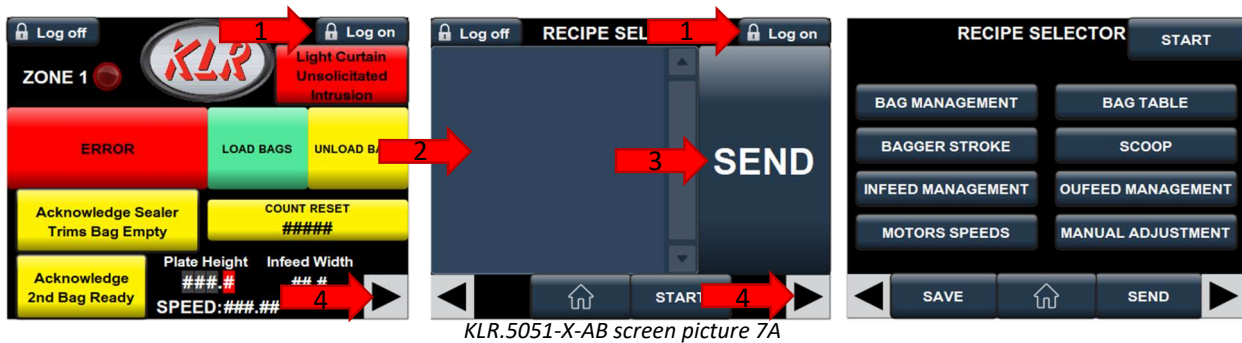
7.0: RECIPE SETTING PAGE KLR.5051-AB



➤ 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 on, every parameter changed will affect the recipe previously selected.

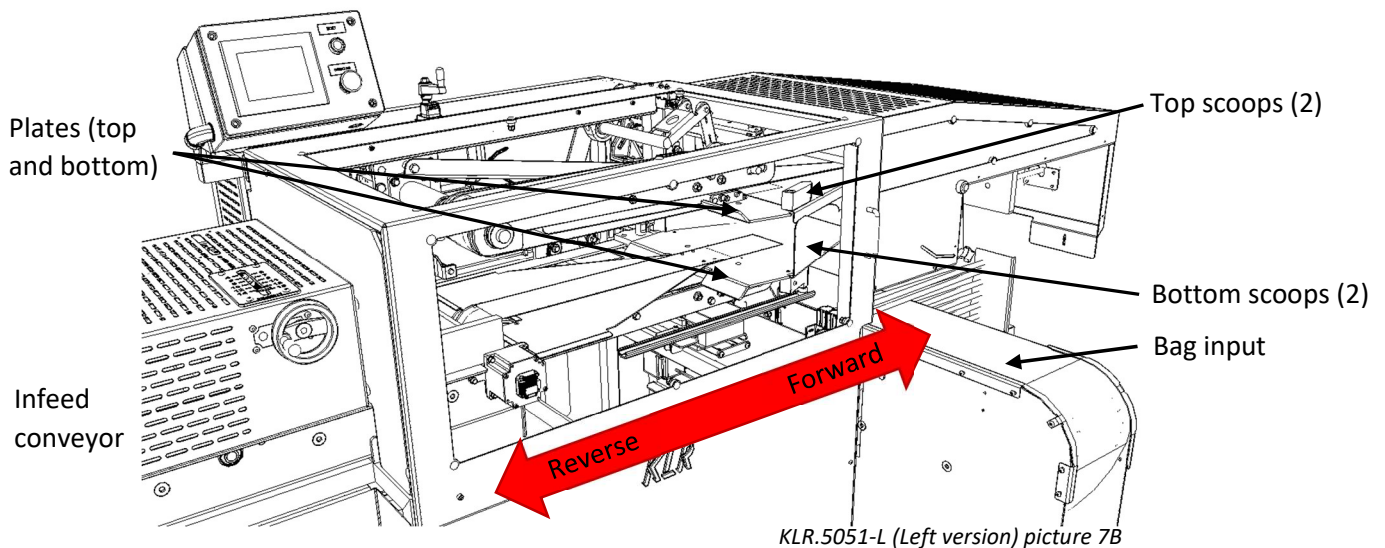


When a parameter is modified, it is important to SAVE and SEND:

- 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.

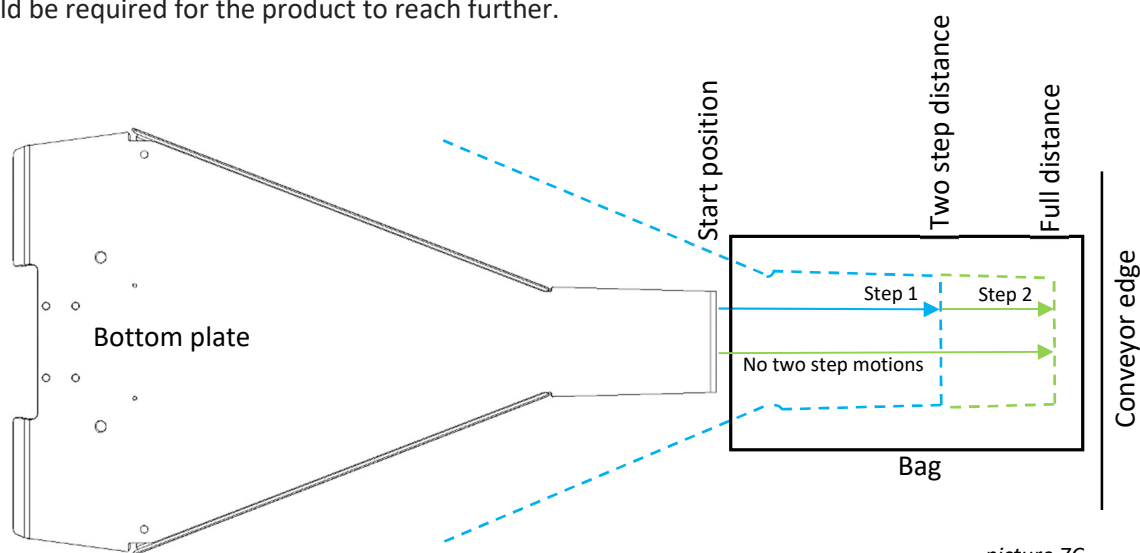


7.2.2: Acronyms

Acronyms	Description
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.

7.2.3: Two step motions

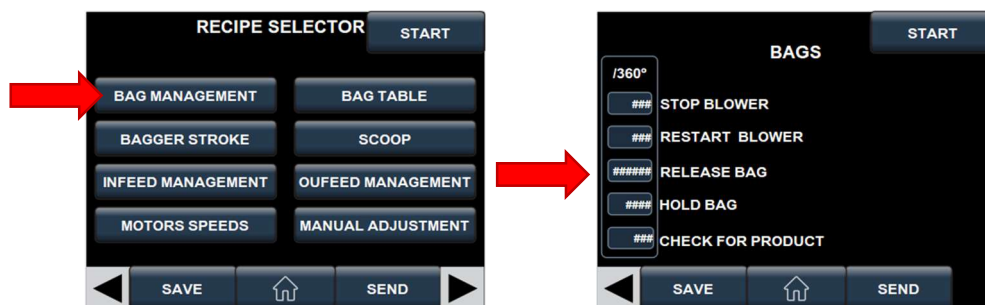
Used when the bags are small, and the plate need to travel further to deposit the bagged product on a conveyor. In other words, step 1 (in blue) would be required to bag properly, and step 2 (in green) would be required for the product to reach further.



picture 7C

7.3: Bag management

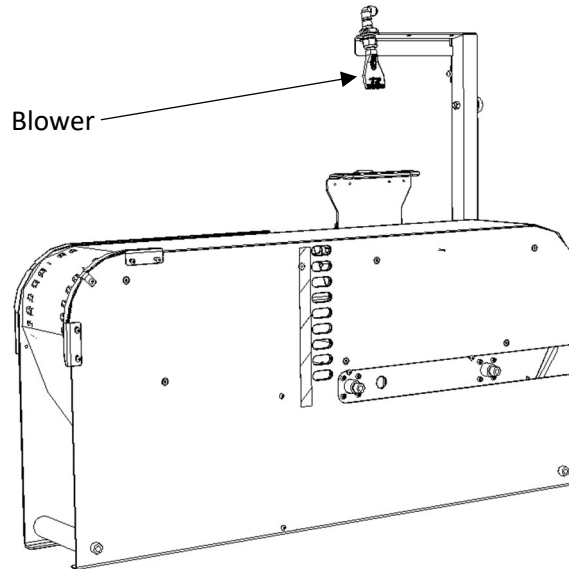
To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press Bag management.



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.



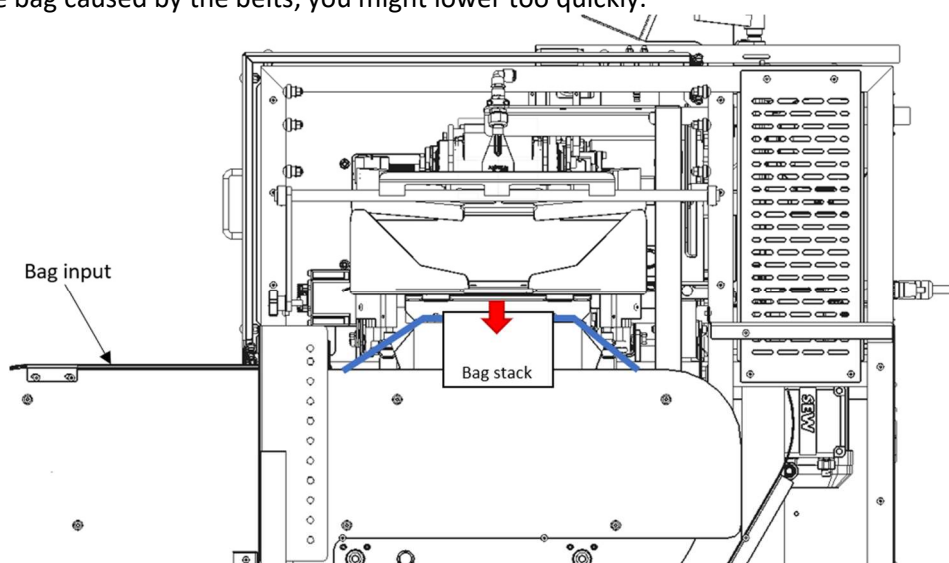
Bag input module (Left version) picture 7E

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)

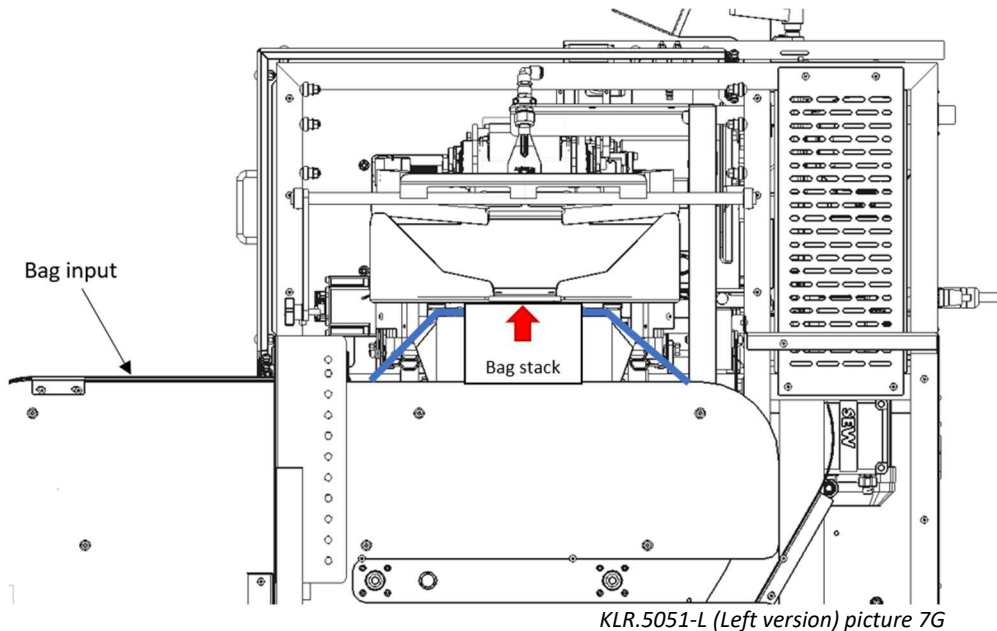
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. The bag lifter will release the bag at that setting. If the bag tail has tearing, lower that value. On the other hands, if you have cuts on top of the bag caused by the belts, you might lower too quickly.



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

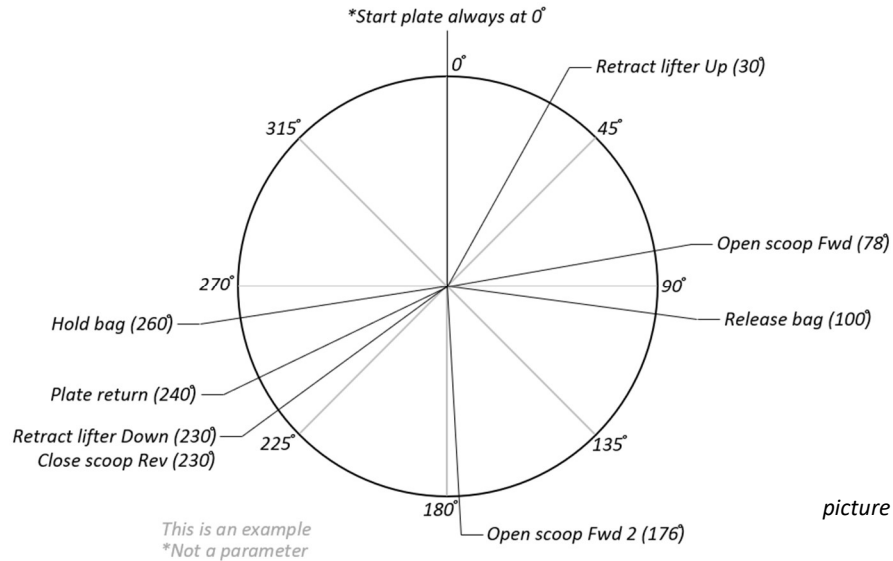
To reach bag management, the machine must be unlocked with a valid username and password. See "Unlock advanced parameters". Press Bag management.



KLR.5051-X-AB screen picture 7H

Pack per minute

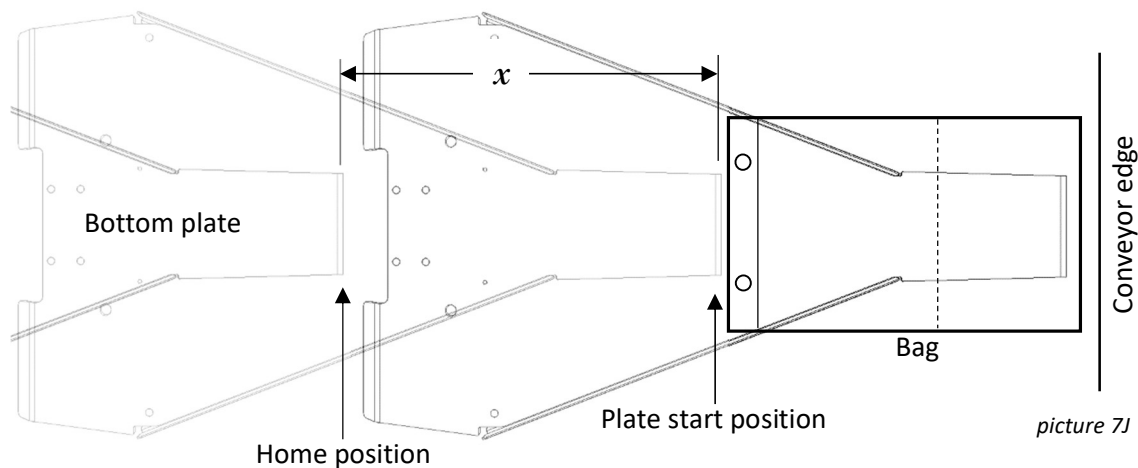
This parameter is configuring the speed of the intern degree clock which relate to every parameter set in degrees. Take note that raising the number make it quicker but does not necessarily make the bagger bag quicker. When changing "Pack per minute", All the parameters that refer to SPEED might need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

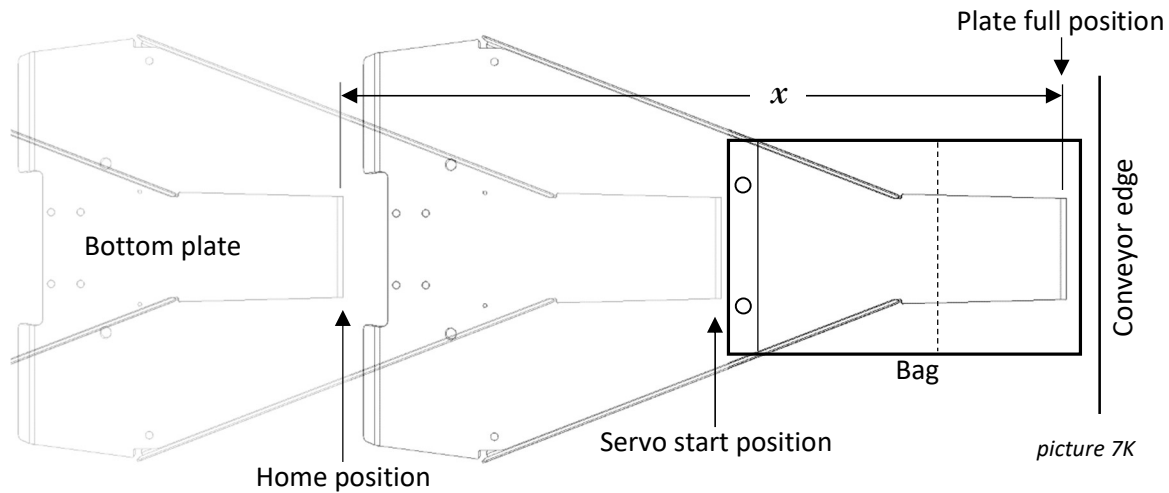


Plate half position (in) ABS

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.

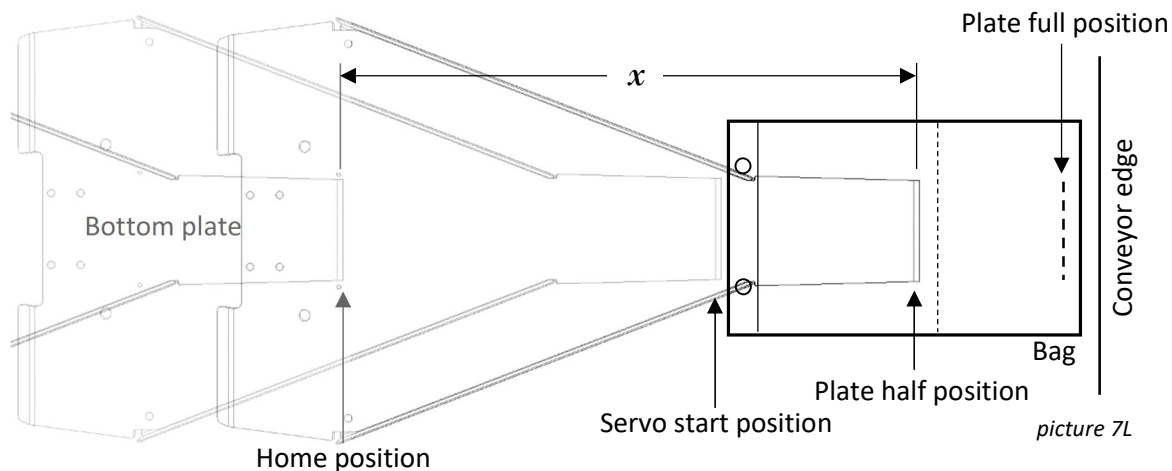
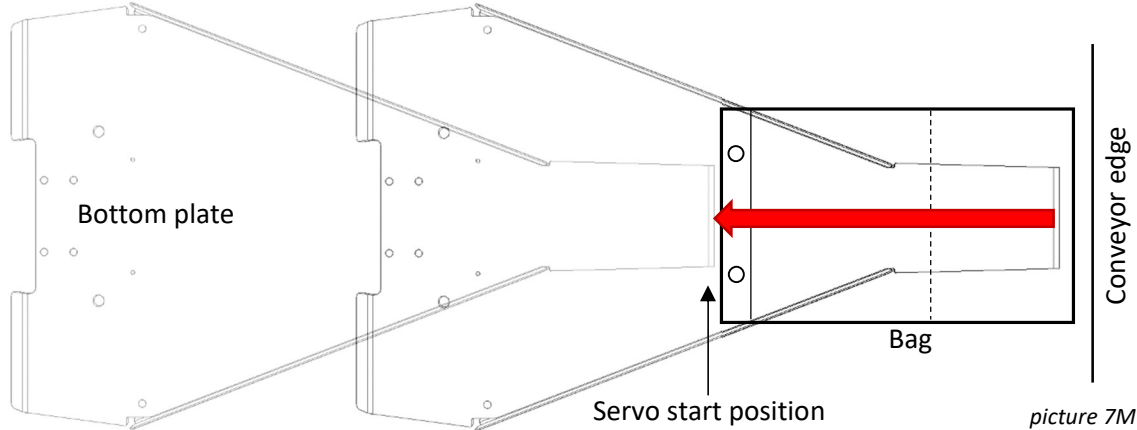


Plate return (deg)

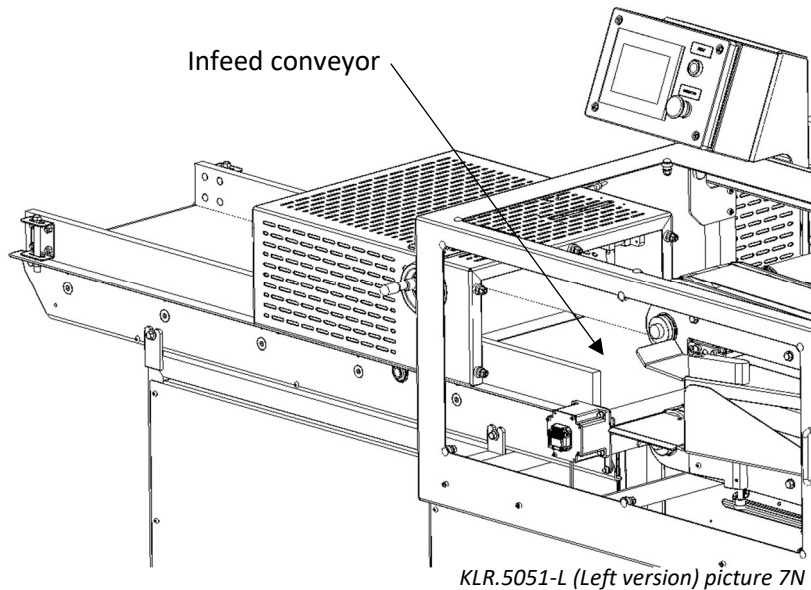
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. The parameter basically tells the machine how long to stay fully extended (full distance).

**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

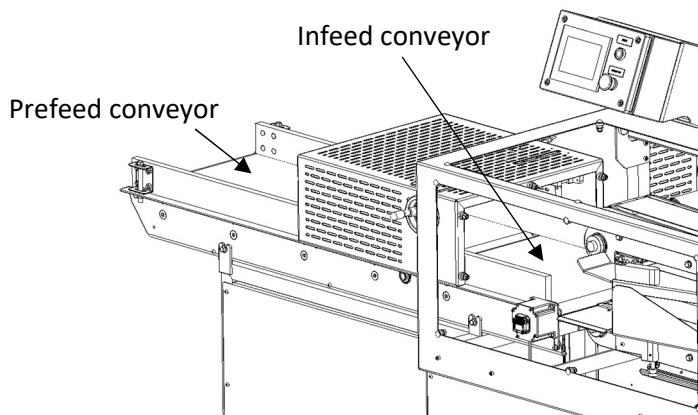
To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press Infeed management.



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

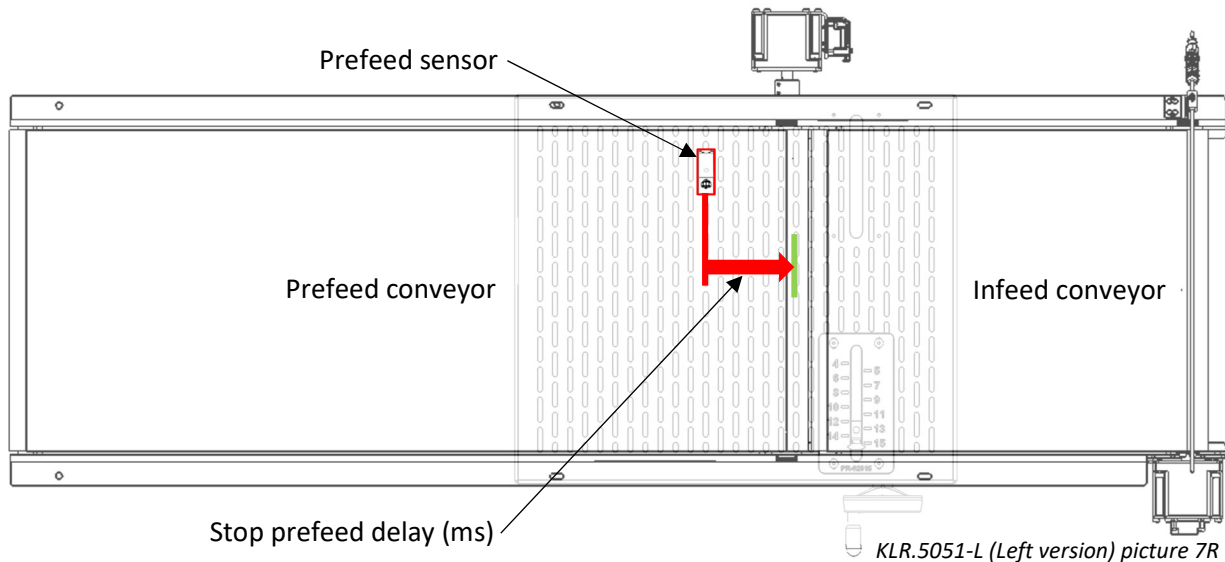
Regular speed Stacking speed



KLR.5051-X-AB screen picture 7Q

Stop prefeed delay (ms)

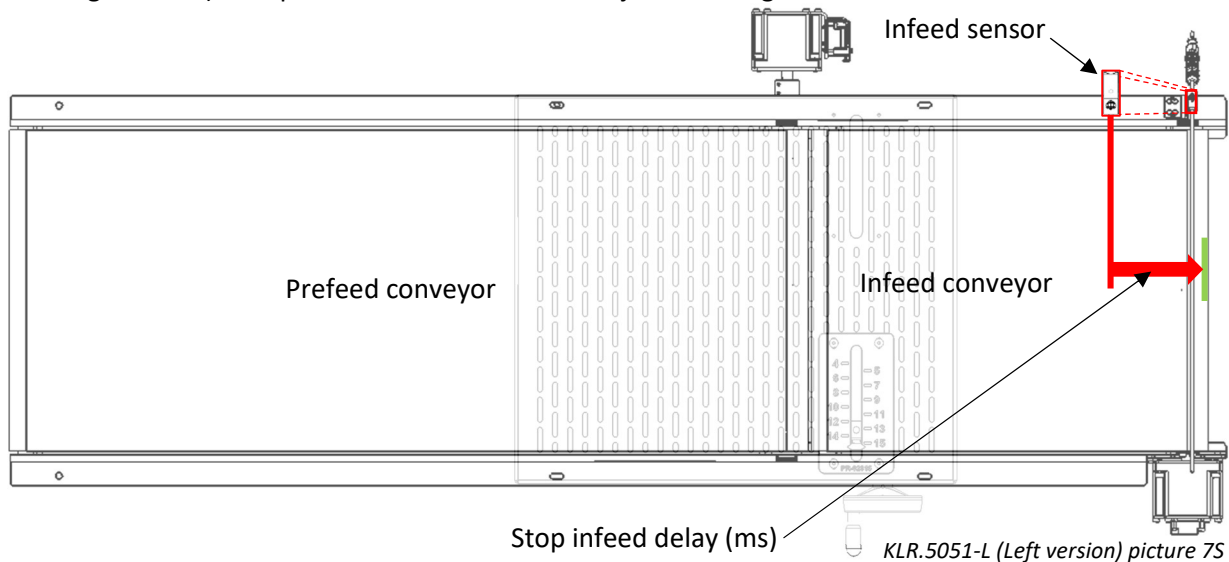
It is the time the prefeed conveyor takes to stop when a product triggers the sensor located on the prefeed conveyor. From the time the sensor sees a product (red line) until it reaches the end of the infeed belt (infeed must stop when the product reaches green line). The position of that sensor is subject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

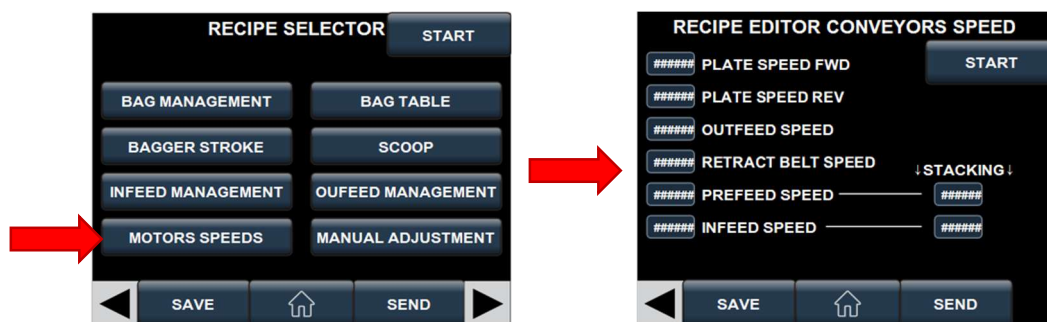
Stop infeed delay (ms)

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.

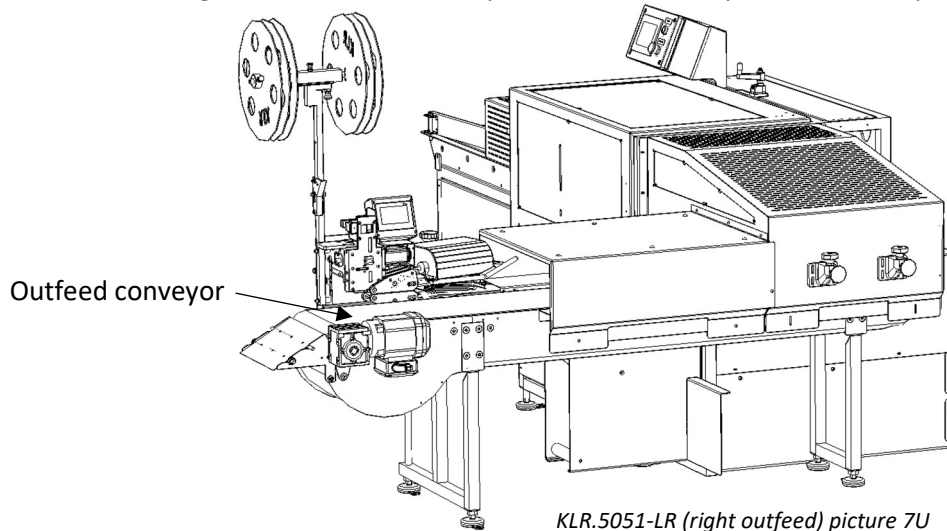
Changing this parameter may required to revisit other parameters. Check: retract belt speed and delay plates (ms).

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.

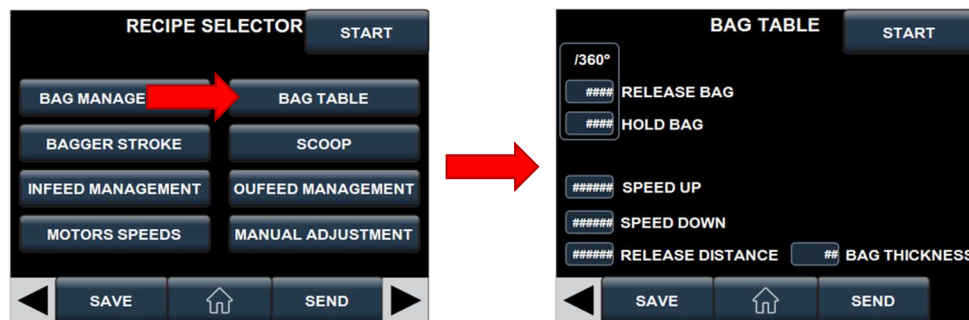


Retract belt speed

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

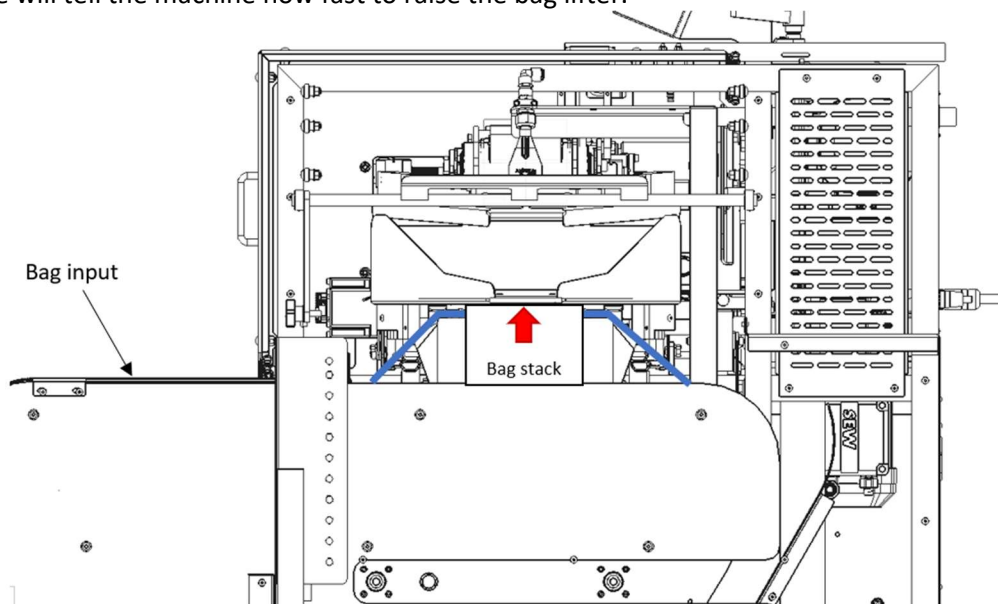
To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press Bag table. "Release bag" and "Hold bag" have already been addressed in section **Bag**.



KLR.5051-X-AB screen picture 7V

Speed up

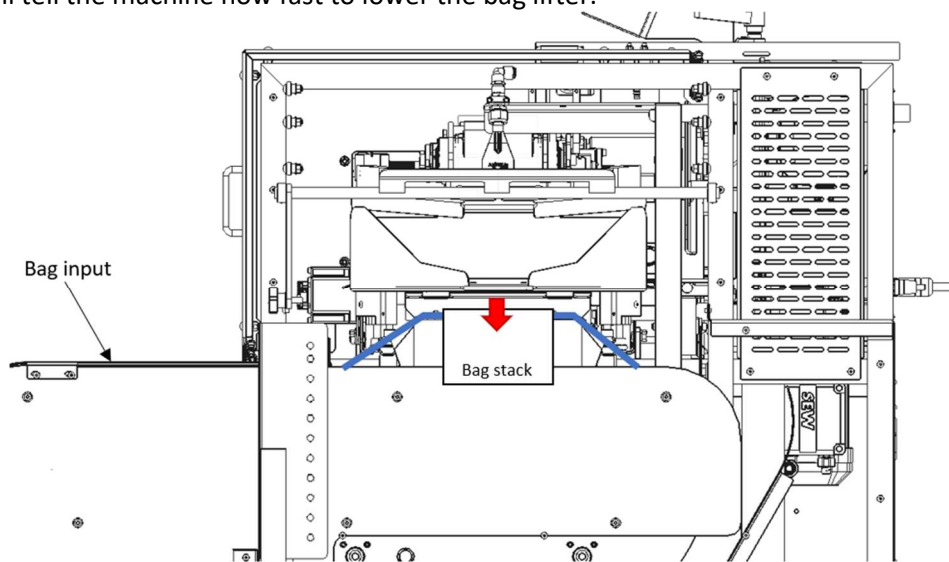
The value will tell the machine how fast to raise the bag lifter.



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)

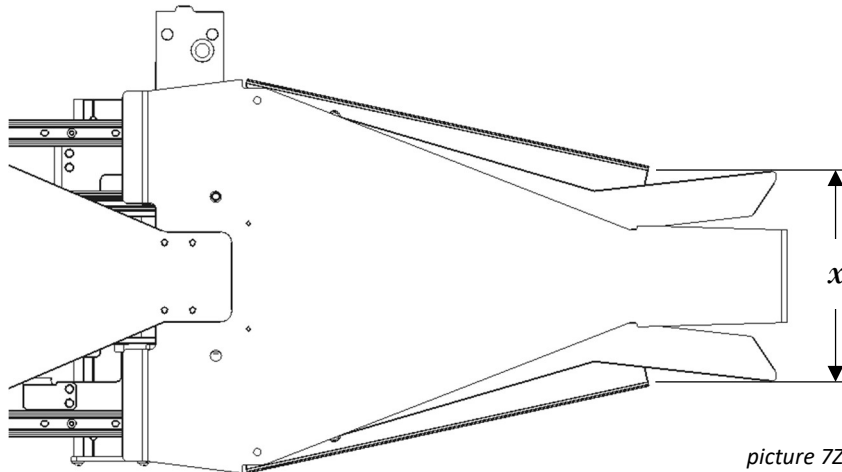
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the scoops when to stop according to the intern clock. It only controls the bottom ones.

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)

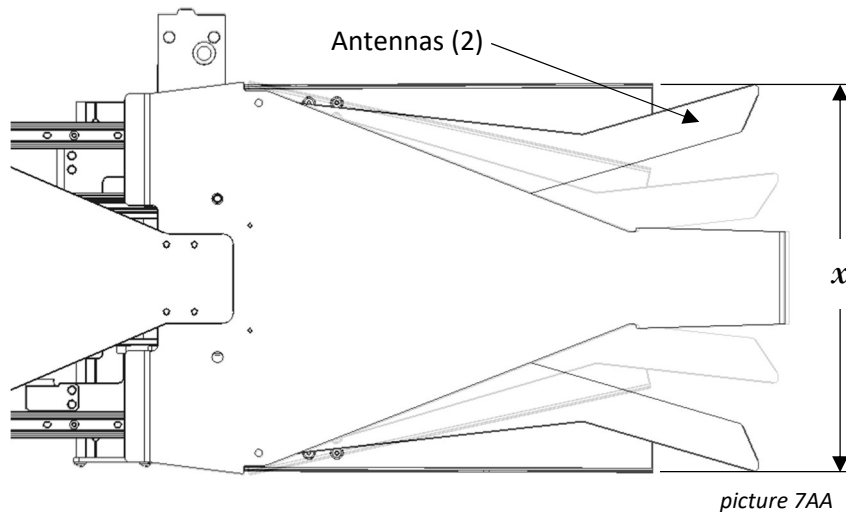
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the scoops when to stop according to the intern clock. It only controls the bottom ones.

Scoop open 2 (Speed)

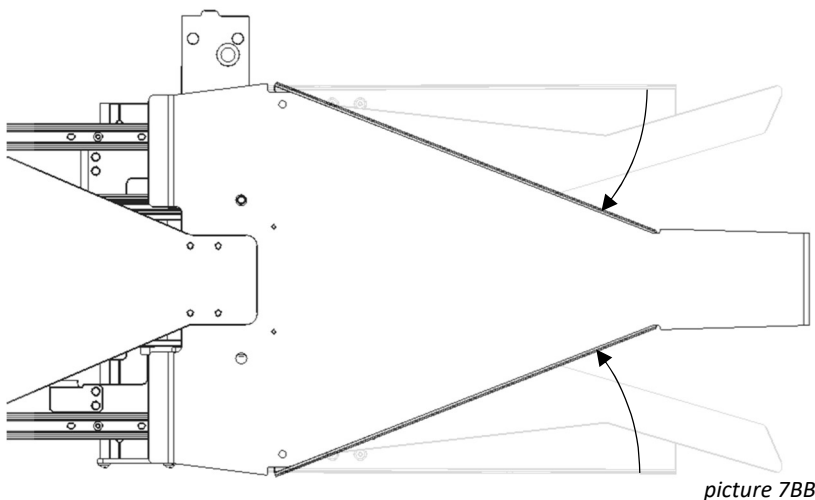
Use the same value of "Scoop open".

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)**

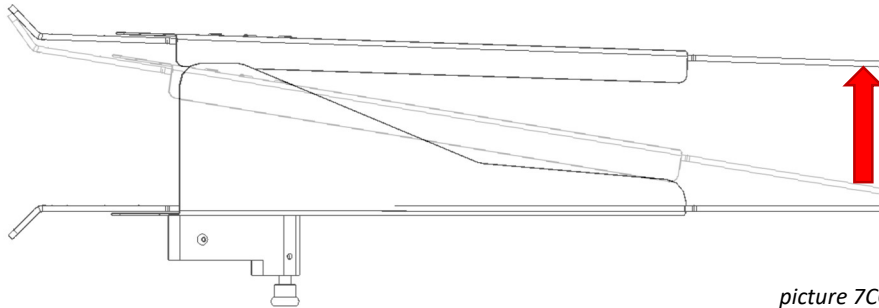
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. On the way back, this value tells when to close the scoop. Must be higher than "open scoop Fwd".

**Scoop close (Speed)**

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

Scoop up (deg)

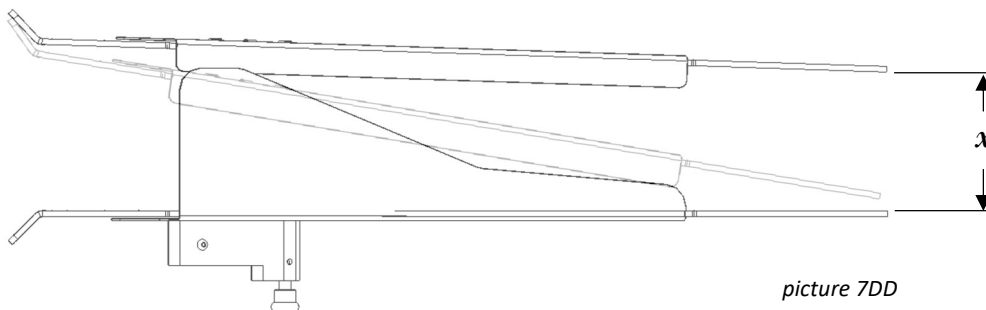
The value is in degree, which a bagging cycle start at 0deg and end at 360deg. This value tells the scoops when they need to raise. It only controls the top ones.

**Scoop up (speed)**

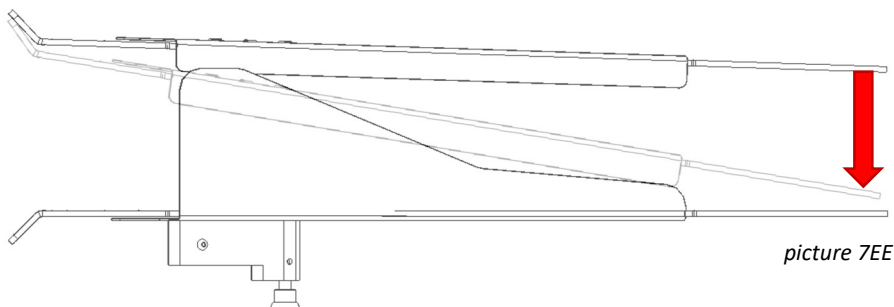
This value tells the scoops how fast they need to raise. It only controls the top ones.

Scoop up (distance)

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

**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.

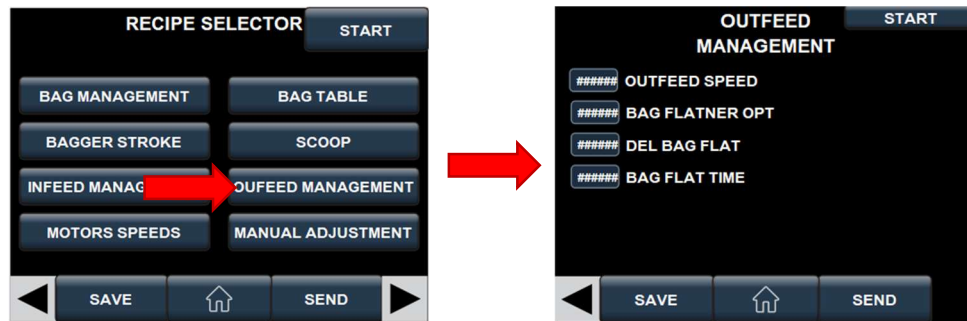


Scoop down (speed)

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

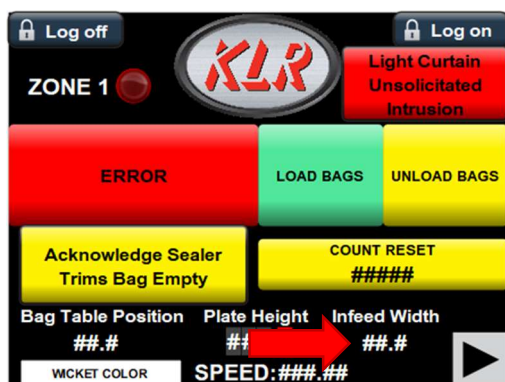
To reach bag management, the machine must be unlocked with a valid username and password. See **"Unlock advanced parameters"**. Press "manual adjustment". Everything in this page is for reference that speak to the operator on change over.



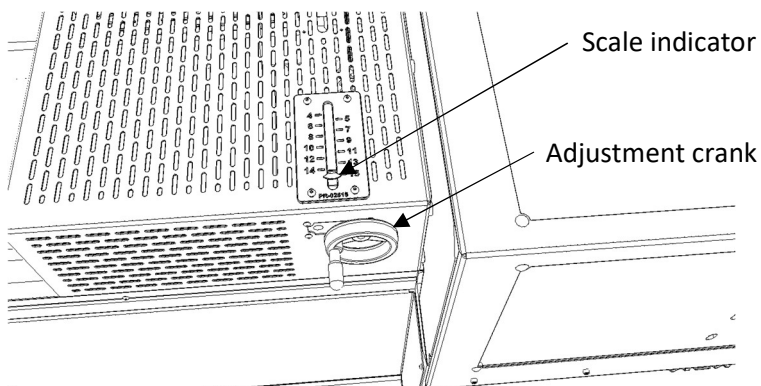
KLR.5051-X-AB screen picture 7GG

Infeed opening

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



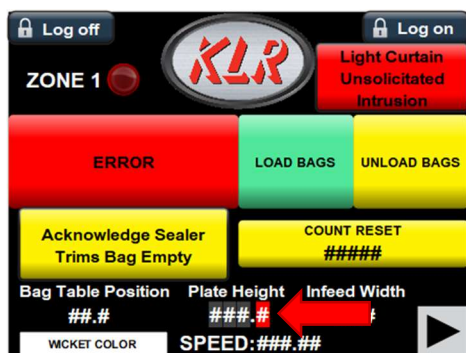
KLR.5051-X-AB screen picture 7HH



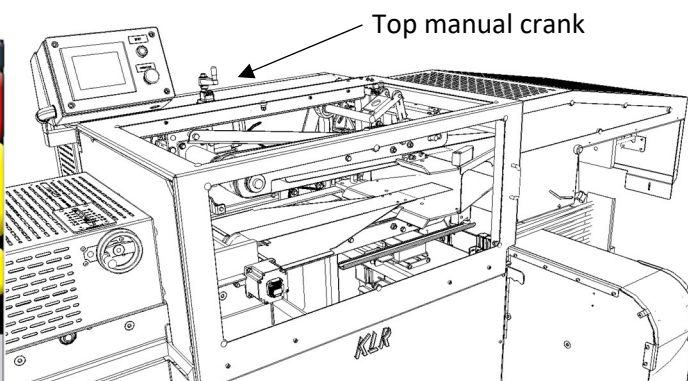
KLR.5051-L-AB (left version) picture 7II

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.



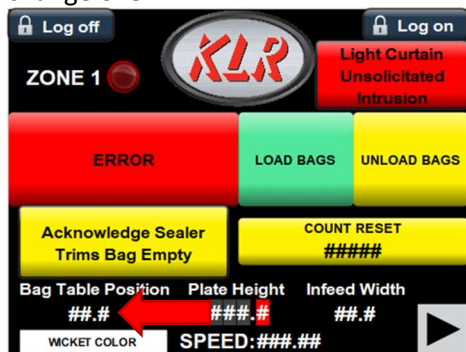
KLR.5051-X-AB screen picture 7KK



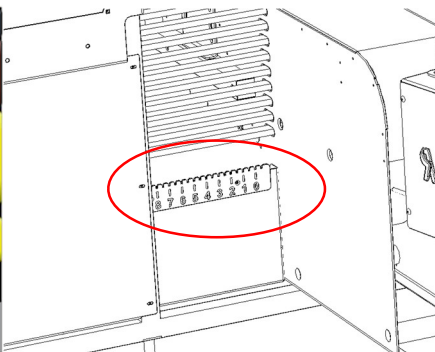
KLR.5051-L (Left version) picture 7LL

Bag table position

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



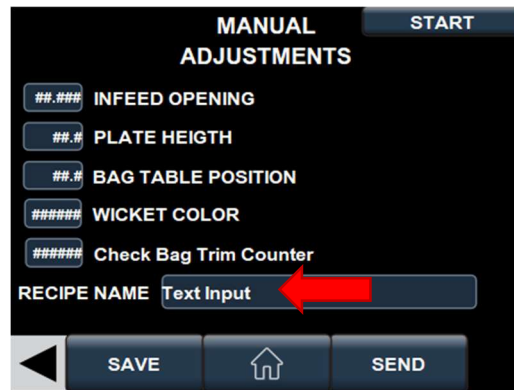
KLR.5051-X-AB screen picture 7MM



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

Recipe name

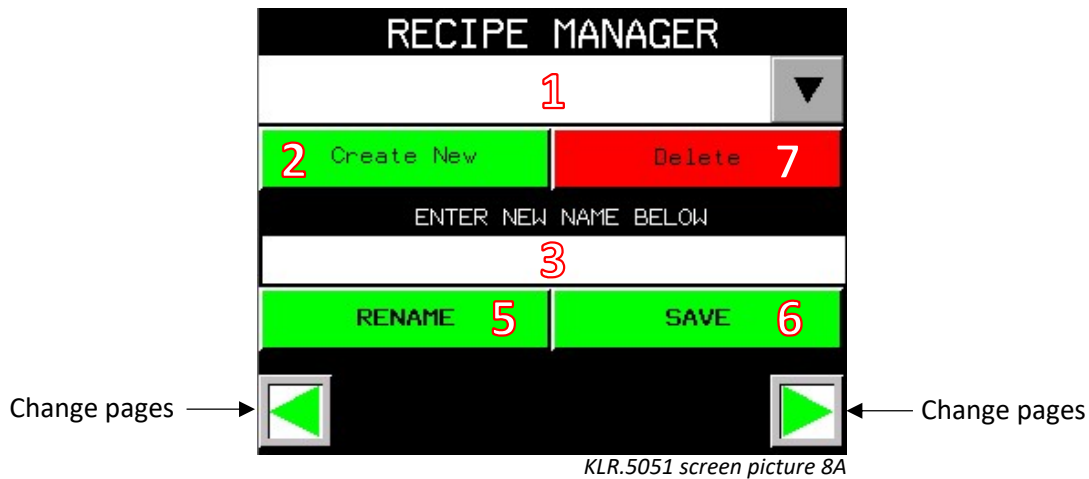
Enter a new name in the field to rename a recipe. Make sure to select the recipe that is required to change first.



KLR.5051-X-AB screen picture 700

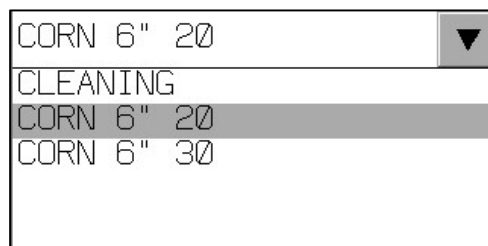
8.0: RECIPE MANAGER KLR.5051

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



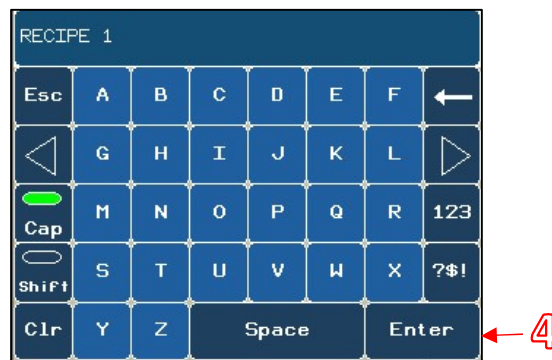
Create a new recipe:

- 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.



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

To delete a recipe:

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

9.0: MAINTENANCE

	➤ 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.
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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 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), 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 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	⚠ Important: 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

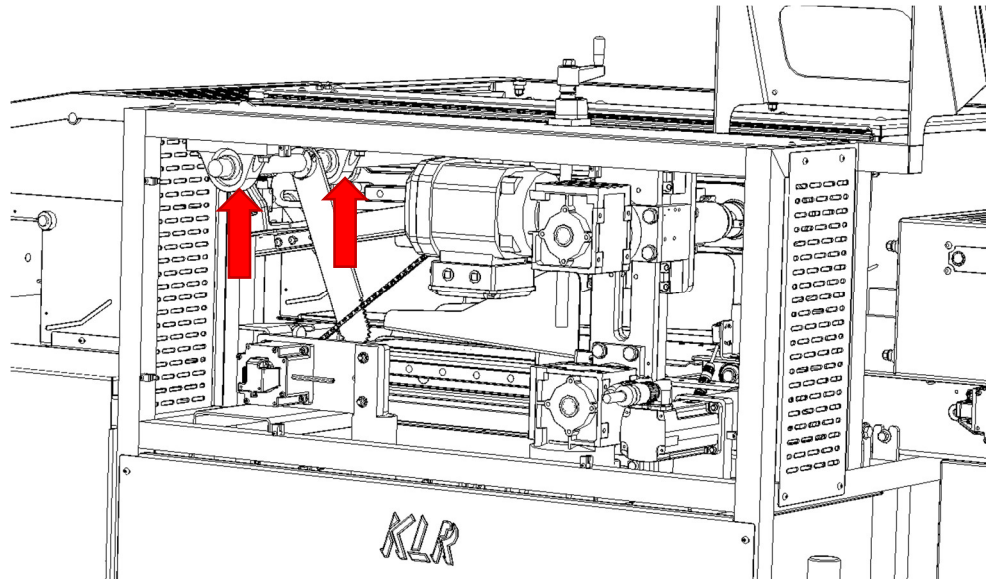


- When performing maintenance, ALWAYS use two (2) lock out devices on each supply: electric and pneumatic.

9.2.1: Greasing ports

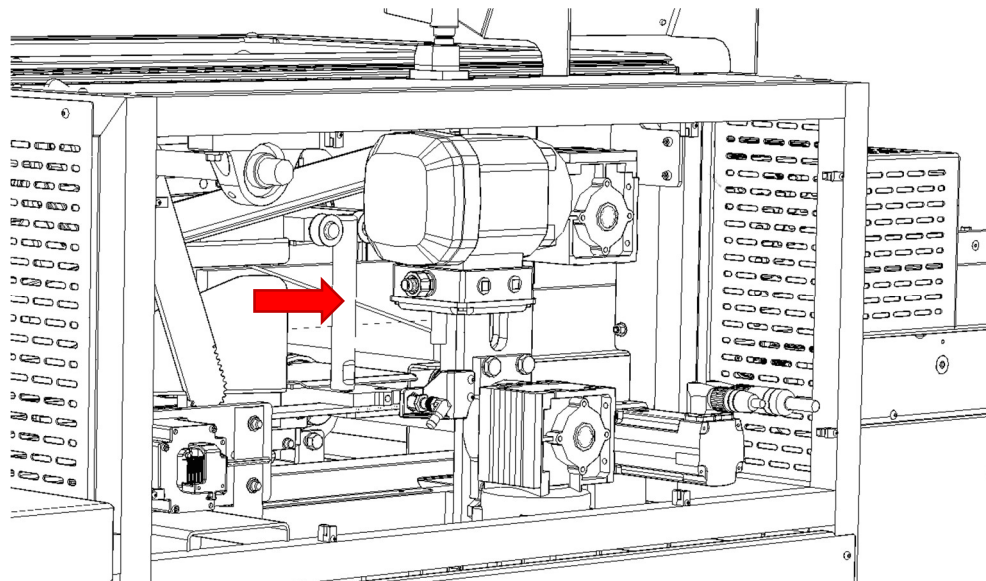
Note: The pictures have been taken from the back perspective for clarity purpose only. The grease ports are accessible via the sliding door.

Pillow bearings



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

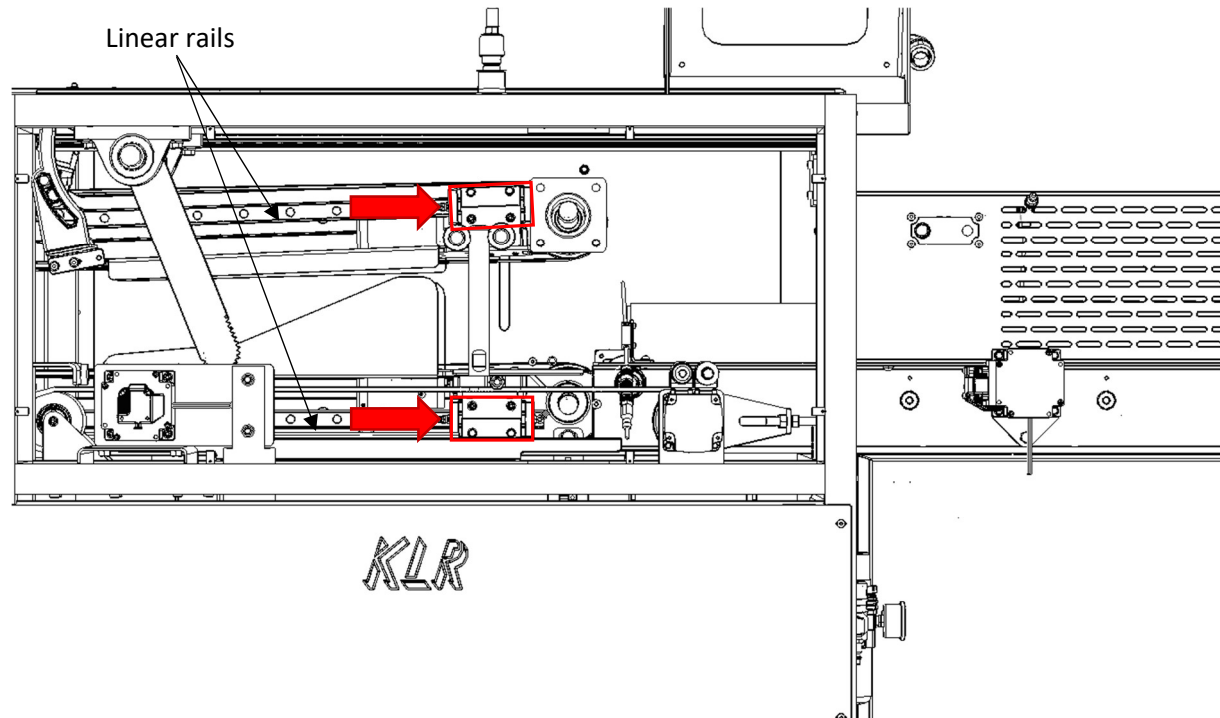
Retract lifter shaft



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

Retract linear bearings

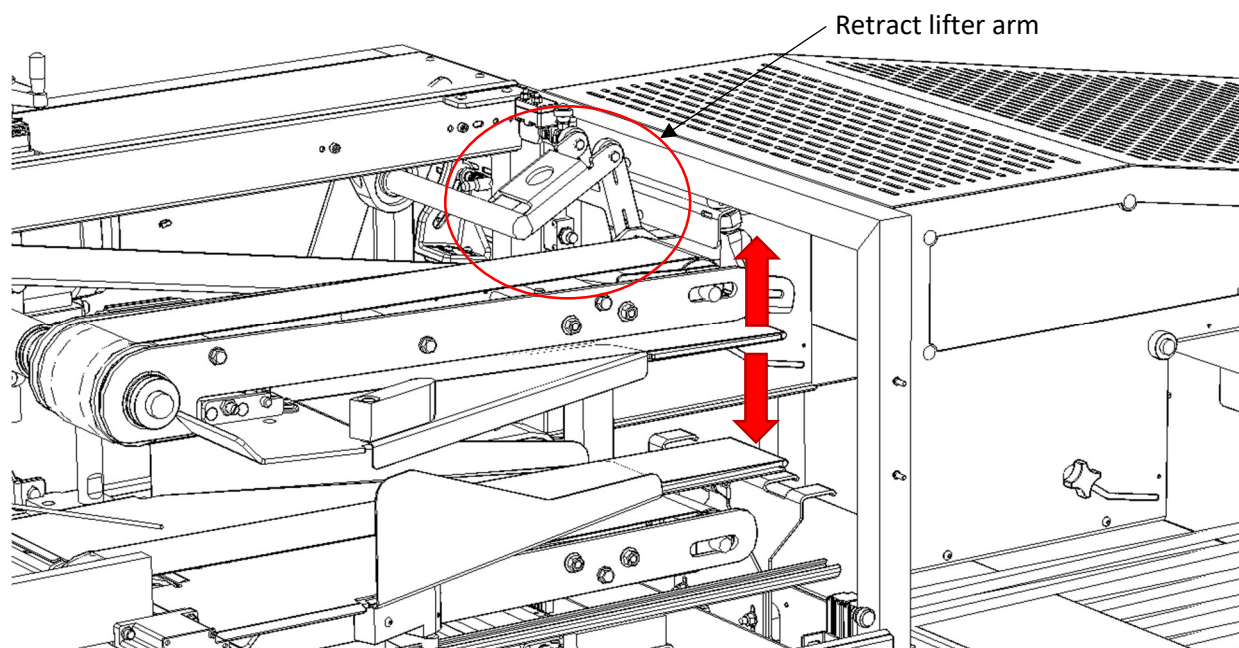
Wipe linear rails if old dirty grease. Inspect the linear rails for any burr. Grease the two (2) linear bearings.



*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.

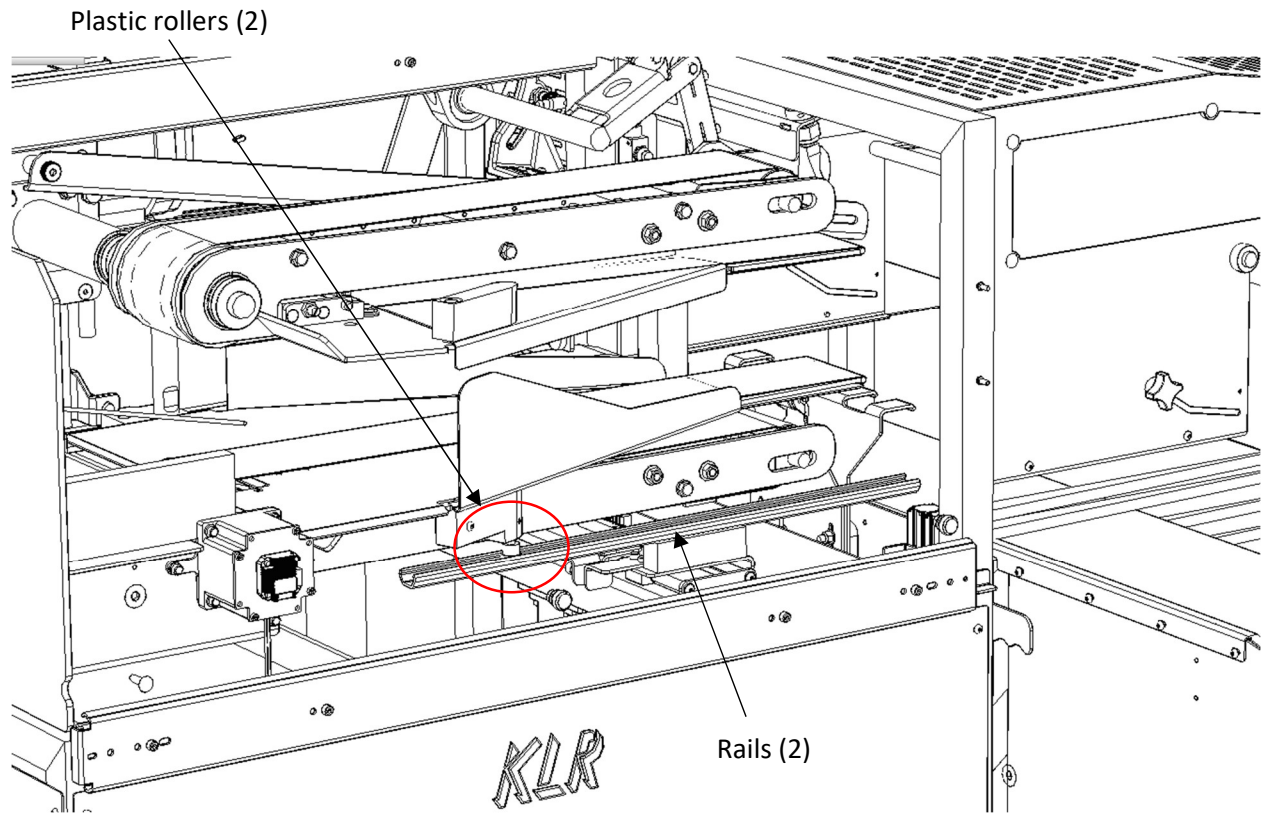


KLR.5051-L (Left version) picture 9D

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.

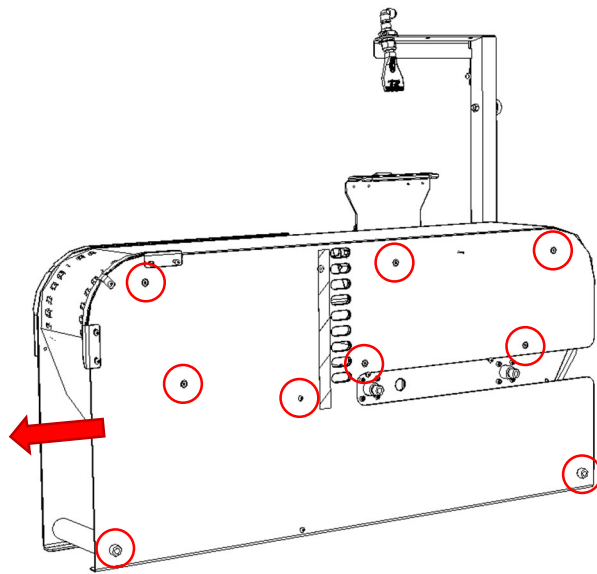
Verify the wear of the plastic rollers. Make sure there is no flat spot and they turn freely.



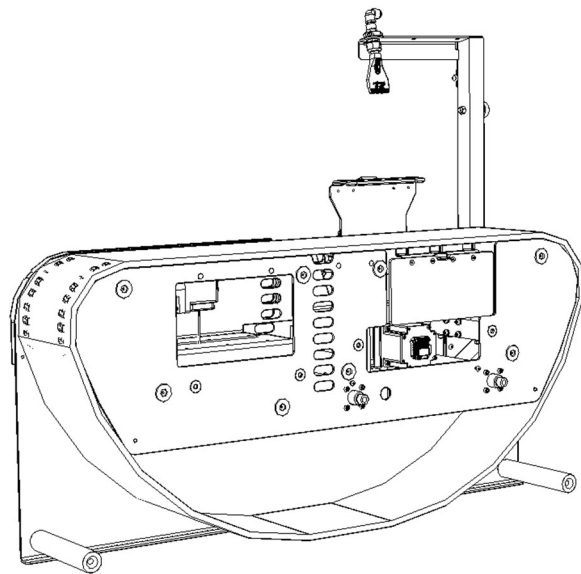
KLR.5051-L (Left version) picture 9E

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.

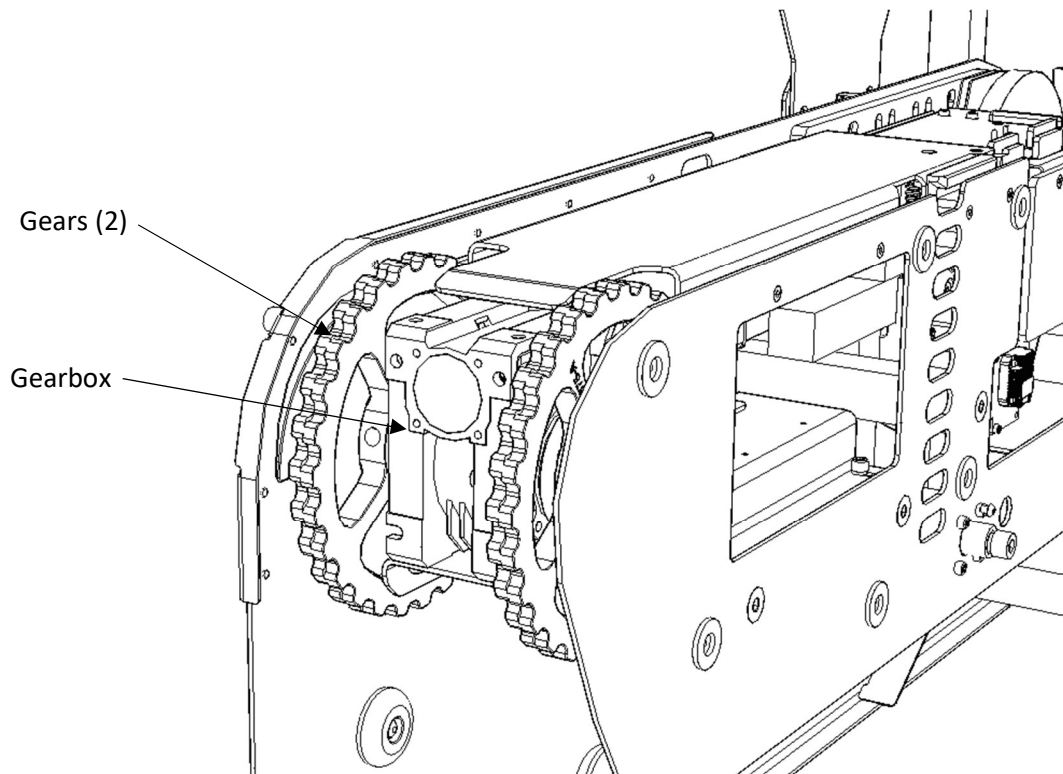


KLR.5051-L (Left version) picture 6F



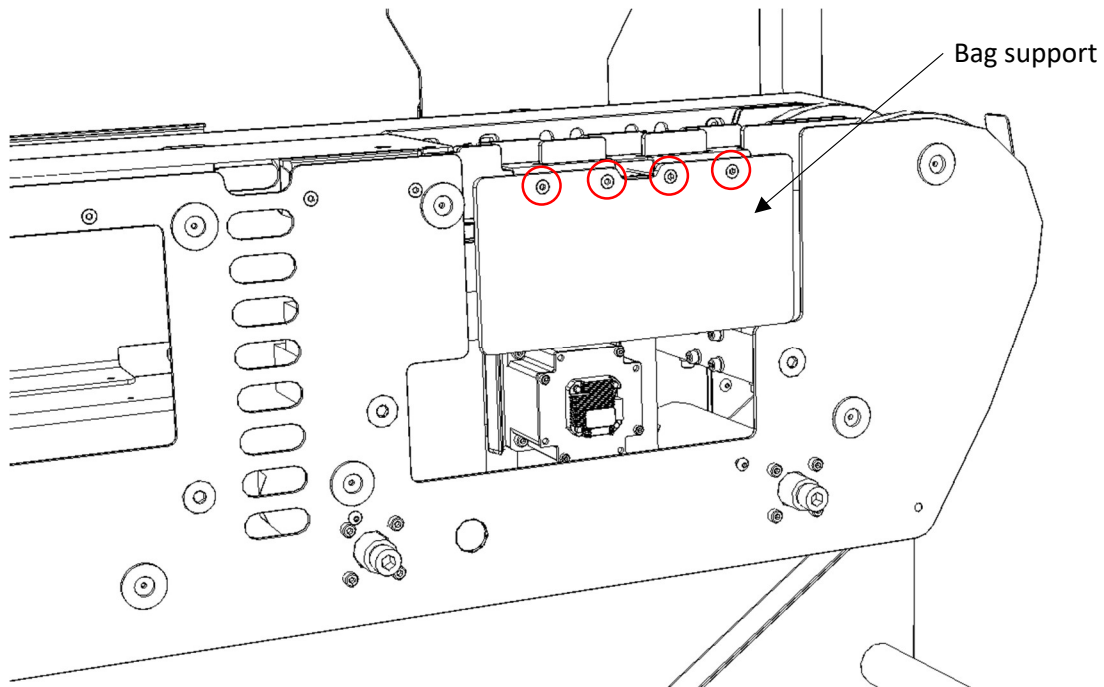
KLR.5051-L (Left version) picture 9G

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



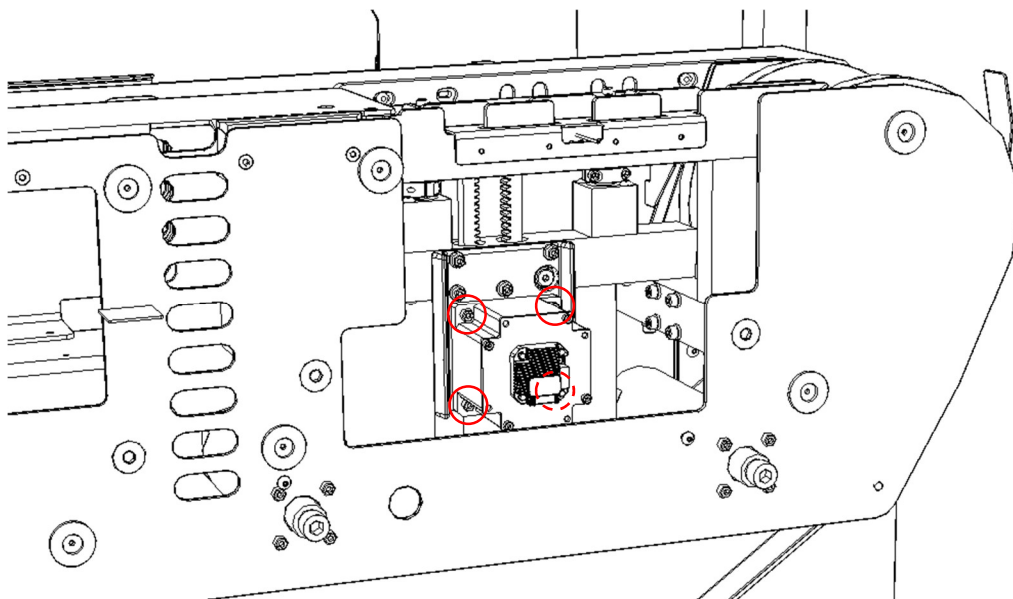
KLR.5051-L (Left version) picture 9H

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



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

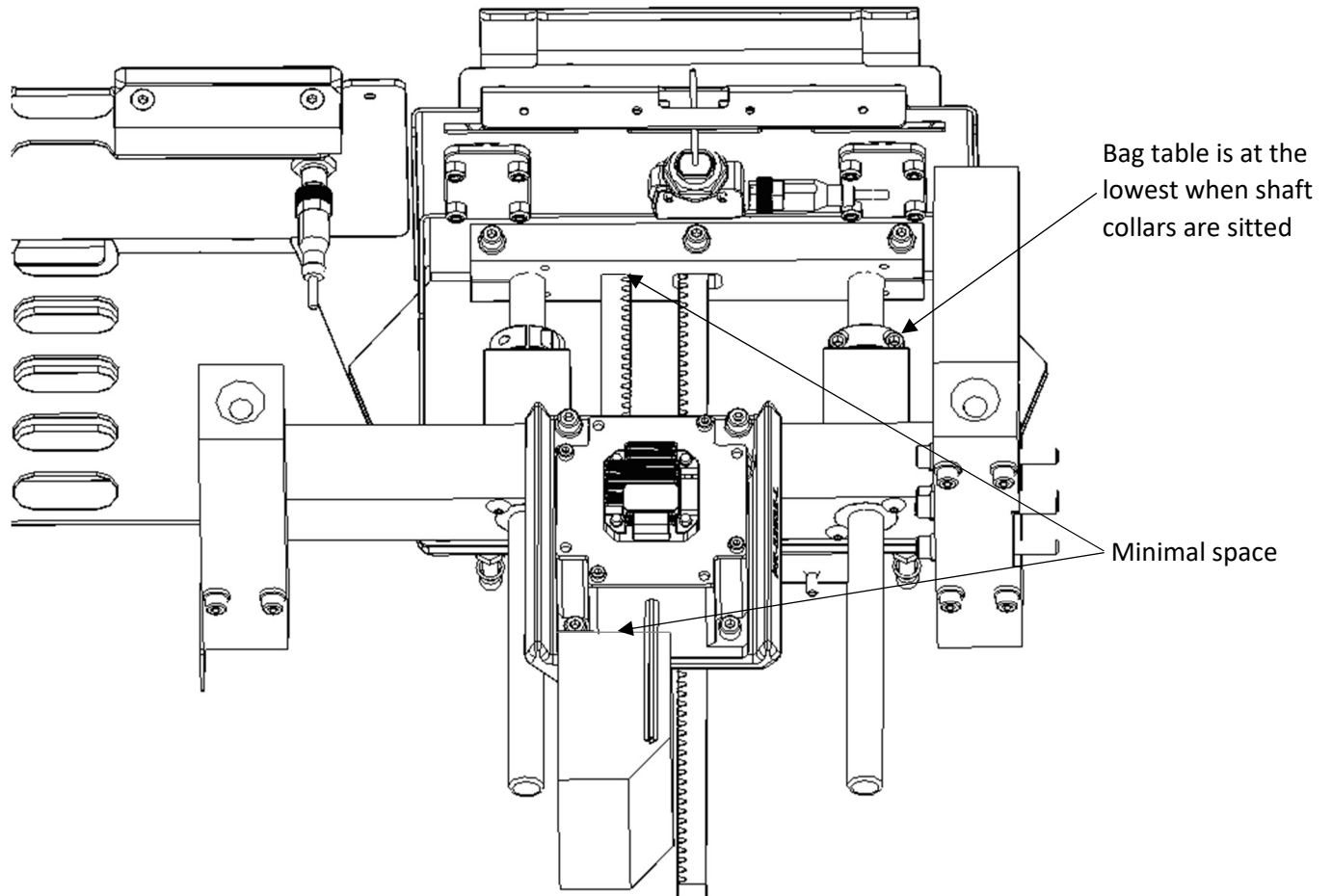
5. Disconnect the bag lifter motor, remove the 4 screws, and pull out the motor. **Careful, the weight section will fall.** Inspect the racks and pinion. On reinstall, take care of timing the system properly. See "Timing of bag lifter weight"



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)

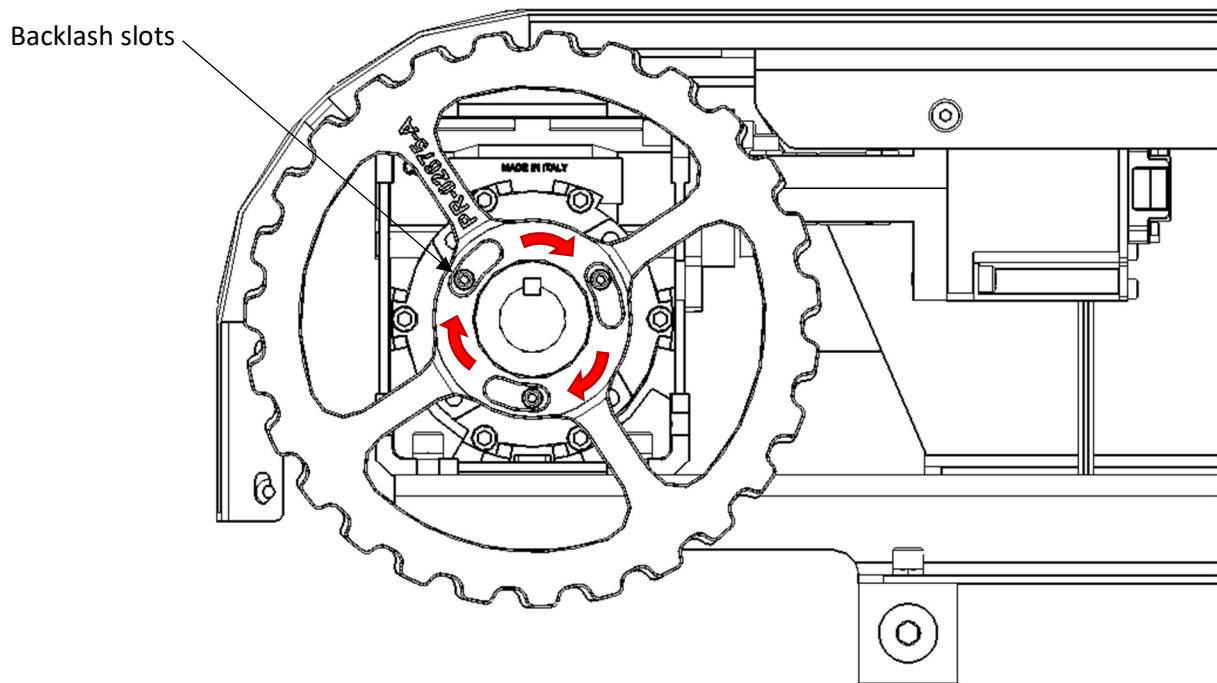
When the bag table is at the lowest, make sure there is minimal space in between the weight rack and the aluminum fixture. Also, it must be minimal space in between the weight and the motor body.



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

9.2.4.2: Timing of plastic gear

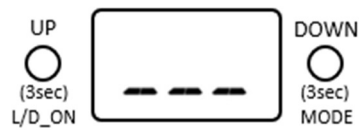
On reinstallation of the belt, it is important to time the backlashes of the two (2) plastic gears the same way. Otherwise, it restrains the maximum movement. Simply orient both backlash gears completely one side (does not matter if it is in or out) and then reinstall the belt.



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

9.2.5: Bag sensor programming

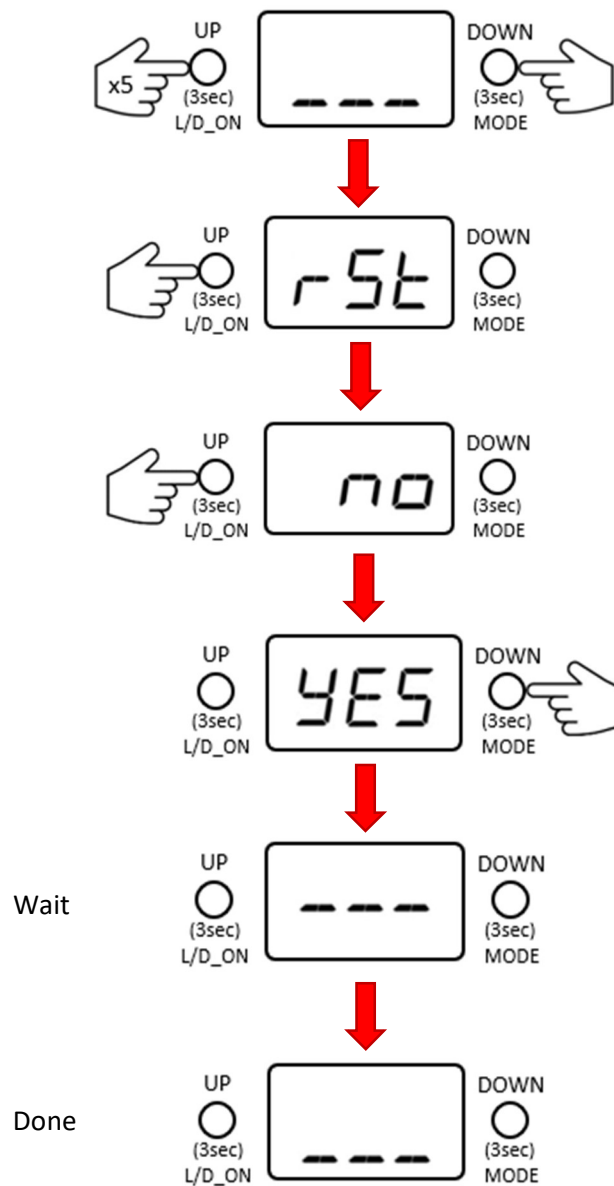
See "Bag input module" to know how to get to the sensor. On power up, display will show:



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.

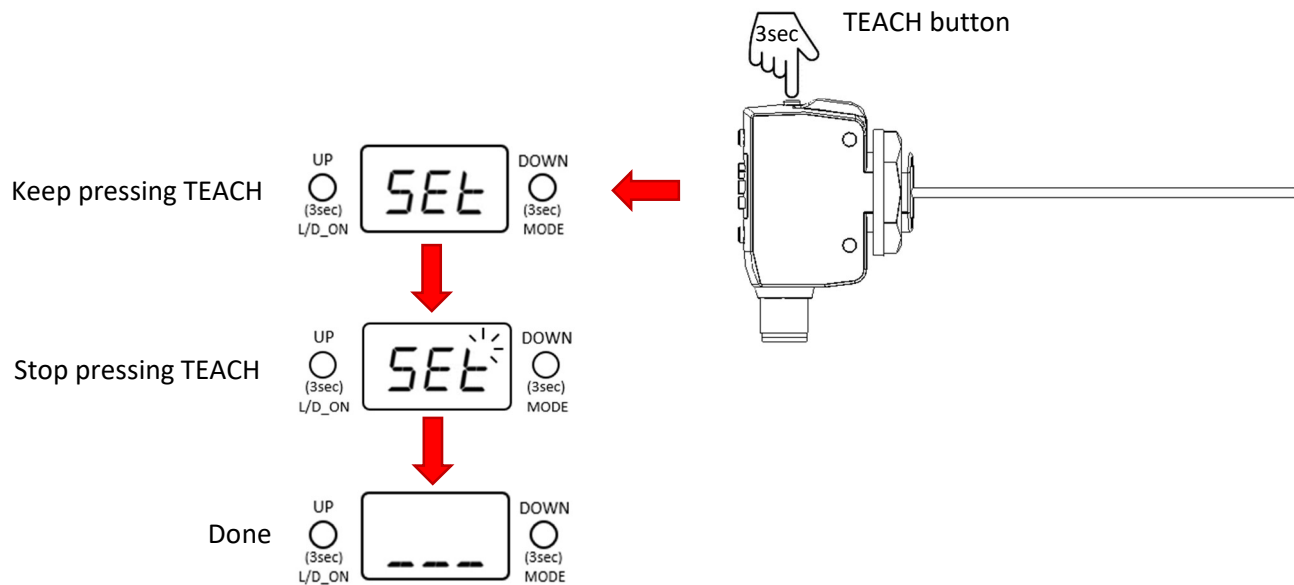


Bag sensor picture 9N

9.2.5.2: Teach the bag sensor

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

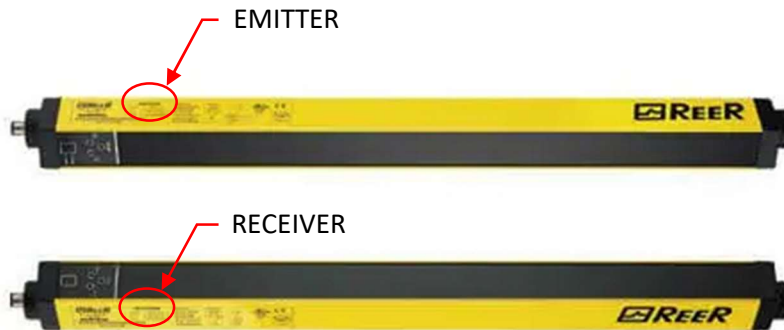
1. With nothing in front of the sensor, press the TEACH button for 3 seconds (until the SET flashes in the display).
2. Wait until it is done, then redo step 1 one more time.



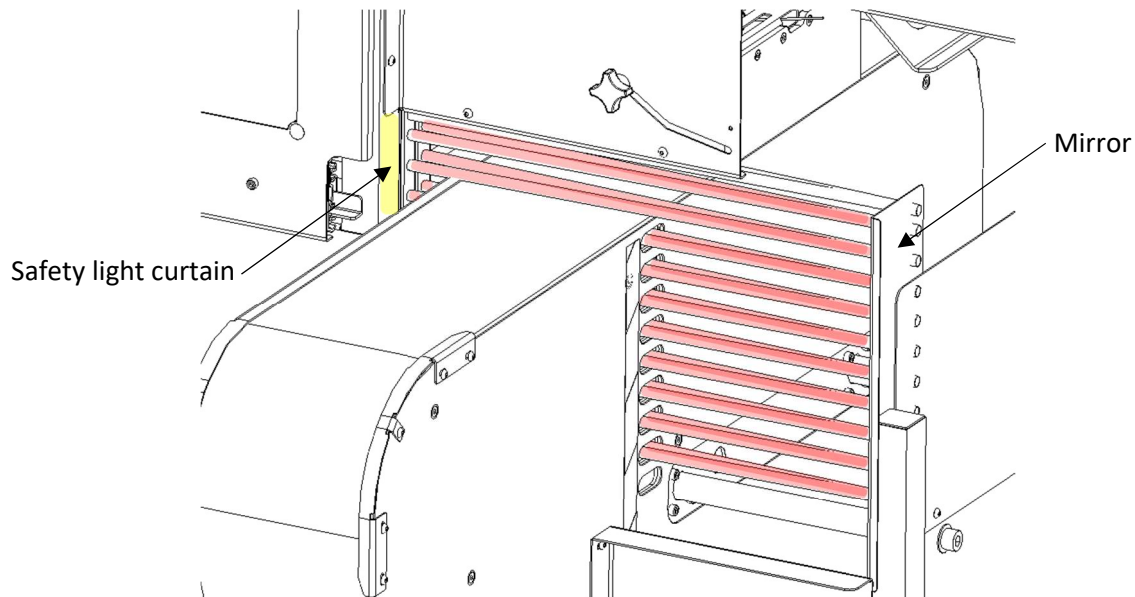
Bag sensor picture 90

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

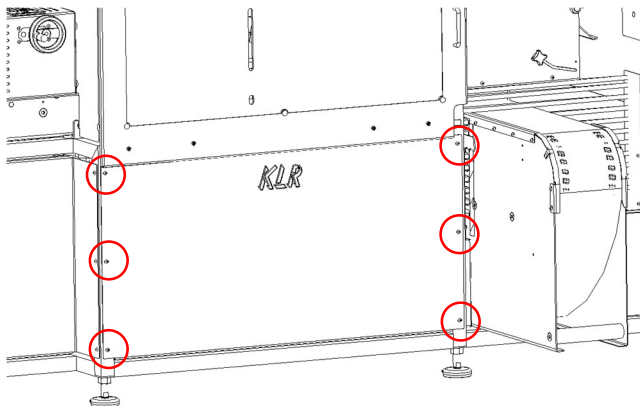
The safety curtain consists into an emitter and a receiver. Make sure the unit matches the cable identification and the wiring.



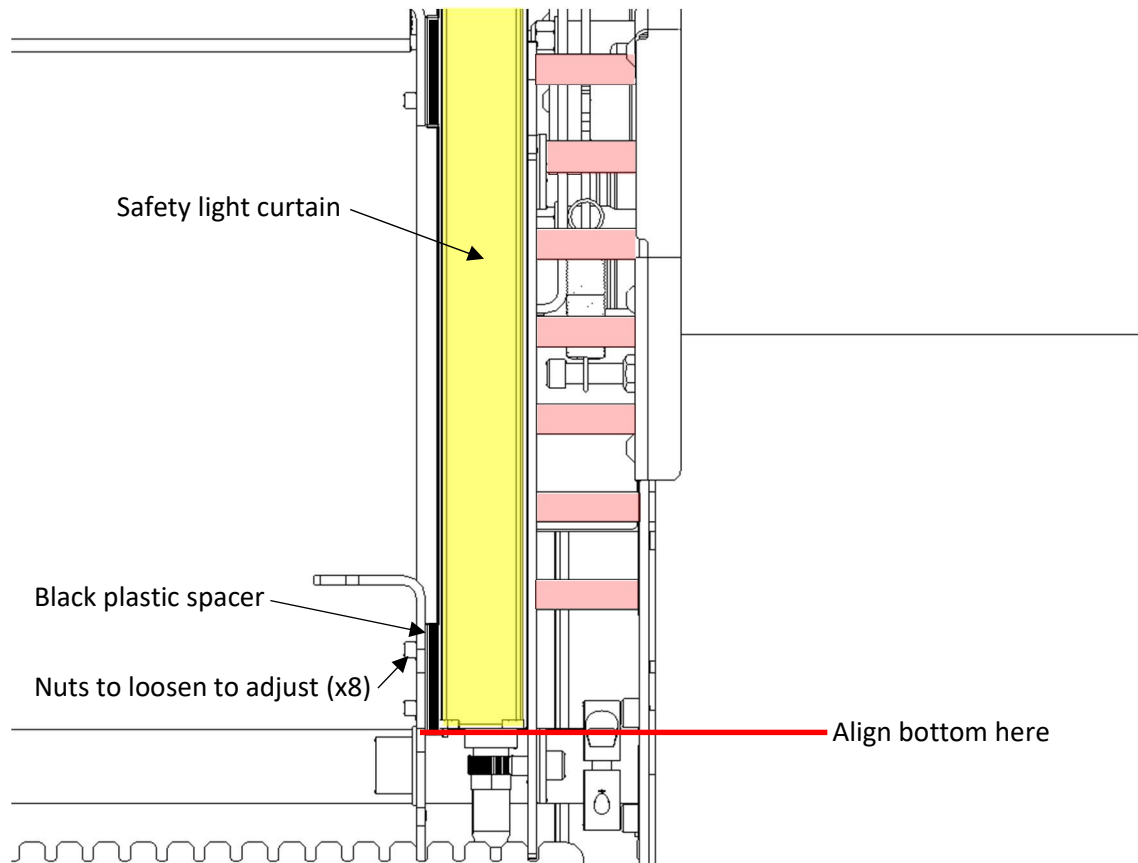
Invisible light beams go trough the bag table assembly and bounce on a mirror to offer protection on both side of it. To adjust the unit, the lights beams need to avoid detecting the bag table at all.



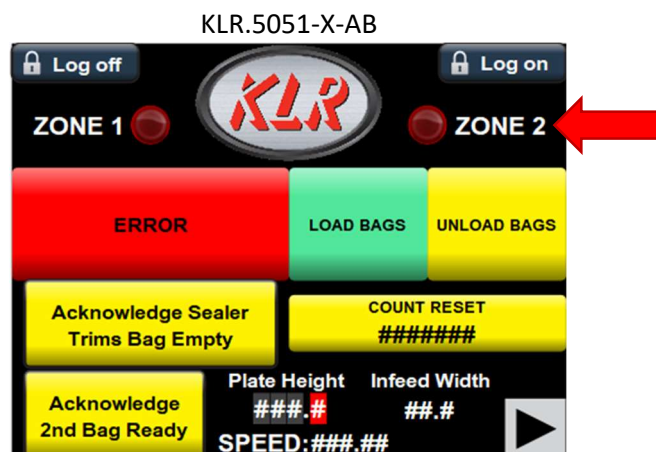
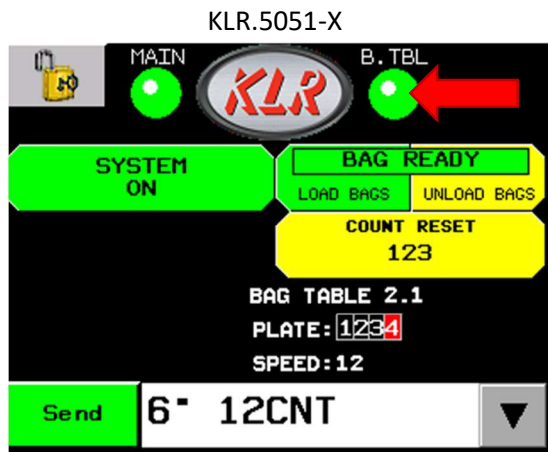
1. Remove the front panel (6 screws).



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

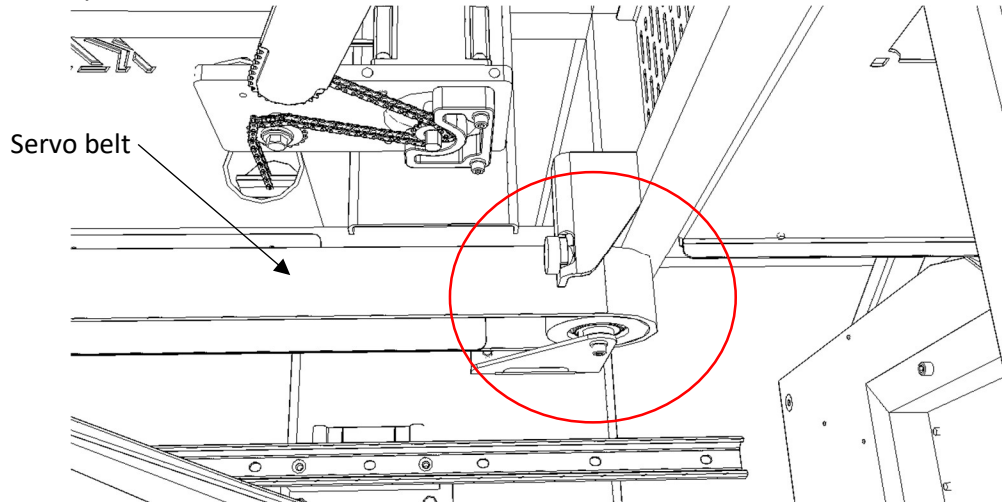


- Fine tune until on the main screen, the safety B. TBL (ZONE 2) is green.



9.2.7: Servo belt

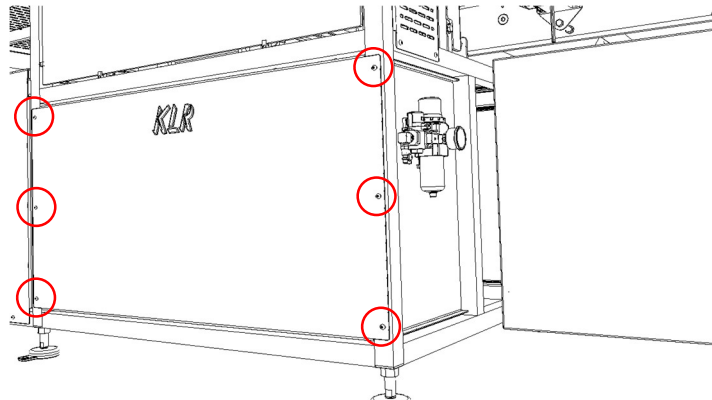
1. Make sure the tension is adequate on the servo belt.
2. Verify the tracking is correct. The belt must NOT touch on either side on all position of the system.



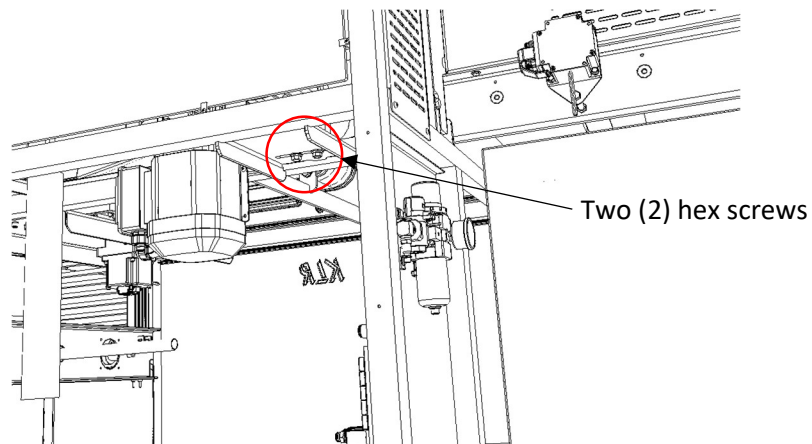
KLR.5051-L (Left version) picture 6L

9.2.7.1: Servo belt tension

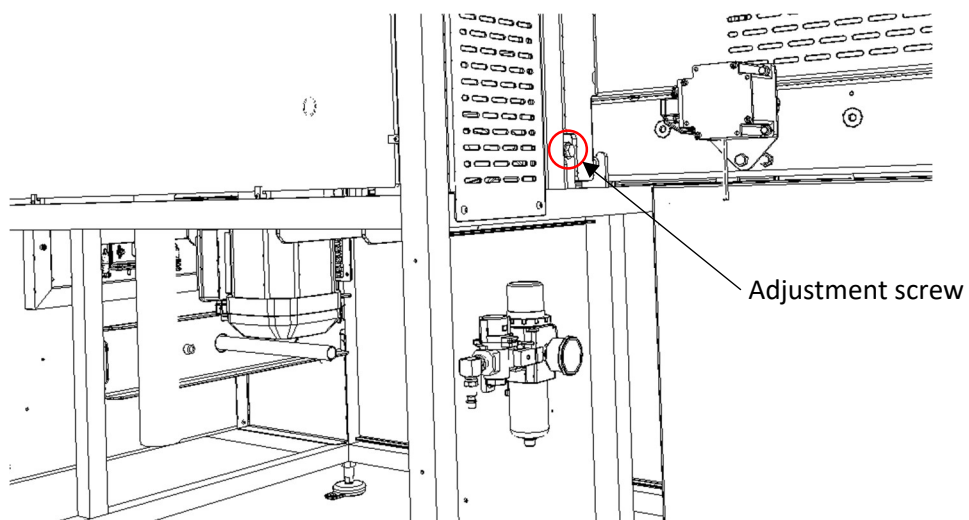
1. Remove rear panel.



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



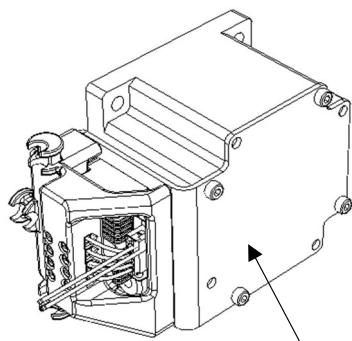
3. Adjust tension via the adjustment screw.



9.3: Stepper motor assembly for KLR.5051

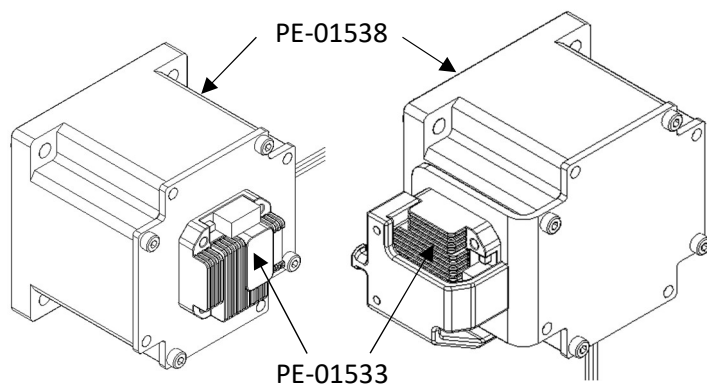
The KLR.5051 has at least 6 stepper motors.

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



KR-STEPPER (assembly)

SN: 2415 - 3031

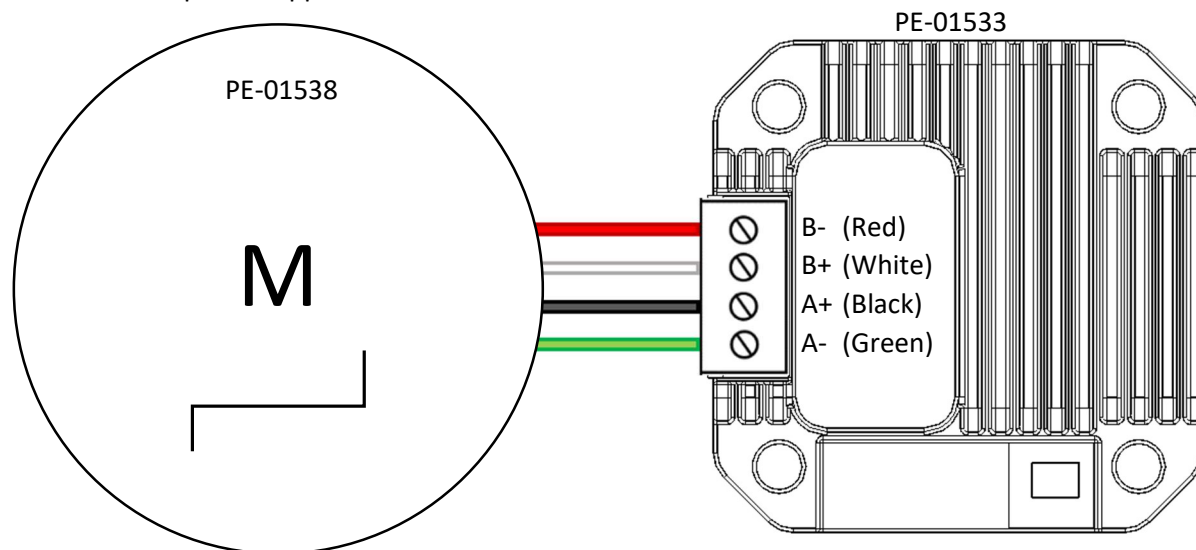


9.3.1: Wiring

9.3.1.1: Integrated stepper drive

The integrated stepper drive must follow this wiring:

Unipolar stepper motor

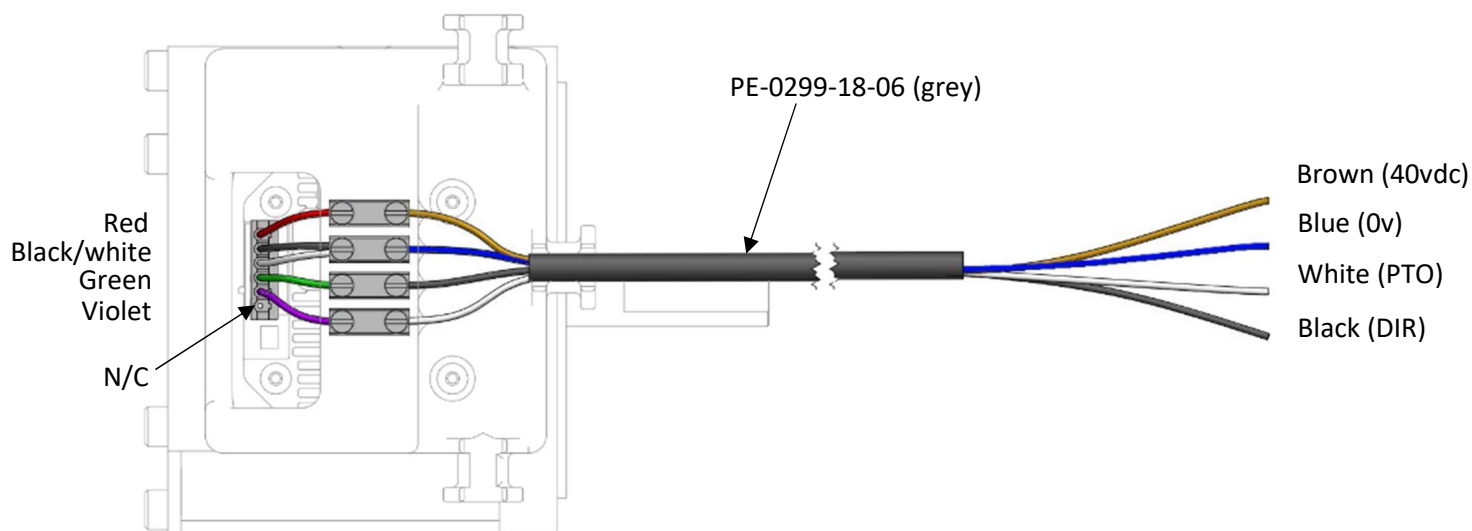


To perform Gearbox update and the machine program is older than 2023-12-12. Switch rotation needs to be done with the wiring:

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)



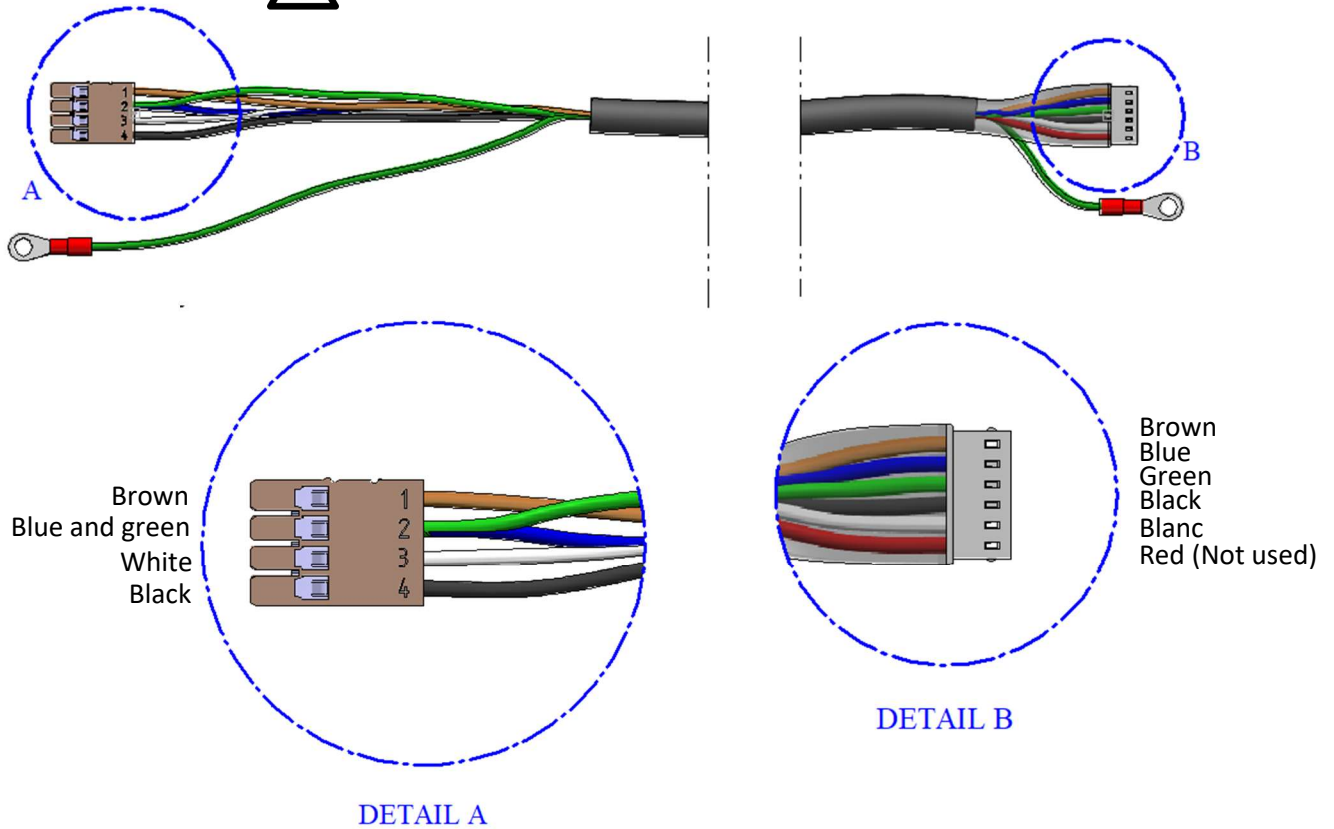
PE-0299-18-06 cable length	
Motors	Length (inches)
Prefeed	78
Infeed	66
Scoop	120
Up/down	108
B.T. feed*	180
B.T. up/down*	180
Aligner option (daisy chain) *	
Panel – Infeed	66
Infeed – Aligner 1	76
Aligner 1 – Aligner 2	28

*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)



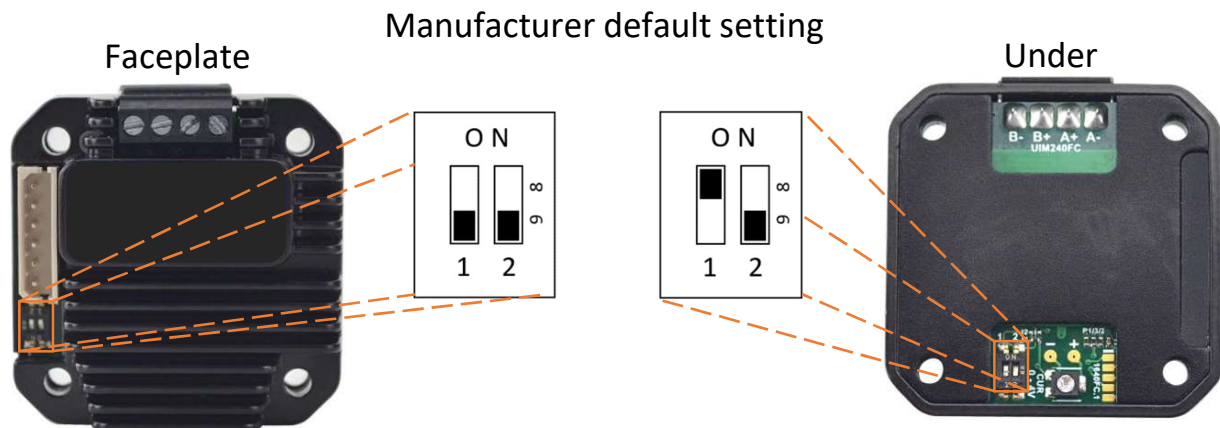
IF machine has been retrofitted, use 9.3.1.2 section.



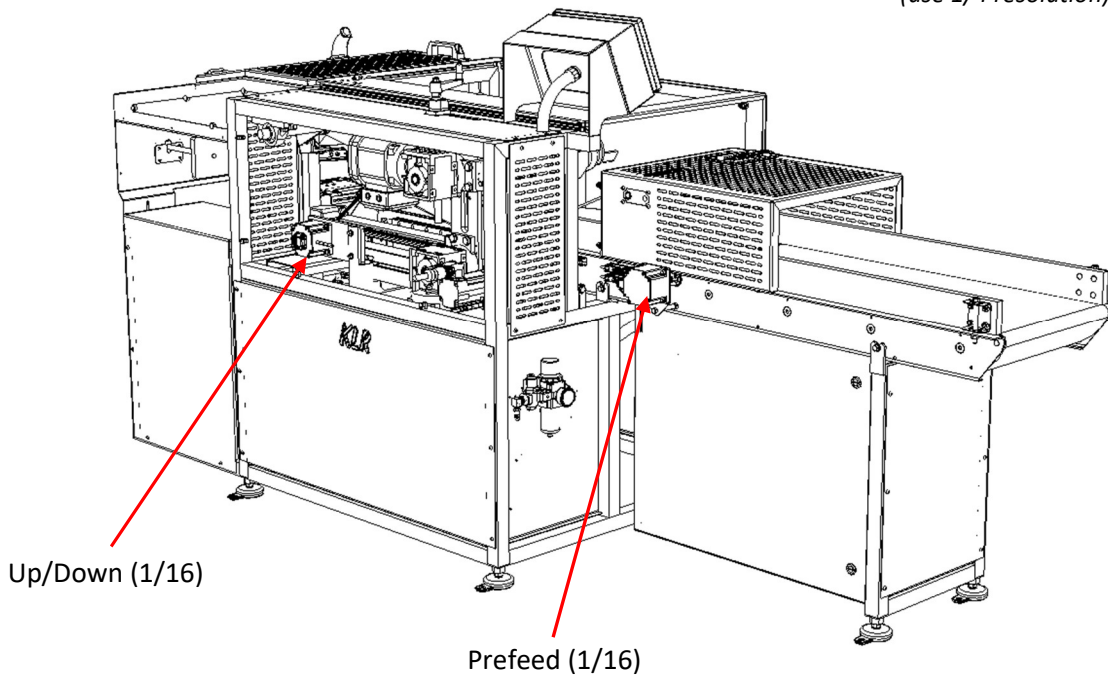
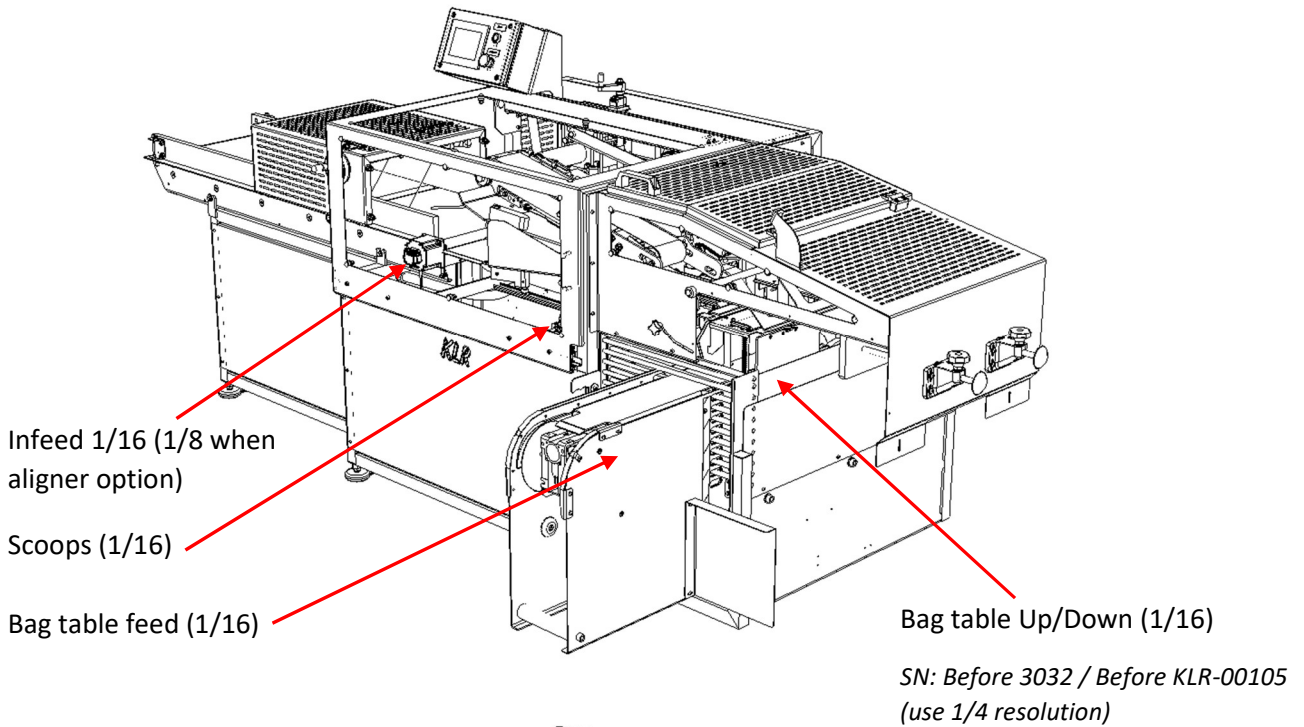
9.3.2: DIP switch resolution setting

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

		SN: before 3032 / KLR-00105	
		Bag table Up/Down	
		Resolution 1/4 **	
Under Faceplate	All Motors except when aligners option is installed Resolution 1/16 (default)	UIM240...	UIM340...
	ON 1 2	ON 1 2	ON 1 2
	ON 1 2	ON 1 2	ON 1 2
	ON 1 2	ON 1 2	ON 1 2

*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

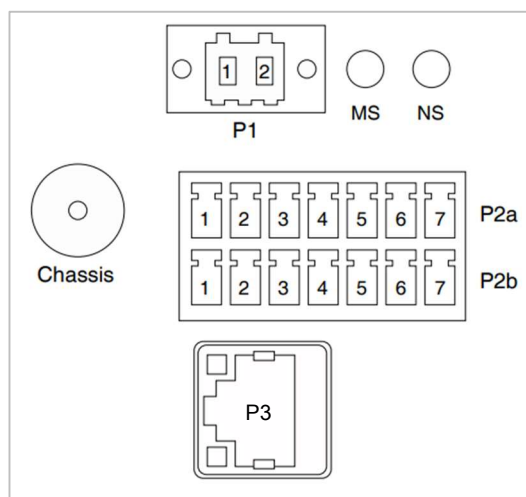
*B.T. Bag table

9.4.2: Wire stepper motor

Pin	Assignment	Color
P1		
1	48VDC*	Black
2	0V	Blue
P2a		
1	Sinking input	Green
2	Input 1	White
3	Input 2	Red
4 - 7	Not used	N/A
P2b		
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
NS – Networks status		
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
MS – Module status (I/O status)		
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

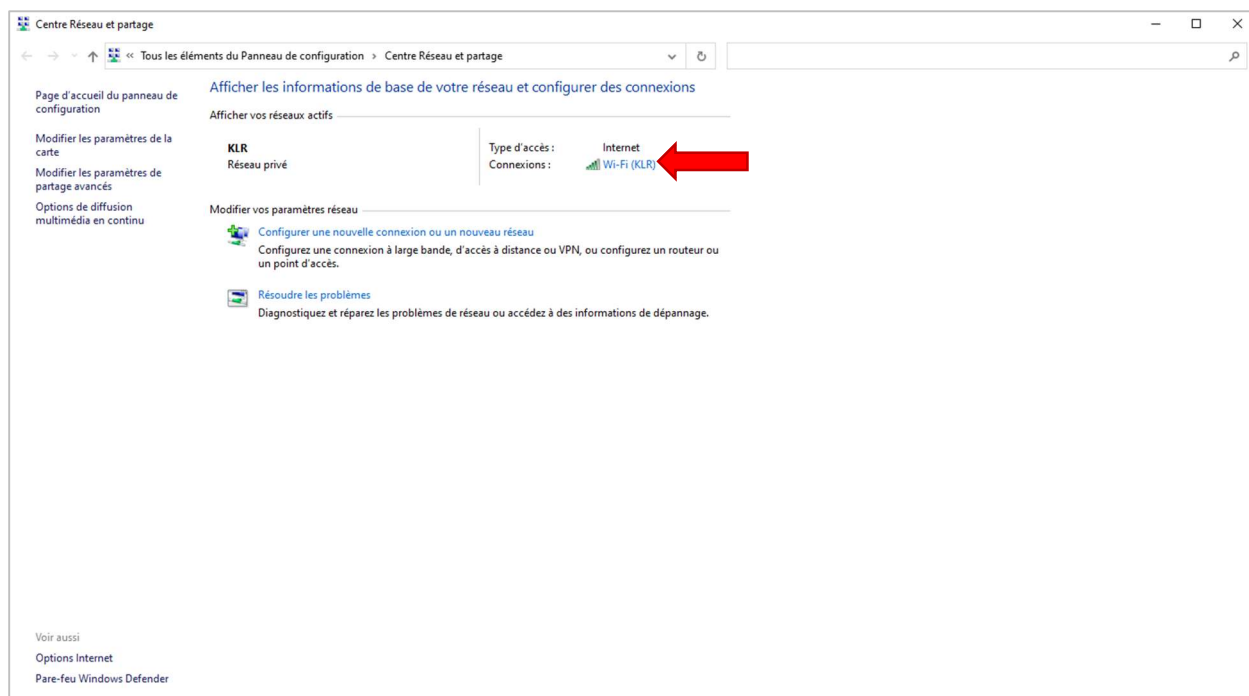
9.4.4: Set IPv4 address of the computer

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.

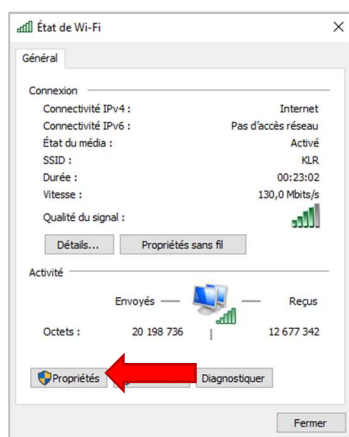
Default IP address on motor (on purchase): 192.168.33.1

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

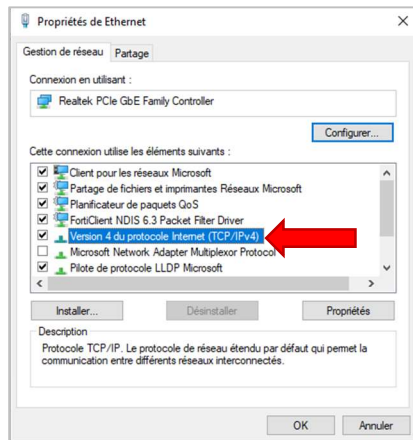
1. Open Network and sharing center.
2. Click on ethernet.



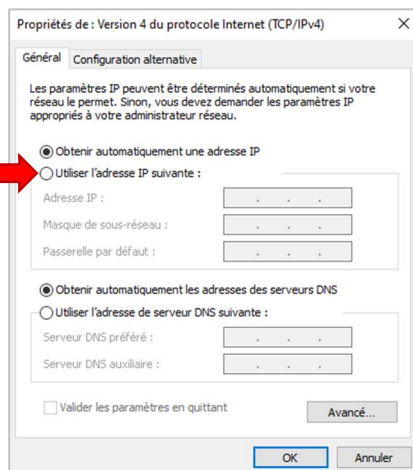
3. Click Properties.



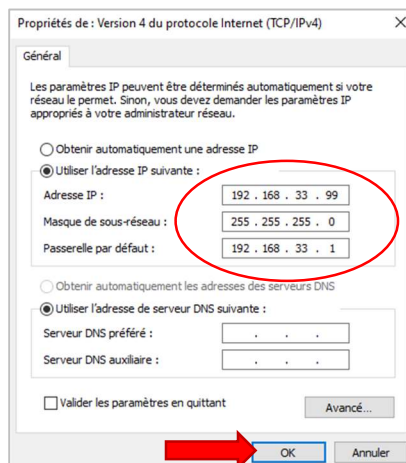
4. Double click on **Internet protocol TCP/IPv4**.



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)

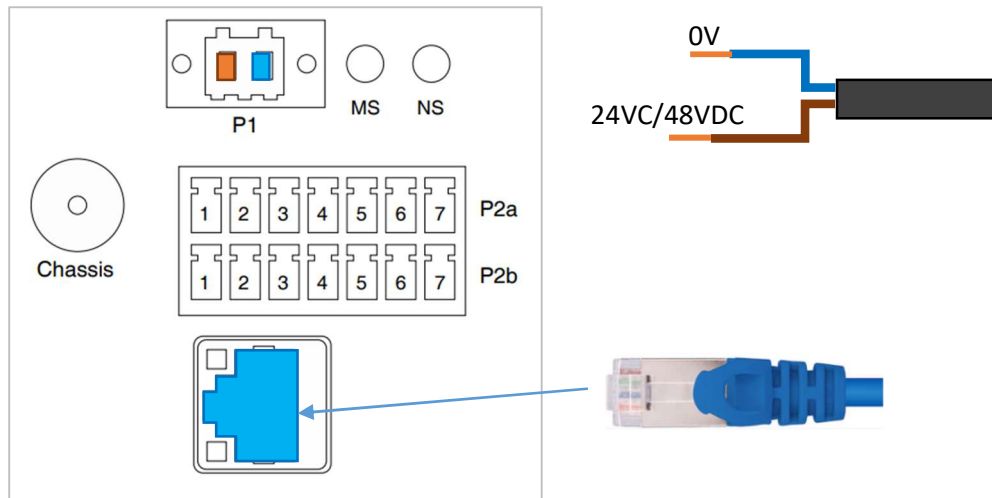


LMD motors can only be online with one device at a time. When the computer connects online, the motor loose connection with the machine PLC. To reestablish it, make sure the computer is Offline and power cycle the motor. The emergency button shut down the 48vdc, so it can be use to reset the motor.



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.



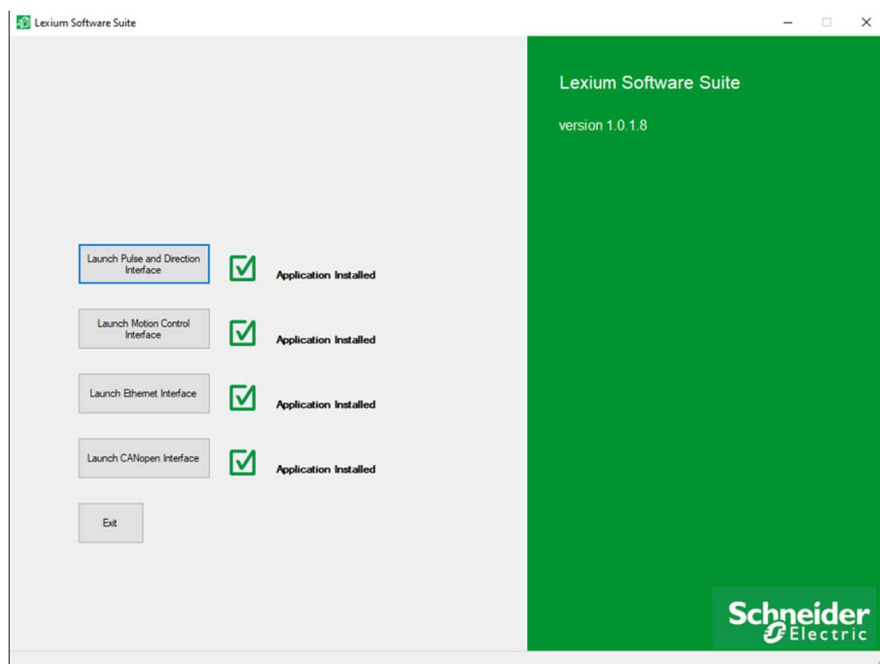
9.4.5.2: Download Lexium Software Suite

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>

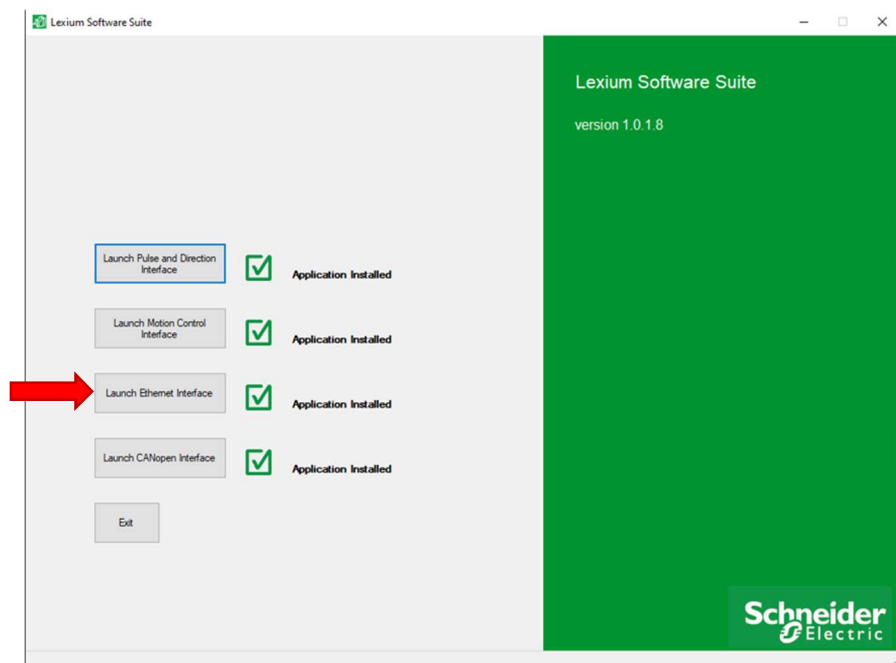
9.4.5.3: Main page

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

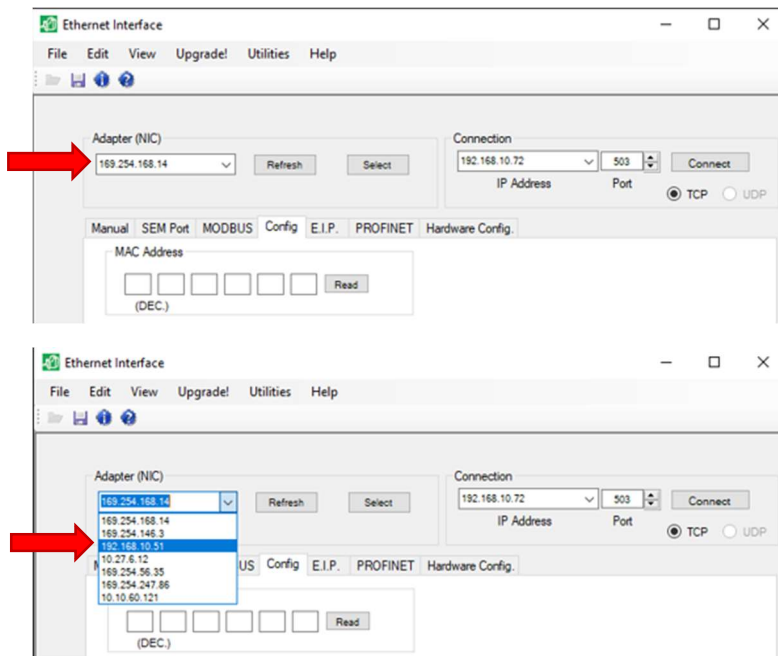


9.4.5.4: Ethernet interface

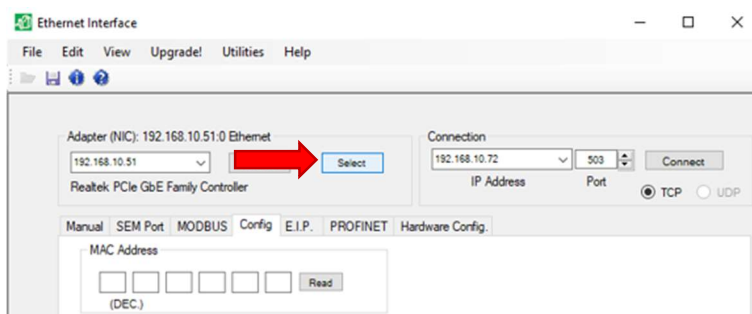
1. Press Launch Ethernet interface.



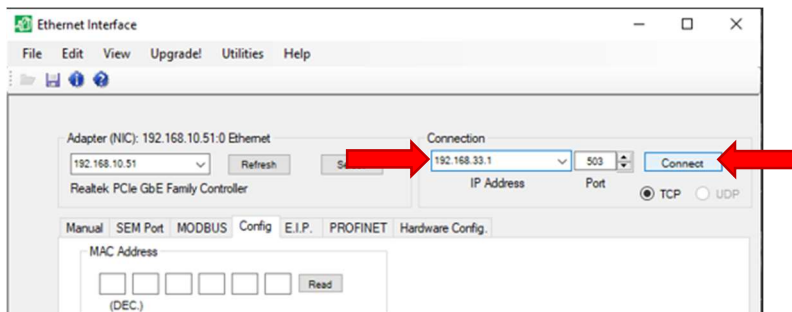
2. Select your computer in the current network. If not shown, press Refresh.



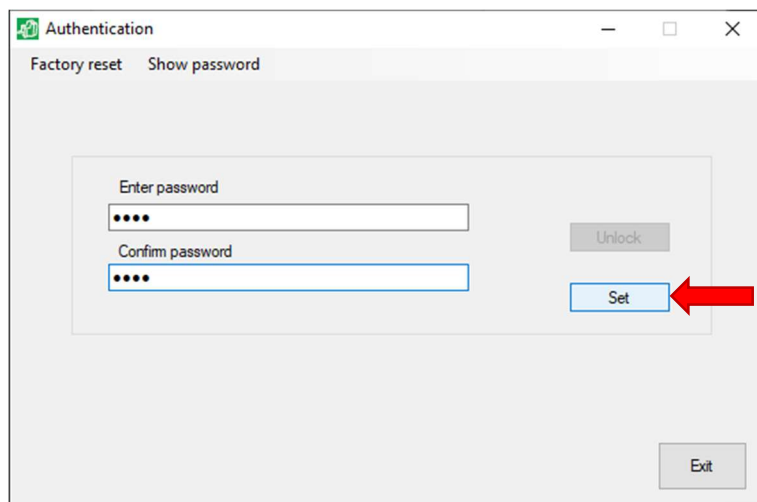
3. Press Select



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

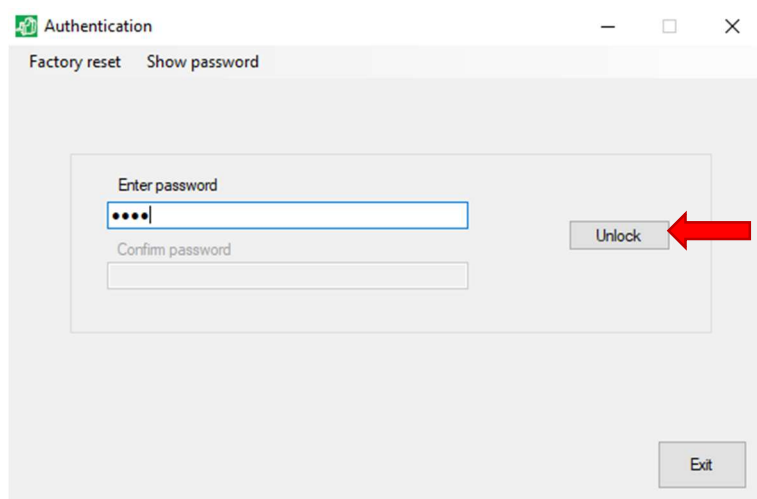


5. Create password. Please use 1234 and 1234 in case a KLR technician needs to connect in the future



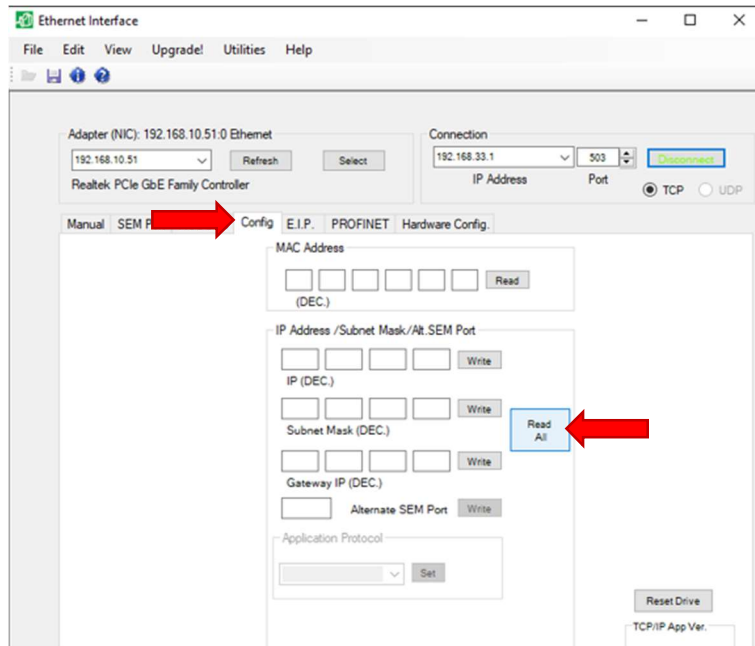
The screenshot shows the 'Authentication' window with a title bar containing a green icon, the text 'Authentication', and standard window controls. Below the title bar are two tabs: 'Factory reset' and 'Show password'. The main area contains a form with two input fields: 'Enter password' and 'Confirm password', both containing four dots. To the right of these fields are two buttons: 'Unlock' (disabled, grey) and 'Set' (active, blue). 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 tabs 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 (blue), 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



Ethernet Interface

File Edit View Upgrade! Utilities Help

Adapter (NIC): 192.168.10.51:0 Ethernet
 192.168.10.51 Refresh Select
 Realtek PCIe GbE Family Controller

Connection
 192.168.33.1 503 Disconnect
 IP Address Port TCP UDP

Manual SEM Port **Config** E.I.P. PROFINET Hardware Config.

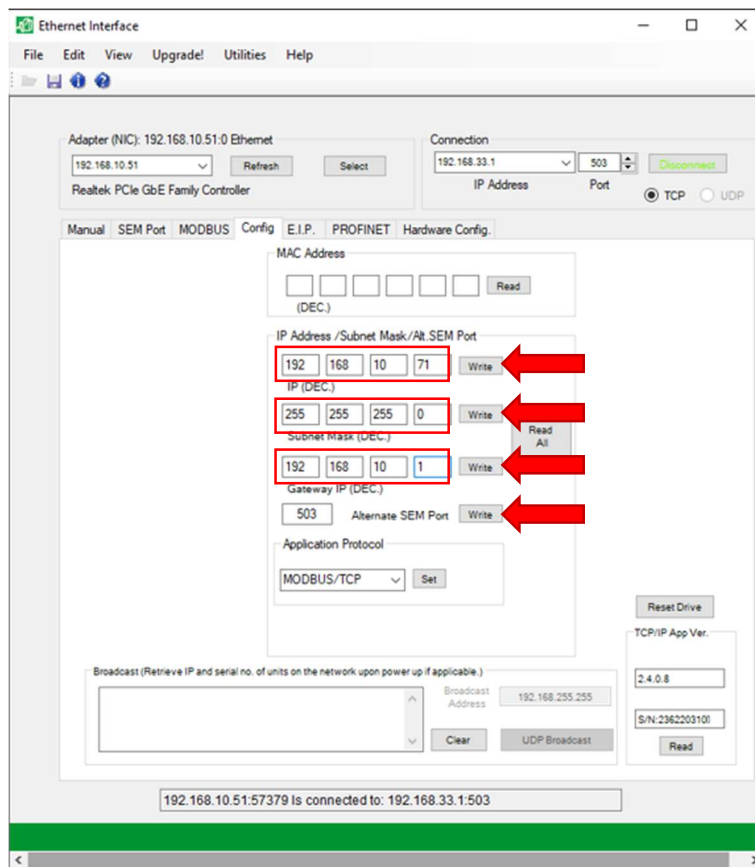
MAC Address
 Read
 (DEC.)

IP Address /Subnet Mask/Alt.SEM Port
 IP (DEC.)
 Write
 Subnet Mask (DEC.)
 Write **Read All**
 Gateway IP (DEC.)
 Write
 Alternate SEM Port Write

Application Protocol
 MODBUS/TCP Set

Reset Drive
 TCP/IP App Ver.

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.



Ethernet Interface

File Edit View Upgrade! Utilities Help

Adapter (NIC): 192.168.10.51:0 Ethernet
 192.168.10.51 Refresh Select
 Realtek PCIe GbE Family Controller

Connection
 192.168.33.1 503 Disconnect
 IP Address Port TCP UDP

Manual SEM Port MODBUS **Config** E.I.P. PROFINET Hardware Config.

MAC Address
 Read
 (DEC.)

IP Address /Subnet Mask/Alt.SEM Port
 IP (DEC.)
 Write
 IP (DEC.)
 Write
 Subnet Mask (DEC.)
 Write **Read All**
 Gateway IP (DEC.)
 Write
 Alternate SEM Port Write

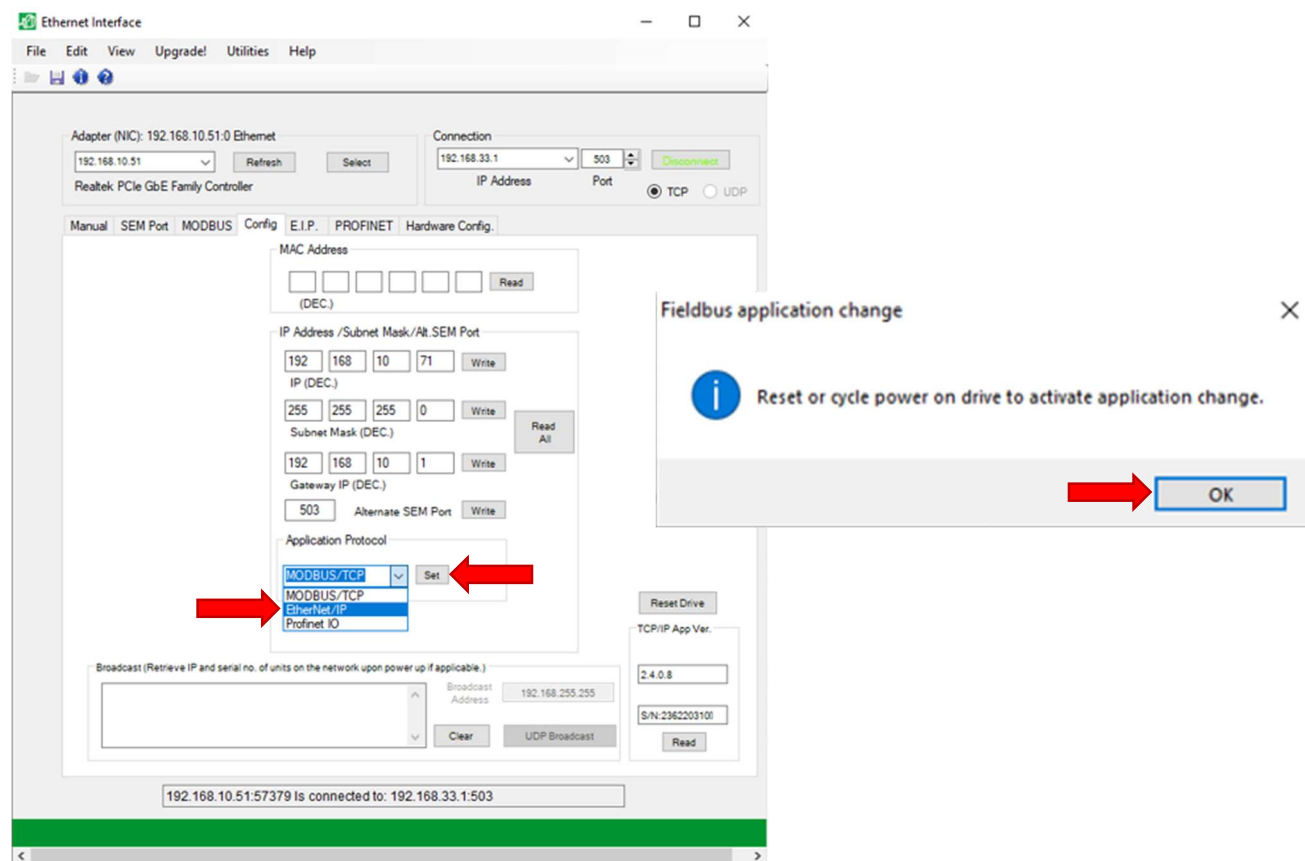
Application Protocol
 MODBUS/TCP Set

Reset Drive
 TCP/IP App Ver.

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

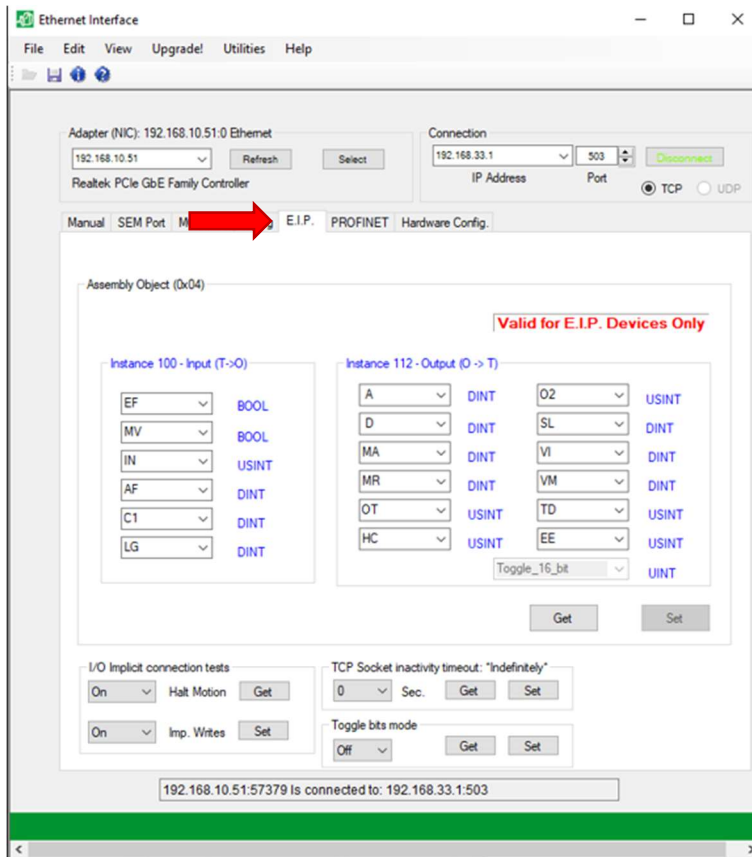
192.168.10.51:57379 is connected to: 192.168.33.1:503

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

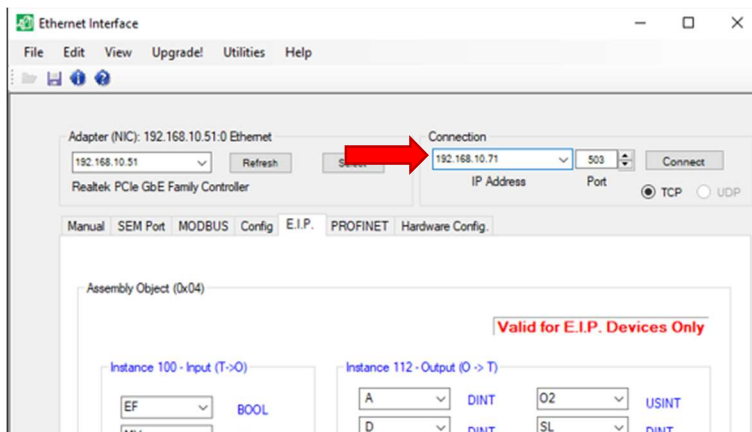


10. Power cycle the motor.

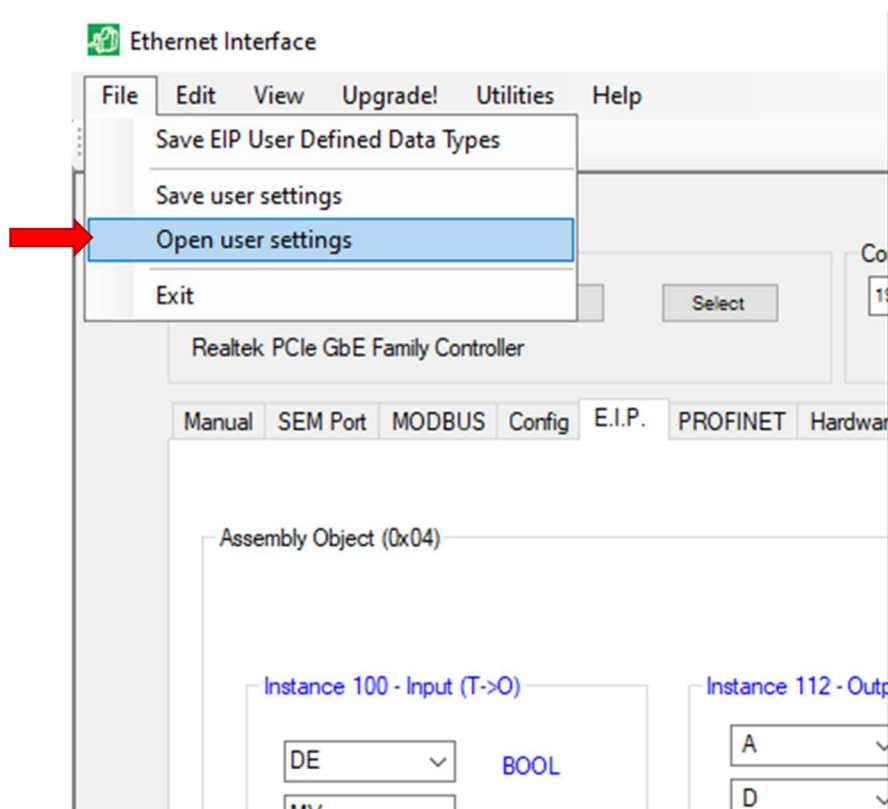
11. Press E.I.P. tab



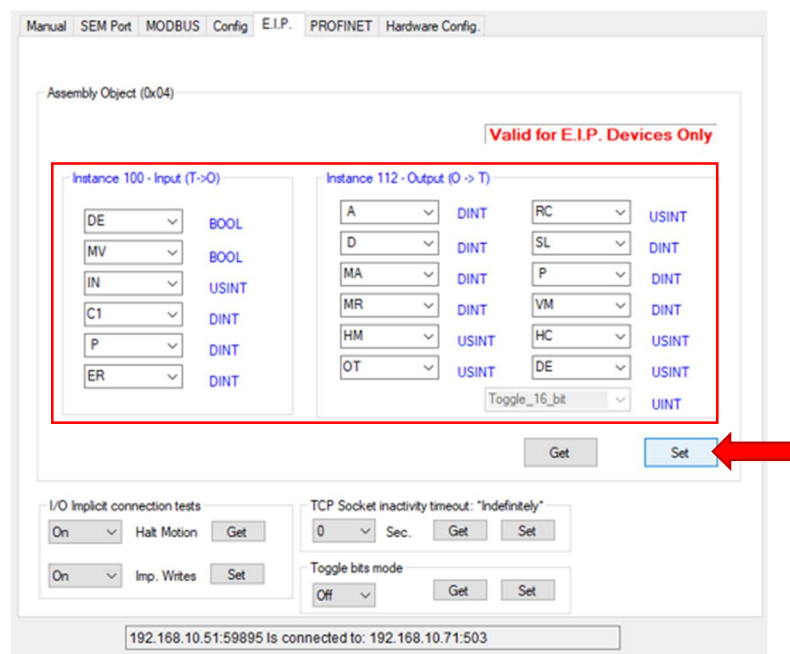
12. Reconnect But using the new IP address



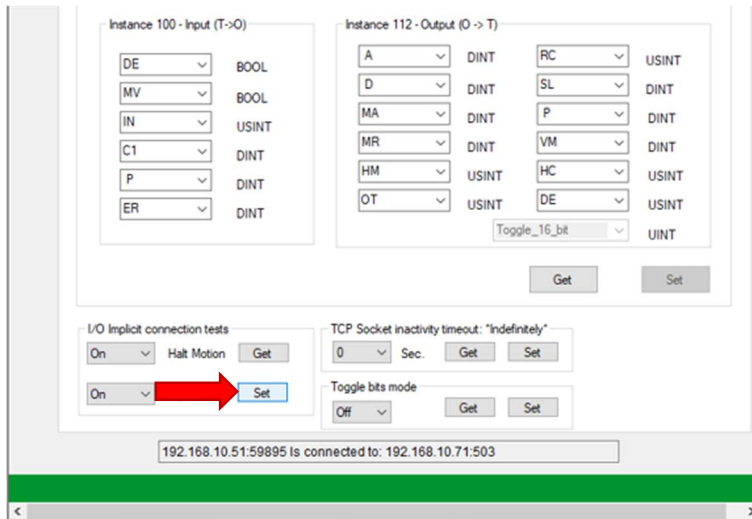
13. Press file, then Open user settings



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"

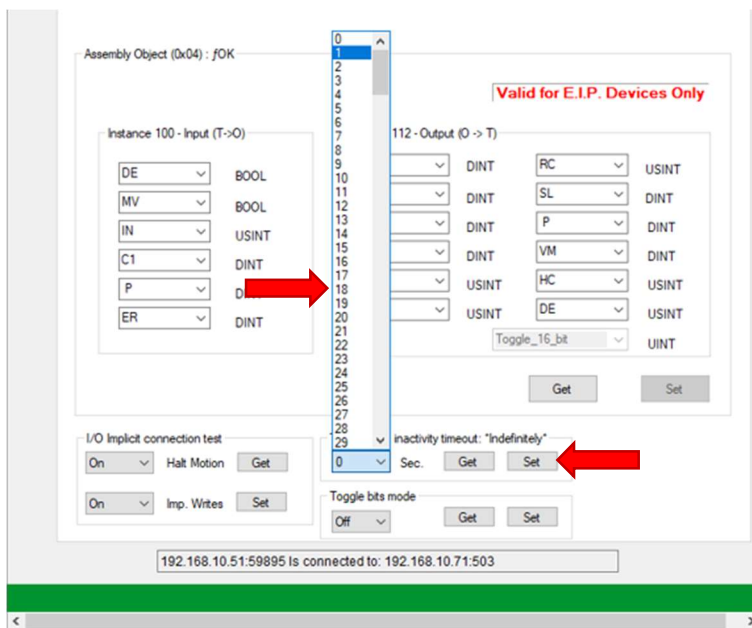
0 Sec.

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

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

On ☐ Imp. Writes

inactivity timeout: "Indefinitely"

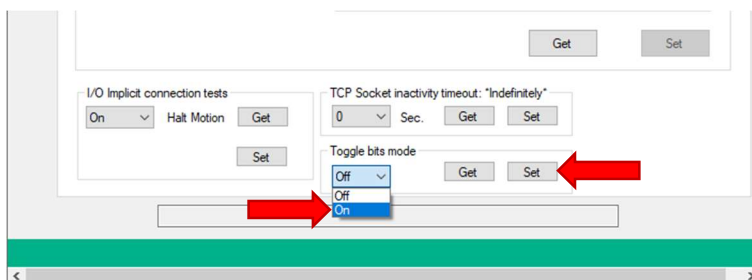
0 Sec. (Set is highlighted with a red arrow)

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



I/O Implicit connection tests

On ☐ Halt Motion

TCP Socket inactivity timeout: "Indefinitely"

0 Sec.

Toggle bits mode

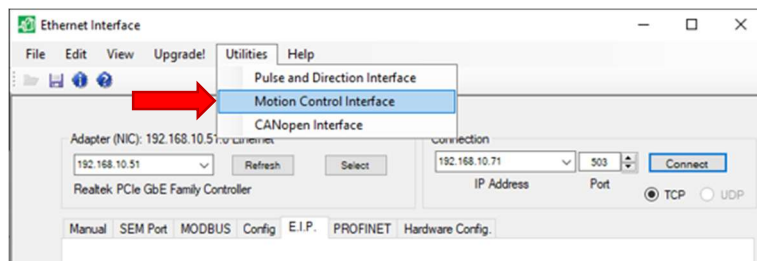
Off (Set is highlighted with a red arrow)

Off

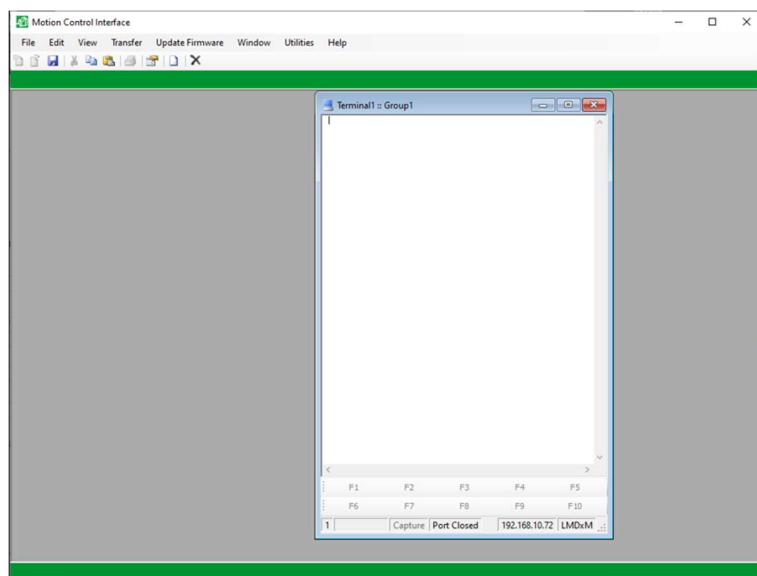
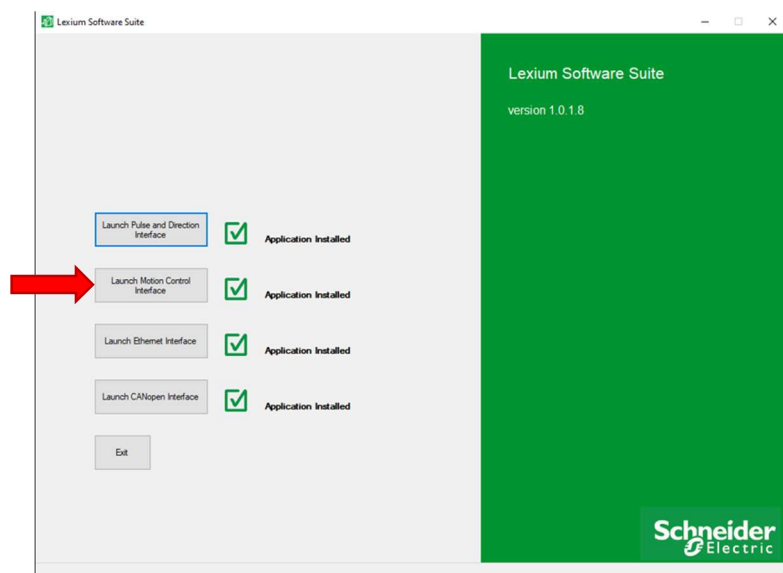
On (On is highlighted with a red arrow)

9.4.5.5: Motion control interface

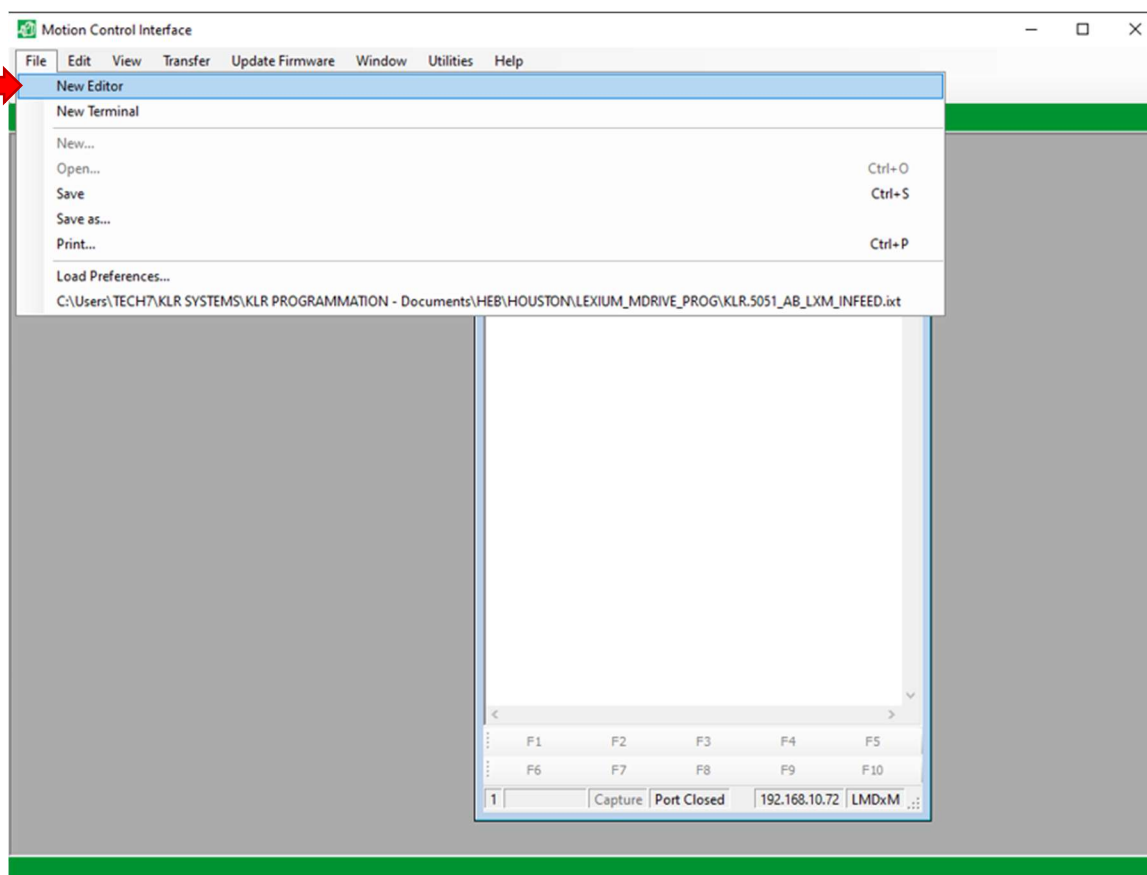
1. Open Motion control interface



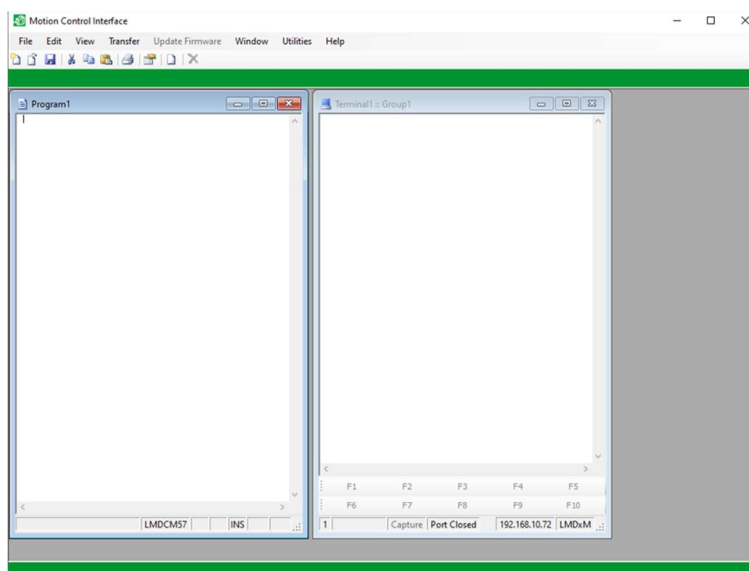
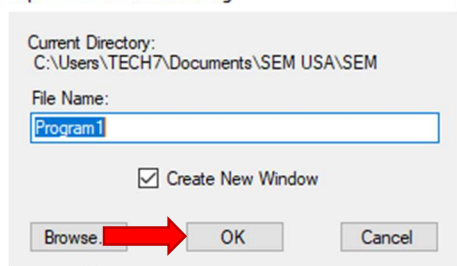
Or



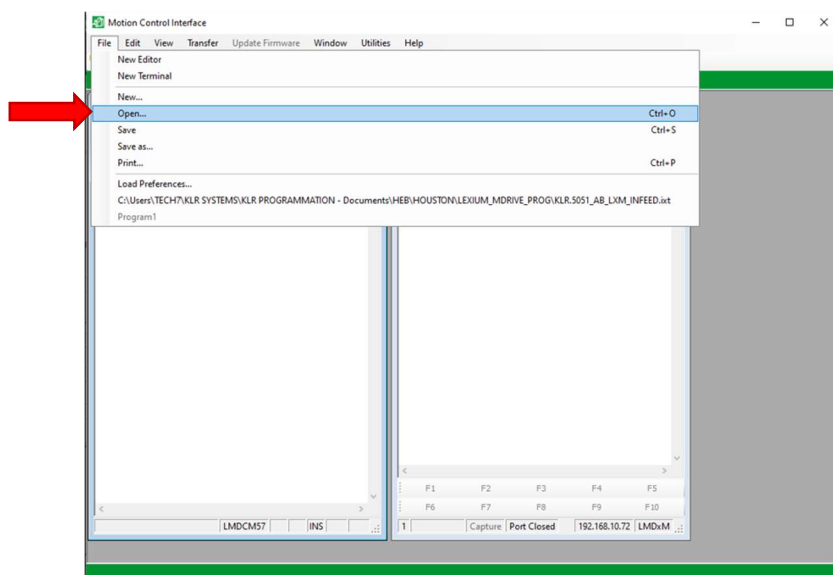
2. Press New Editor and press OK



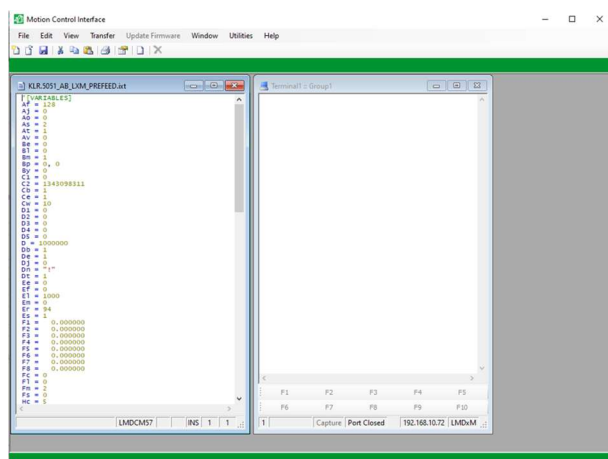
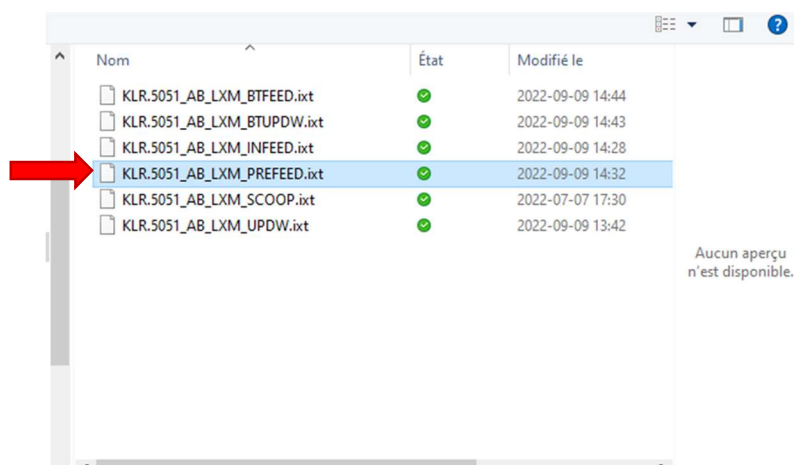
Open a New file for editing



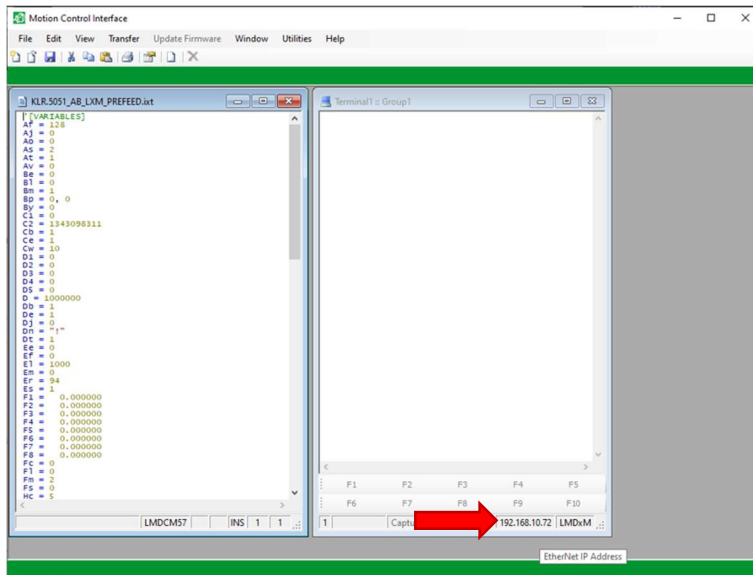
3. Press Open



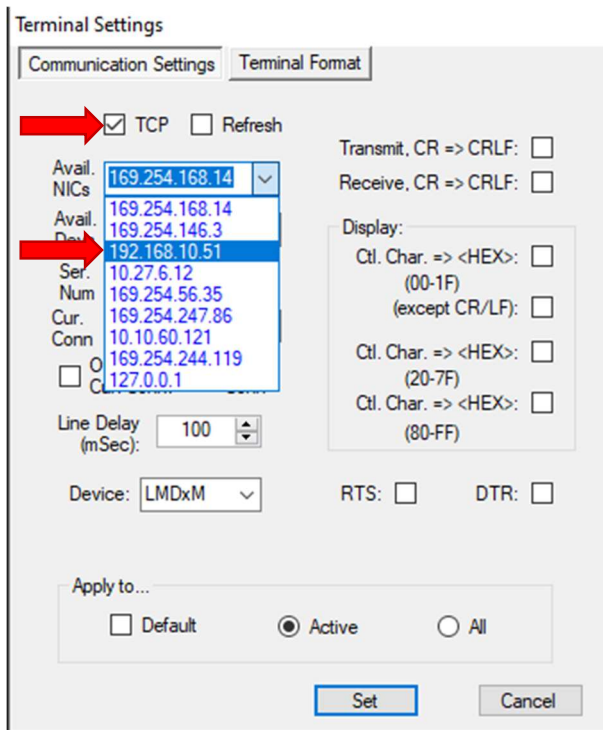
4. Select the corresponding motor file .ixt provided by KLR



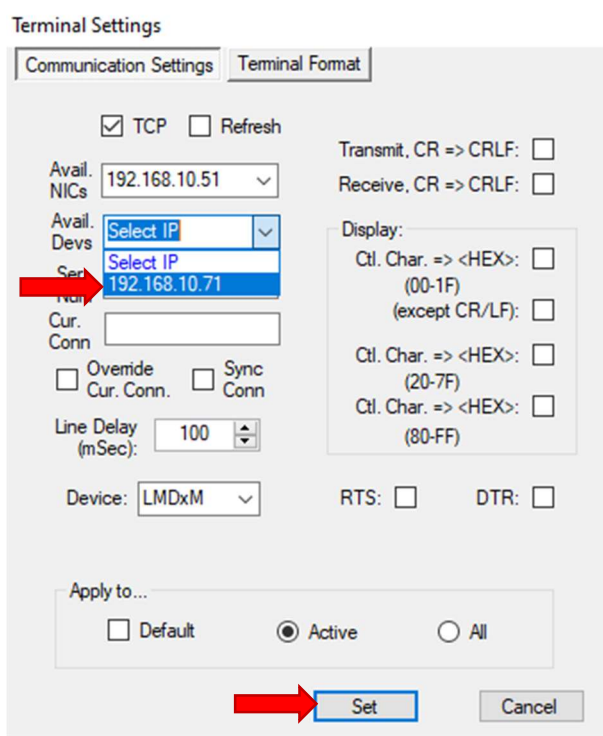
5. Double-click on COM



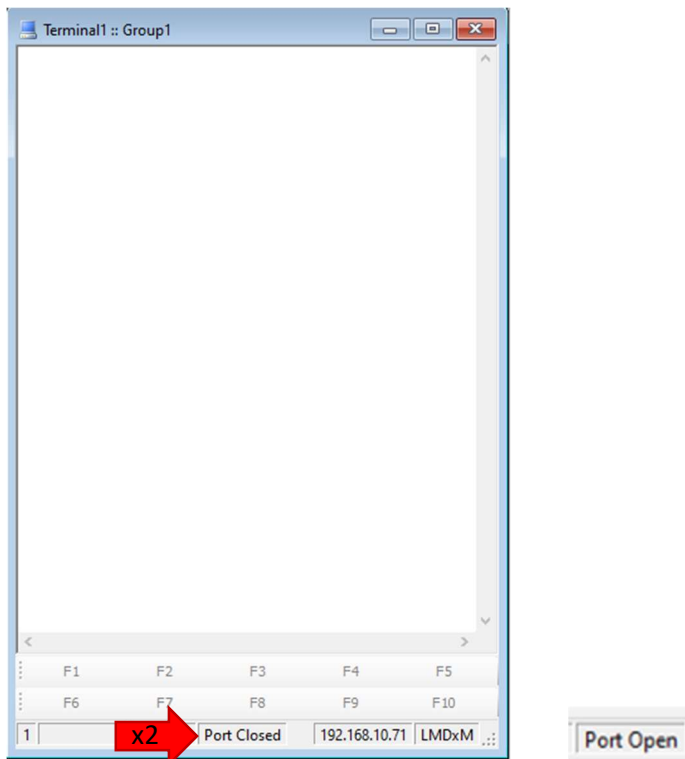
6. Check TCP and Select your computer



7. Select the correct motor, then press set.

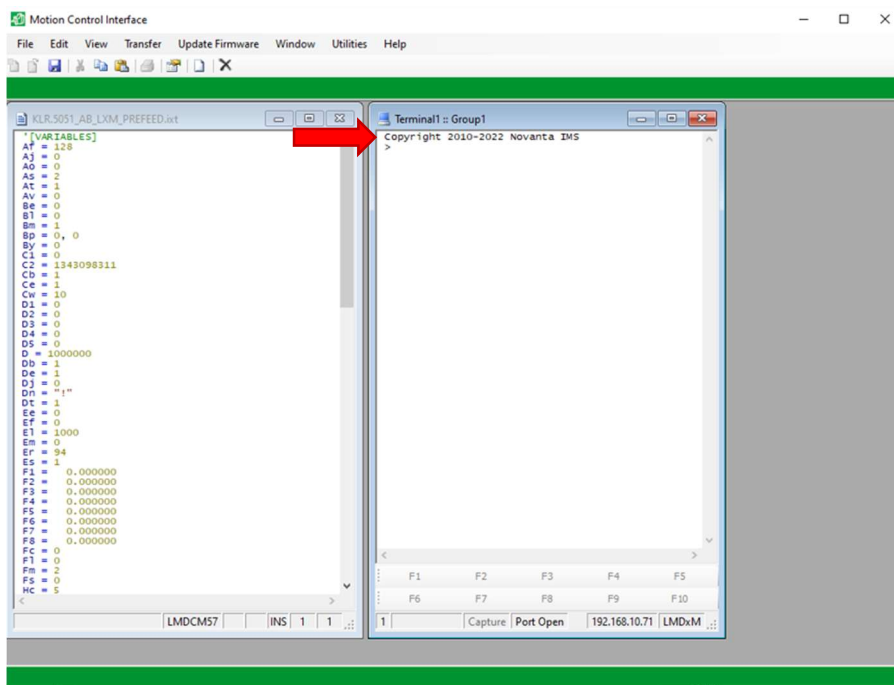


8. Double-click on PORT CLOSED



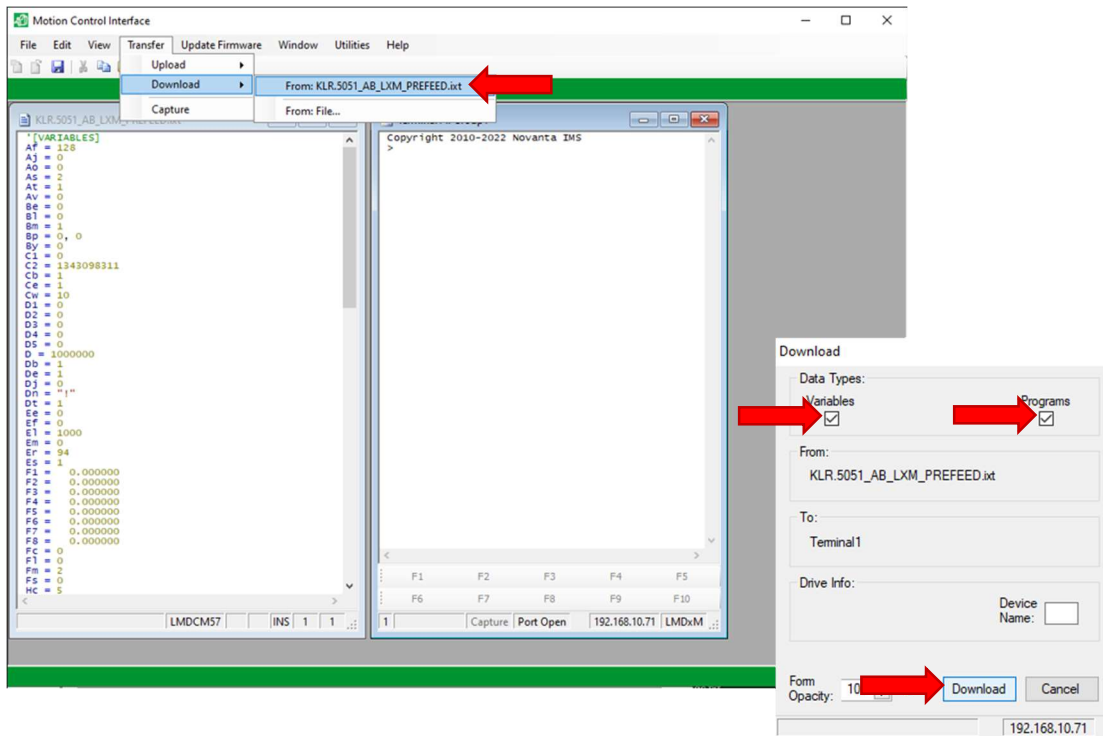
9. Press in the script input and enter : CTRL+C

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

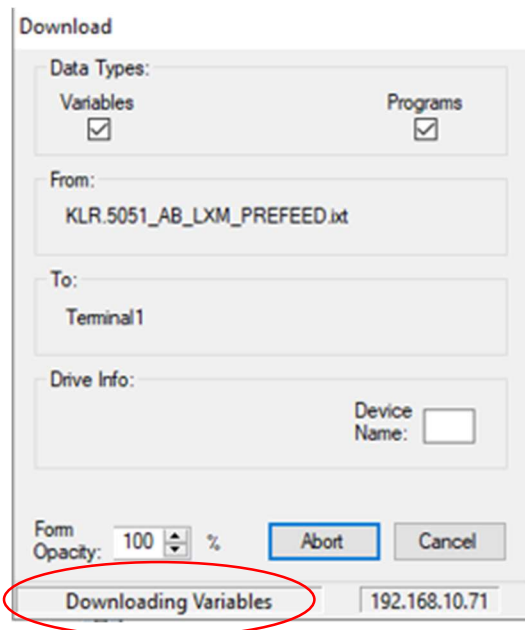


10. Select TRANSFER, DOWNLOAD, FROM: the current program to the left.

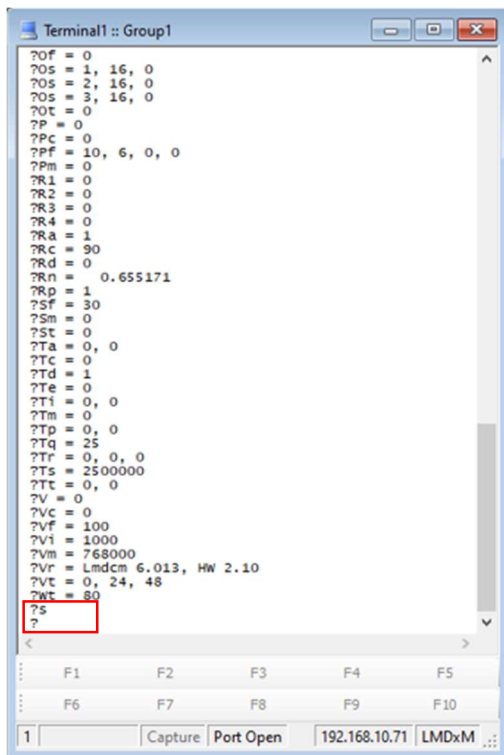
Check the Variables and programs boxes



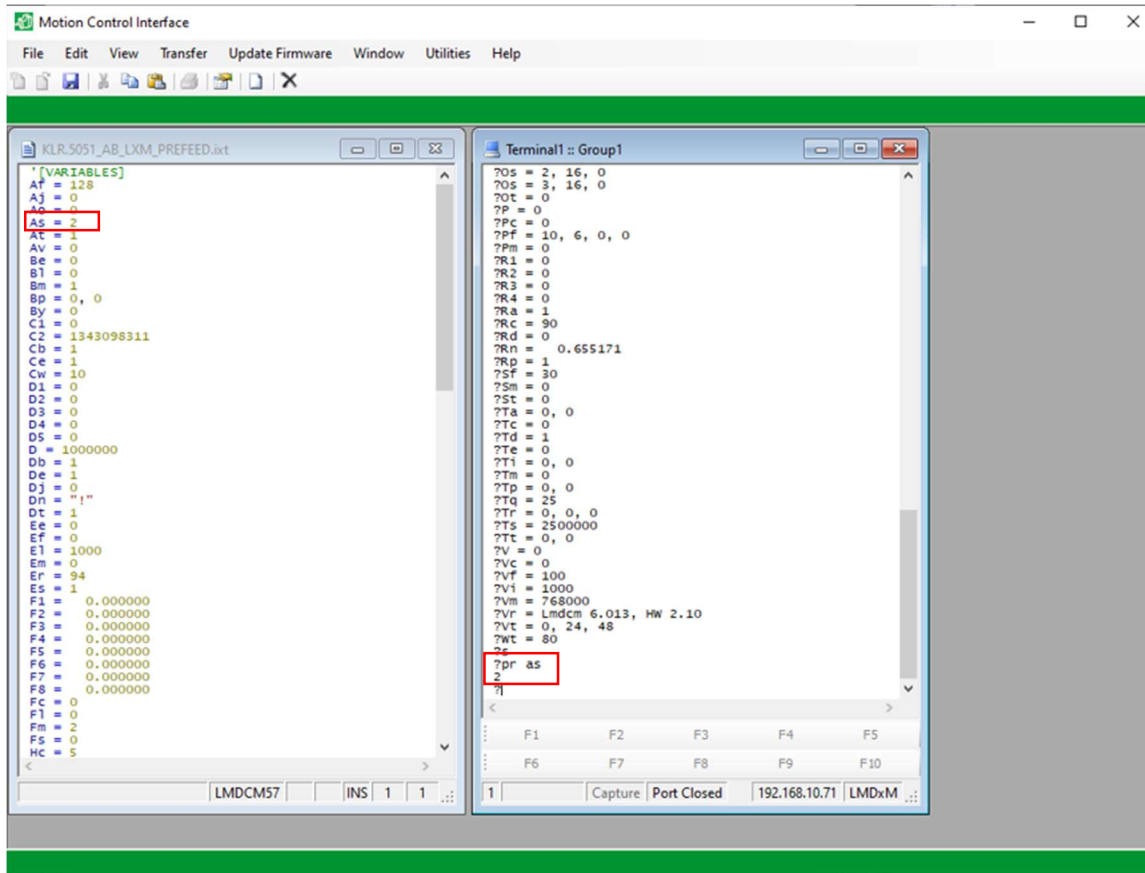
11. Wait for the transfer to finish



12. IMPORTANT: enter S and press ENTER to save

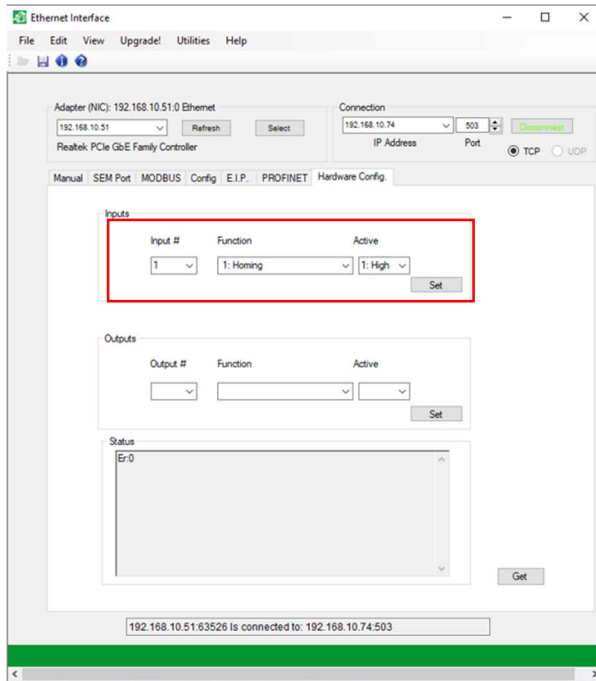


13. Optional: confirm the success by requesting the motor one parameter. For example, enter PR AS. It will reply and if it coincides with the program to the left, it worked.

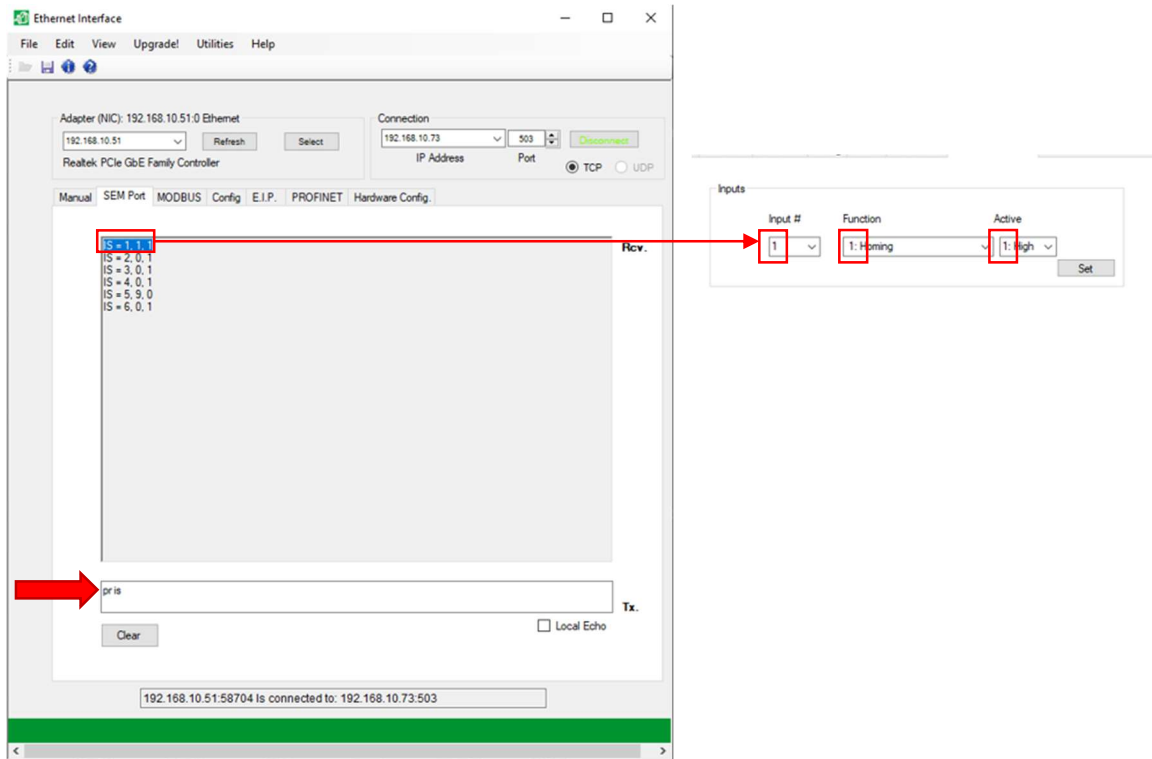


14. Double-Click PORT OPEN to end the connection.

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.



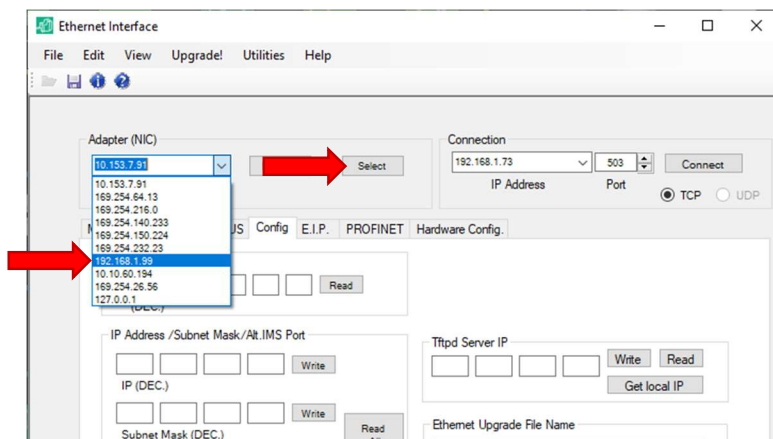
17. The unit is ready. Power cycle the motor and make sure to wire 48VDC, OV, Ethernet cable, Input and output as per KLR.5051 requirements.

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.

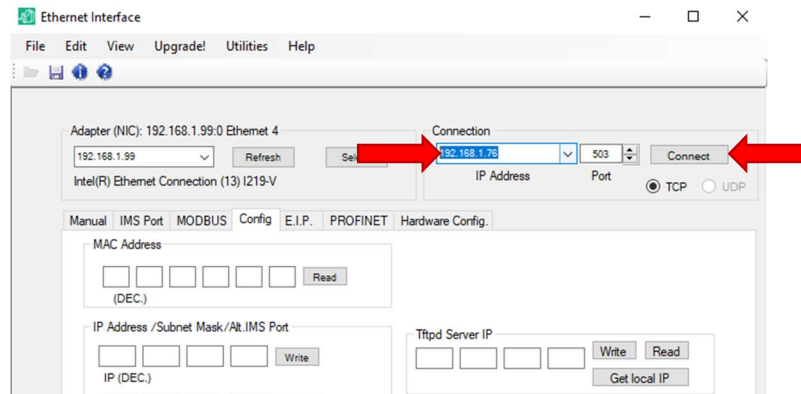
9.4.6: Testing input

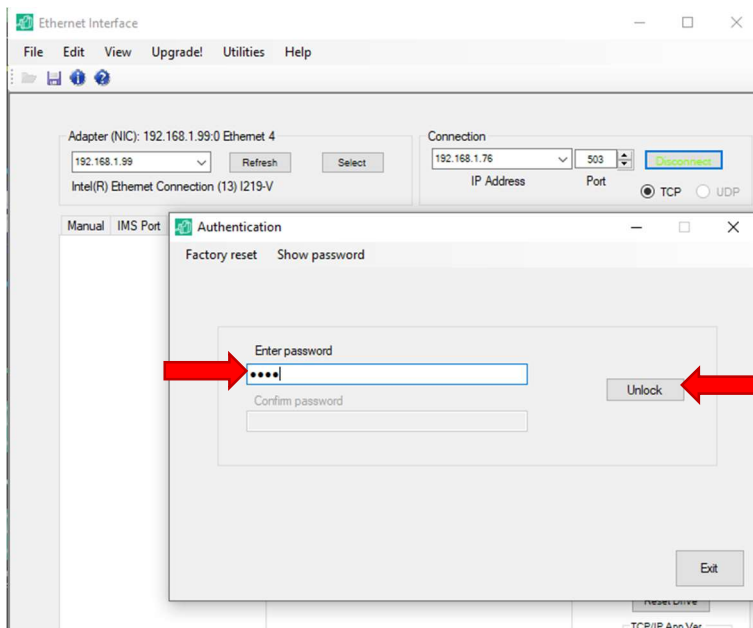
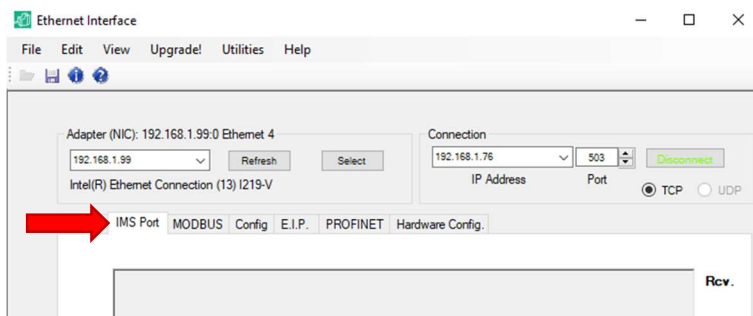
Each "Home" sensor is directly wired to the integrated stepper drive corresponding to the axis. To test the input, follow the steps:

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.

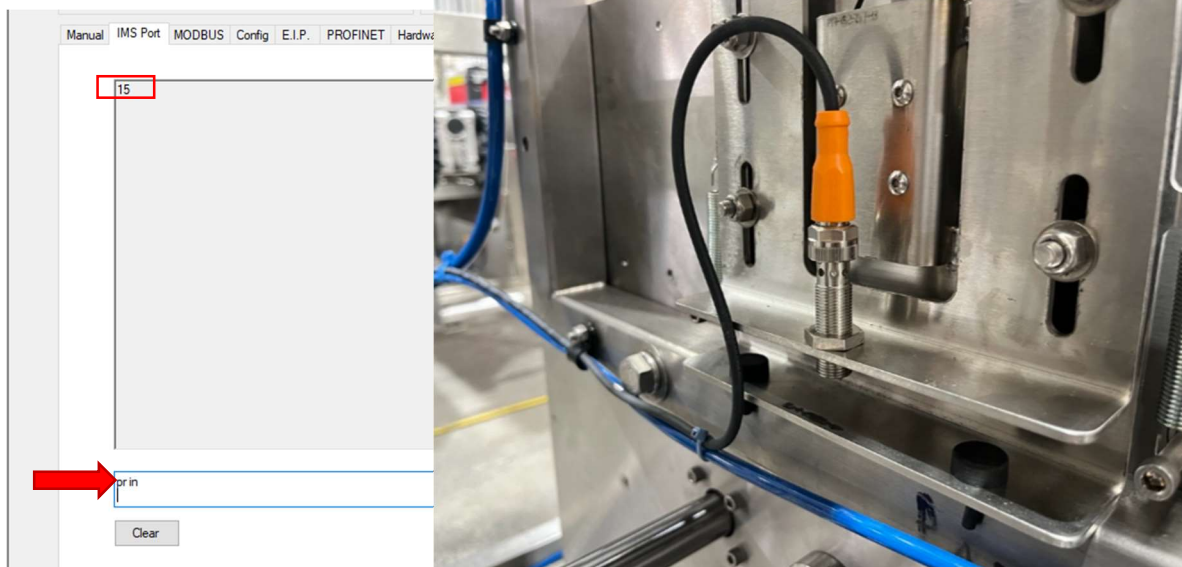


4. Write the desired motor IP to connect to.

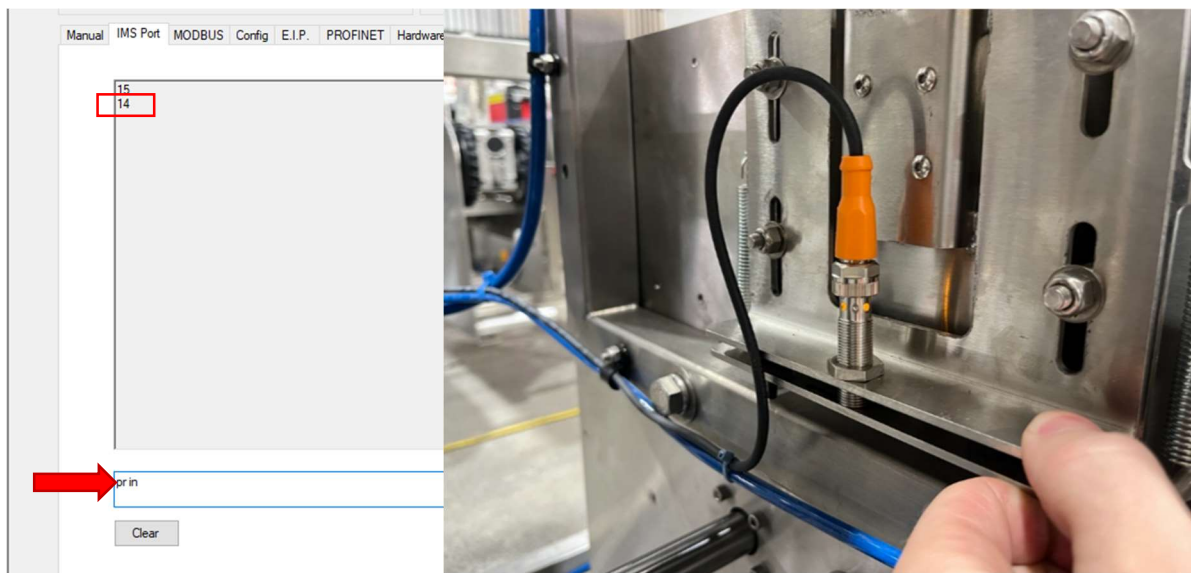


5. Enter 1234 as the password.**6. To go IMS Port tab.**

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



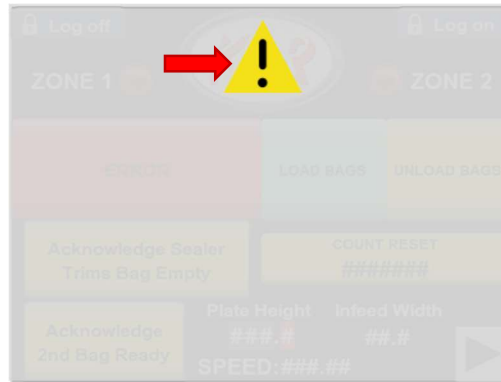
8. Repeat PR IN but this time while the sensor is triggered. The result should be 14 and that means the sensor works properly.



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

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	PROXIMITY 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

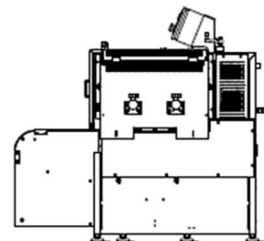
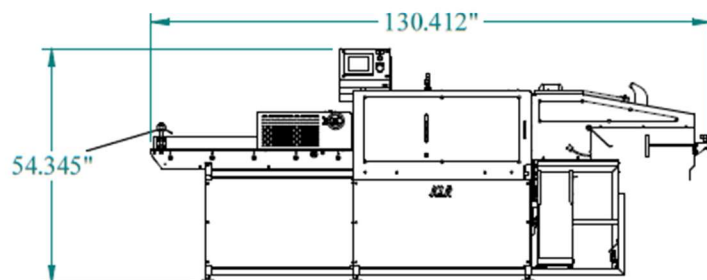
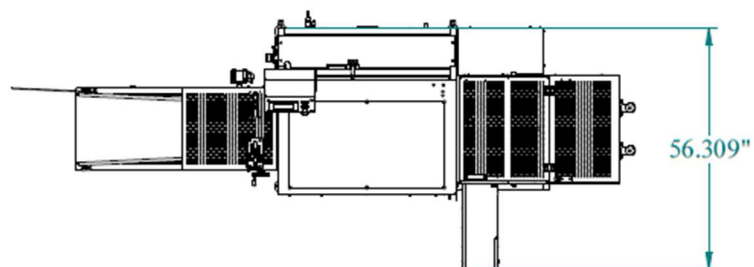
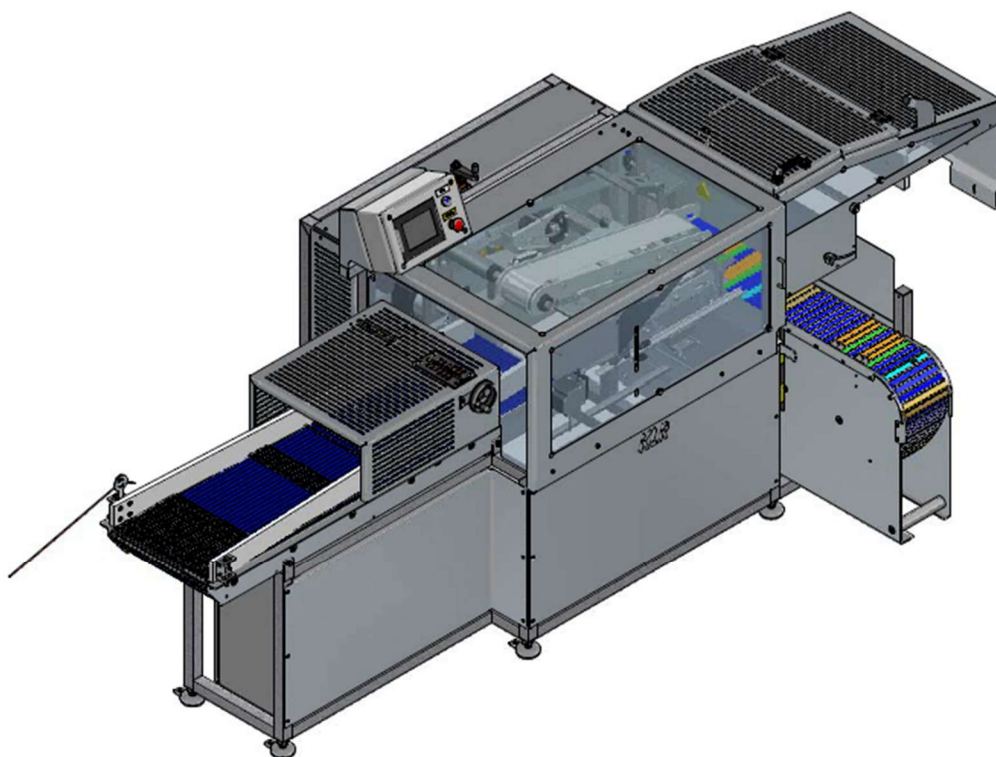
For other information: info@klrsystems.com

12.0: DECOMMISSIONING OF THE MACHINE

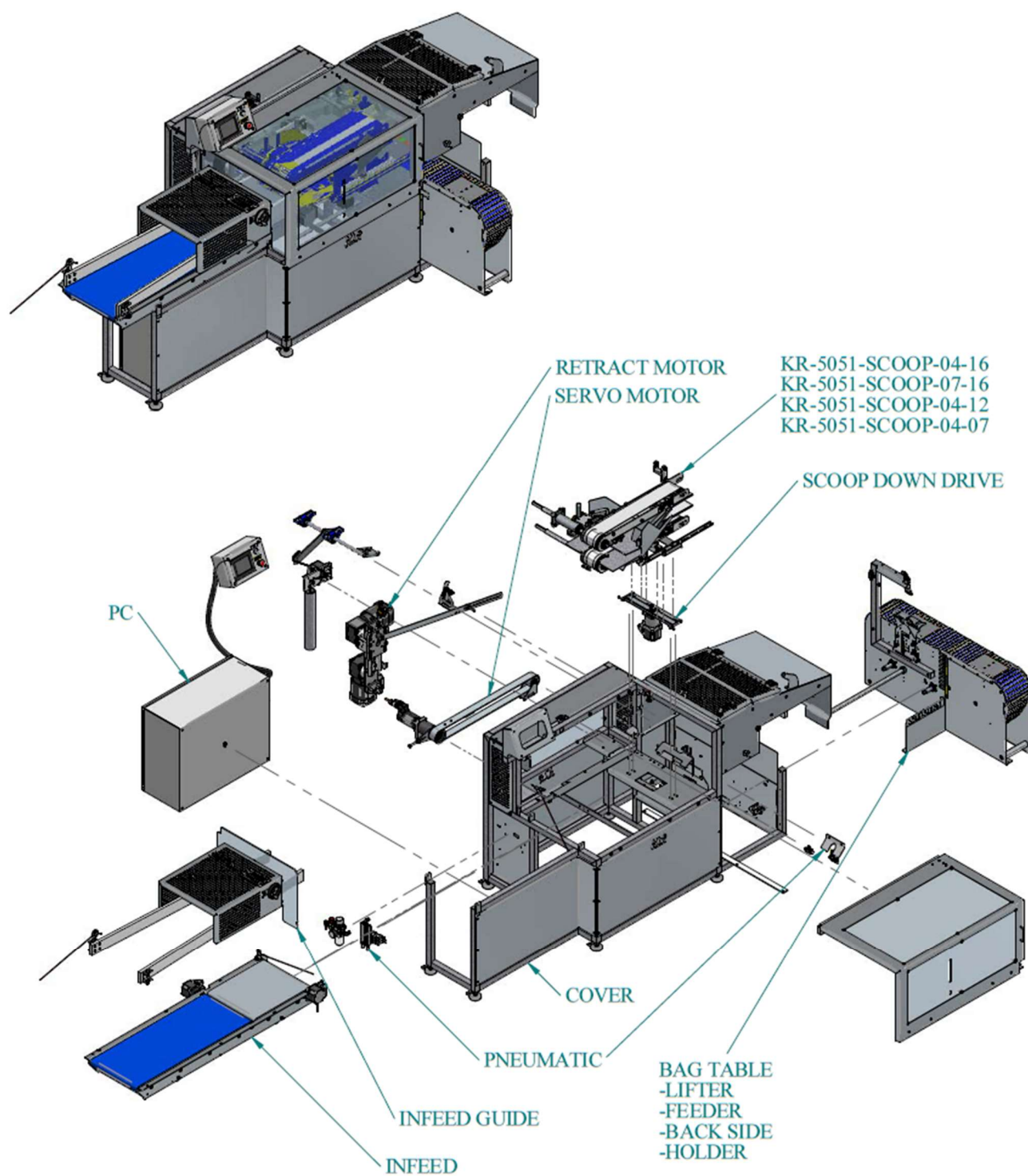
It is advisable to schedule a visit from KLR to reinstall the equipment after an extended decommissioning or relocation.

Destruction, recycling, scrapping

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

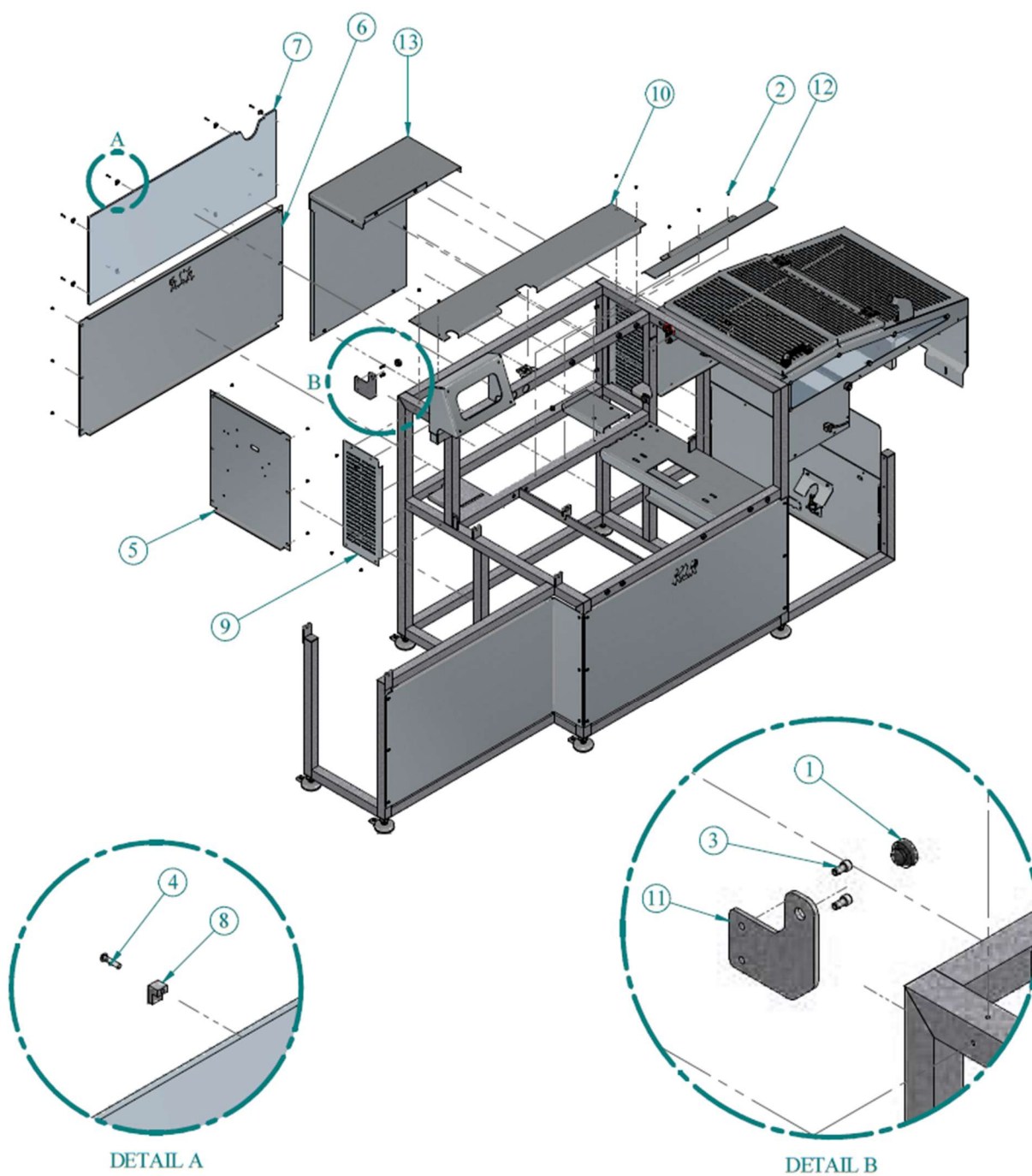


13.1: Main body

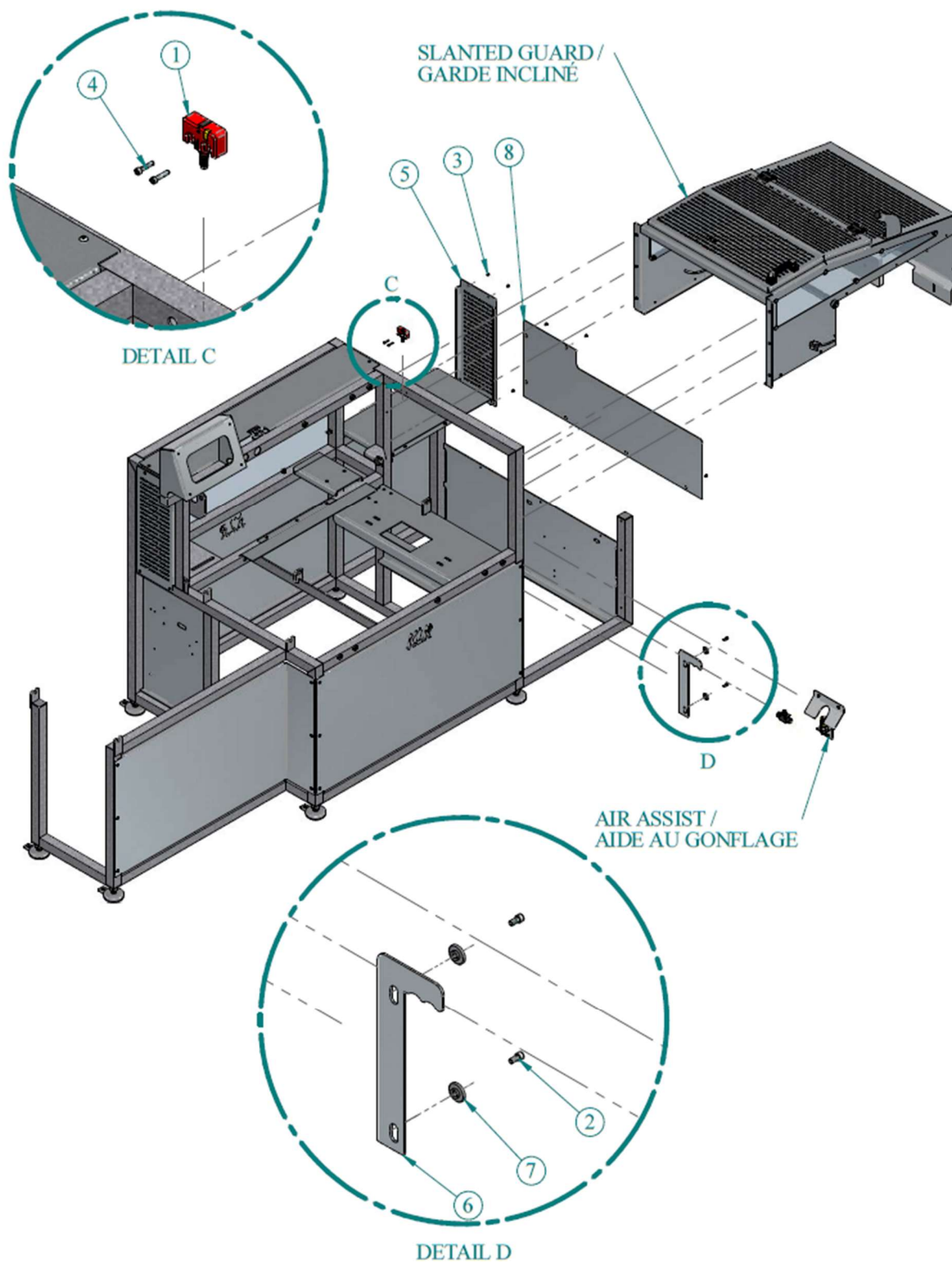


13.2: Covers

13.2.1: Left side covers

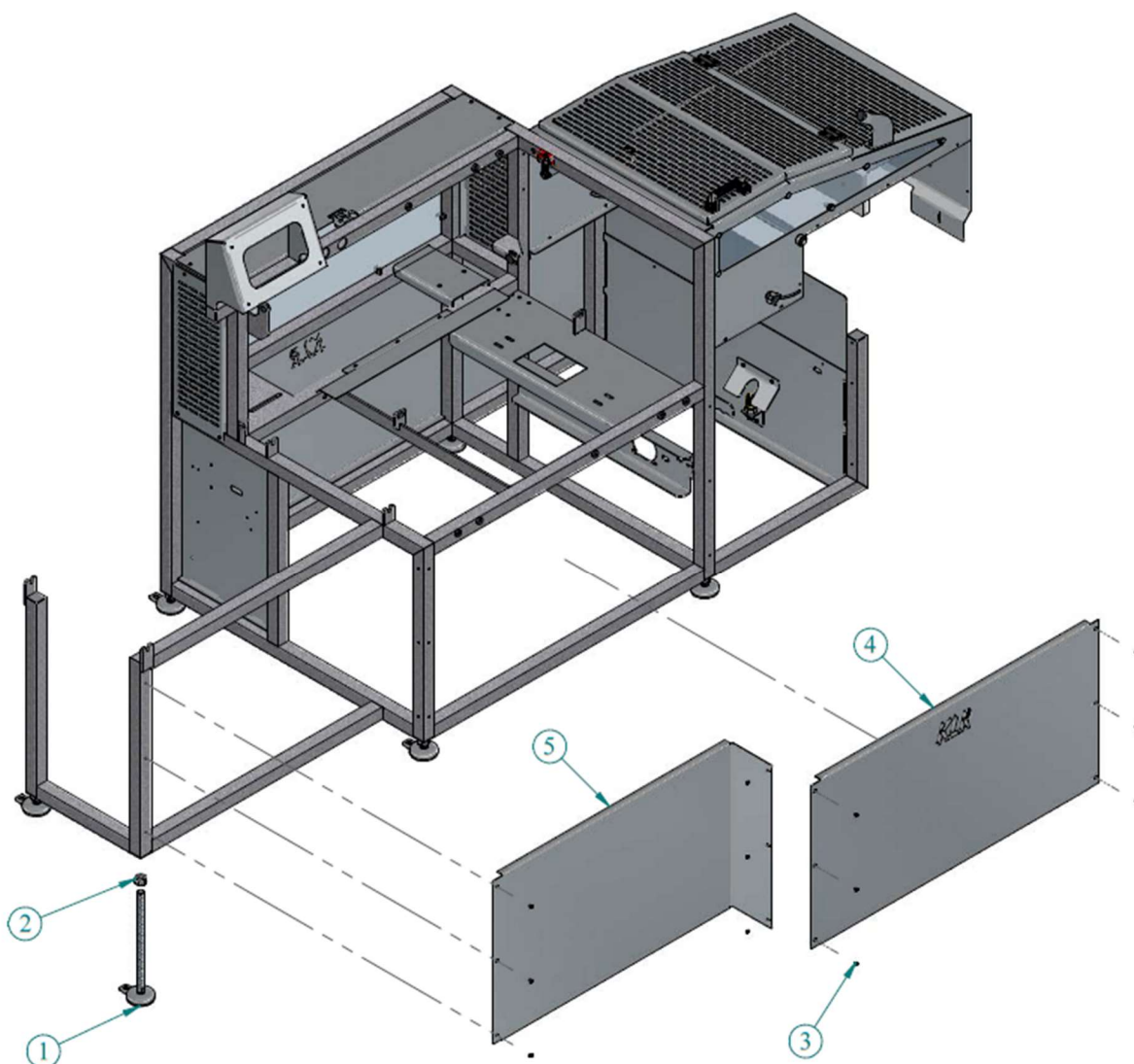


LEFT SIDE COVER			
No.	Part number	Qty	Title
1	PM-00182	1	END CAP
2	F11-190F04S	29	BUTTON HEAD 10-32 x 1/4" STAINLESS
3	F10-250C08S	2	SOCKET CAP 1/4-20 X 1/2" STAINLESS
4	F11-138C10S	8	BUTTON HEAD 6-32 X 5/8" STAINLESS
5	PR-02606-L	1	COVER LEFT
6	PR-02602	1	COVER
7	PR-02607	1	LEXAN COVER
8	PR-06580	8	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

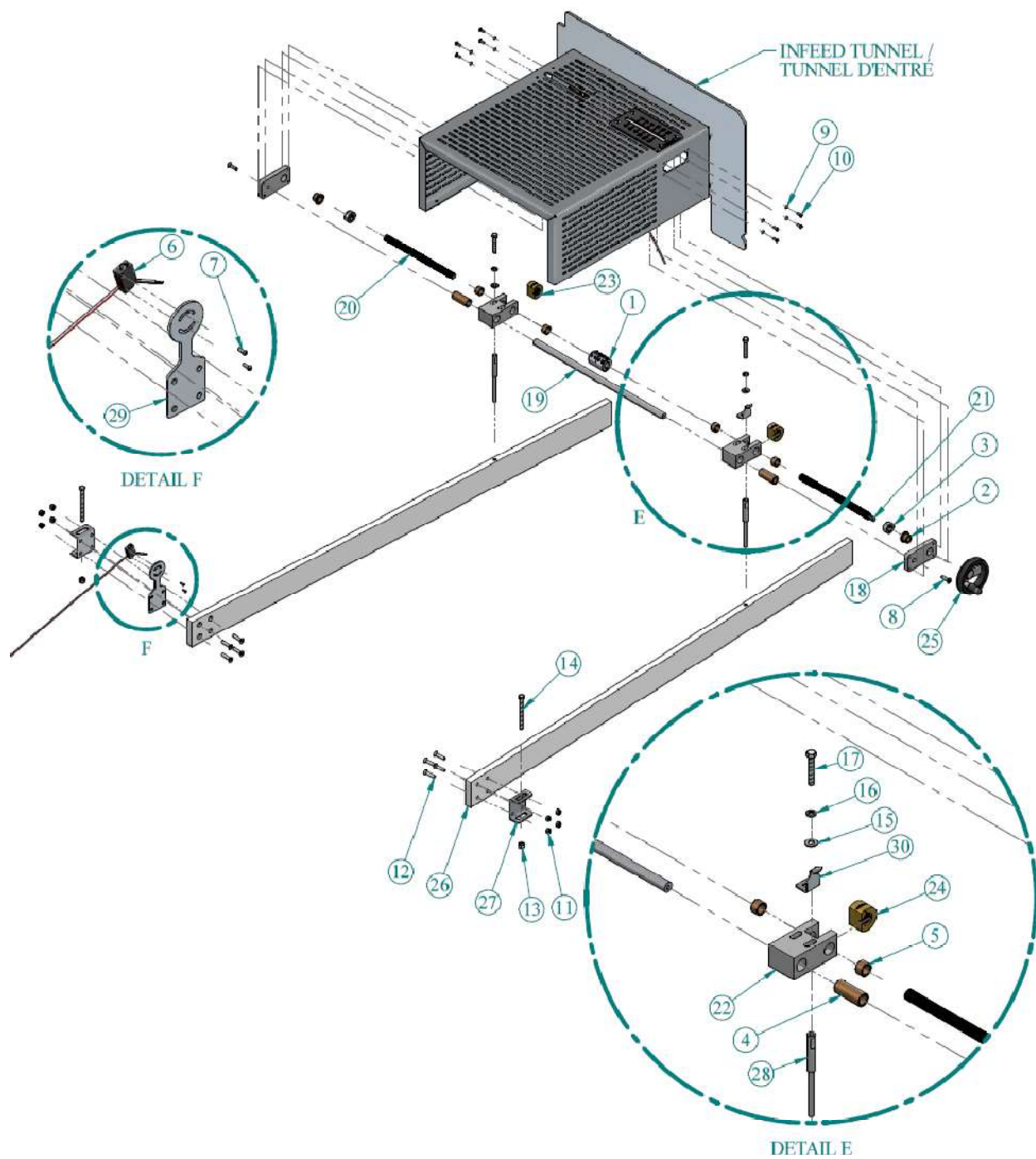
FRONT COVERS			
No.	Part number	Qty	Title
1	PE-00538	1	SAFETY SWITCH
2	F10-250C08S	2	SOCKET CAP 1/4-20 X 1/2" STAINLESS
3	F11-190F04S	10	BUTTON HEAD 10-32 x 1/4" STAINLESS
4	F10-164C12S	2	SOCKET CAP 8-32 X 3/4 STAINLESS
5	PR-02621	1	COVER
6	PR-02814	1	HANDLES
7	PR-02659	2	BAG TABLE CLAMP GUIDE
8	PR-02812-L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

13.2.3: Right side covers

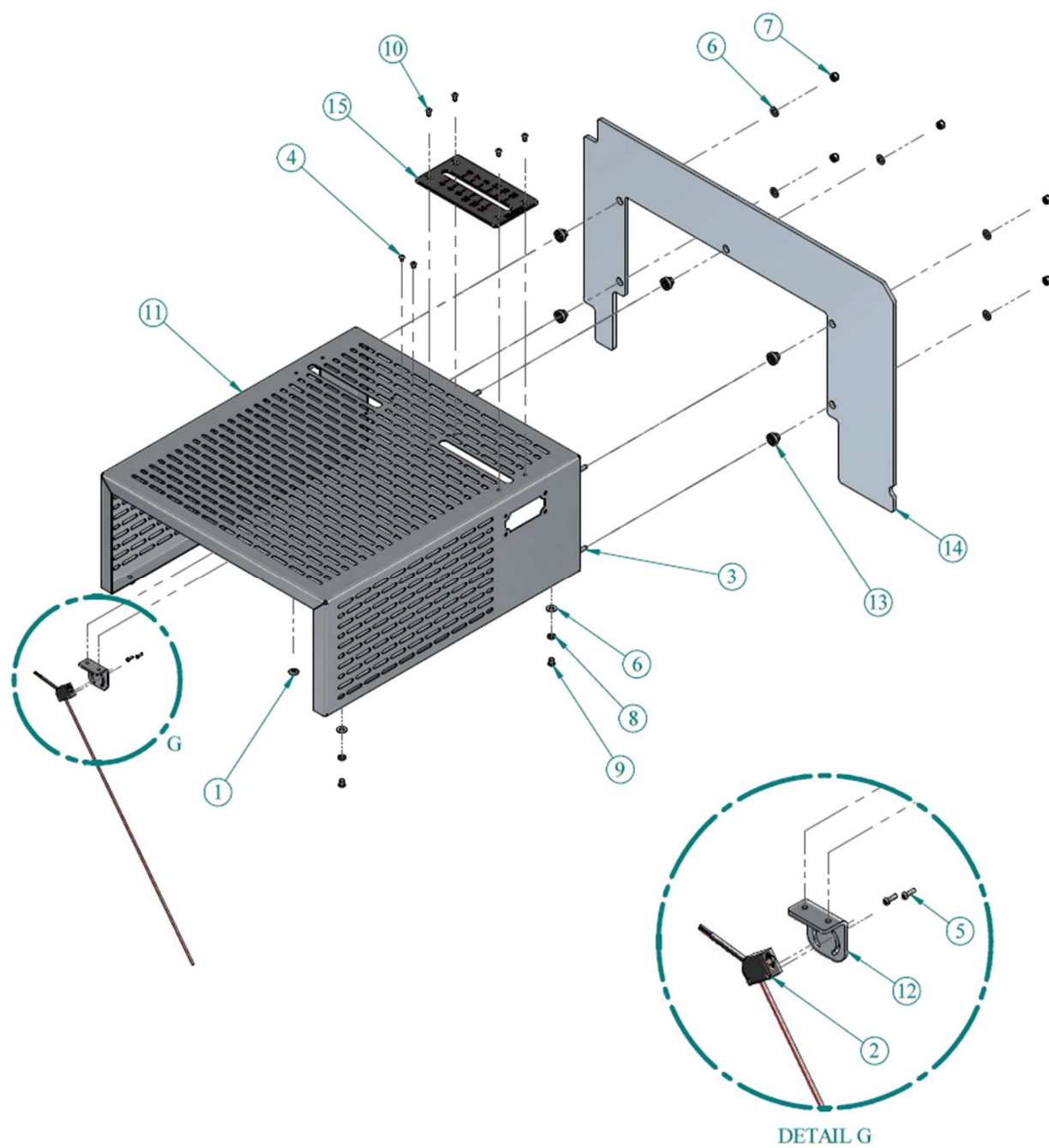


RIGHT COVERS			
No.	Part number	Qty	Title
1	KR-00142-12	1	ADJUSTABLE LEG WITH THREADED ROD 3/4-10 LENGTH 12"
2	F03-750CS	1	NUT HEX 3/4 -10 STAINLESS
3	F11-190F04S	12	BUTTON HEAD 10-32 x 1/4" STAINLESS
4	PR-02602	1	COVER
5	PR-02893	1	COVER

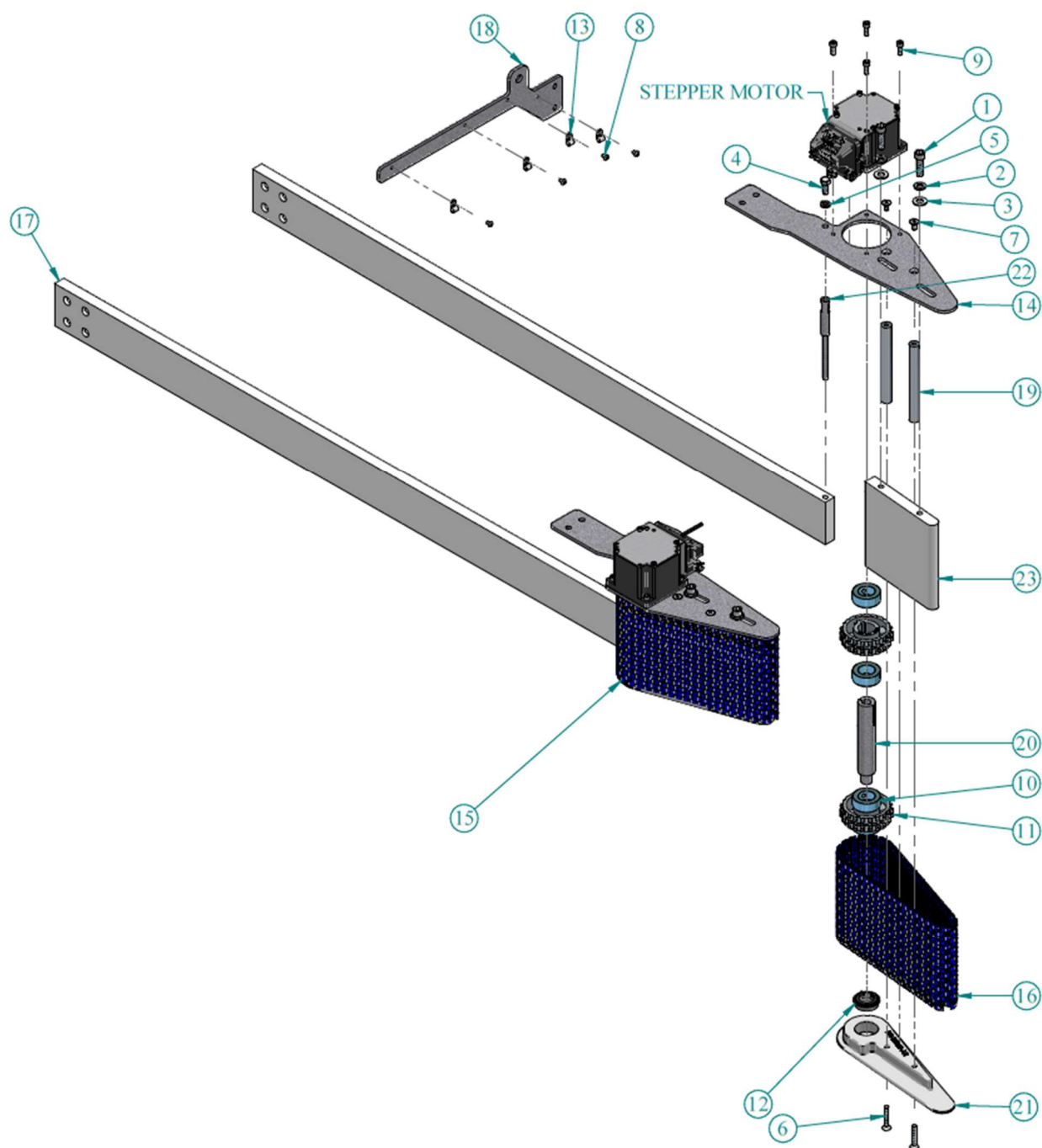
13.3: Infeed guides



INFEEED 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	INFEEED GUIDE

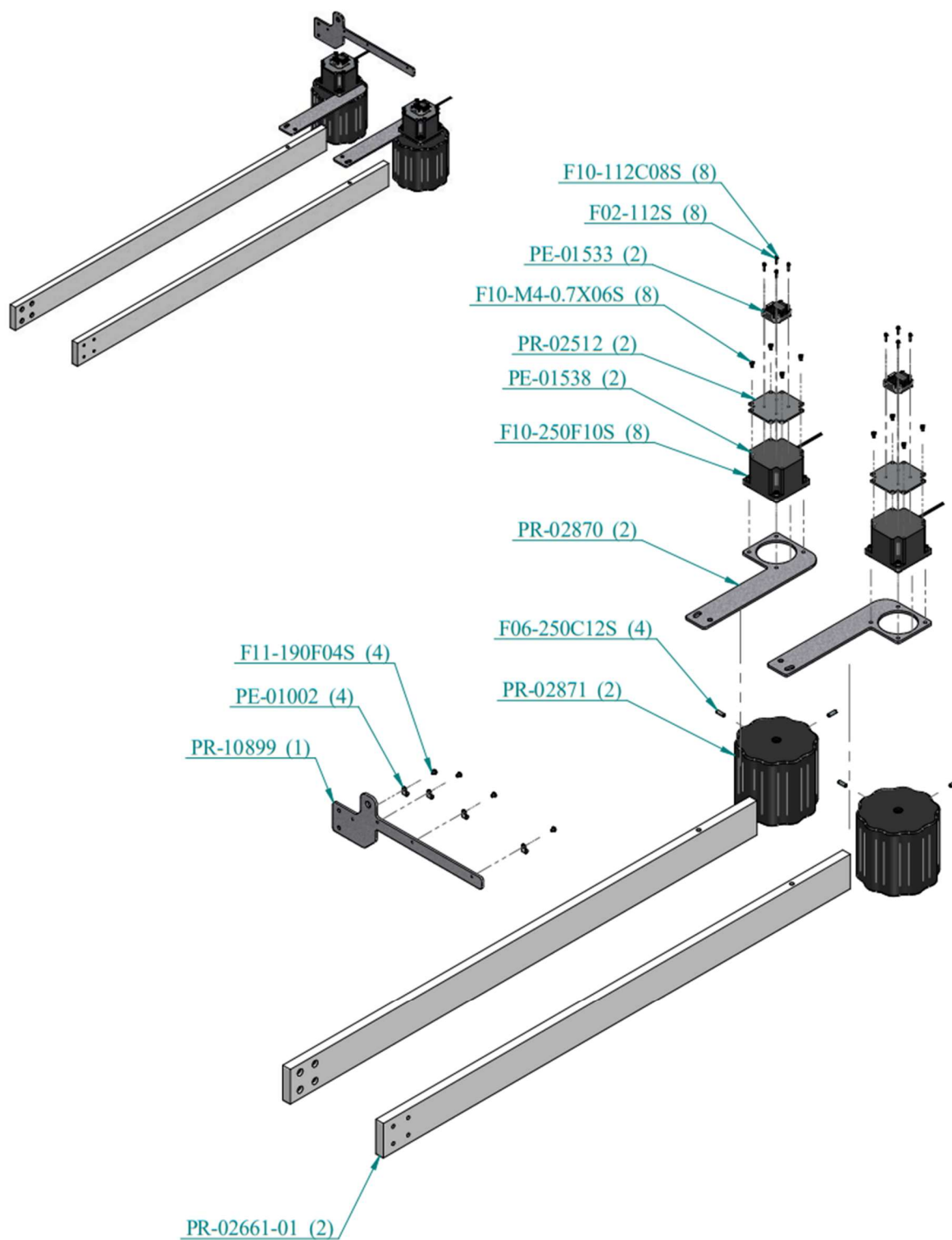
13.2.1: Tunnel

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

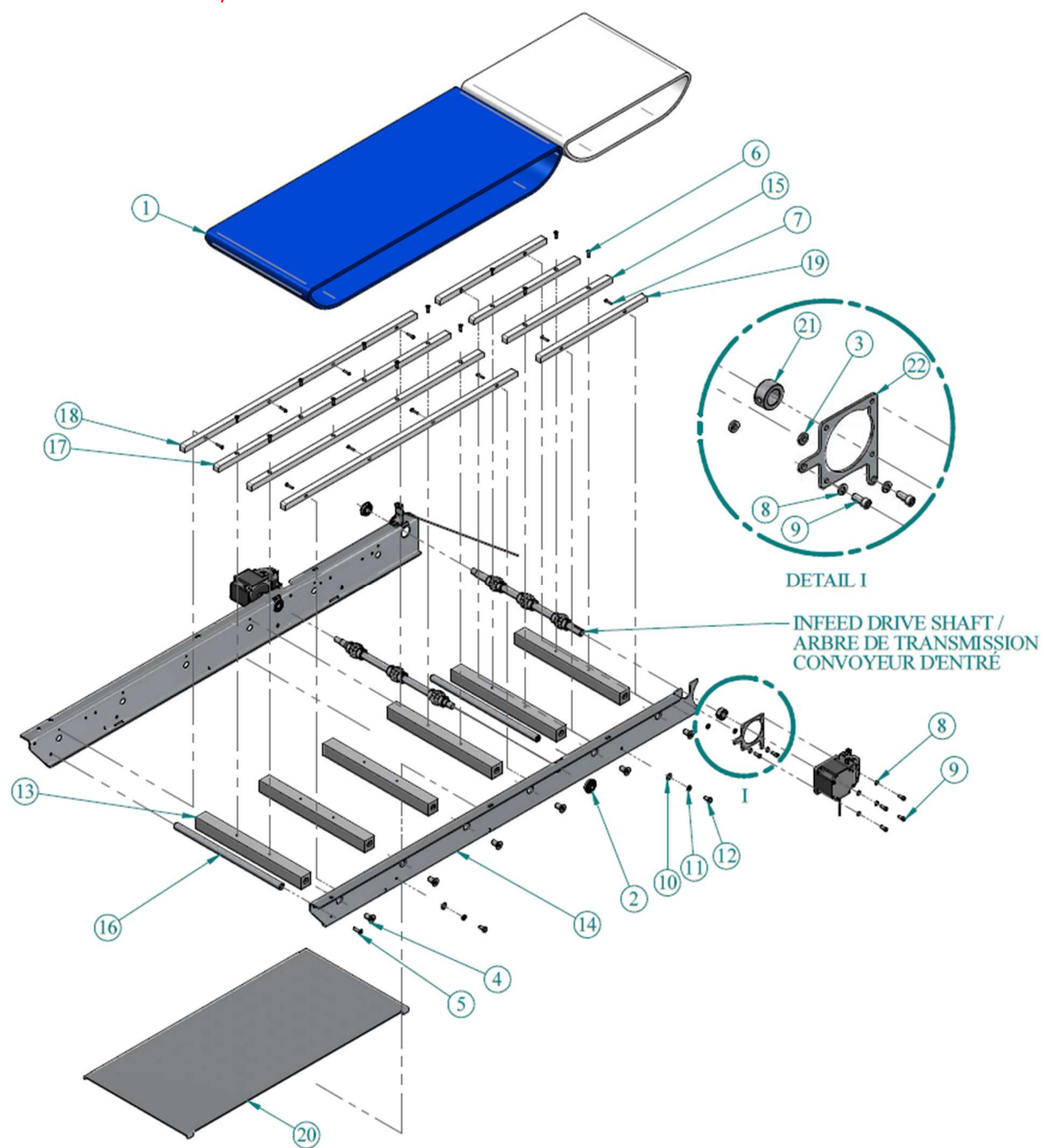
13.3.2: OPTION Aligner (KR-5051-IN-ALIGNER)**13.3.2.1: KR-5051-IN-ALIGNER for SN: KLR-00430 – Beyond**

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

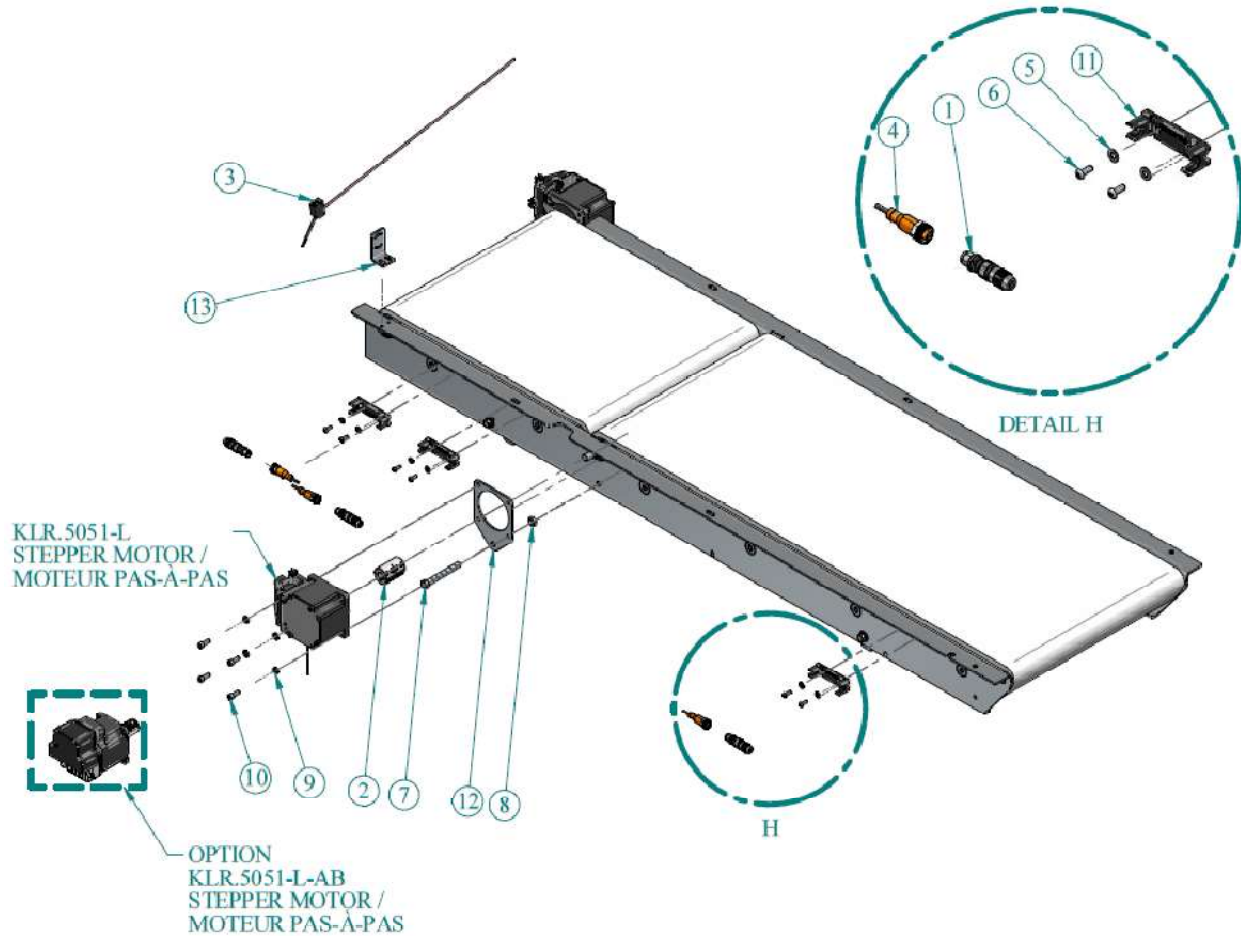


13.4: Infeed conveyor



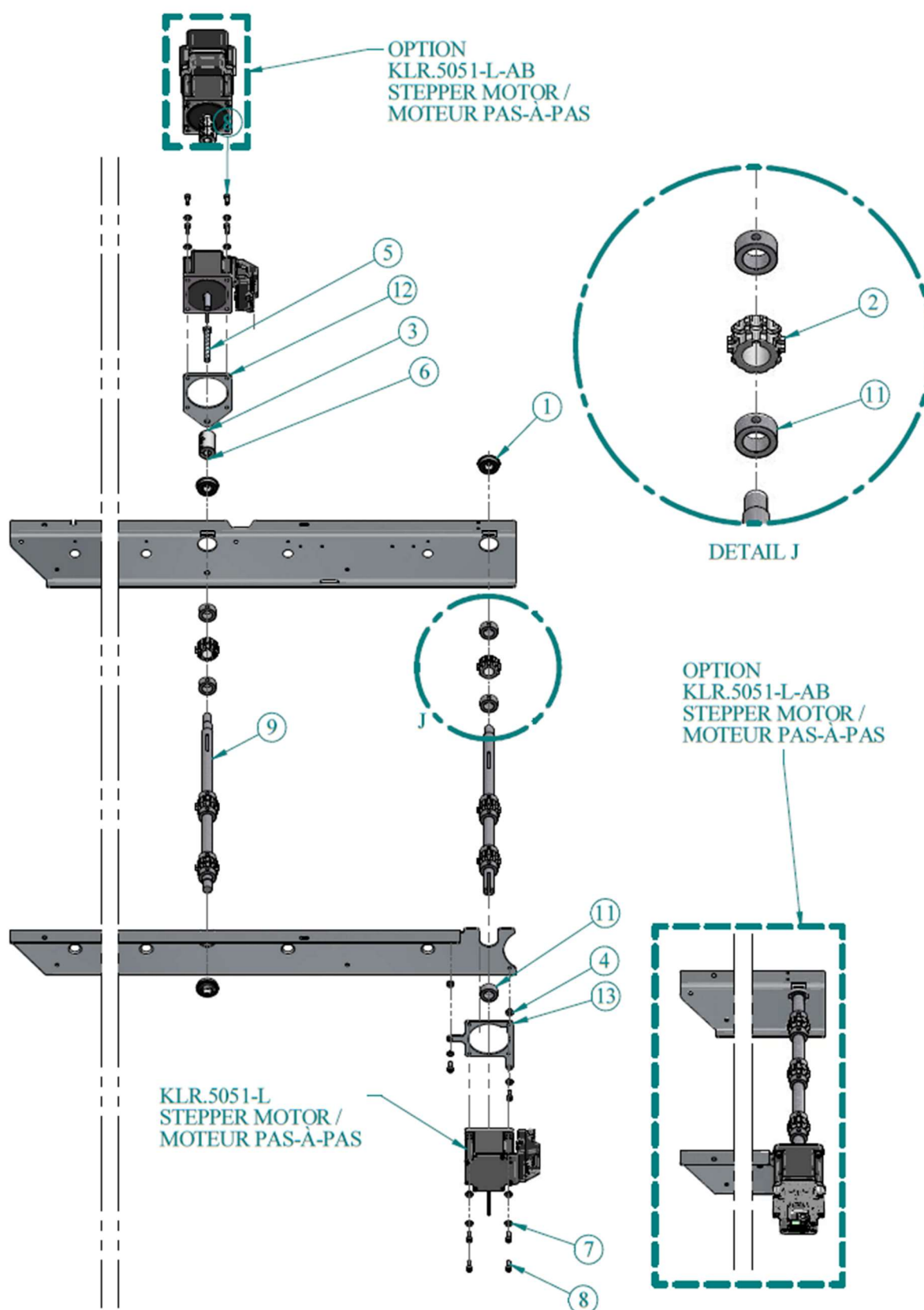
INFEED CONVEYOR			
No.	Part number	Qty	Title
1	PB-00516	1	BELT ASSEMBLY
2	PM-02133	3	BEARING
3	PM-252-500-125	2	SPACER
4	F12-500C16S-OBS	12	FLAT HEAD 1/2-13 x 1" STAINLESS
5	F12-250C16S	4	FLAT HEAD 1/4-20 X 1" STAINLESS
6	F12-190F12S	12	FLAT HEAD 10-32 X 3/4" STAINLESS
7	F11-190F14S	12	BUTTON HEAD 10-32 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



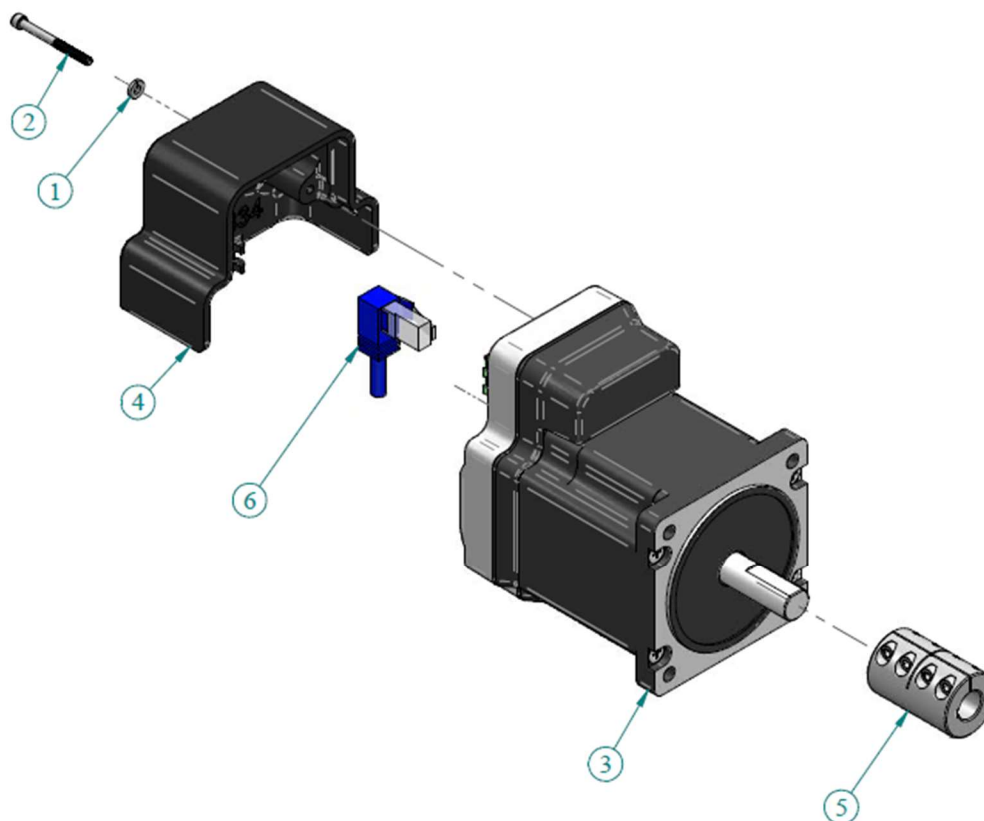
INFEED LEFT SIDE			
No.	Part number	Qty	Title
1	PE-00911	3	O FIELD WIRECABLE
2	PM-00265.500	1	CLAMPING SHAFT COUPLING 1/2"
3	PE-00900-PNP	1	PHOTOCELL PNP
4	PE-00507-02	3	PHOTOCELL CABLE 2M
5	F01-190S	6	FLAT WASHER #10 STAINLESS
6	F11-190F08S	6	BUTTON HEAD 10-32 X 1/2" STAINLESS
7	F13-375F48S	1	HEX HEAD 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



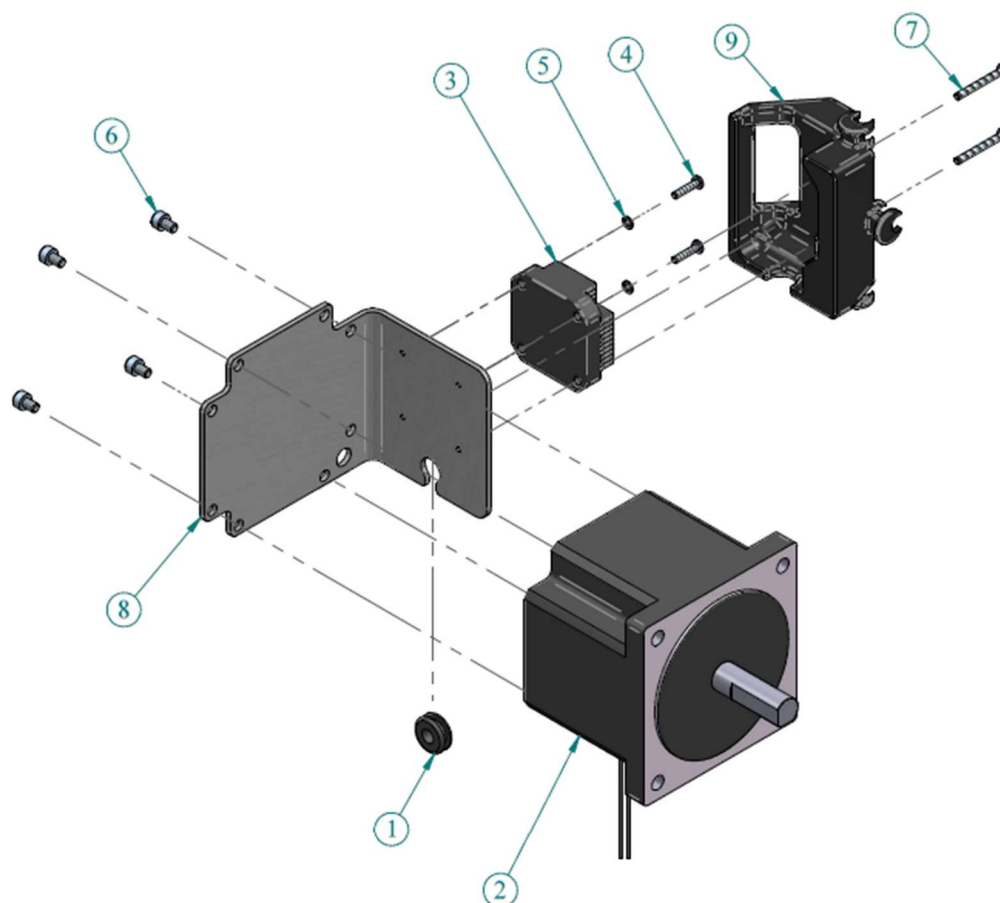
INFEED DRIVE SHAFTS			
No.	Part number	Qty	Title
1	PM-02133	3	BEARING
2	PM-03219-10	6	SPROCKET 10 TOOTH, BORE 3/4"
3	PM-00265.500	1	CLAMPING SHAFT COUPLING 1/2"
4	PM-252-500-125	2	SPACER
5	F13-375F48S	1	HEX HEAD 3/8-24 X 3" STAINLESS
6	F03-375FS	1	NUT HEX 3/8-24 STAINLESS
7	F02-250S	10	LOCK WASHER #14 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



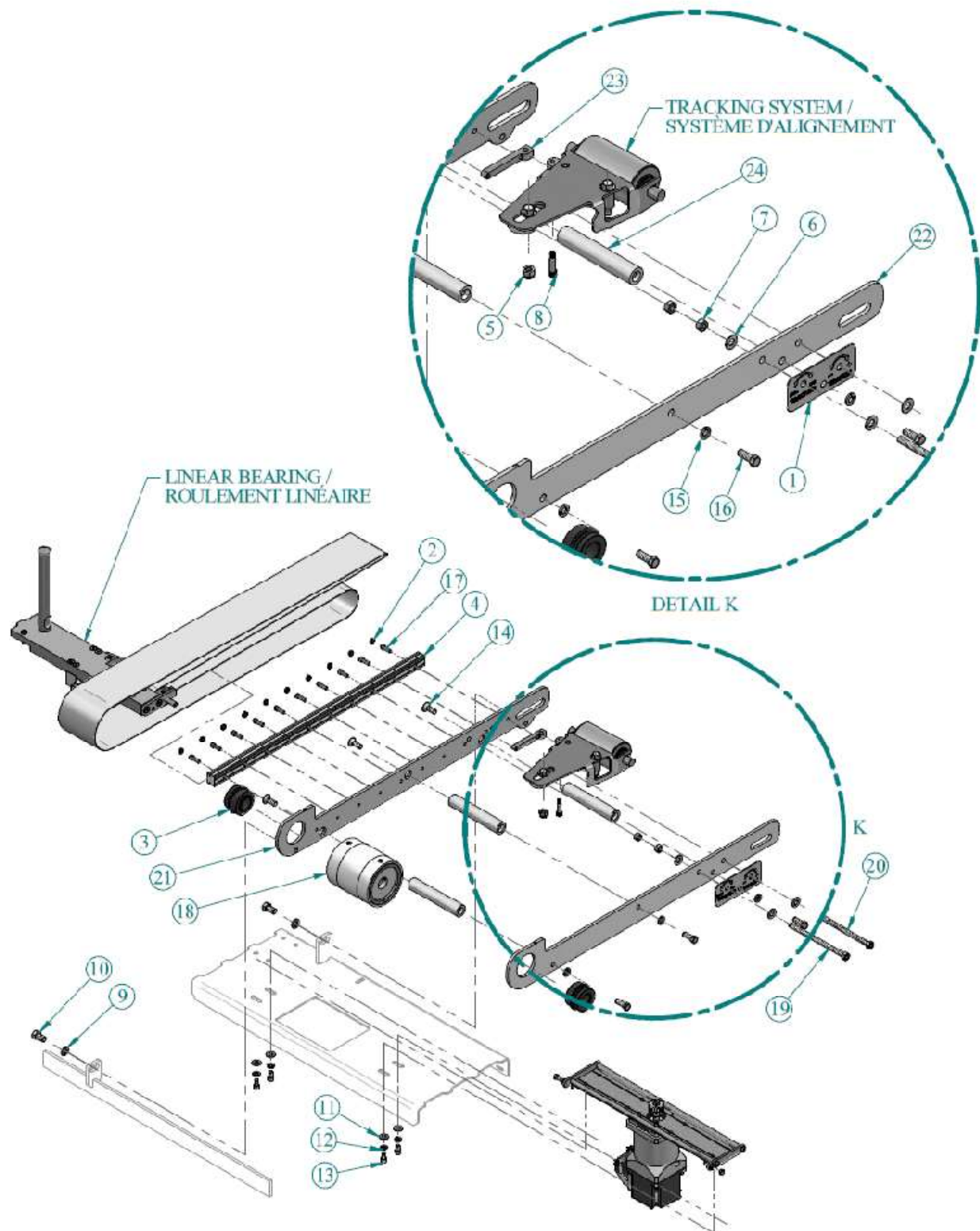
KLR.5051-L-AB			
No.	Part number	Qty	Title
1	F02-138S	1	LOCK WASHER #6 STAINLESS
2	F10-138C24S	1	SOCKET CAP 6-32 X 1 1/2" STAINLESS
3	PE-00628	1	LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK
4	PR-02834	1	WIRE GUARD
5	PR-02829	1	SHAFT CONNECTION
6	PE-00626-10-90-R	1	CABLE ETHERNET 90° RIGHT CAT 6 LONGUEUR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

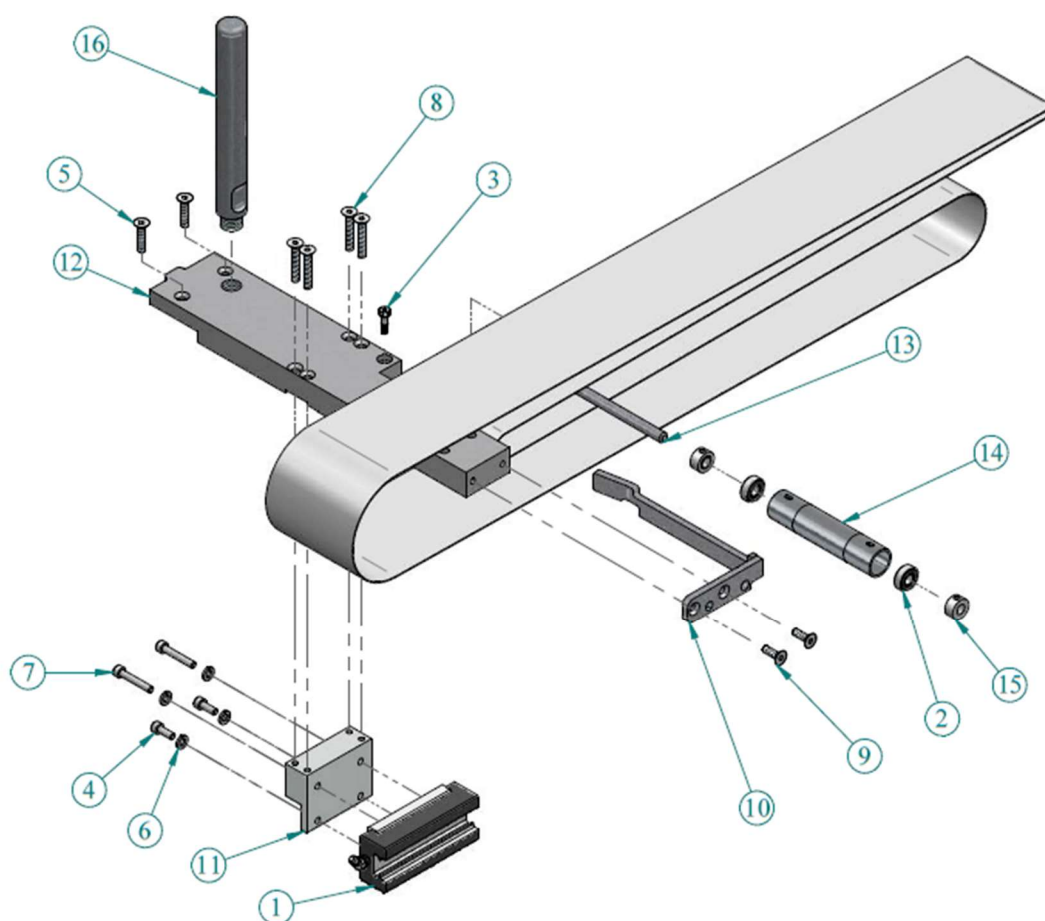
INFEEED DRIVE SHAFT AB			
No.	Part number	Qty	Title
1	PM-252-500-125	2	SPACER
2	PR-10482	7	SHAFT COLLAR 3/4"
3	F10-250F10S	6	SOCKET CAP 1/4-28 X 5/8" STAINLESS
4	F02-250S	6	LOCK WASHER #14 STAINLESS
5	PM-03219-10	3	SPROCKET 10 TOOTH, BORE 3/4"
6	PM-02133	1	BEARING
7	PR-10471	1	TORQUE ARM
8	PE-00628	1	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

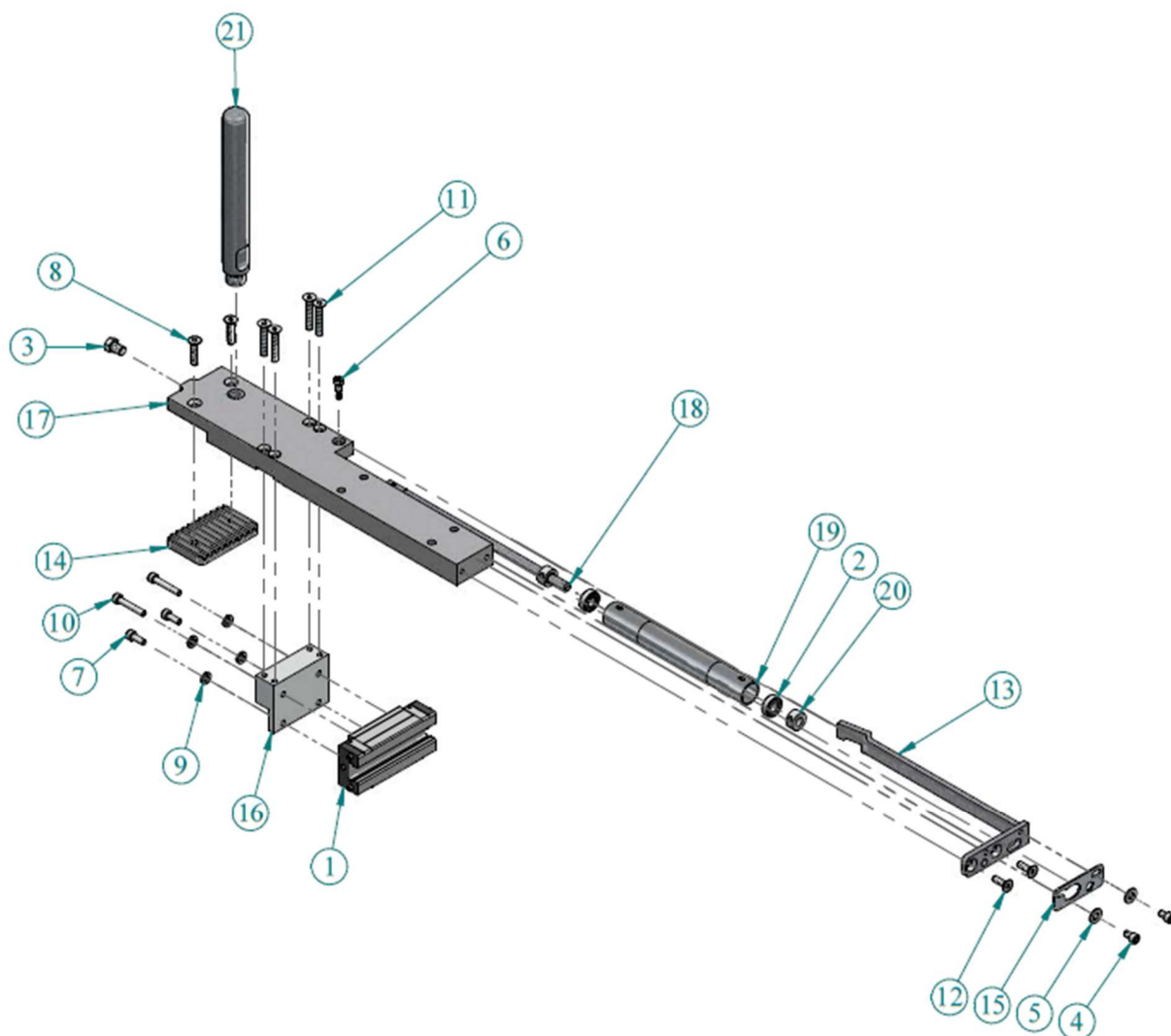
13.5.1: Bottom linear bearing KLR-00105 – Beyond

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

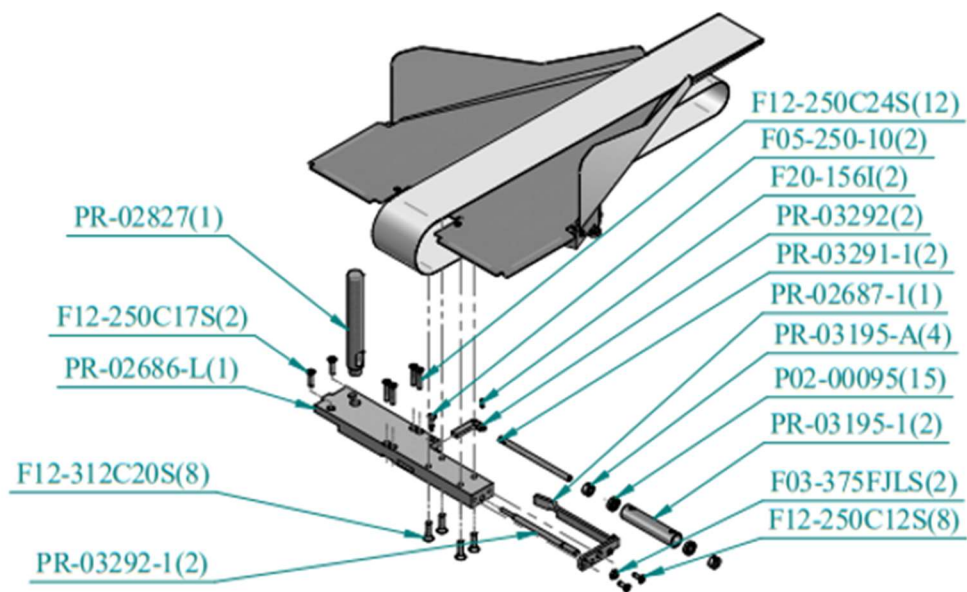


13.5.1.3: Bottom linear bearing for KR-5051-SCOOP-07-16 part list

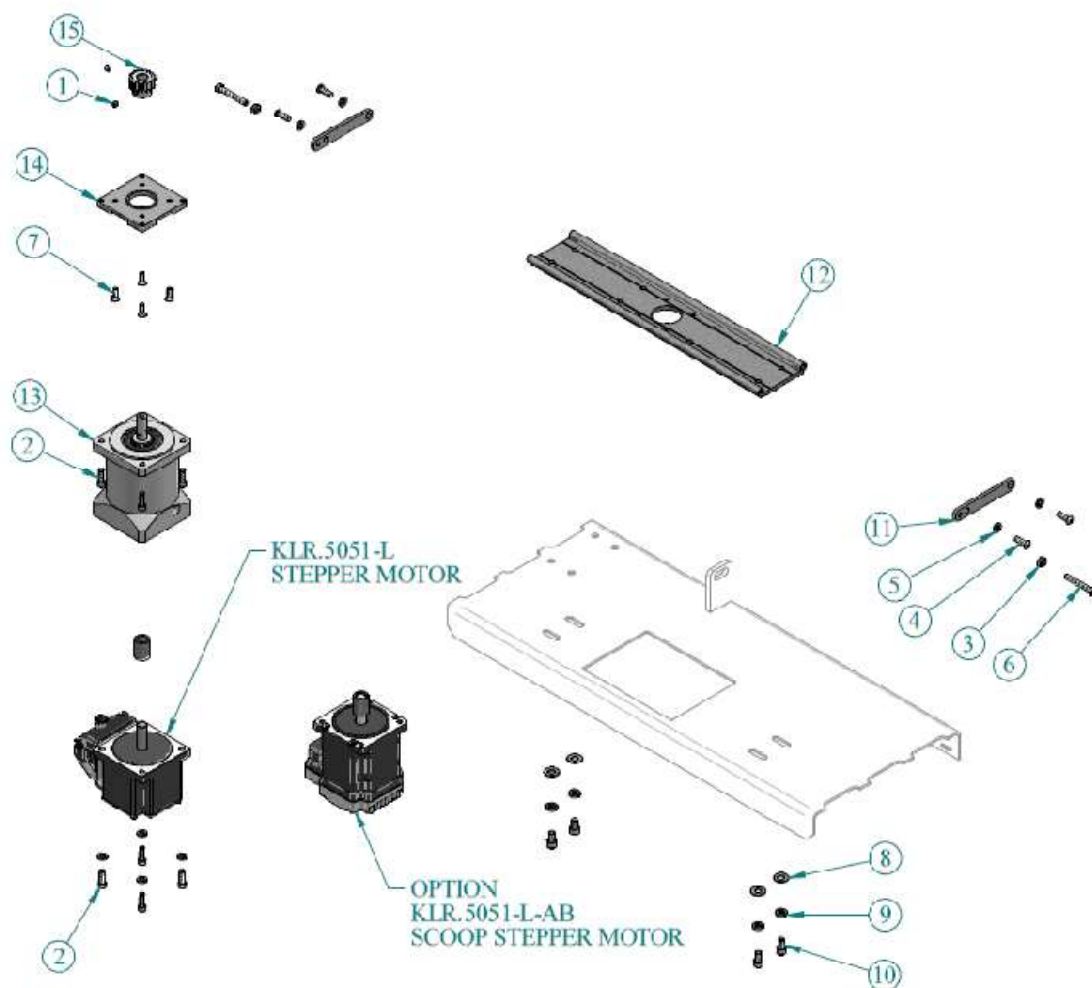
KR-5051-SCOOP-07-16-L			
No.	Part number	Qty	Title
1	PM-00191-THK	1	LINEAR COMPACT GUIDE BLOCK THK
2	P02-00095	2	BEARING
3	F13-375C08S	1	HEX HEAD 3/8-16 X 1/2" STAINLESS
4	F10-250C06S	2	SOCKET CAP 1/4-20 X 3/8" STAINLESS
5	F01-250S	2	FLAT WASHER 1/4 STAINLESS
6	F05-250-06S	1	SHOULDER SCREW 1/4 X 3/8 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

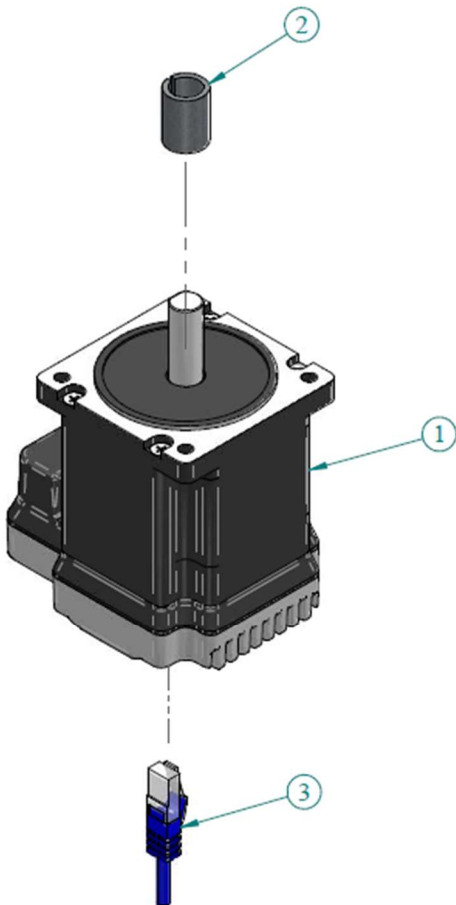
*On request, the updated version can be retrofitted.*

13.6: Bottom scoop motor drive



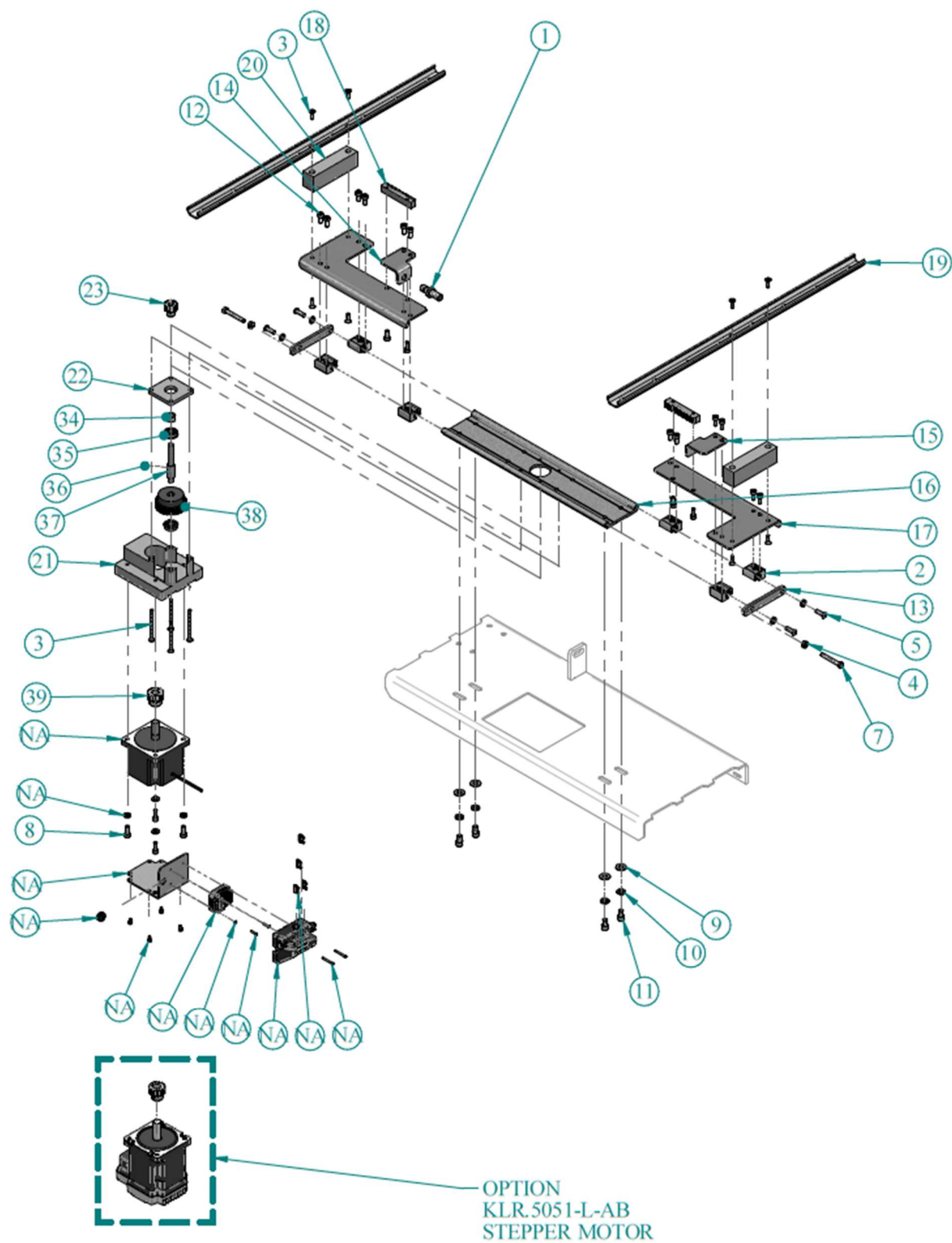
SCOOP DOWN DRIVE			
No.	Part number	Qty	Title
1	F06-250F04S	2	SET SCREW 1/4-28 X 1/4" STAINLESS
2	F10-250C12S	8	SOCKET CAP 1/4-20 X 3/4" STAINLESS
3	F03-250CS	2	NUT 1/4 -20 STAINLESS
4	F11-250C12S	4	BUTTON HEAD 1/4-20 X 3/4" STAINLESS
5	F02-250S	7	LOCK WASHER #14 STAINLESS
6	F13-250C28S	2	HEX HEAD 1/4-20 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)

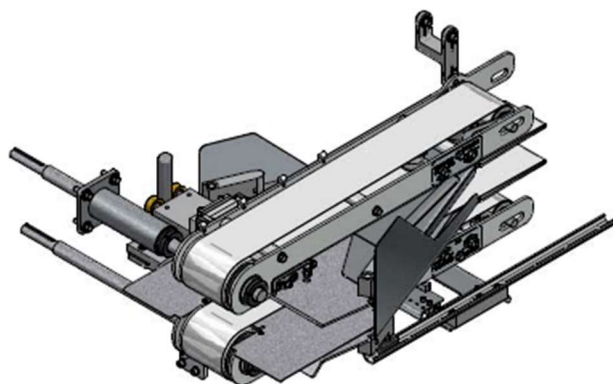


LOWER SCOOP DRIVE (SN: KLR.00001 - KLR.00111)			
No.	Part number	Qty	Title
1	PM-03217-01	1	GROMMET 1/4 ID X 5/8 OD X 1/8 WALL
2	PE-08015	4	TERMINAL 22-12SOL/STR SCREW ONLY
3	PR-95164-02	1	WIRE GUARD 02
4	PE-00141-NO-PNP	1	PROX SWITCH
5	PE-01538	1	STEPPER MOTOR
6	PM-00197	6	IGUS RAIL CARRIAGE 10 MM
7	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

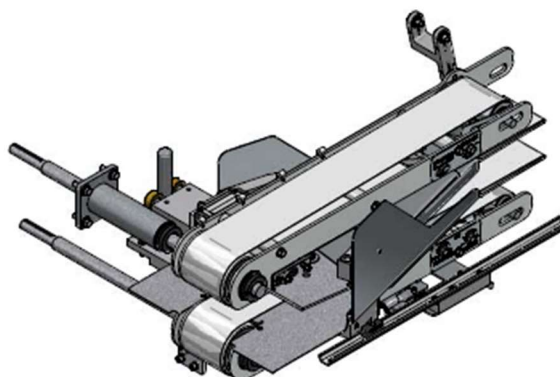
13.7: Scoop (options)

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.

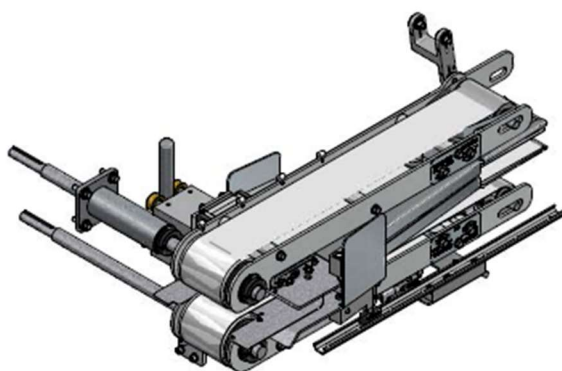
SCOOP 5051 4" - 16"



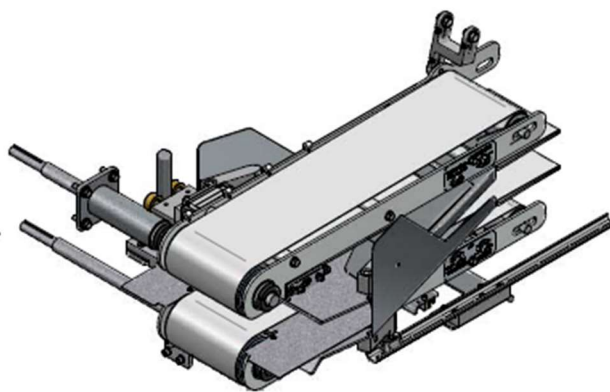
SCOOP 5051 4" - 12"



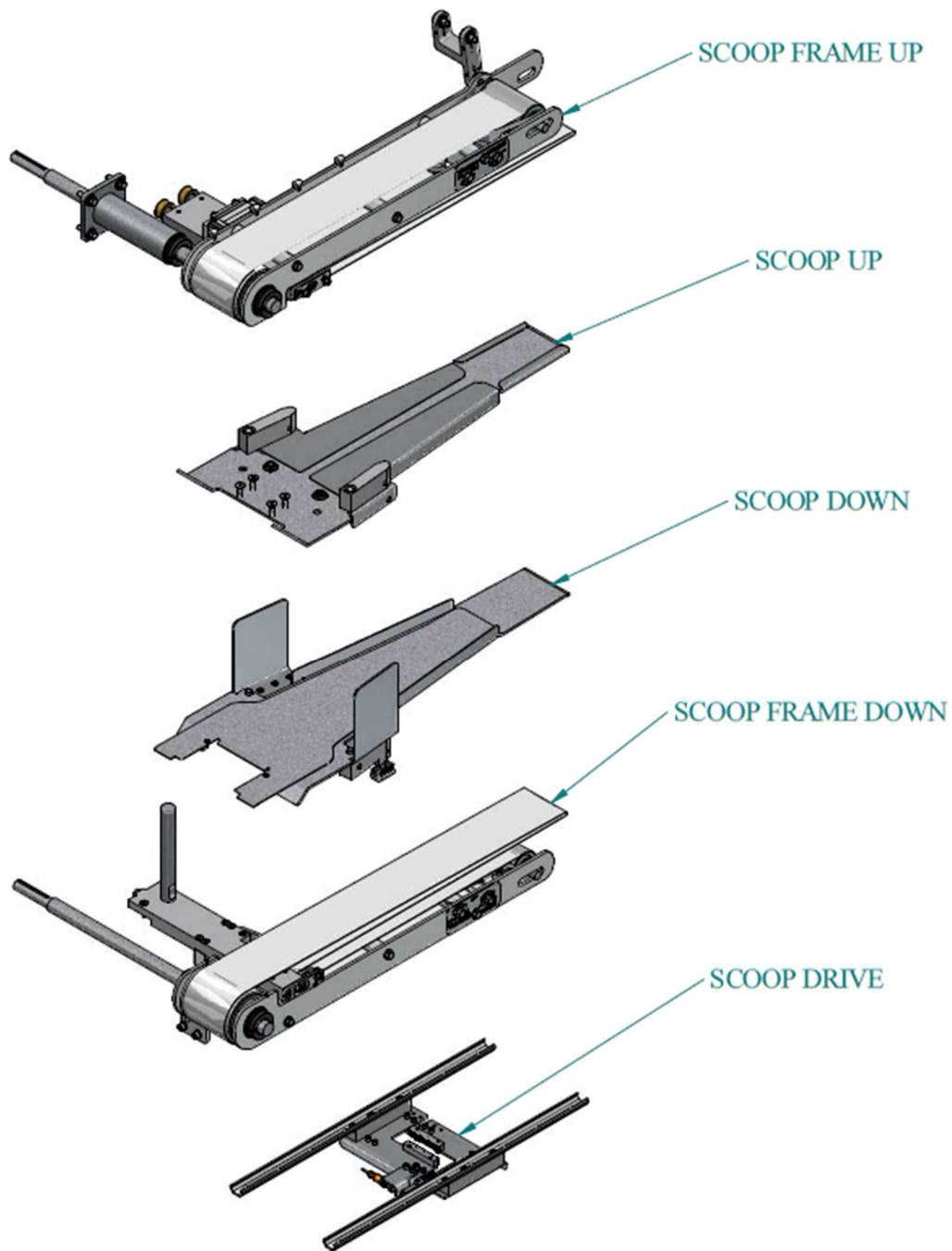
SCOOP 5051 4" - 7"



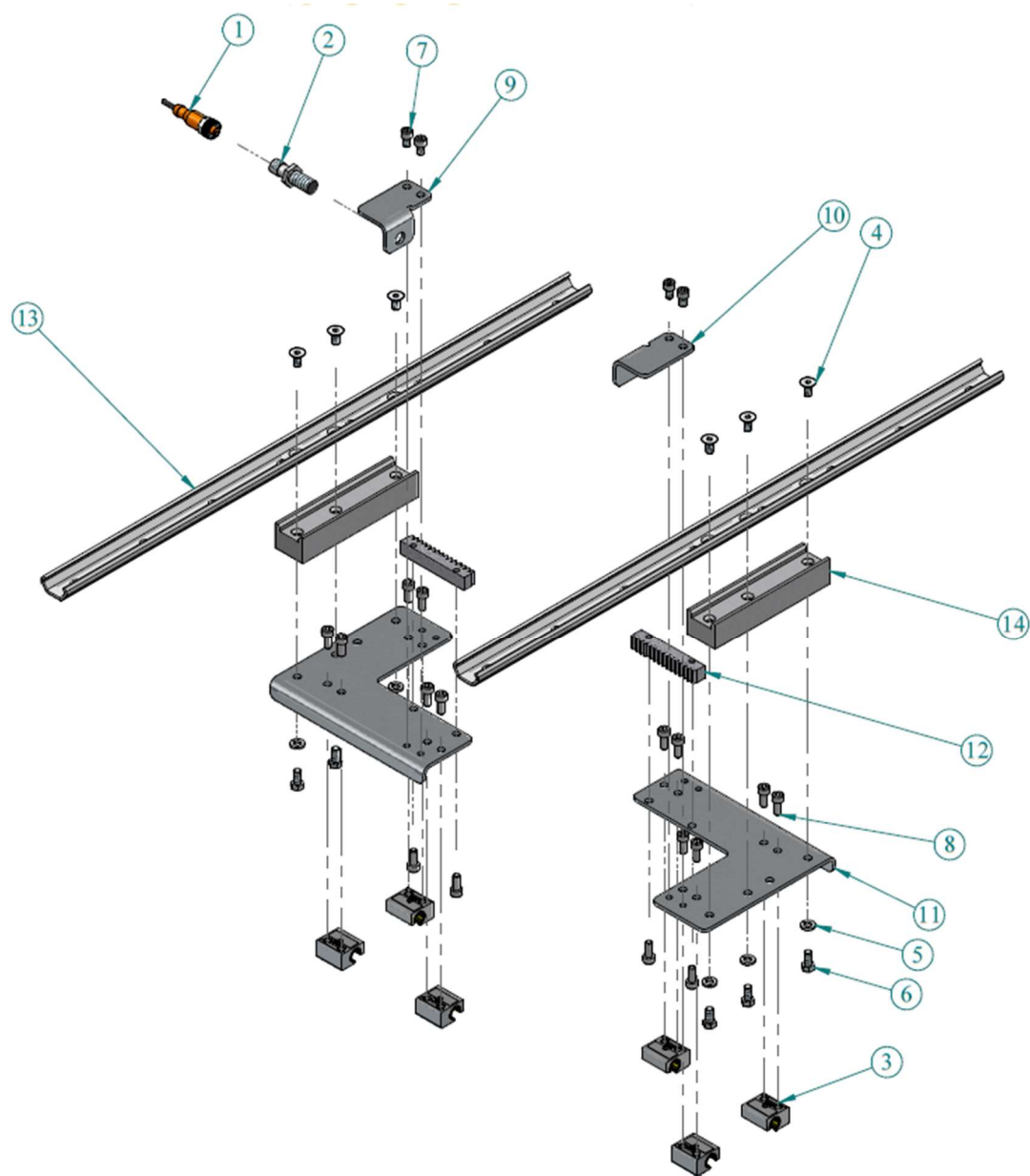
SCOOP 5051 7" - 16"



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



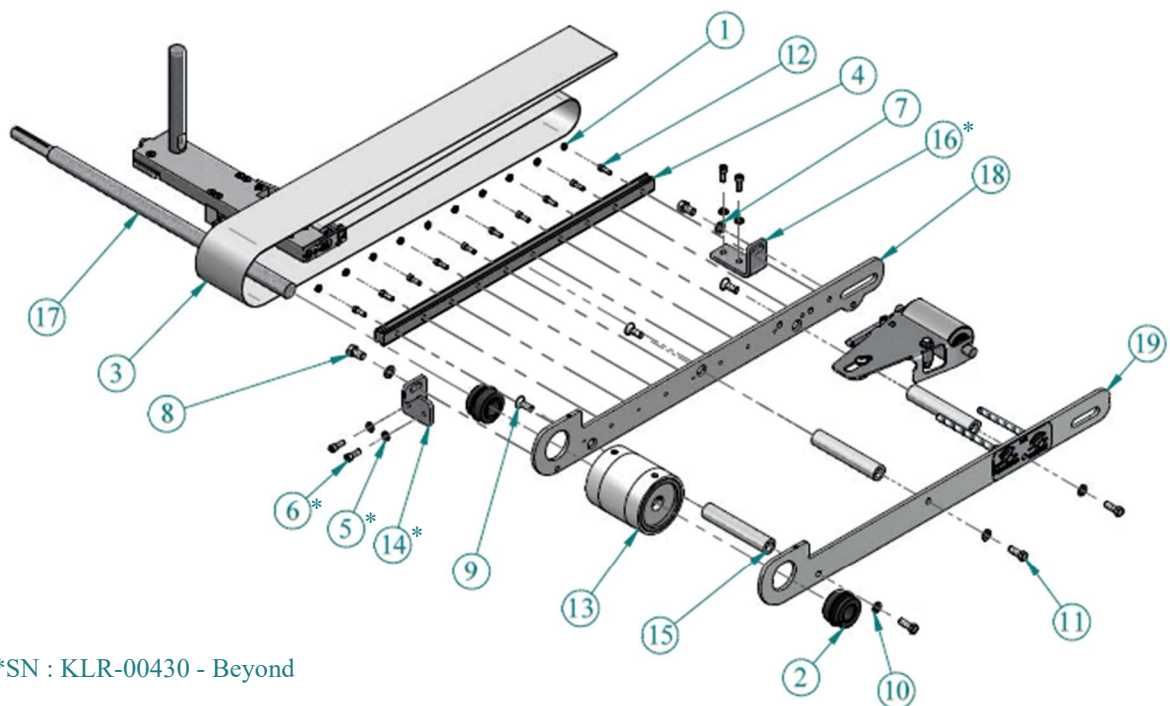
13.7.1.1: Scoop drive 5051 4" - 7" (KR-5051-SCOOP-04-07)



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

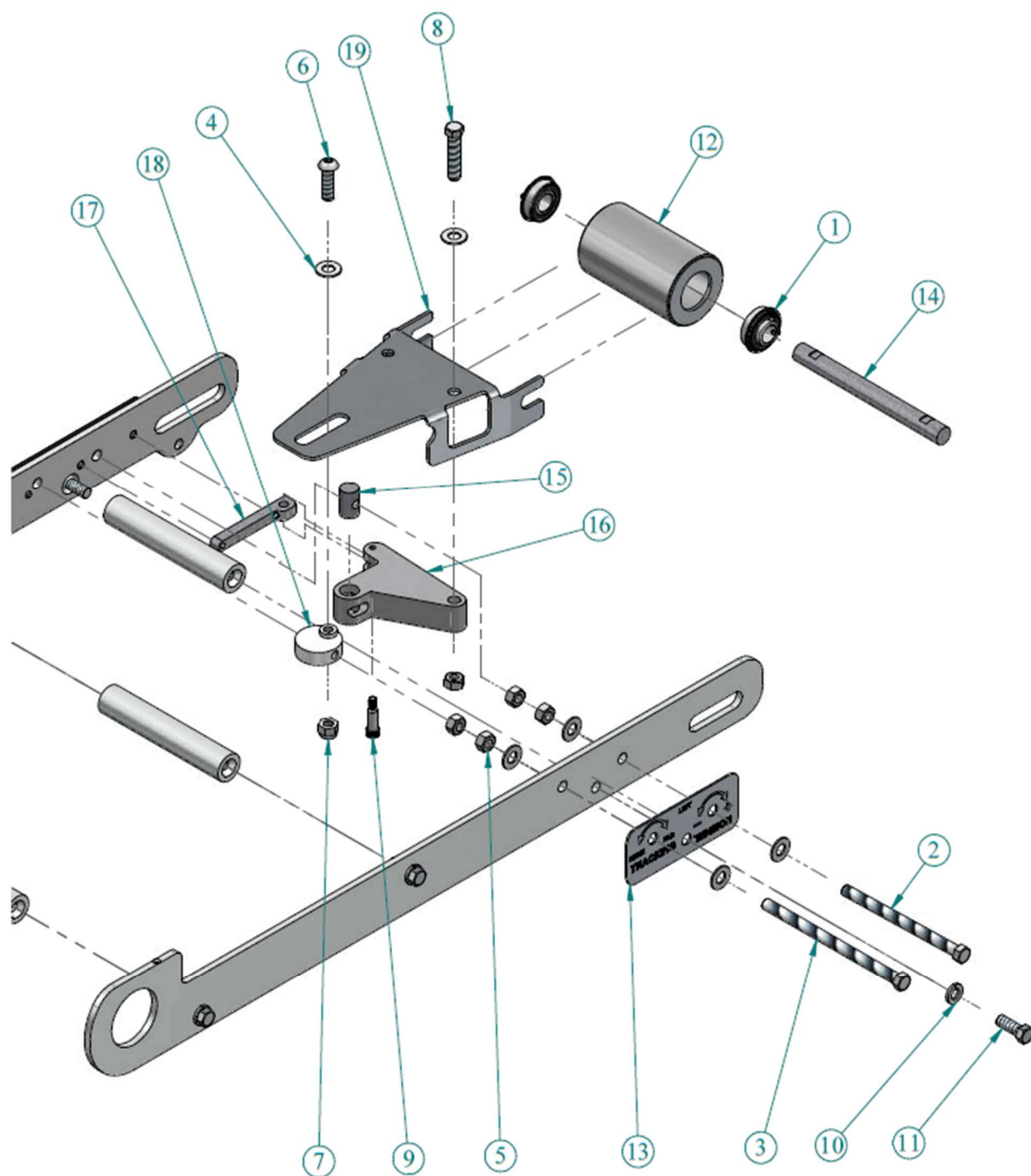
13.7.1.3: Scoop frame 5051 4" - 7" (KR-5051-SCOOP-04-07)



*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

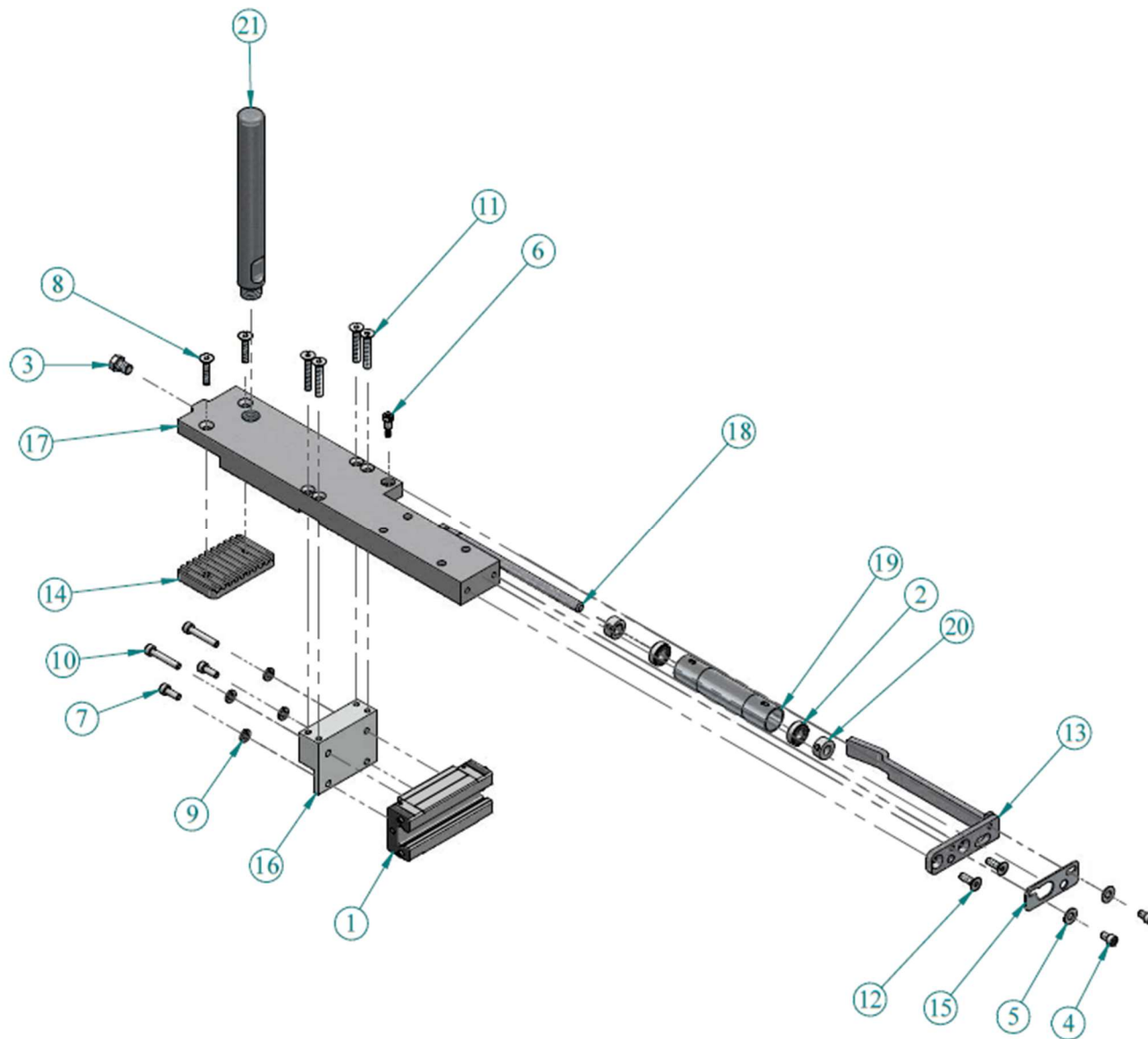
13.7.1.4: Scoop front tracking system 5051 4" - 7" (KR-5051-SCOOP-04-07)



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

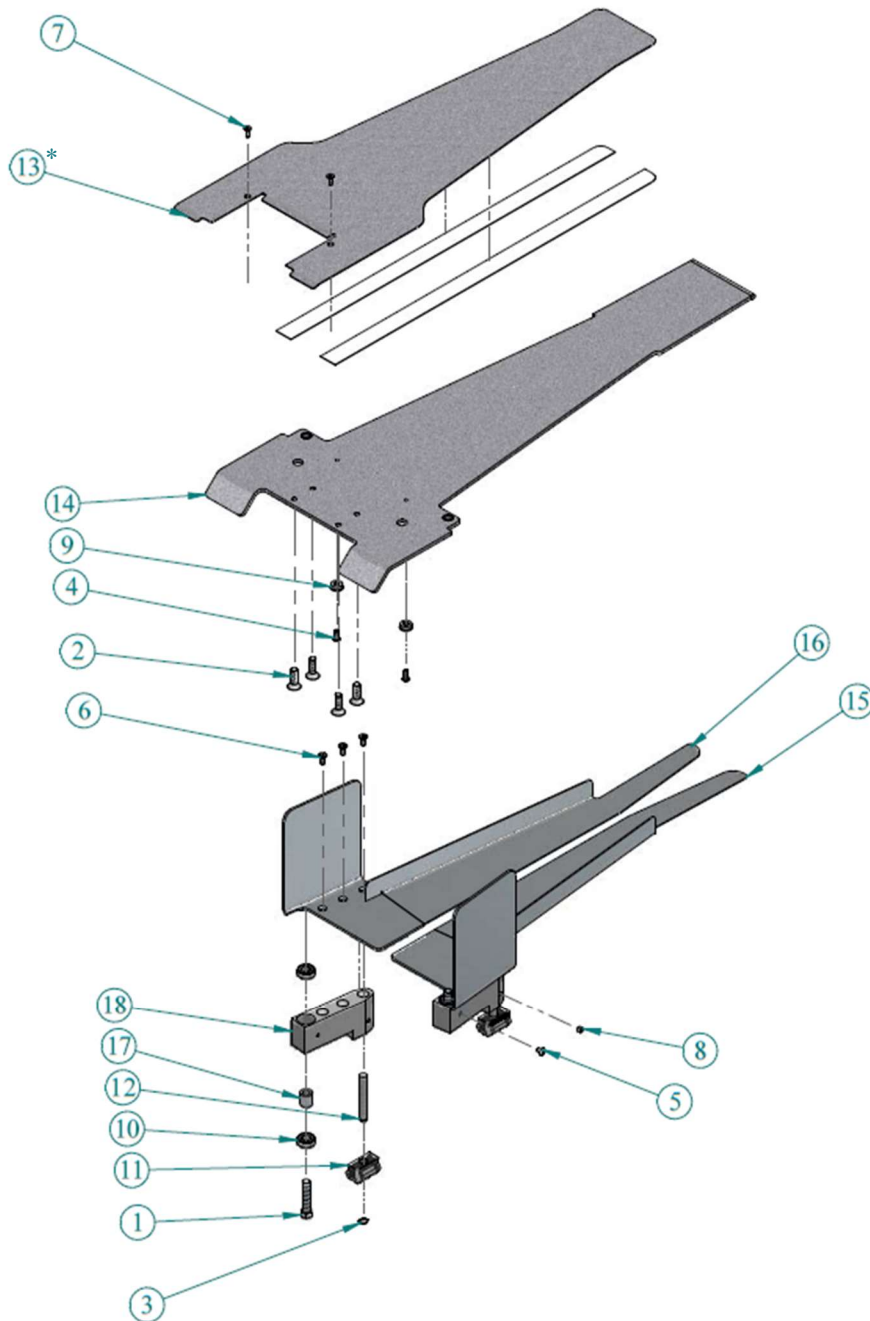
13.7.1.6: Scoop rear tracking system 5051 4" - 7" (KR-5051-SCOOP-04-07)



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)

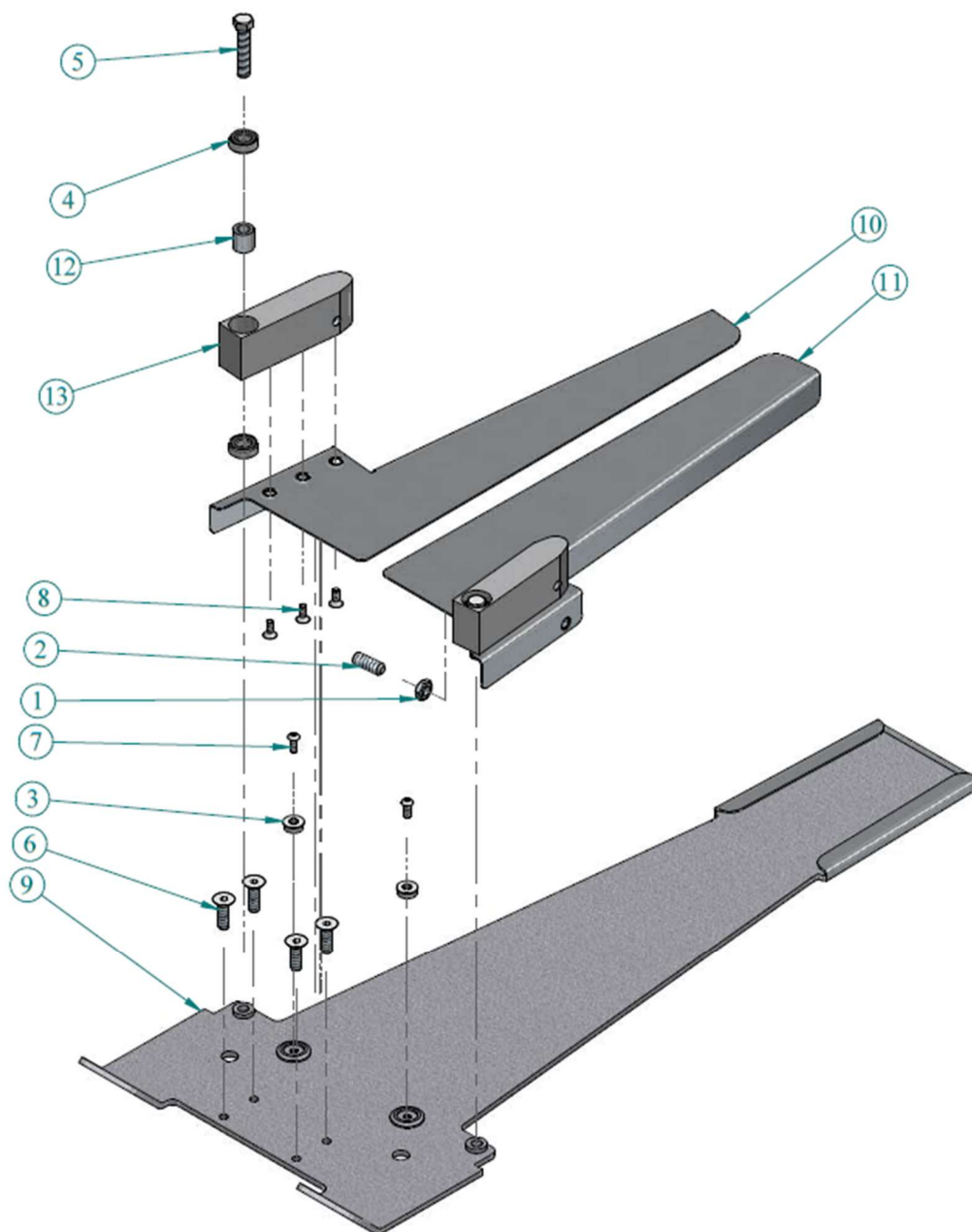


*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)

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

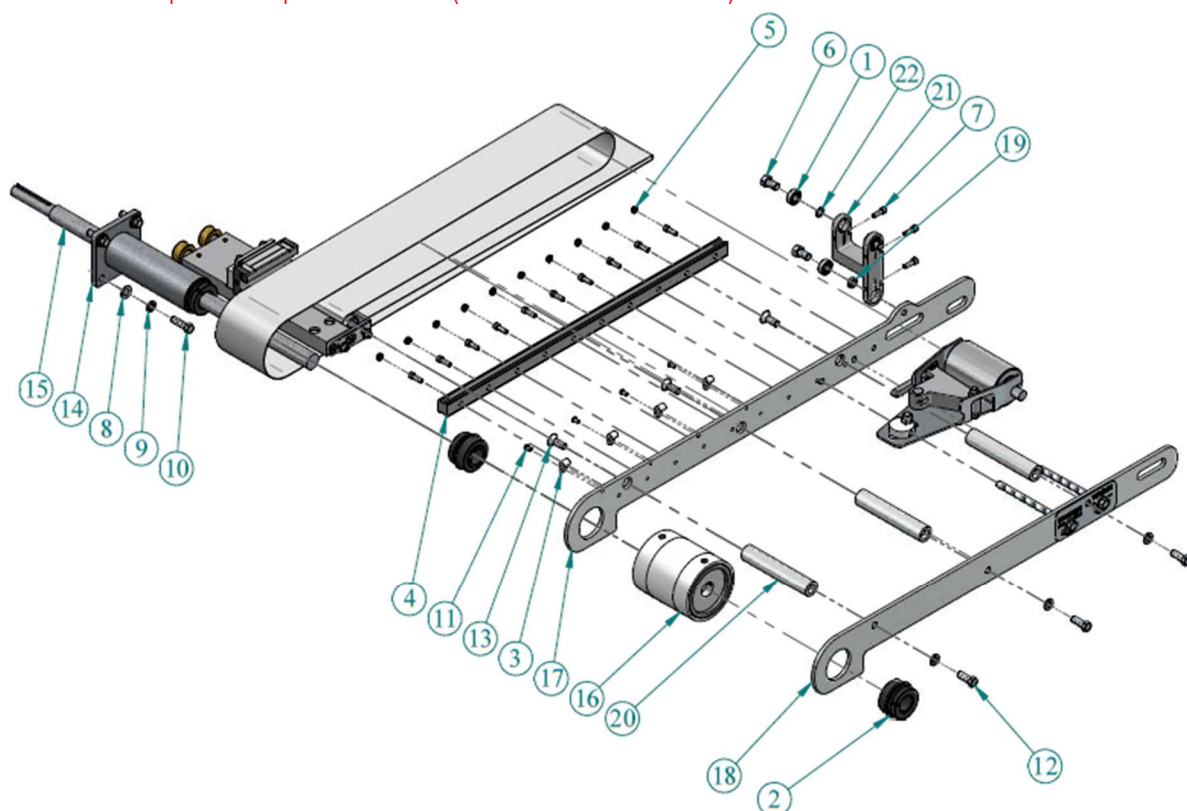
13.7.1.10: Scoop Up 5051 4" - 7" (KR-5051-SCOOP-04-07)



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

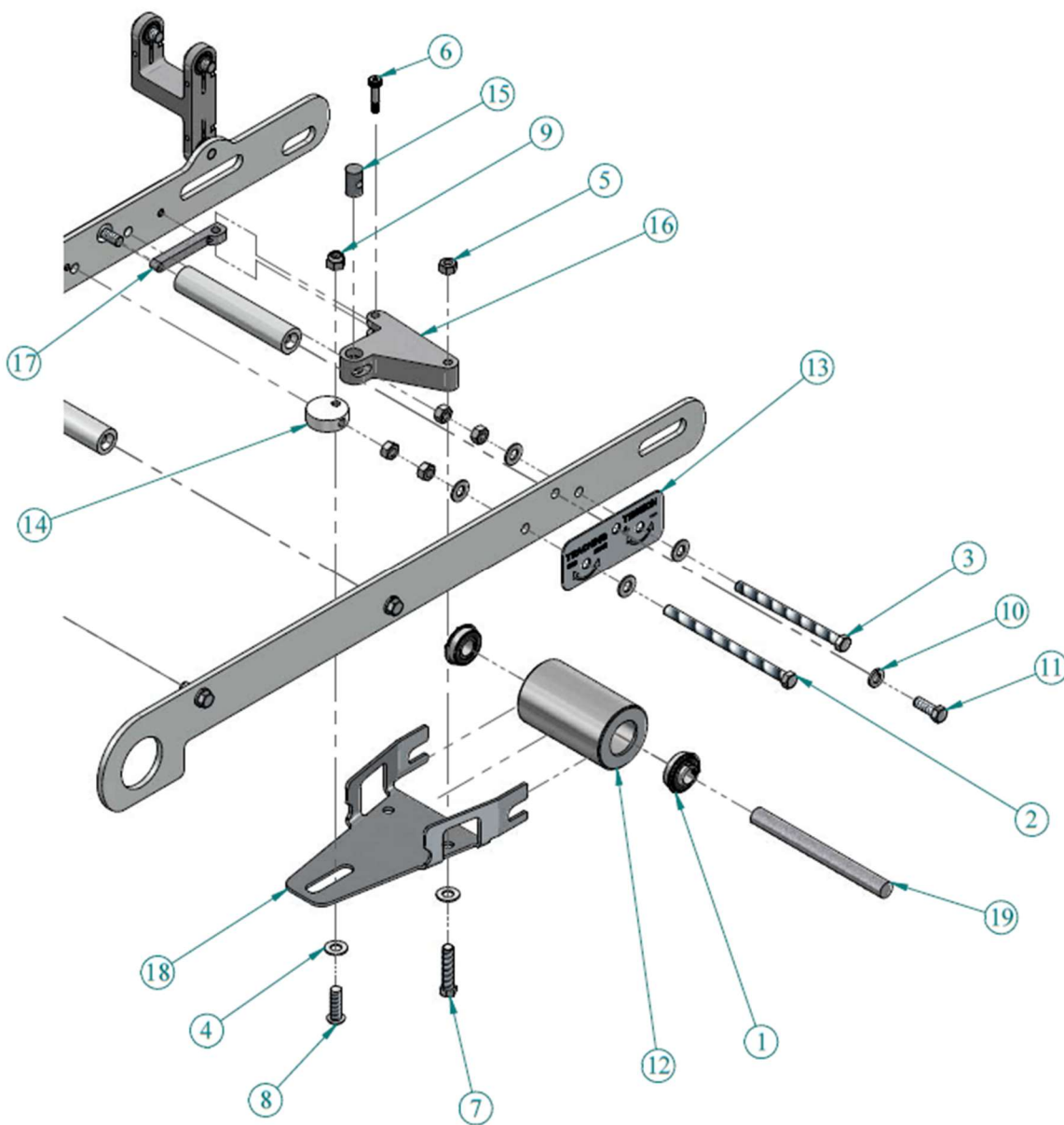
KR-5051-SCOOP-04-07-L			
No.	Part number	Qty	Title
1	F03-375CLS	2	HEX NUT 3/8-16 LOW PROFILE STAINLESS
2	F06-375C16N	2	SET SCREW 3/8-16 X 1" NYLON
3	P02-00049	2	BEARING
4	P02-00095	4	BEARING
5	F13-375F28S	2	HEX. HEAD 3/8-24 X 1 3/4" STAINLESS
6	F12-312C16S	4	FLAT HEAD 5/16-18 X 1" STAINLESS
7	F11-190F08S	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

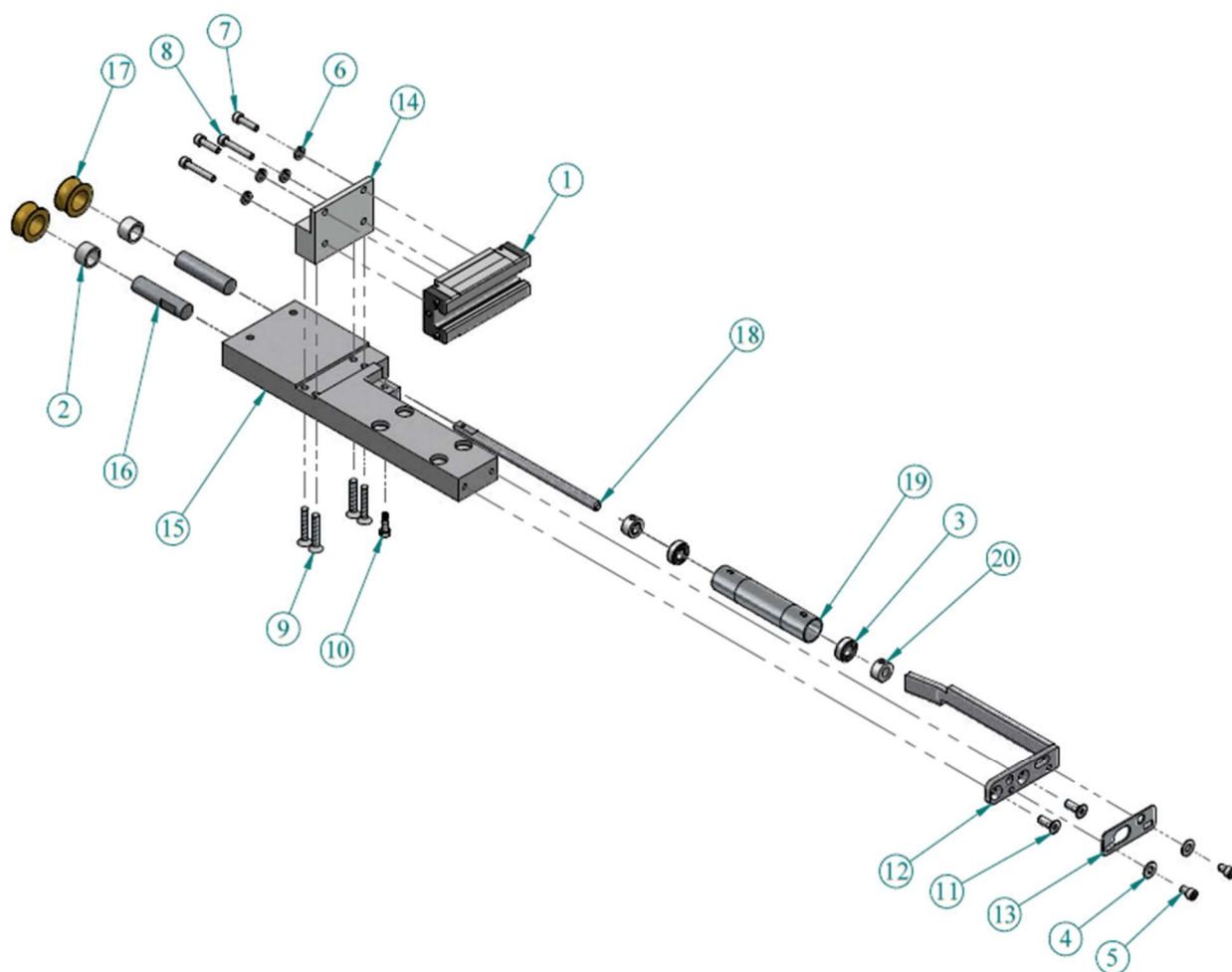
13.7.1.13: Scoop front tracking system up 5051 4" - 7" (KR-5051-SCOOP-04-07)



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

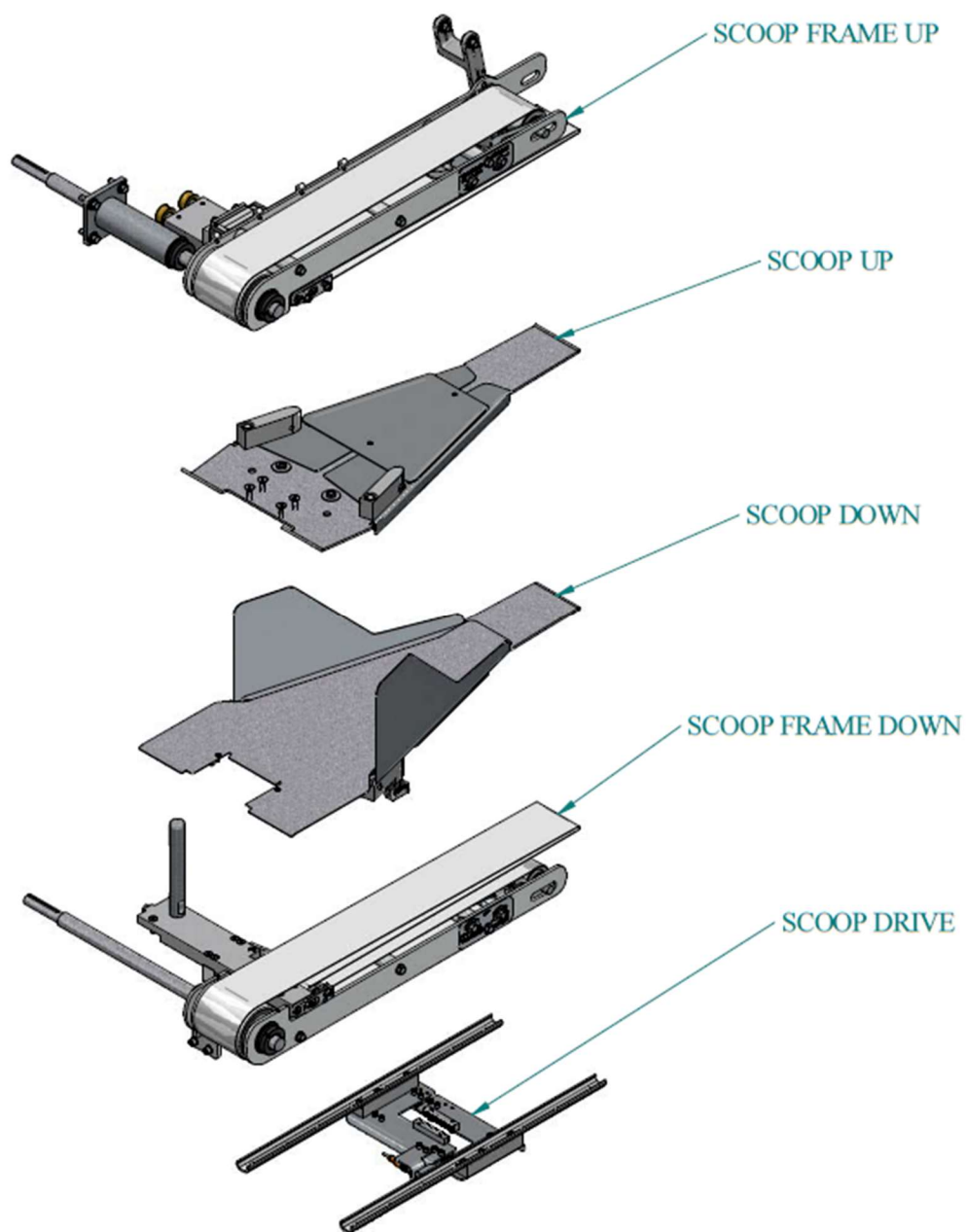
13.7.1.15: Scoop Rear frame up 5051 4" - 7" (KR-5051-SCOOP-04-07)



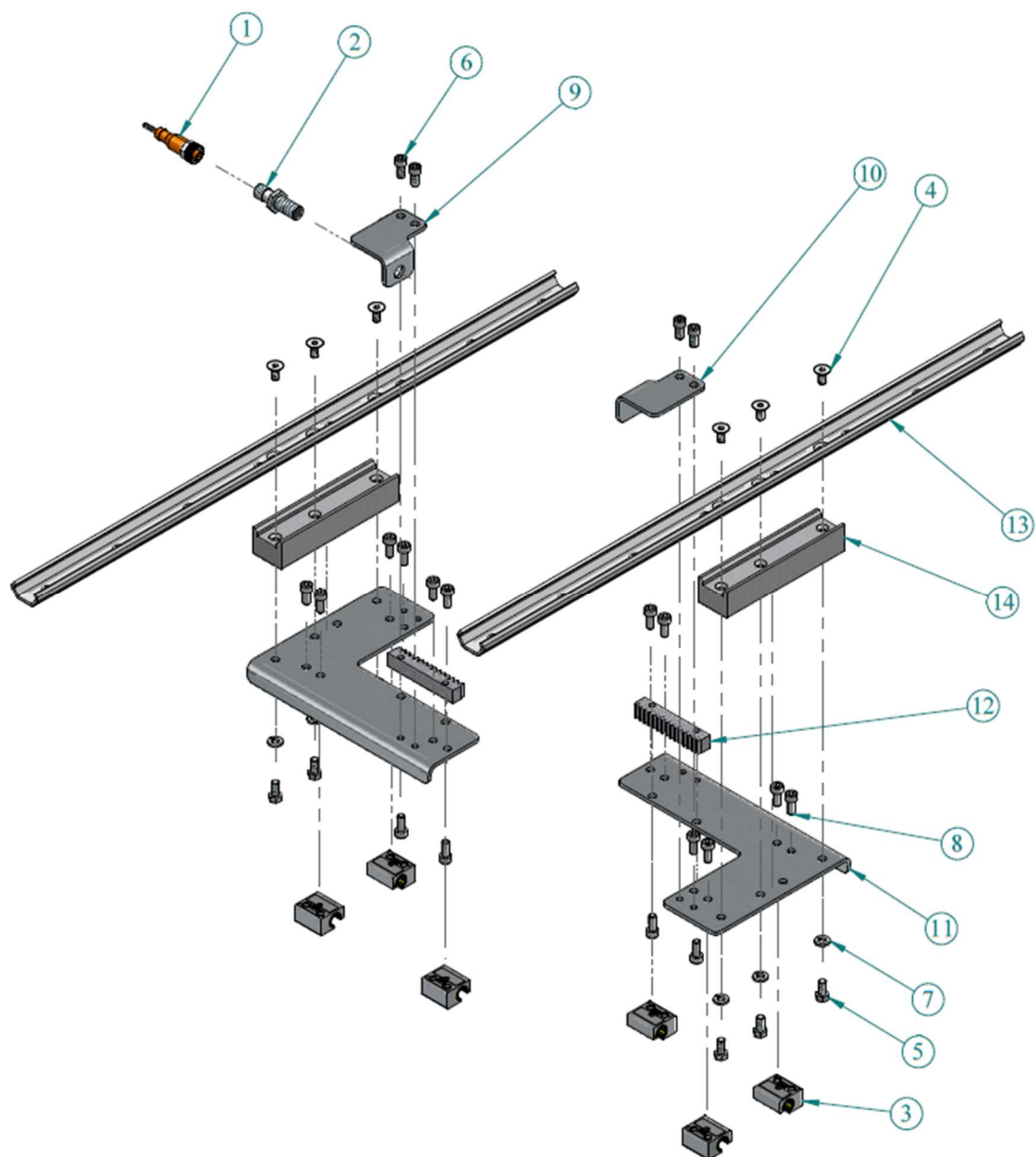
13.7.1.16: Scoop Rear frame up part list 5051 4" - 7" (KR-5051-SCOOP-04-07)

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)



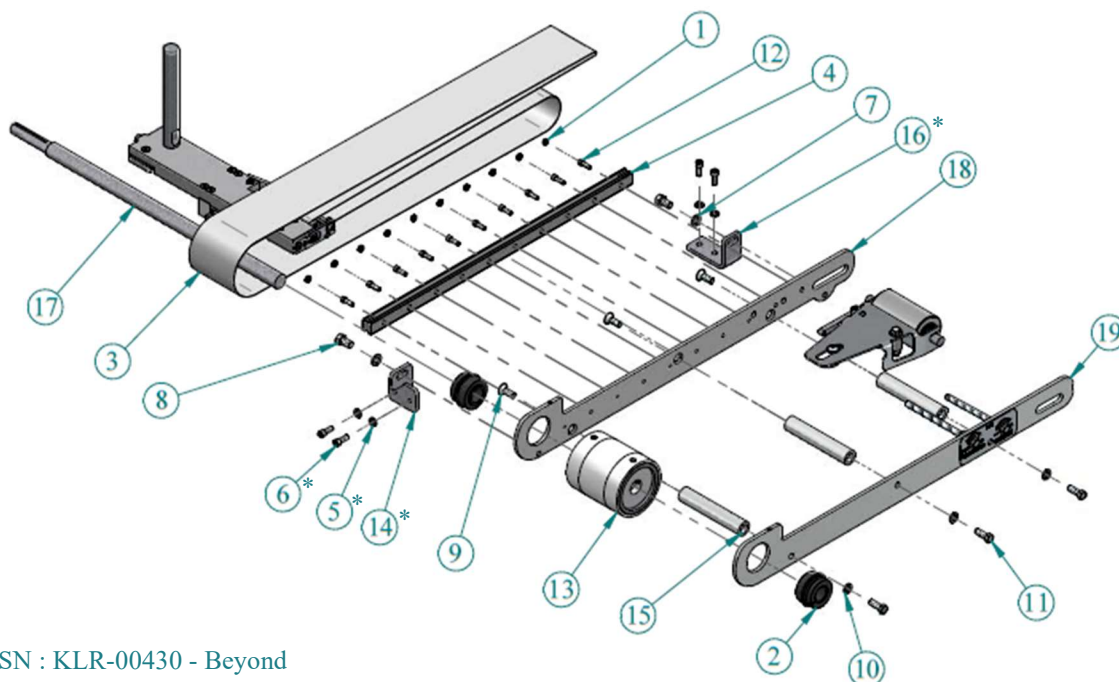
13.7.2.1: Scoop drive 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



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

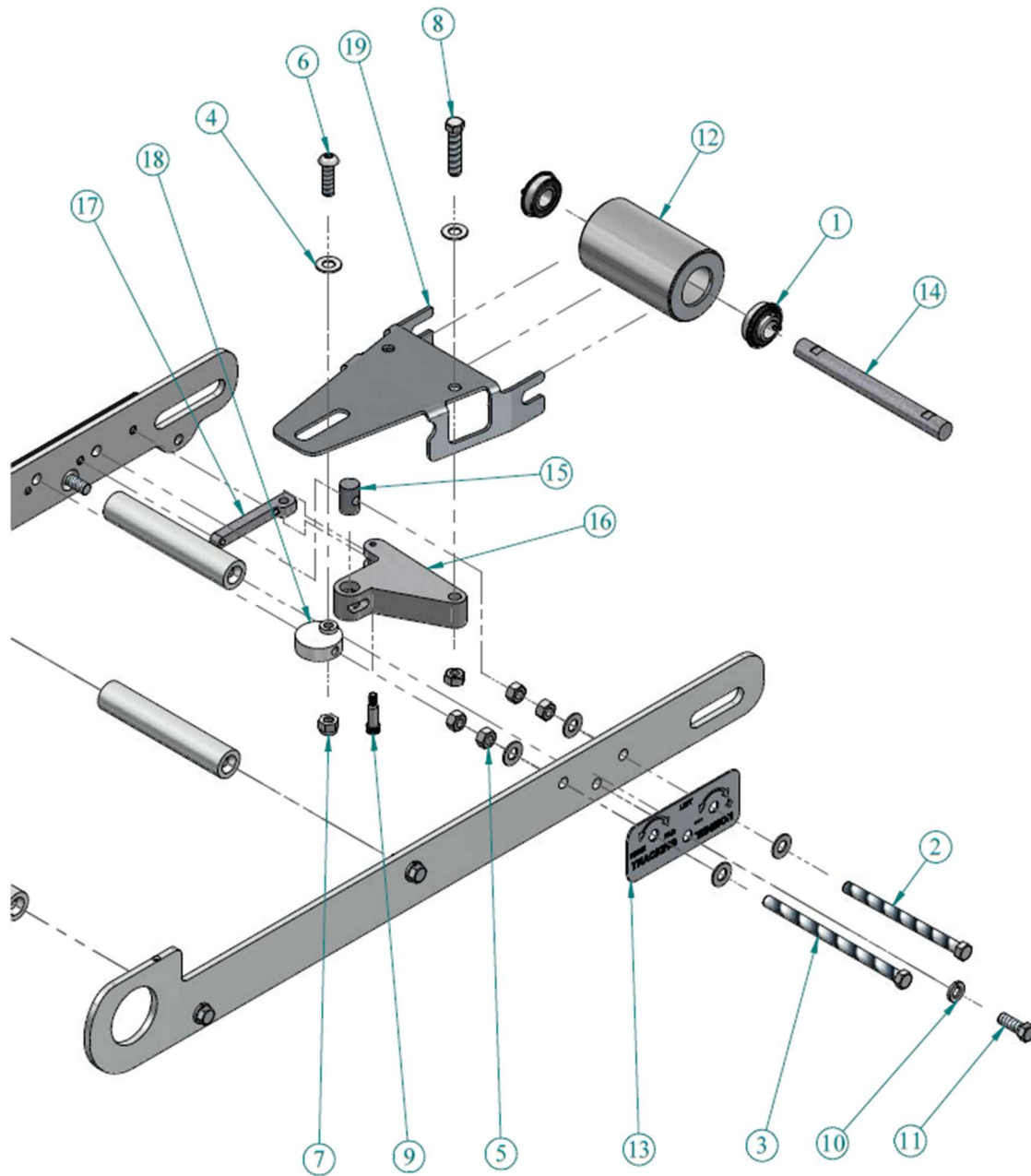
13.7.2.3: Scoop down frame 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



*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

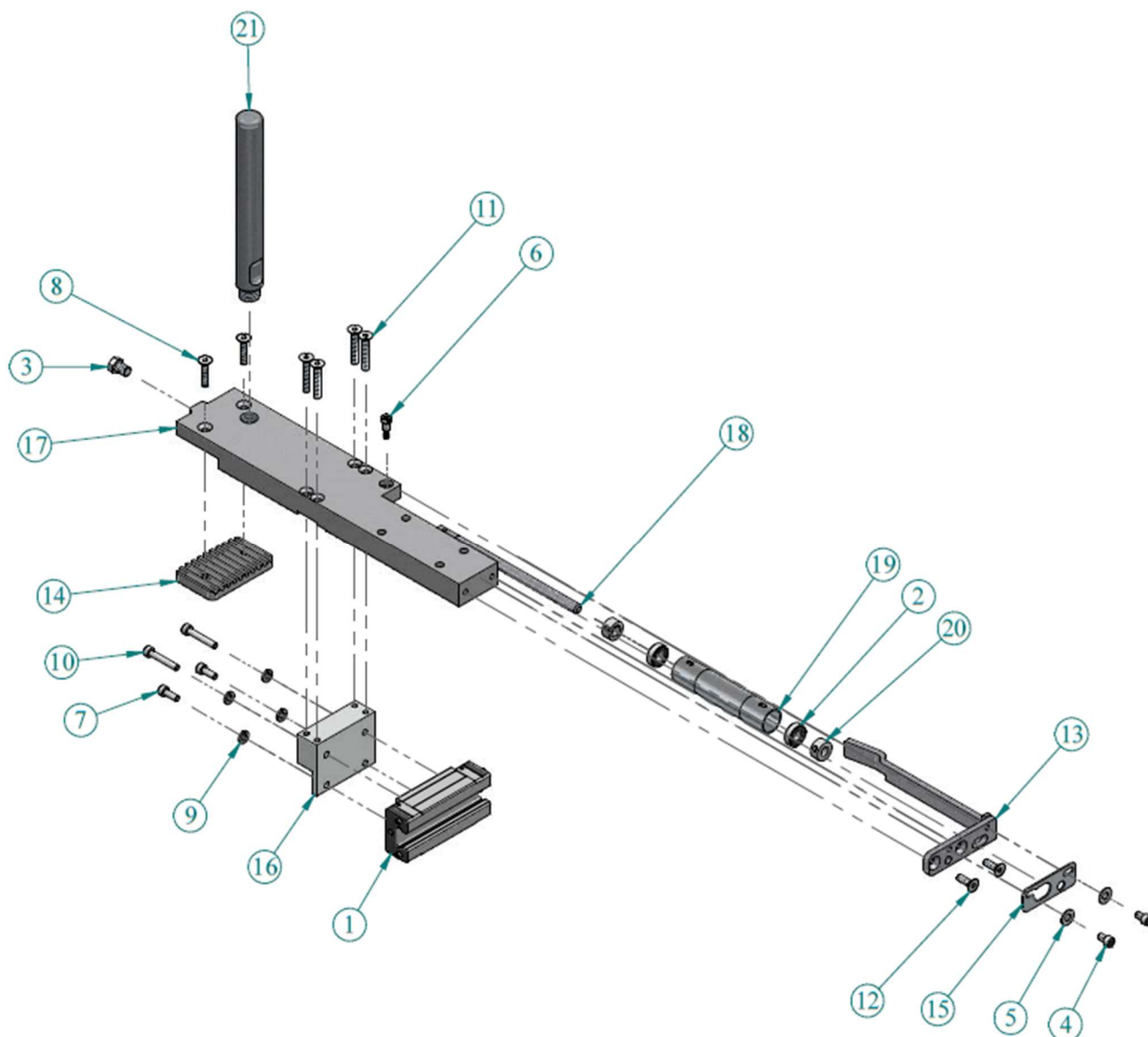
13.7.2.4: Scoop front tracking system 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



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)

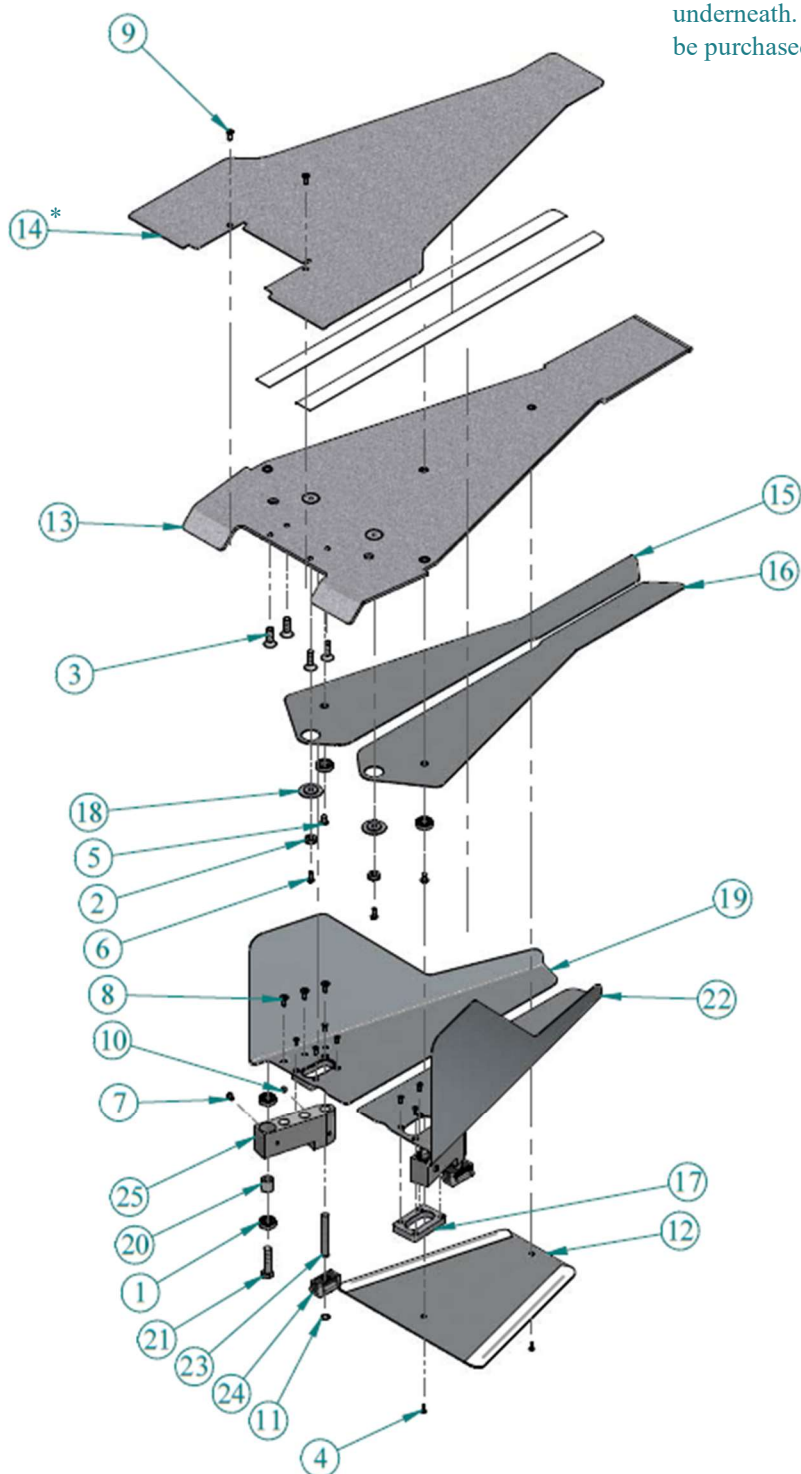


13.7.2.7: Scoop rear tracking system part list 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

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)

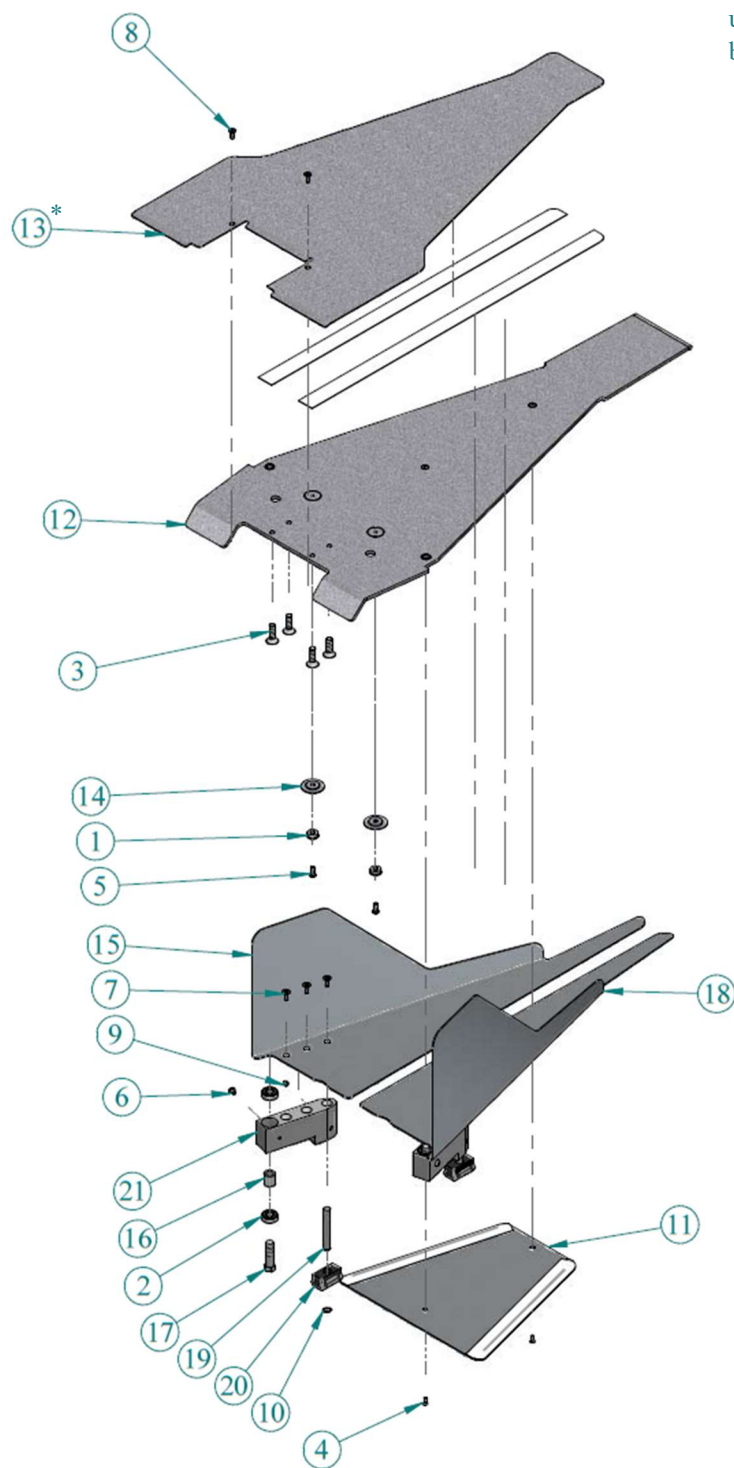


13.7.2.9: Scoop down part 5051 list 4" - 12" (KR-5051-SCOOP-04-12)

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)

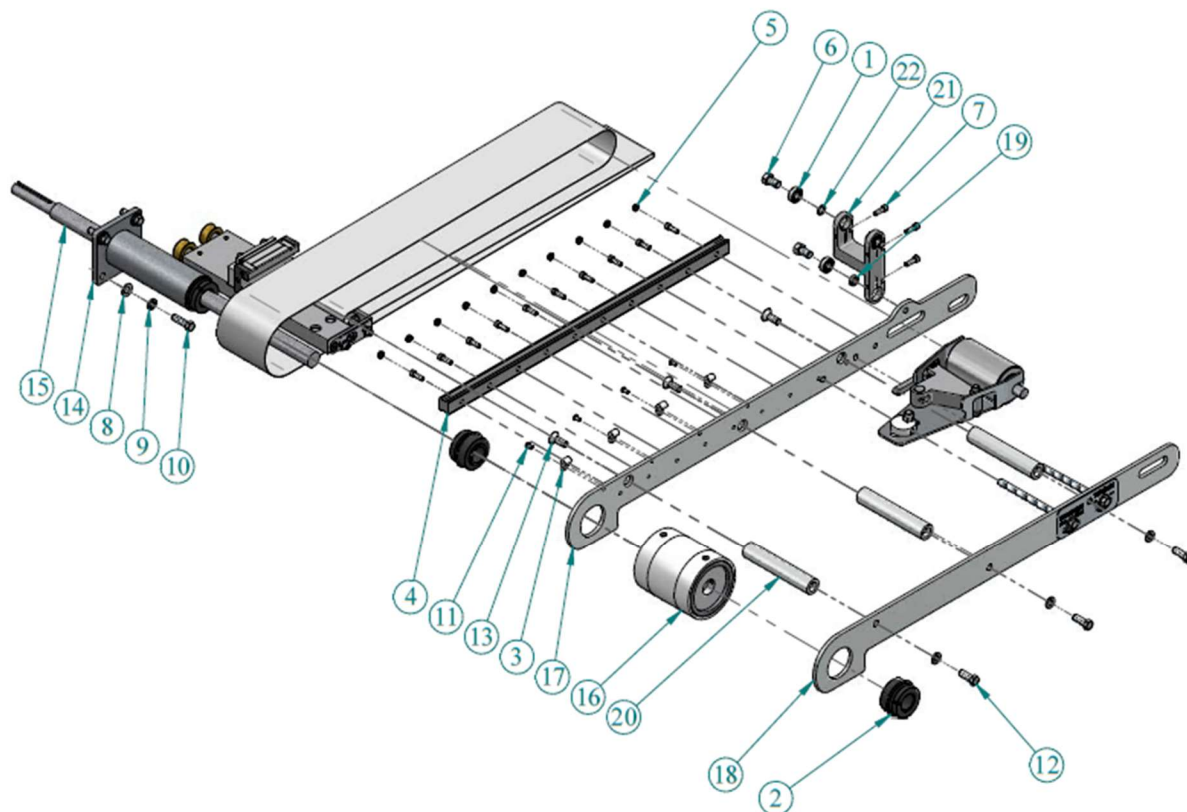
*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)



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

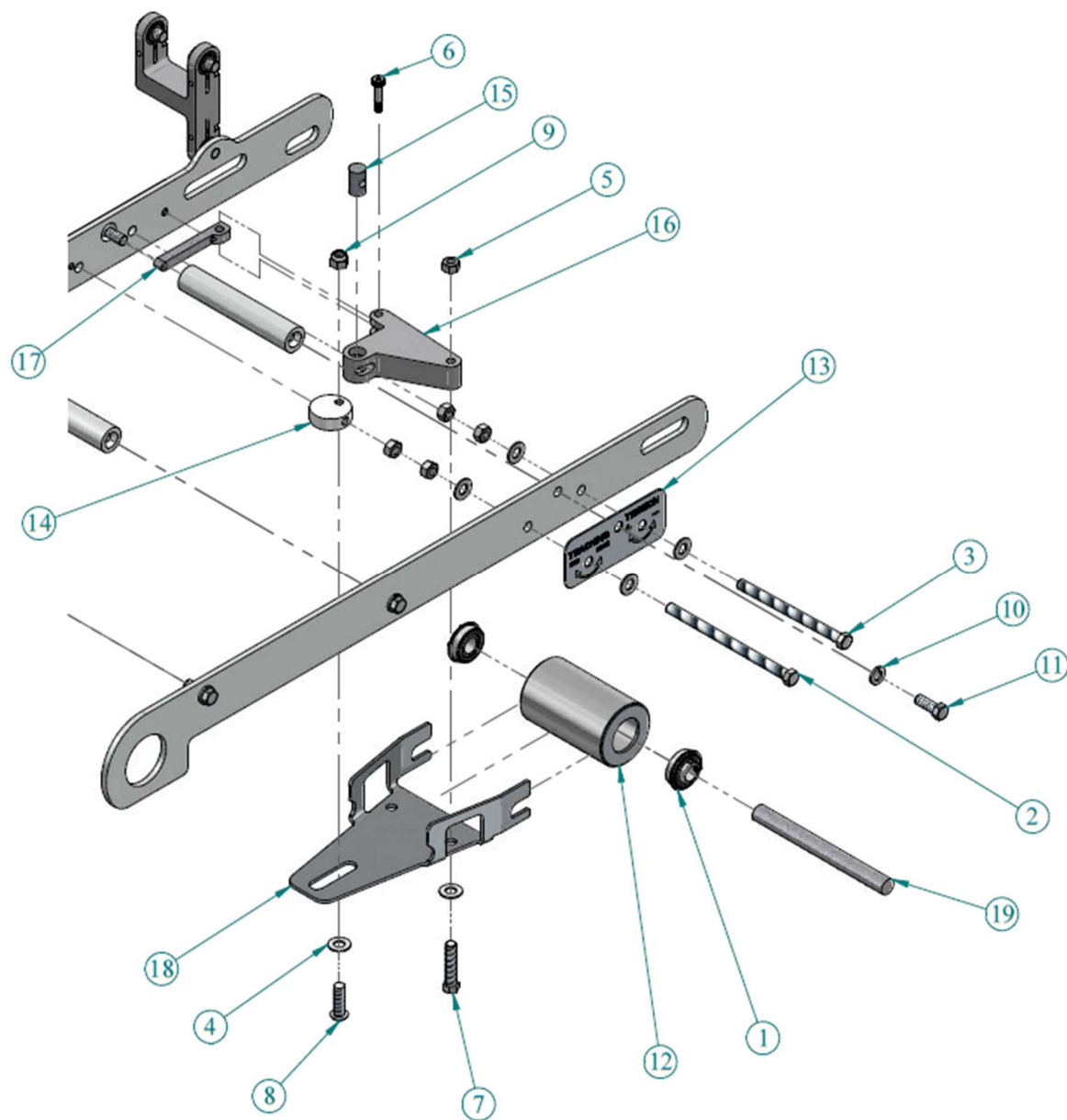
KR-5051-SCOOP-04-12-L-FIX			
No.	Part number	Qty	Title
1	P02-00049	2	BEARING
2	P02-00095	4	BEARING
3	F12-312C16S	4	FLAT HEAD 5/16-18 X 1" STAINLESS
4	F12-138C06S	2	FLAT HEAD 6-32 X 3/8" STAINLESS
5	F11-190F08S	2	BUTTON HEAD 10-32 X 1/2" STAINLESS
6	F11-190C04S	2	BUTTON HEAD 10-24 X 1/4" STAINLESS
7	F12-190F08S	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

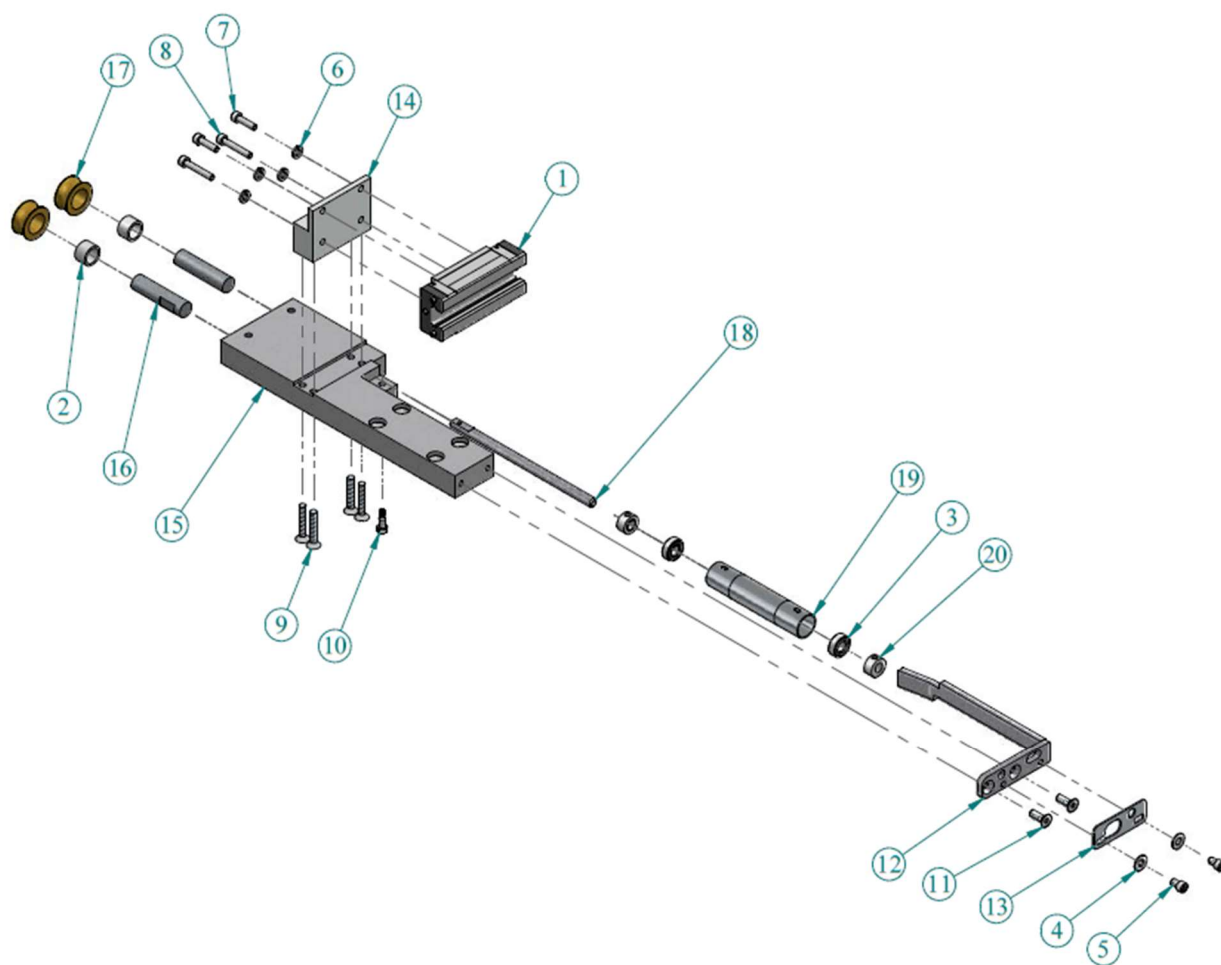
13.7.2.13: Scoop front tracking system up 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



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

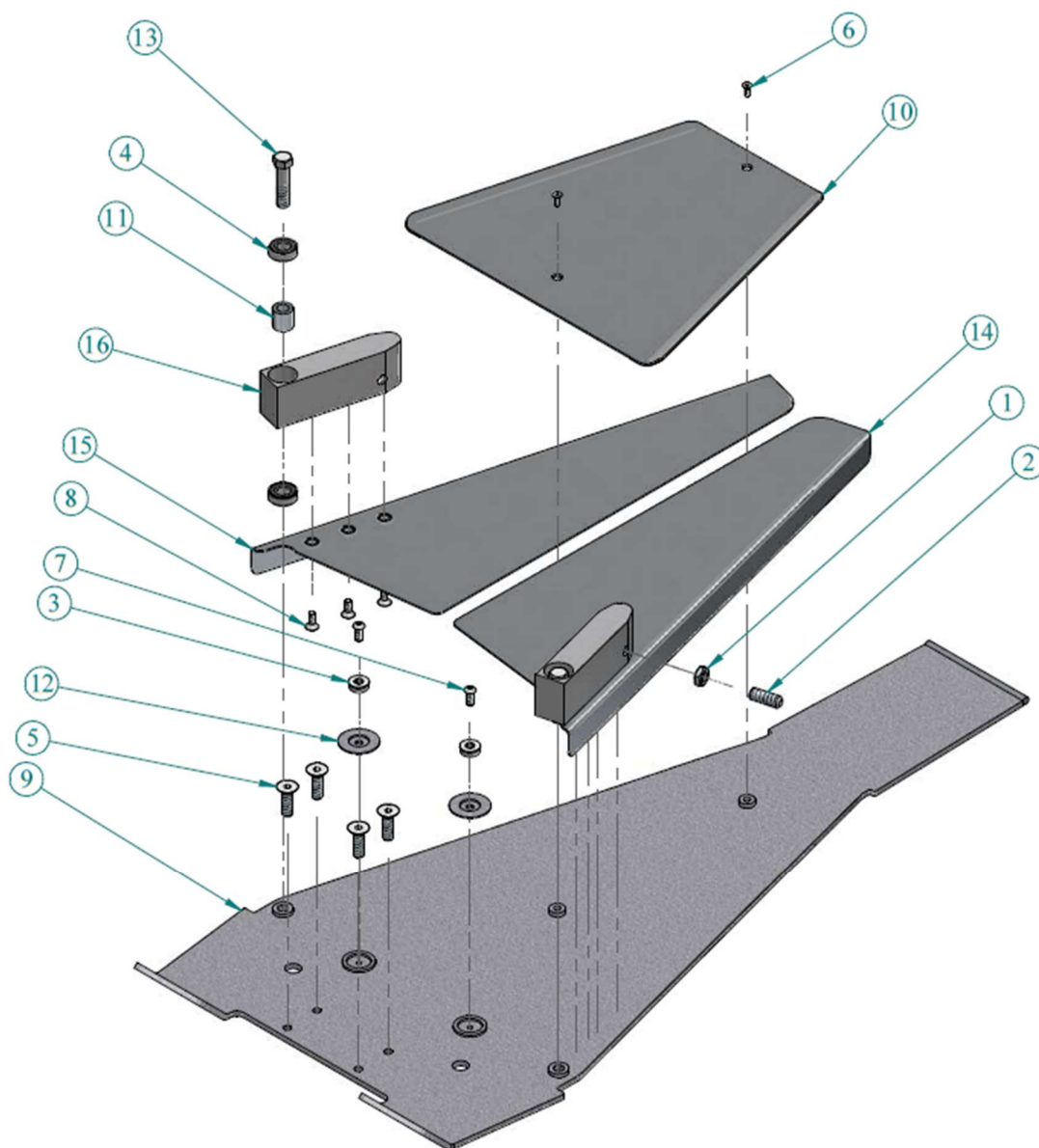
13.7.2.15: Scoop rear tracking system up 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



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

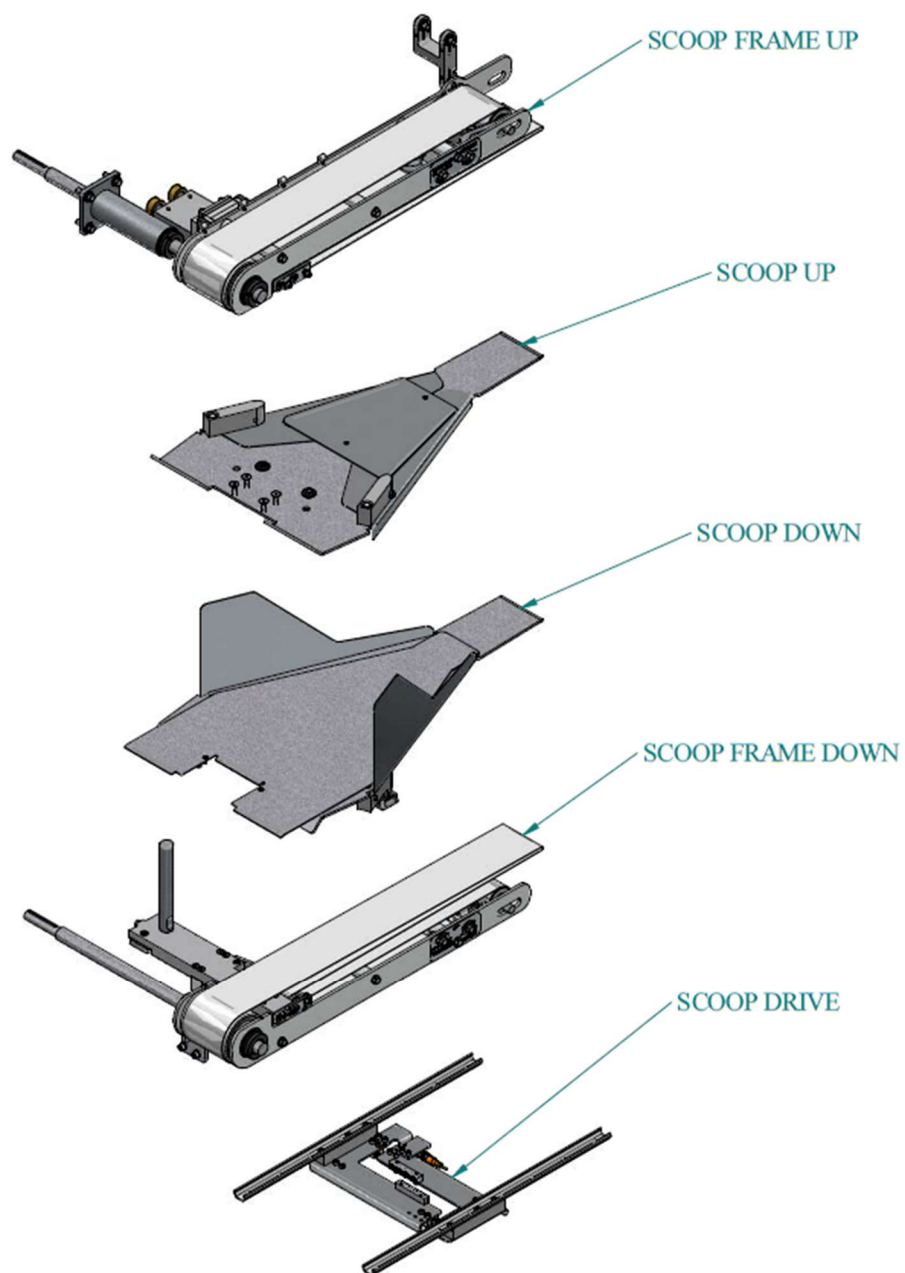
13.7.2.17: Scoop up 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)



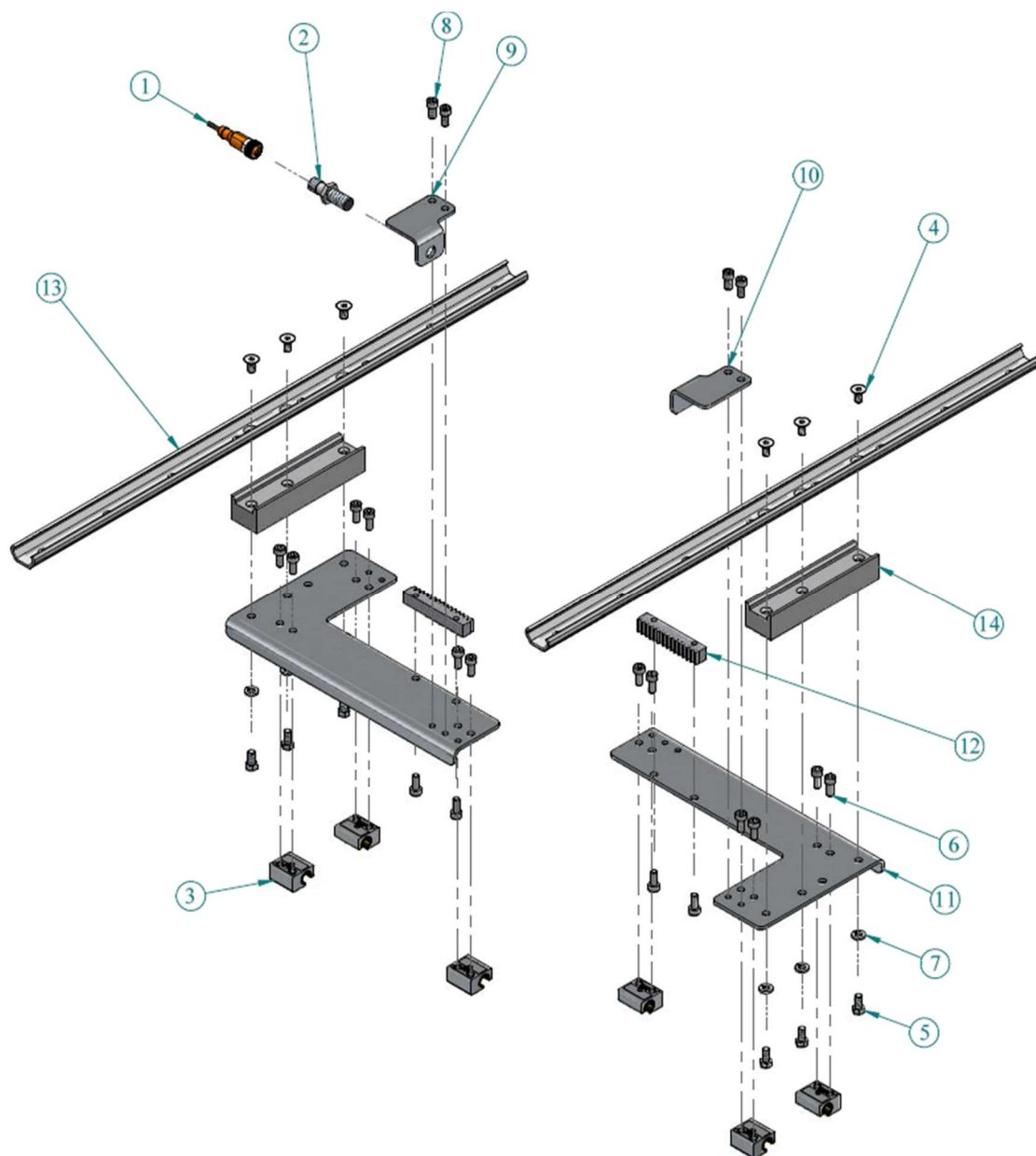
13.7.2.18: Scoop up part list 5051 4" - 12" (KR-5051-SCOOP-04-12 and KR-5051-SCOOP-04-12-FIX)

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)



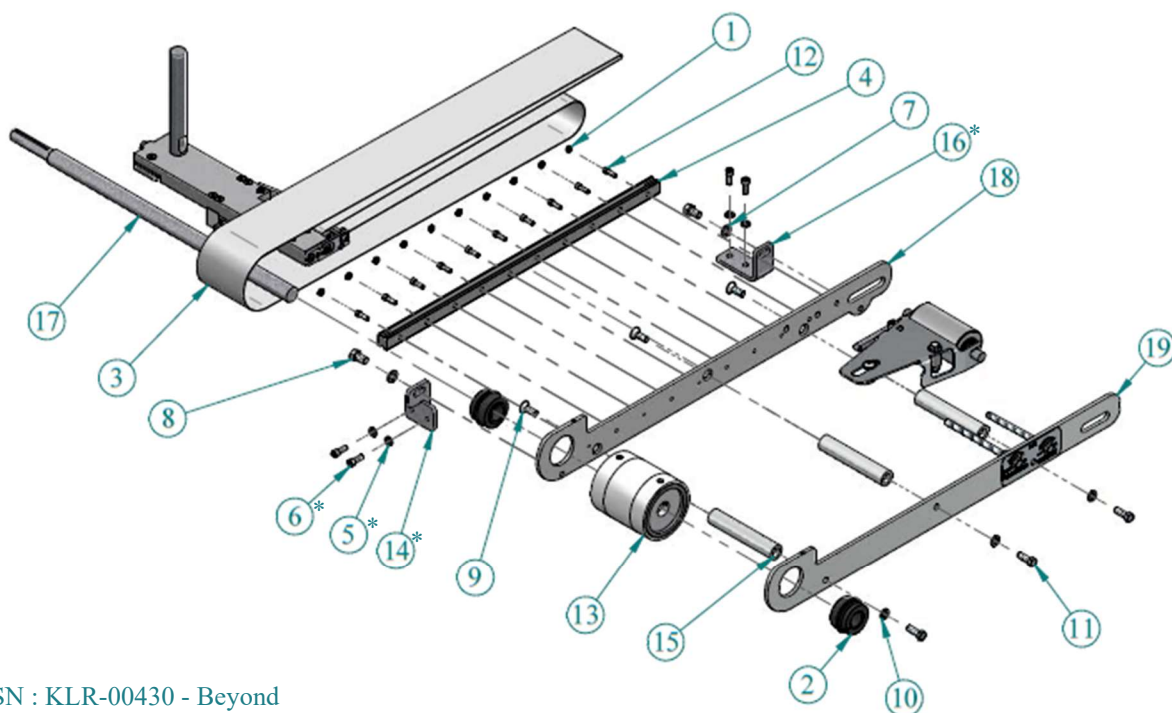
13.7.4.1: Scoop drive 5051 4" - 16" (KR-5051-SCOOP-04-16)



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

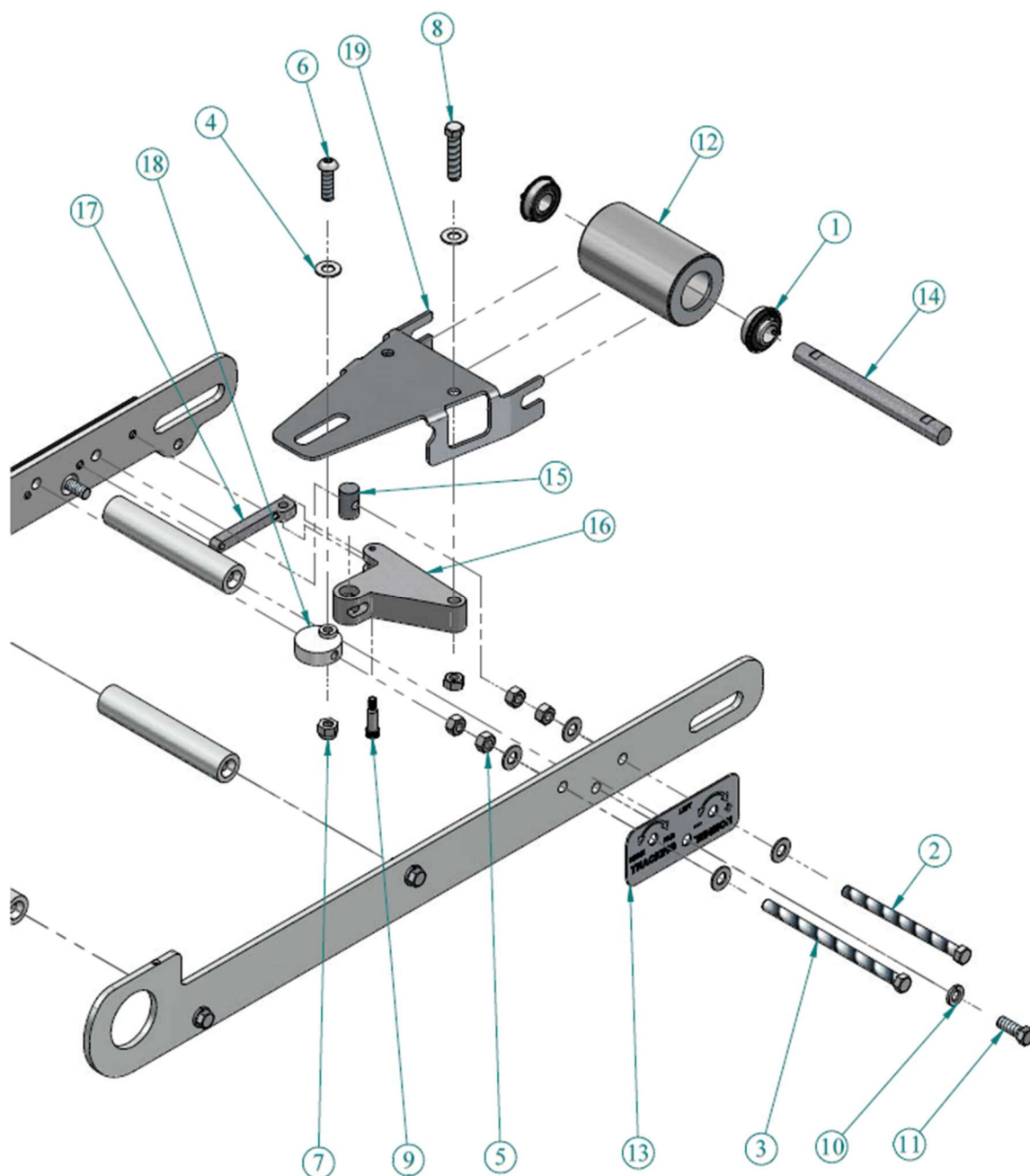
13.7.4.3: Scoop down frame 5051 4" - 16" (KR-5051-SCOOP-04-16)



*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

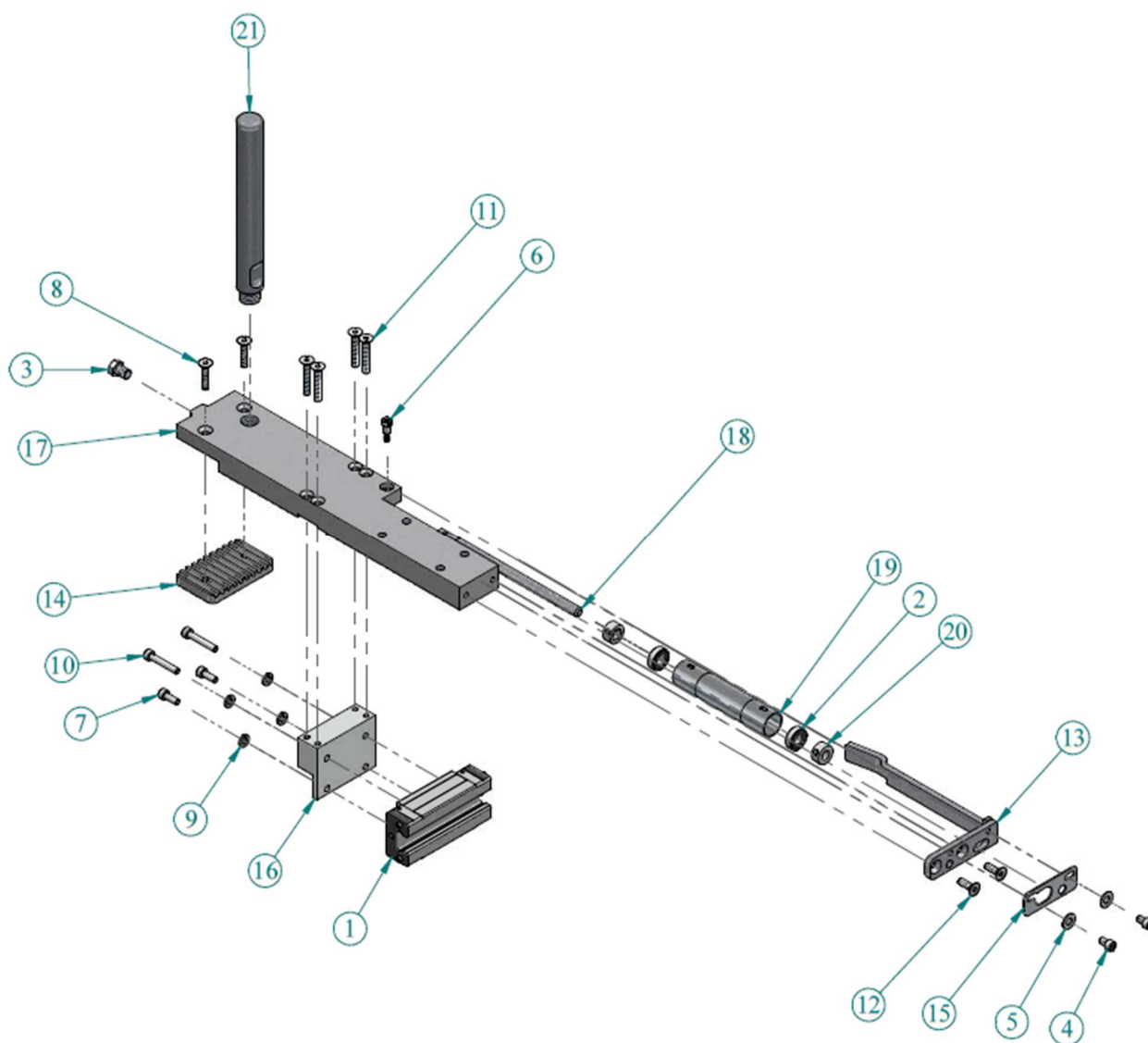
13.7.4.4: Scoop front tracking system 5051 4" - 16" (KR-5051-SCOOP-04-16)



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)

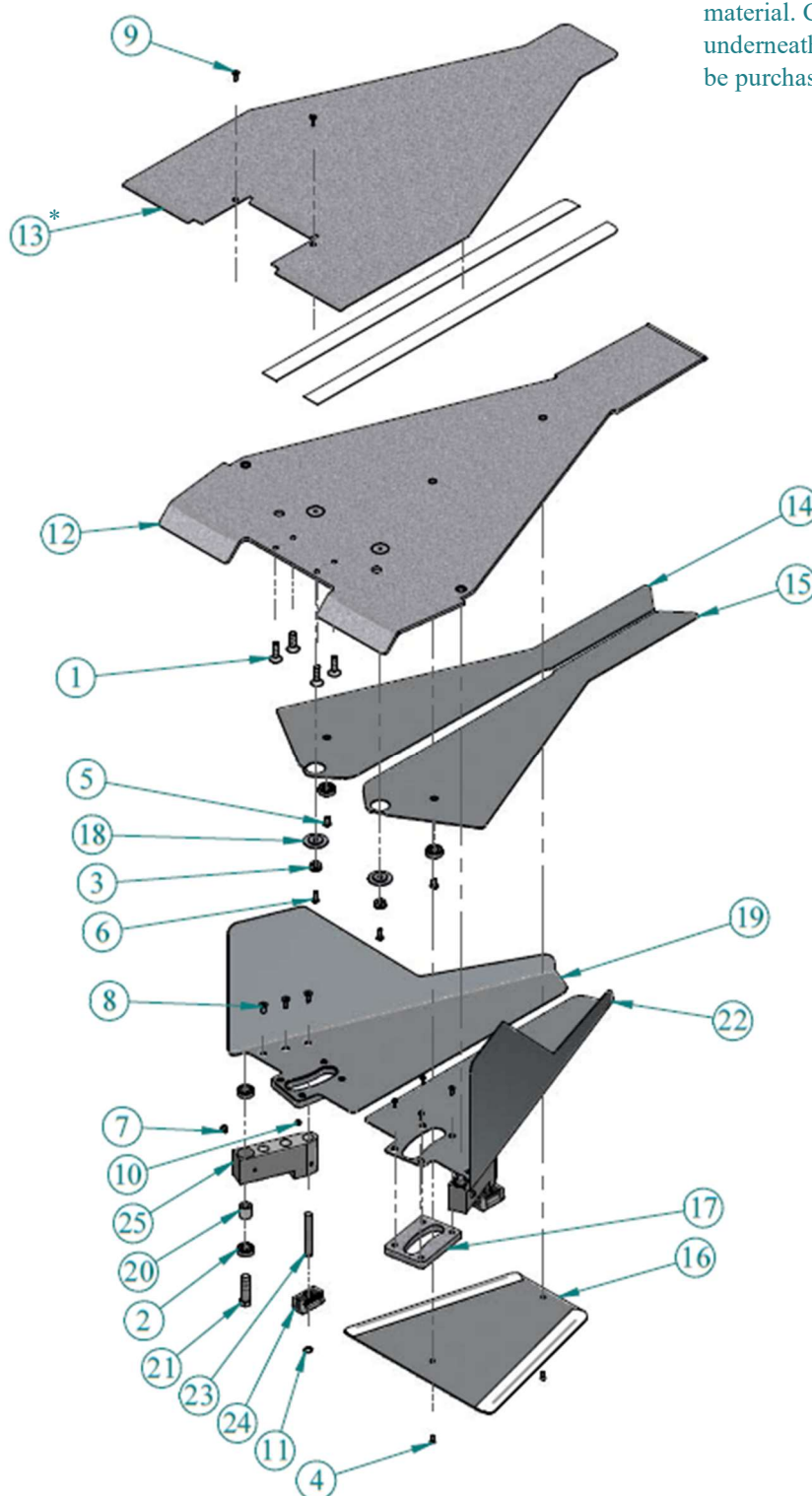


13.7.4.7: Scoop rear tracking system part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

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)

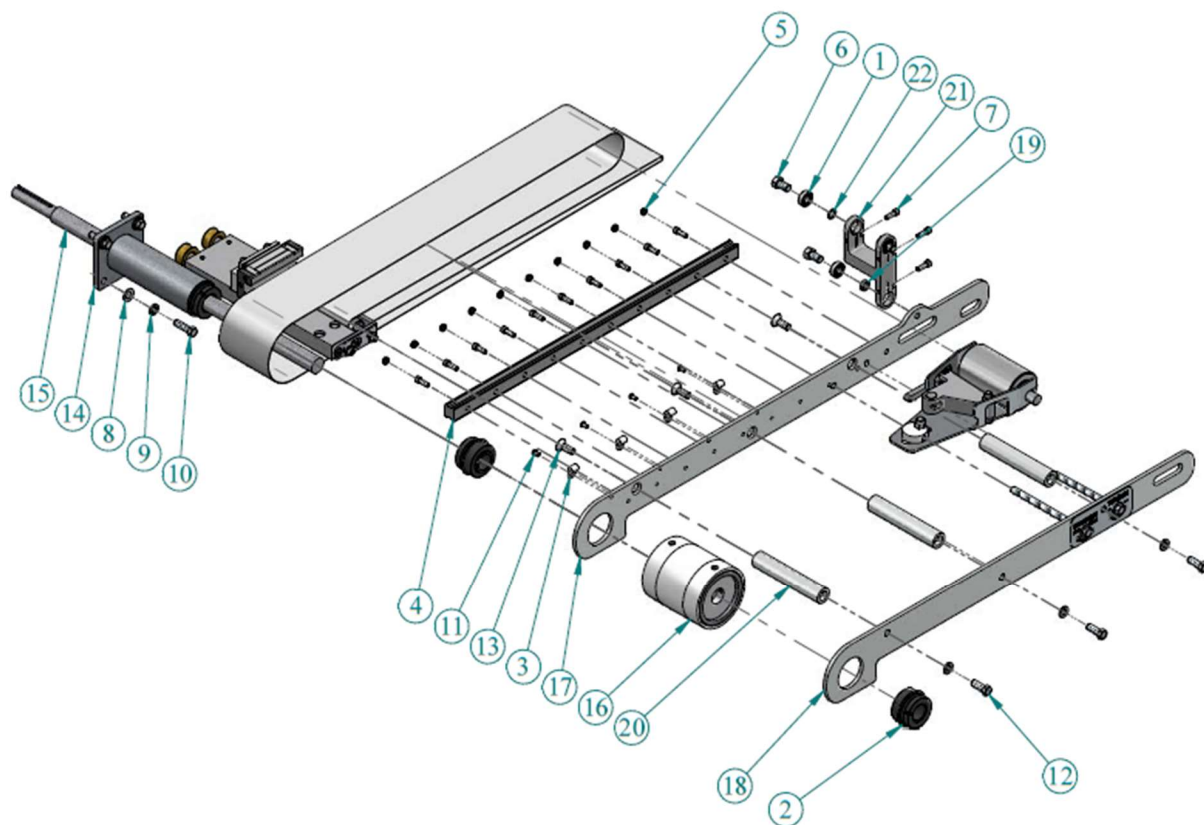
*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)



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

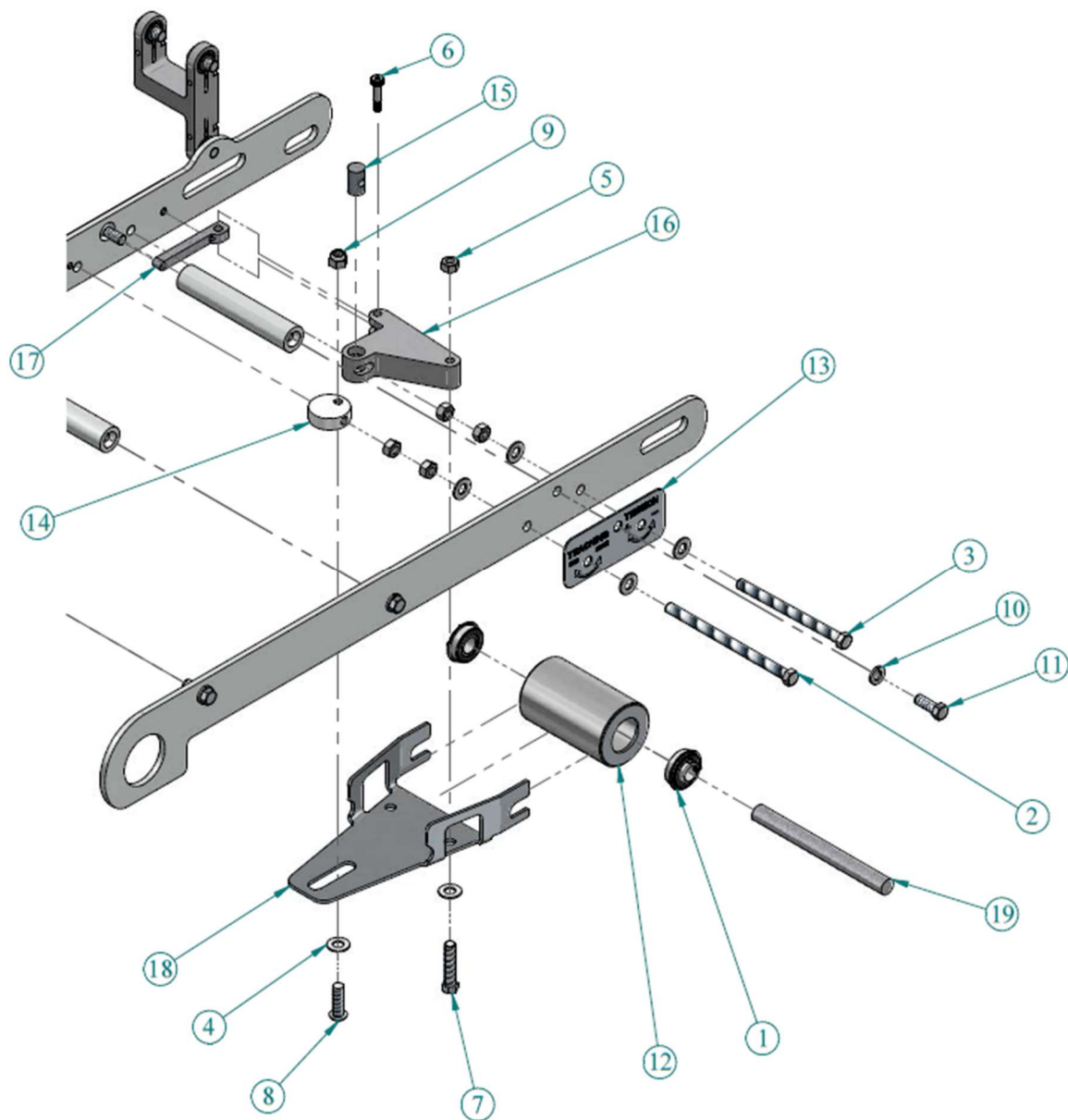
13.7.4.10: Scoop frame up 5051 4" - 16" (KR-5051-SCOOP-04-16)



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

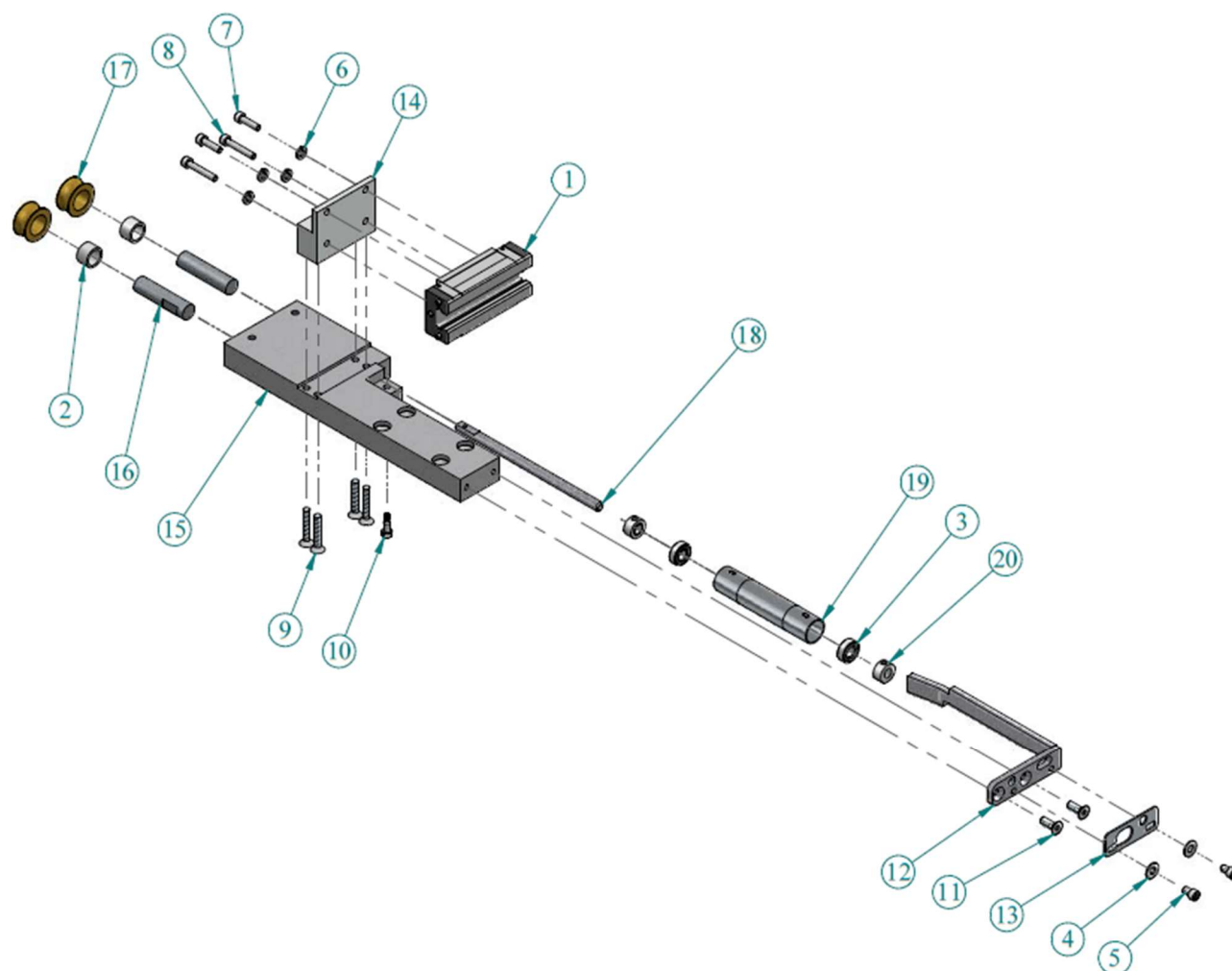
13.7.4.12: Scoop front tracking system 5051 4" - 16" (KR-5051-SCOOP-04-16)



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

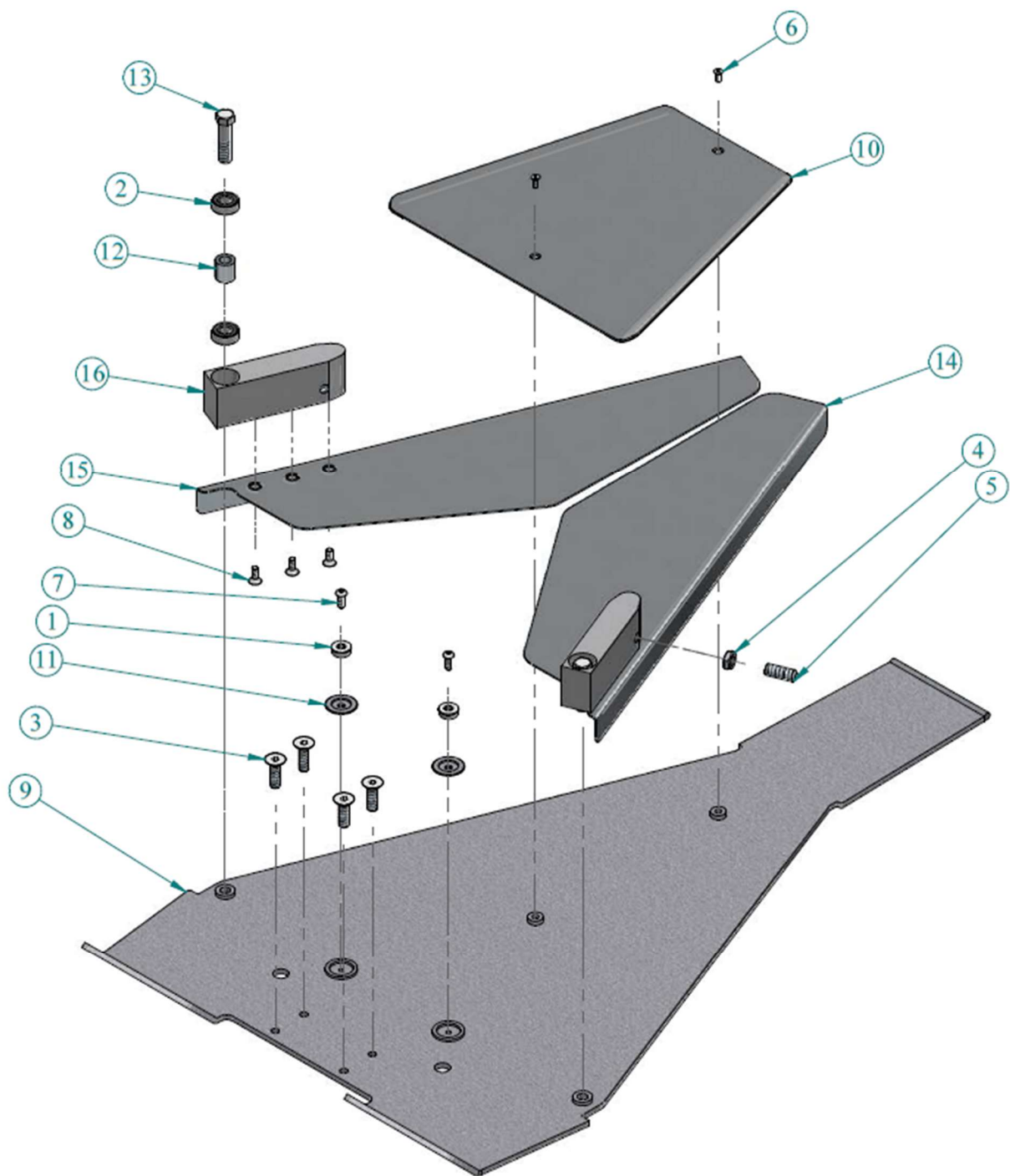
13.7.4.14: Scoop rear tracking system 5051 4" - 16" (KR-5051-SCOOP-04-16)



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

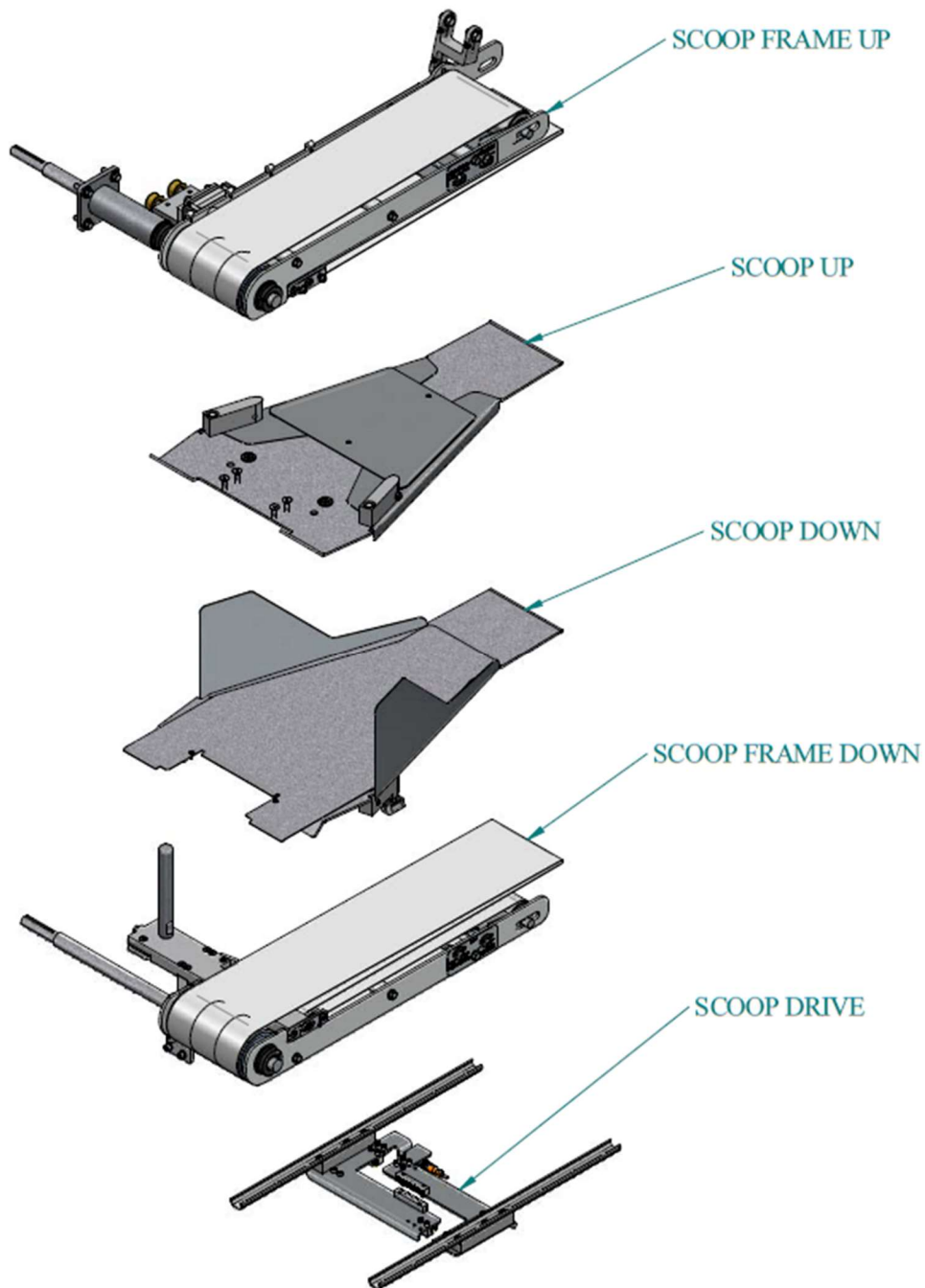
KR-5051-SCOOP-04-16-L			
No.	Part number	Qty	Title
1	PM-00191-THK	1	LINEAR COMPACT GUIDE BLOCK THK
2	P02-00199	2	BEARING NEEDLE
3	P02-00095	2	BEARING
4	F01-250S	2	FLAT WASHER 1/4 STAINLESS
5	F10-250C06S	2	SOCKET CAP 1/4-20 X 3/8" STAINLESS
6	F02-250S	4	LOCK WASHER #14 STAINLESS
7	F10-M6-1X22S	2	SOCKET 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)

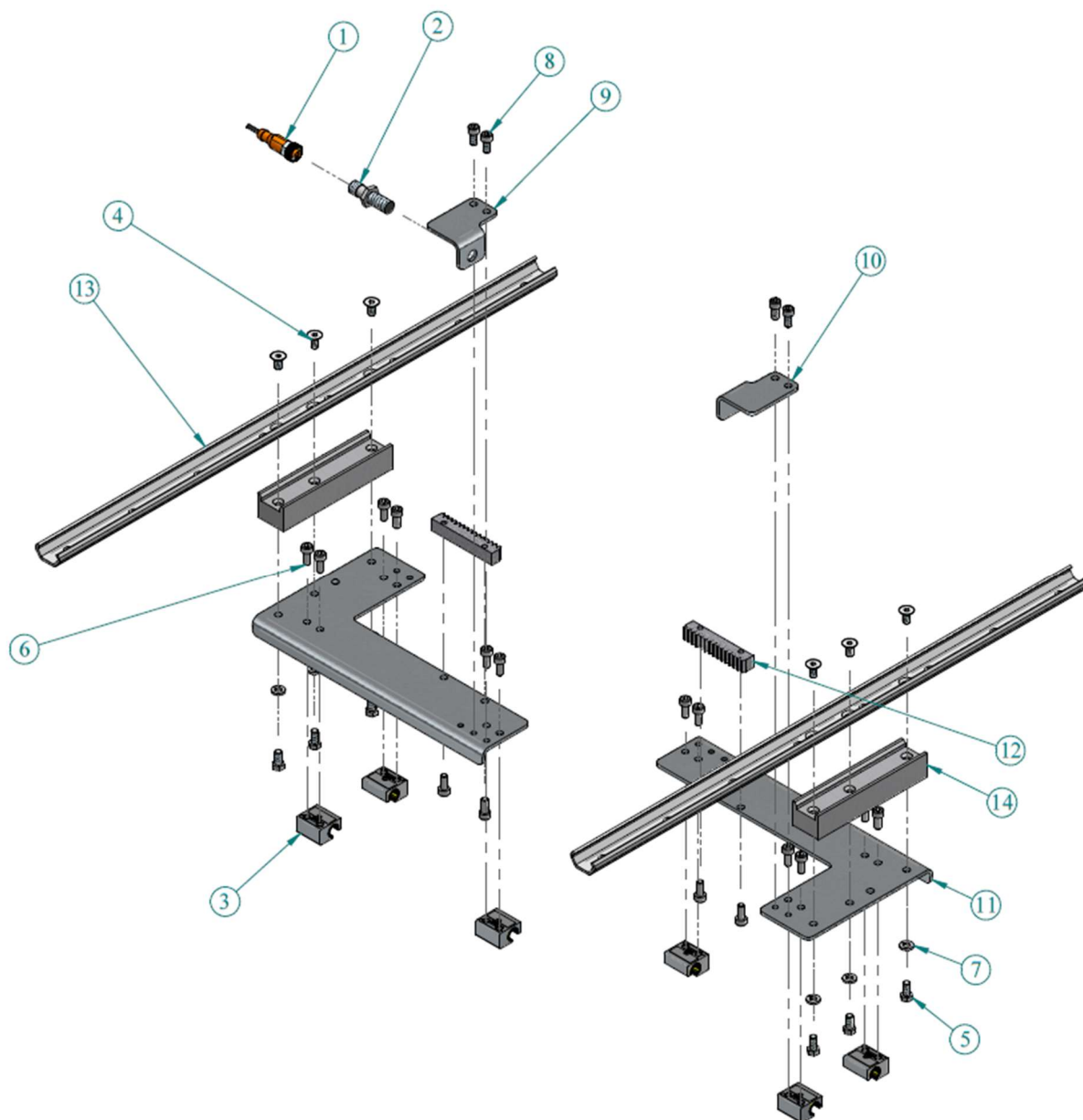


13.7.4.17: Scoop up part list 5051 4" - 16" (KR-5051-SCOOP-04-16)

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)

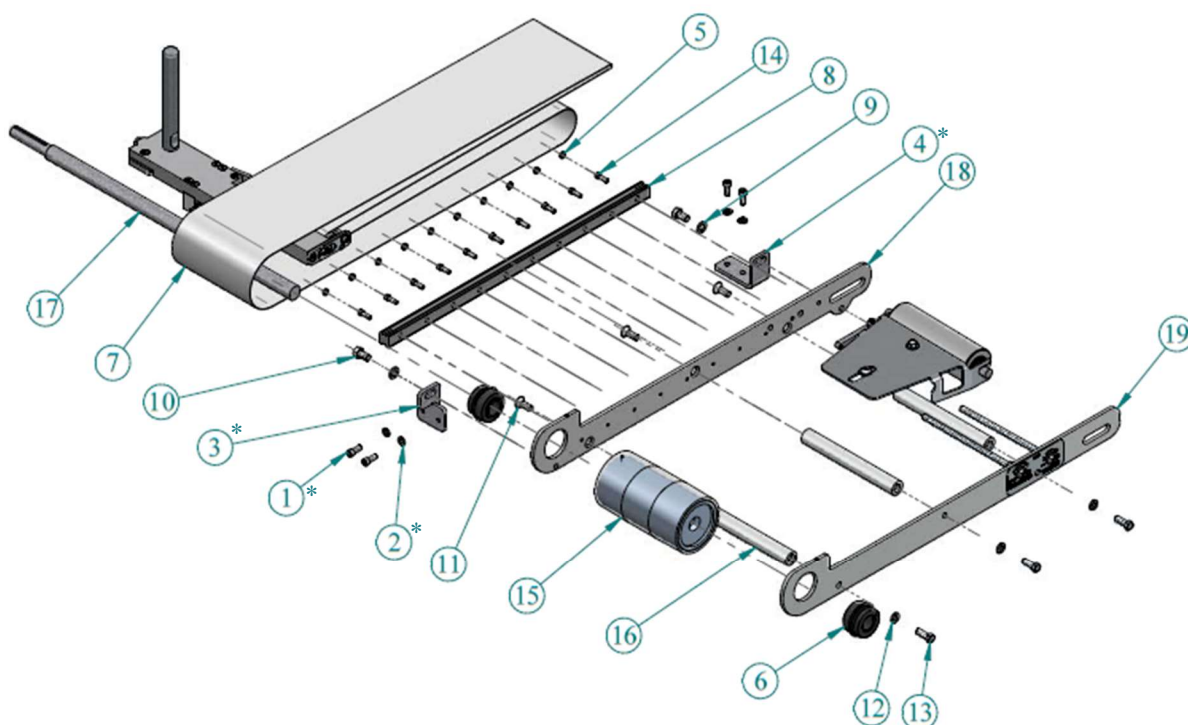
13.7.5.1: Scoop drive 5051 7" - 16" (KR-5051-SCOOP-07-16)



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

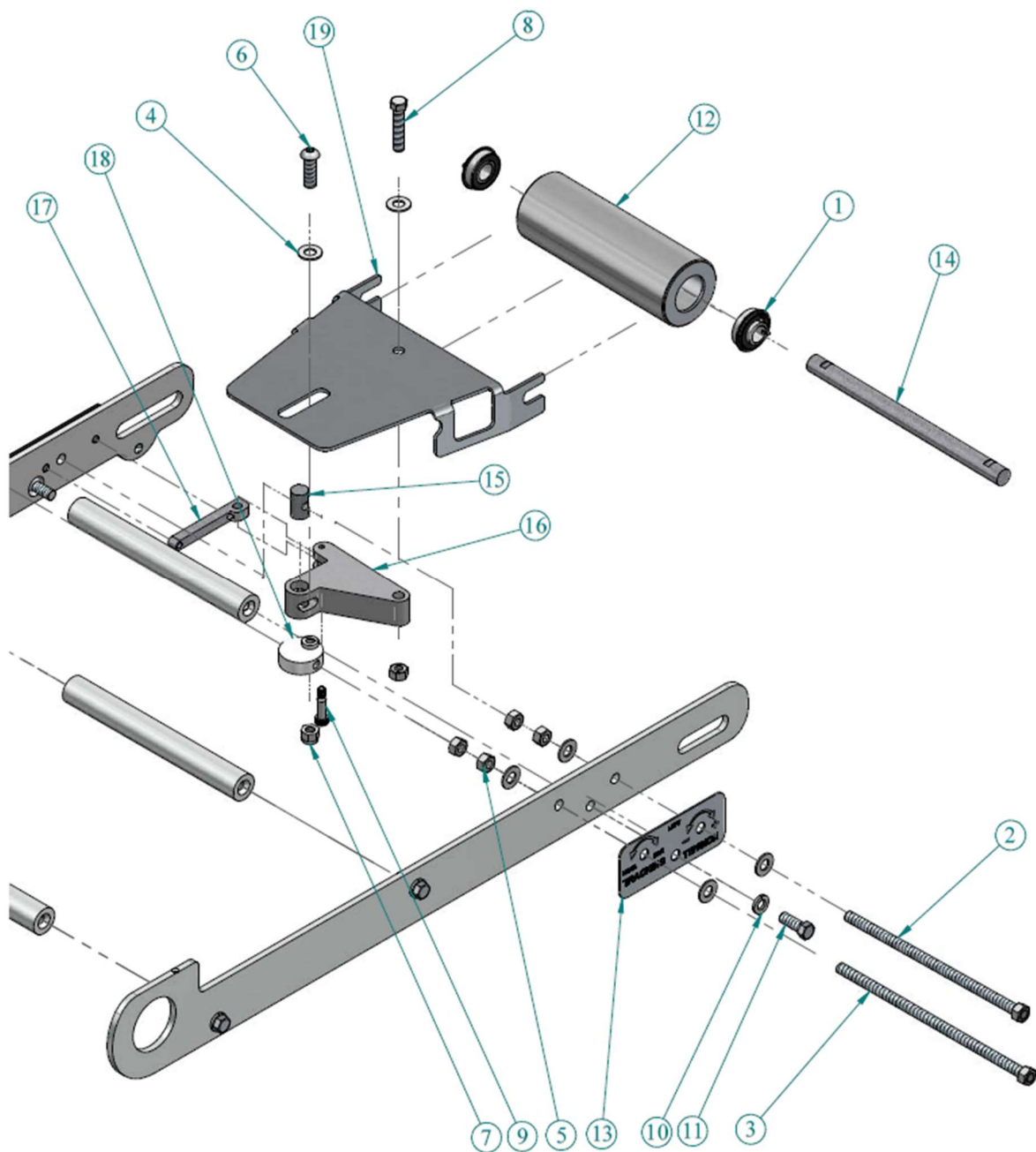
13.7.5.3: Scoop down frame 5051 7" - 16" (KR-5051-SCOOP-07-16)



*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

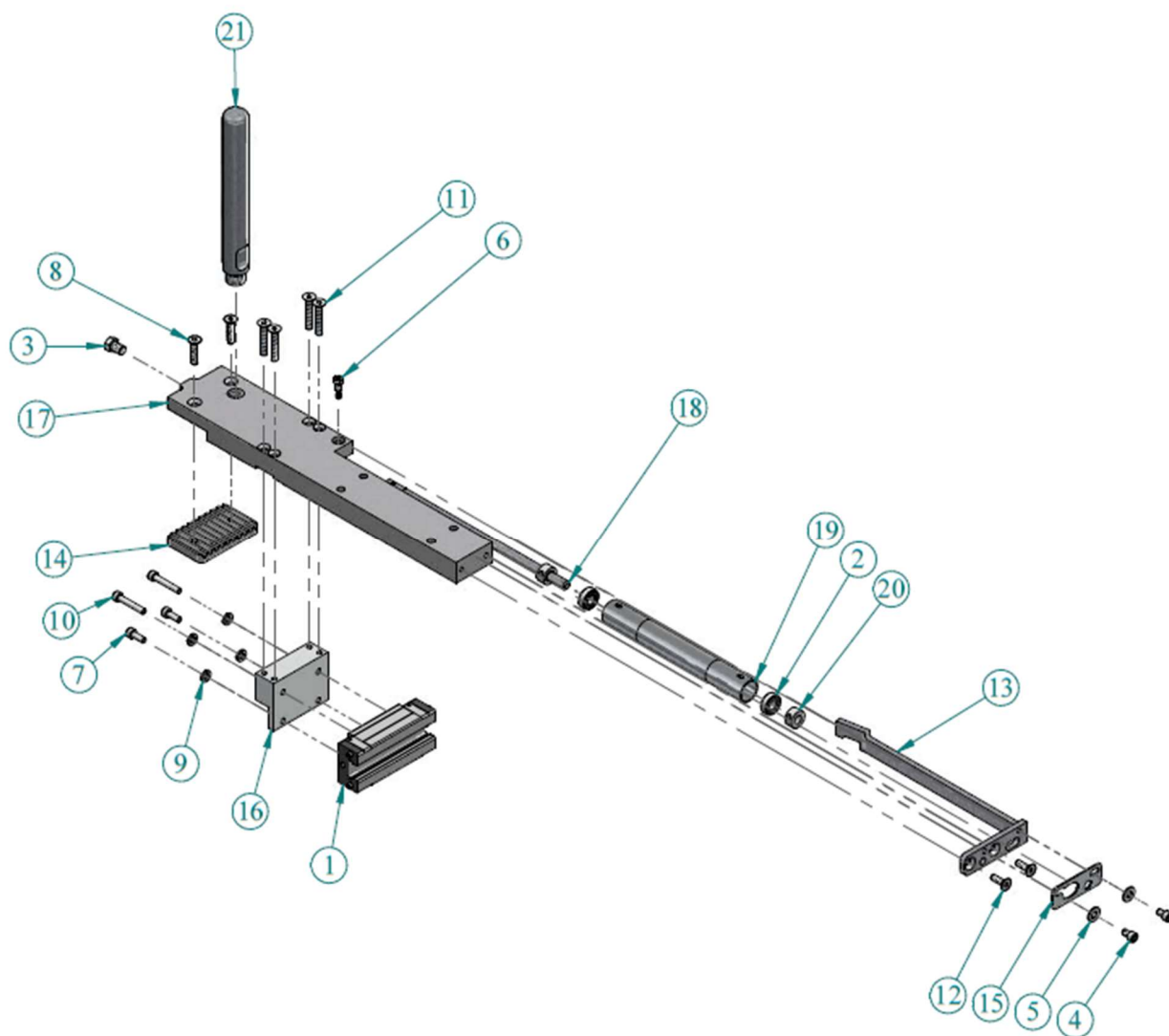
13.7.5.4: Scoop front tracking system 5051 7" - 16" (KR-5051-SCOOP-07-16)



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

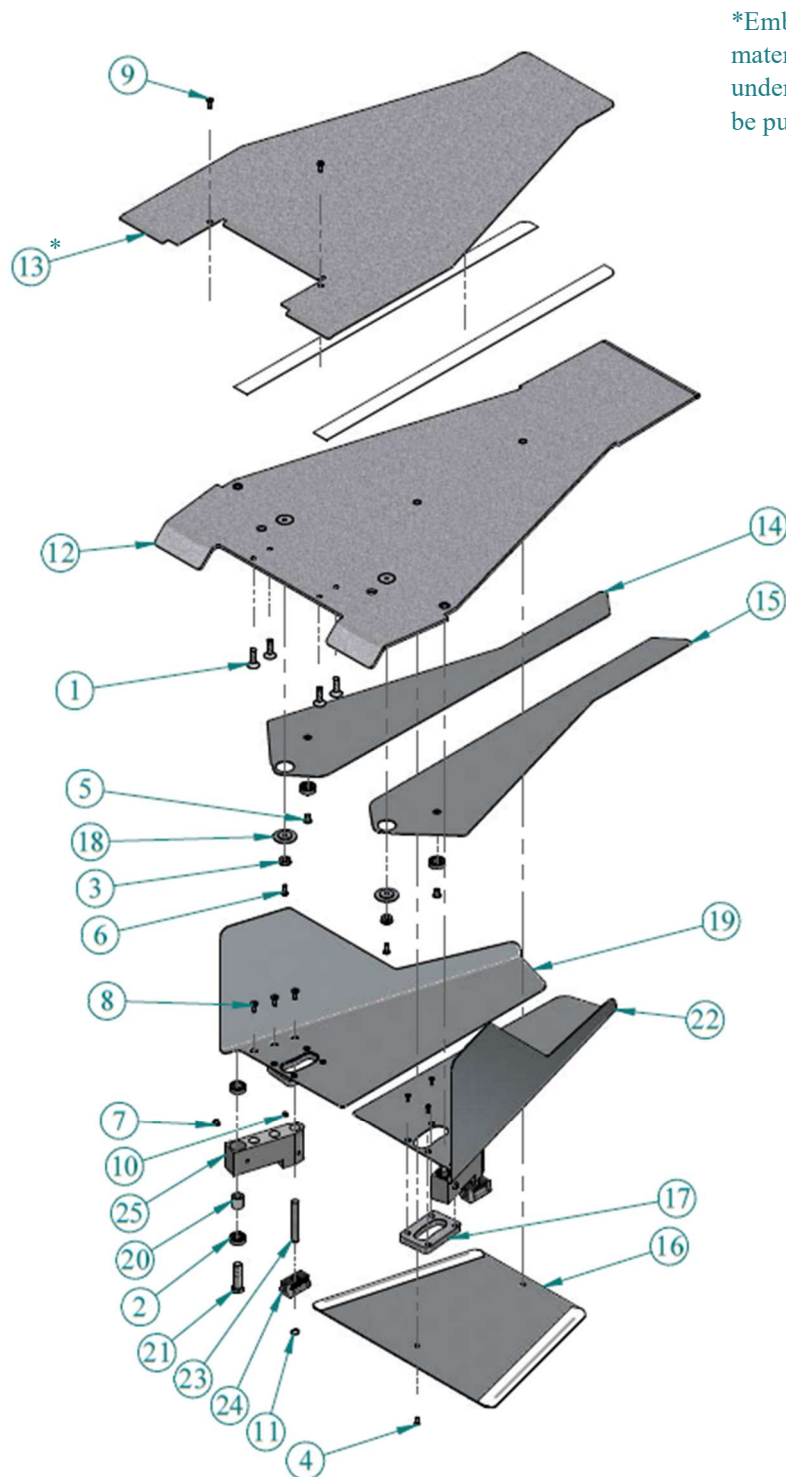
13.7.5.6: Scoop rear tracking system 5051 7" - 16" (KR-5051-SCOOP-07-16)



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)

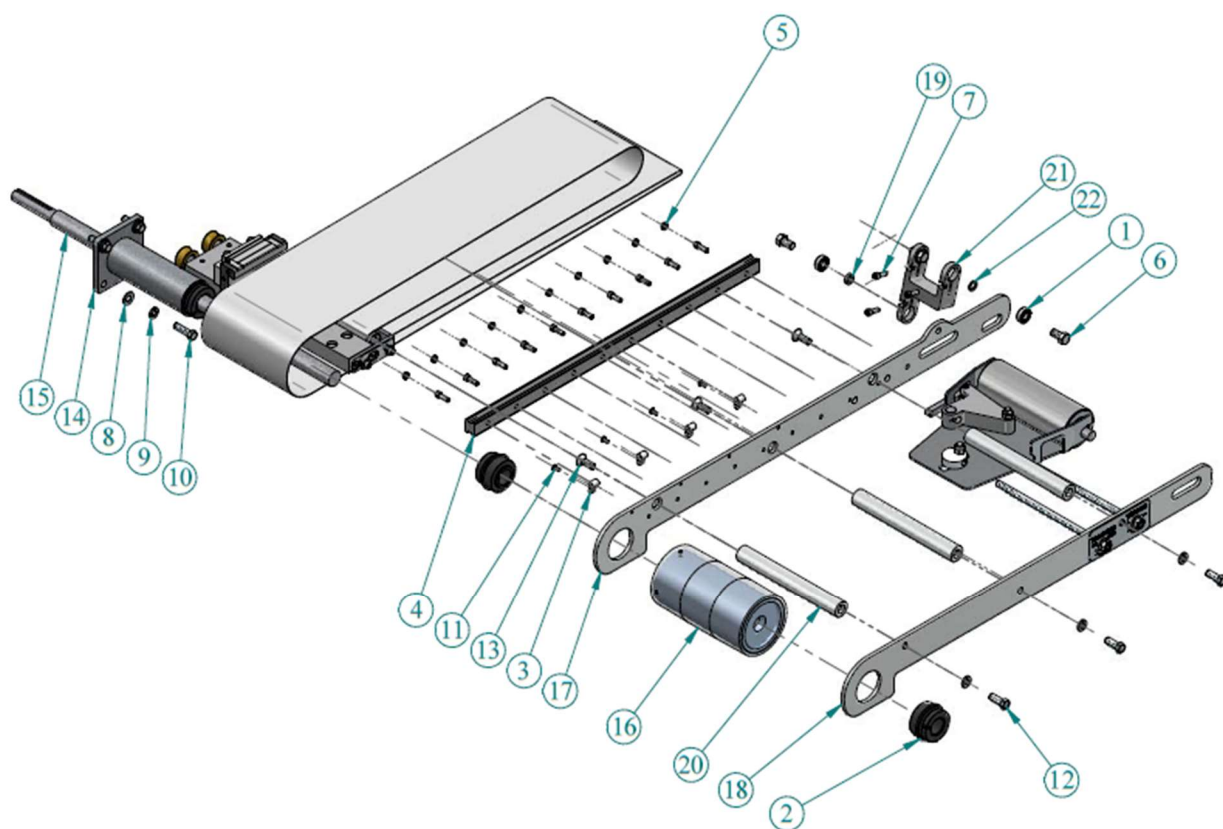


*Embossed frictionless stainless-steel material. Comes with Teflon tape underneath. This Teflon tape can also be purchased by inches (PM-01709)

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

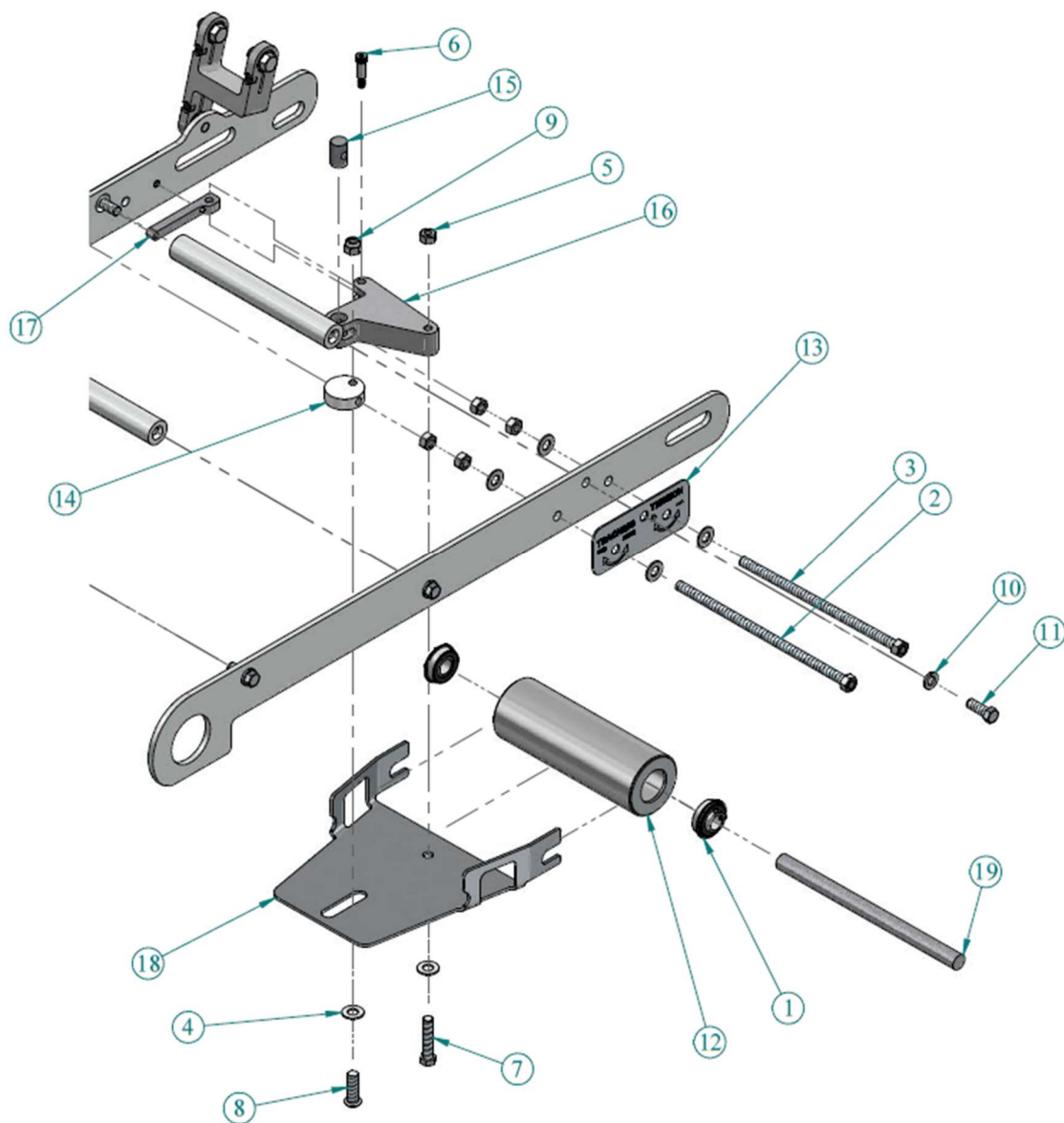
13.7.5.10: Scoop frame up 5051 7" - 16" (KR-5051-SCOOP-07-16)



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

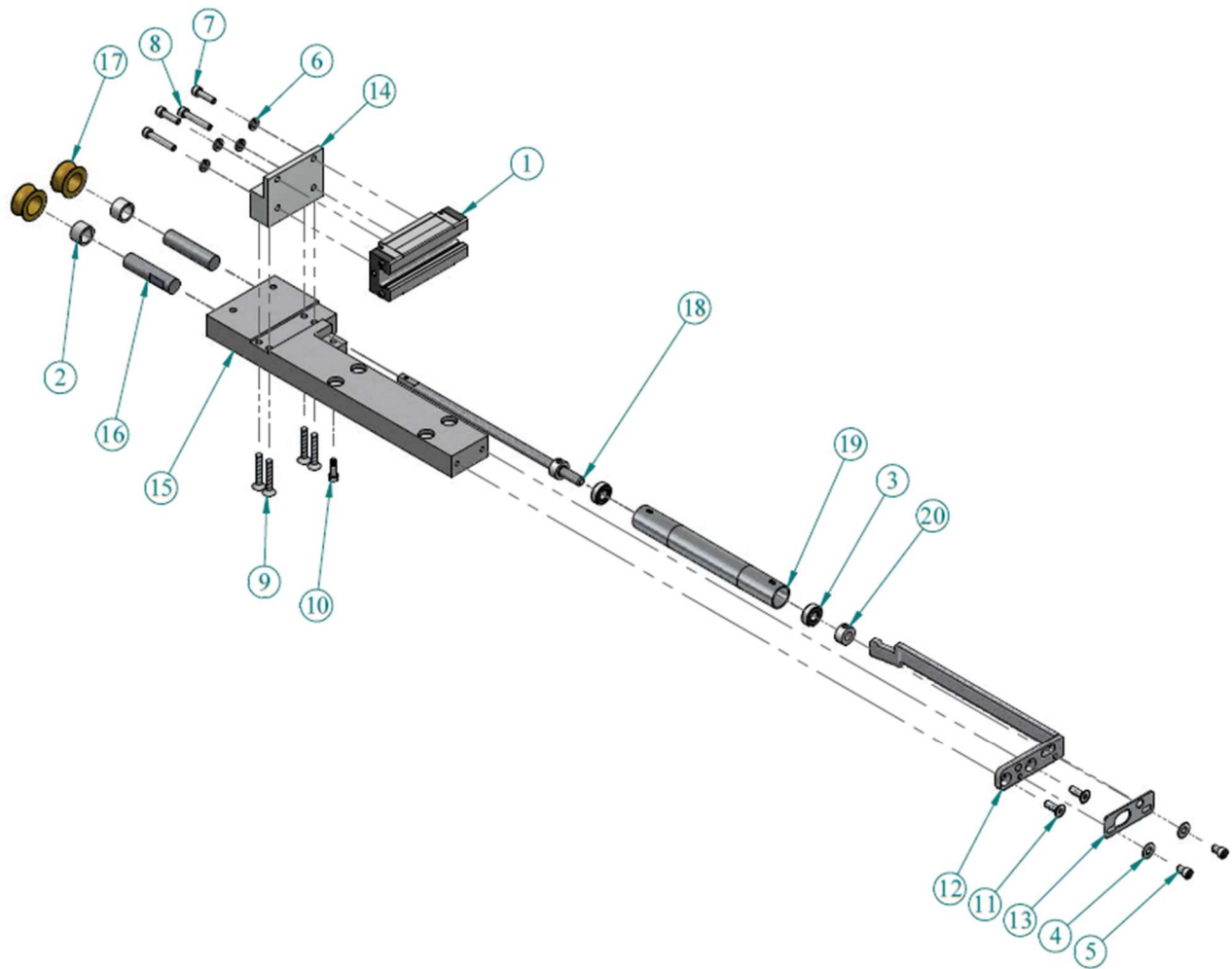
13.7.5.12: Scoop front tracking systems up 5051 7" - 16" (KR-5051-SCOOP-07-16)



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

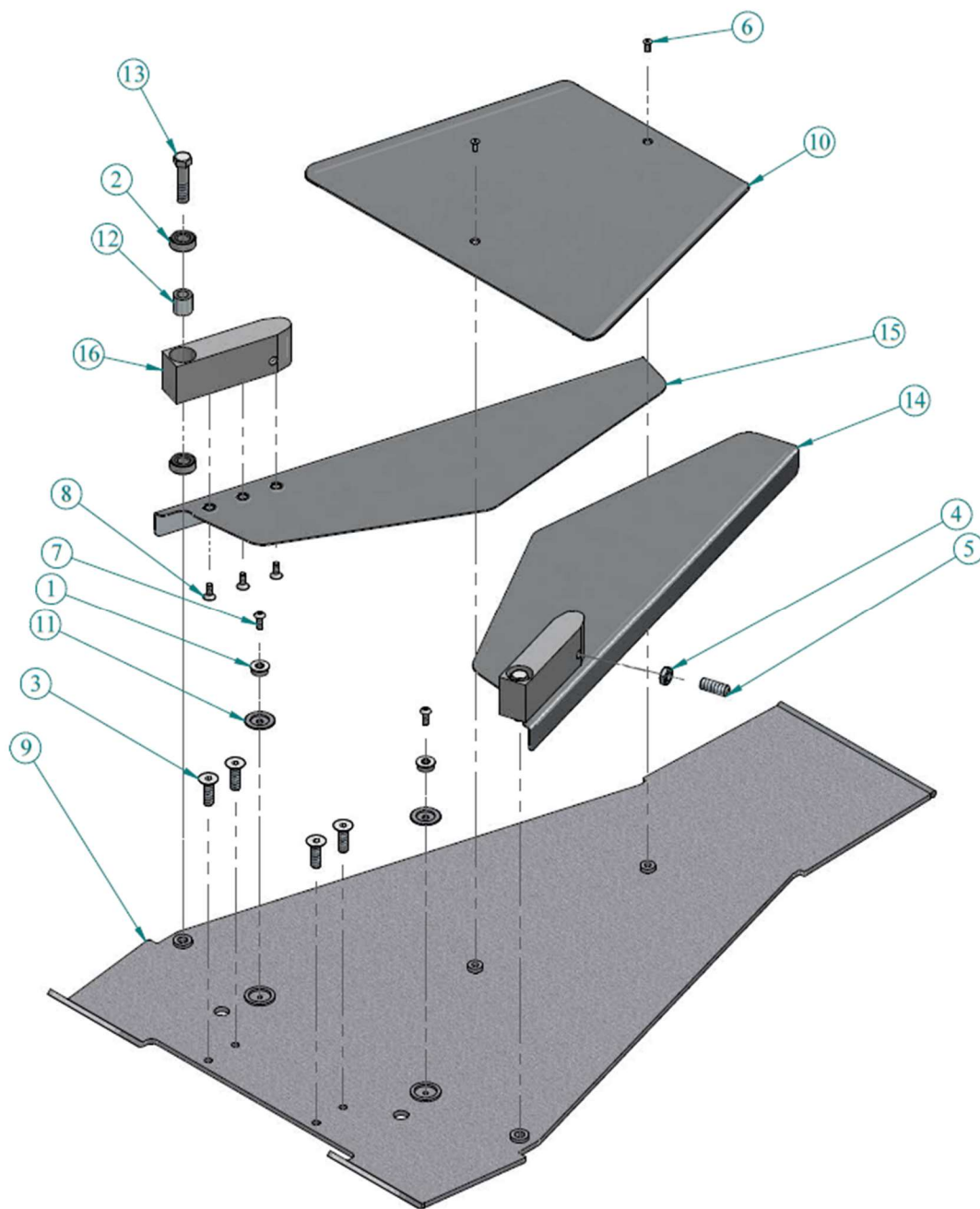
13.7.5.14: Scoop rear tracking systems up 5051 7" - 16" (KR-5051-SCOOP-07-16)



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

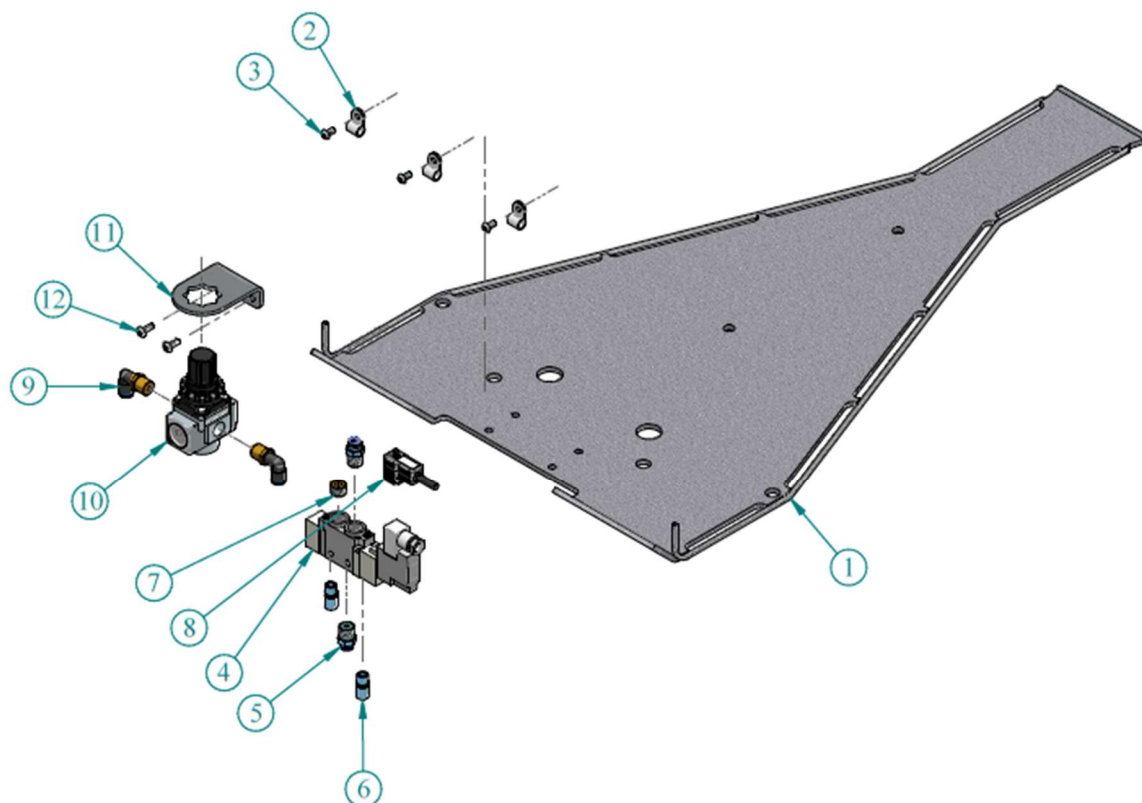
13.7.5.16: Scoop up 5051 7" - 16" (KR-5051-SCOOP-07-16)



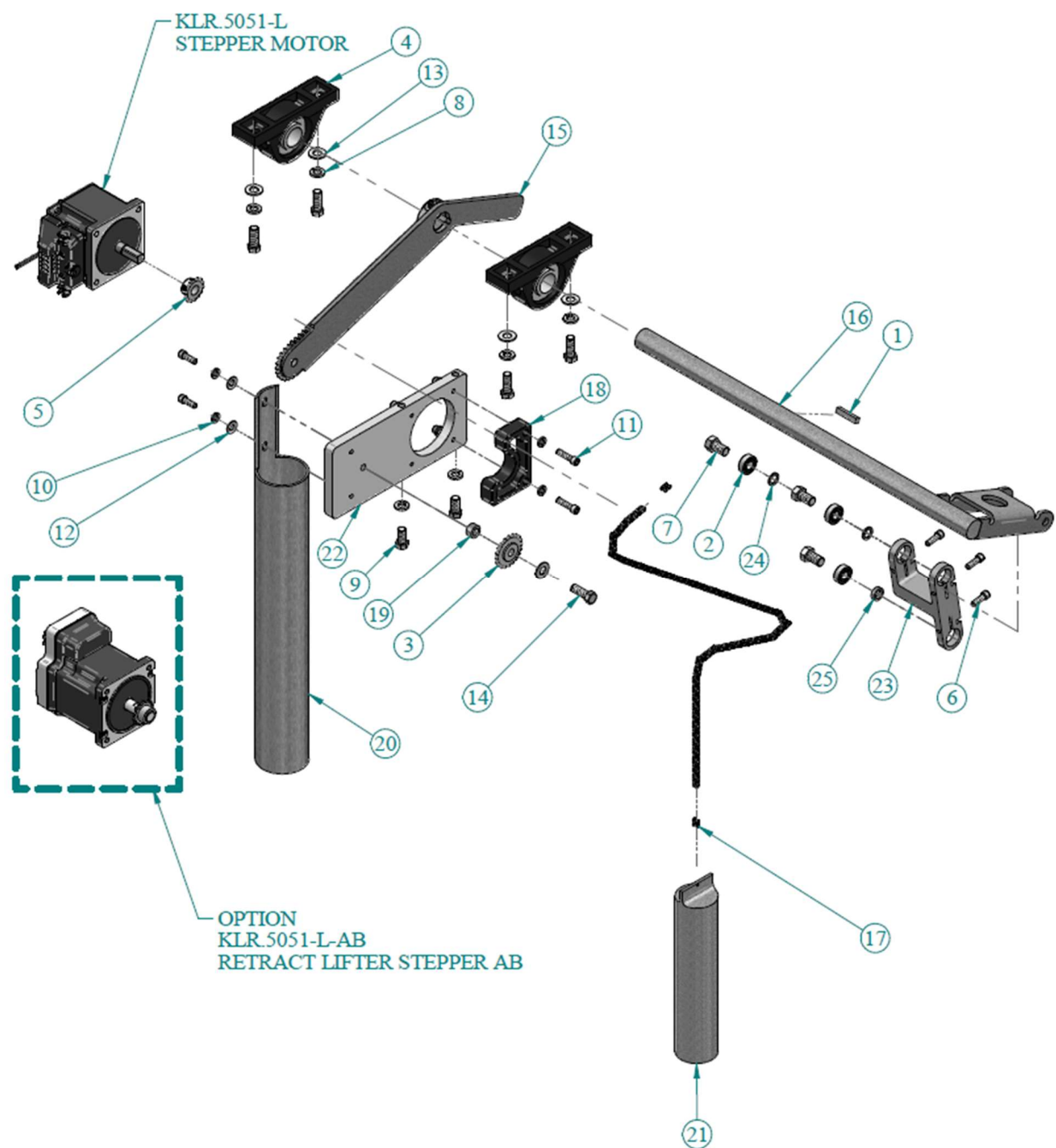
13.7.5.17: Scoop up part list 5051 7" - 16" (KR-5051-SCOOP-07-16)

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)

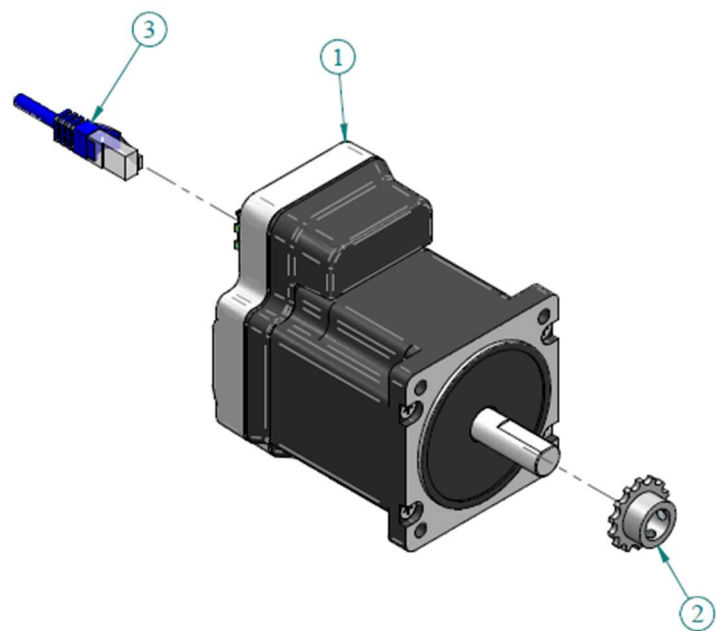


KR-5051-AZOTE-L			
No.	Part number	Qty	Title
1	PR-02689-AZ	1	RETRACTABLE PLATE ASSEMBLY AZOTE
2	PE-01004	3	NYLON CABLE CLIP 5/16
3	F11-190F06S	3	BUTTON HEAD 10-32 x 3/8 STAINLESS
4	PR-00050	1	VALVE 5 PORTS 2 POSITIONS COIL 24 VDC (14B)
5	PP-00159	2	CONNECTOR UNION 1/4 TUB - 1/4 NPT
6	PP-00185	2	MUFFLER 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

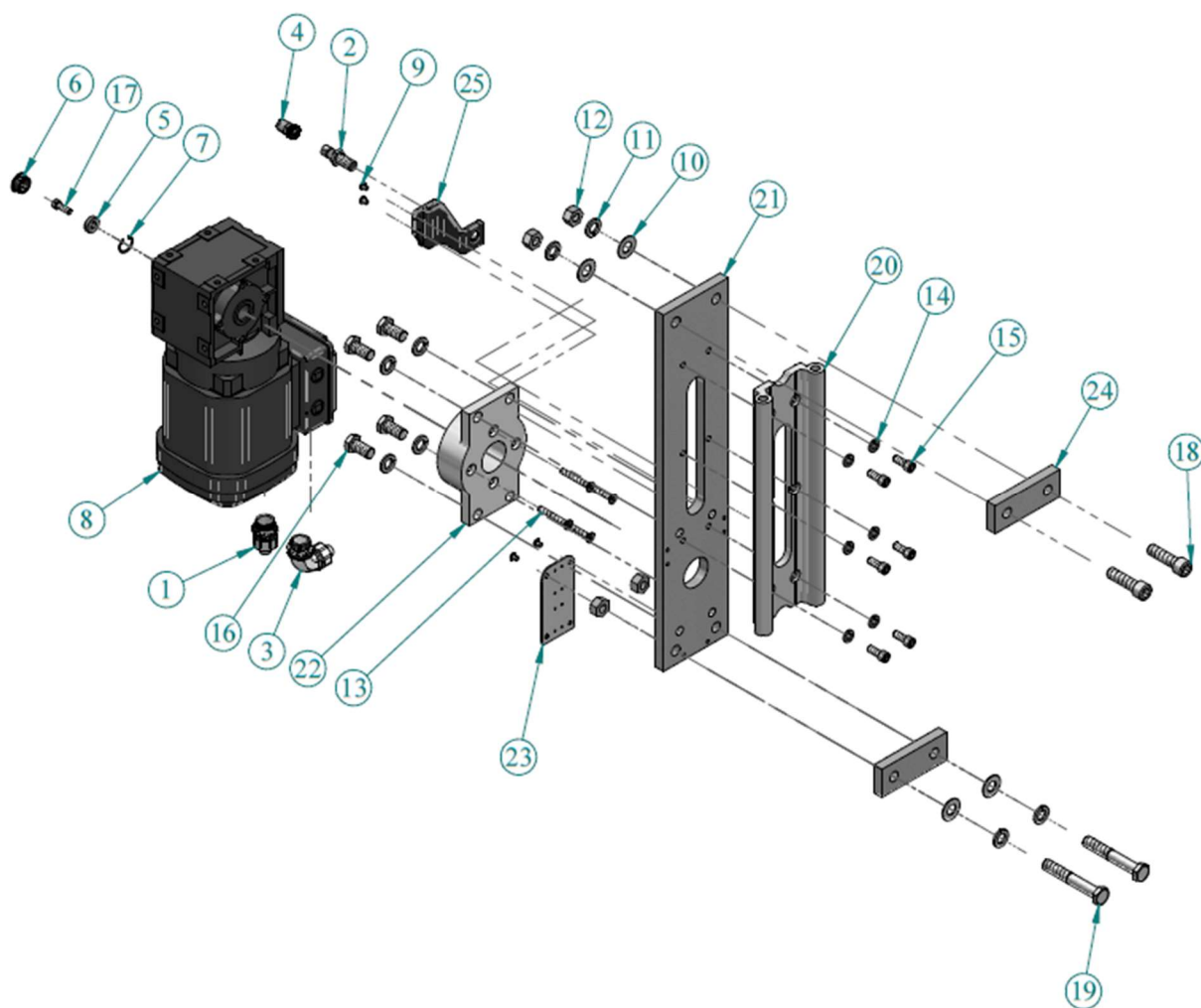
13.9: Retract lifter

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

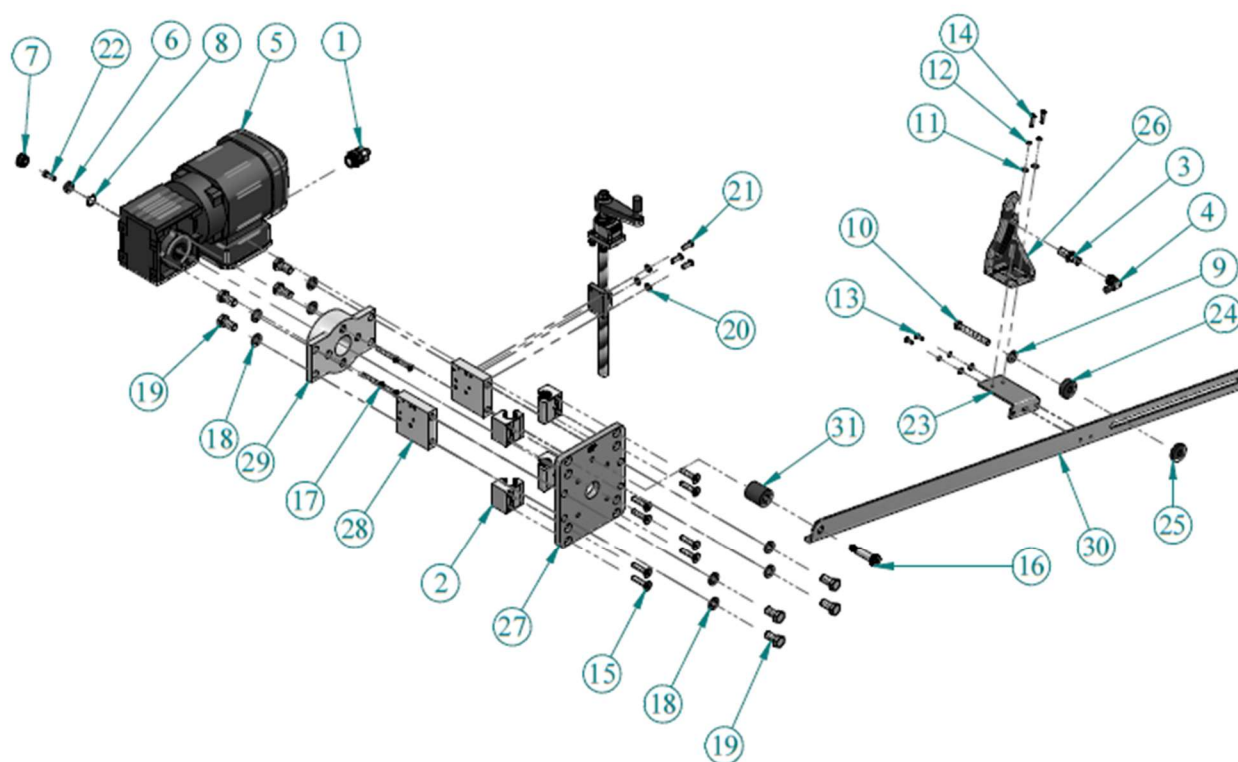
13.9.1: Retract lifter stepper motor for KLR.5051-AB



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

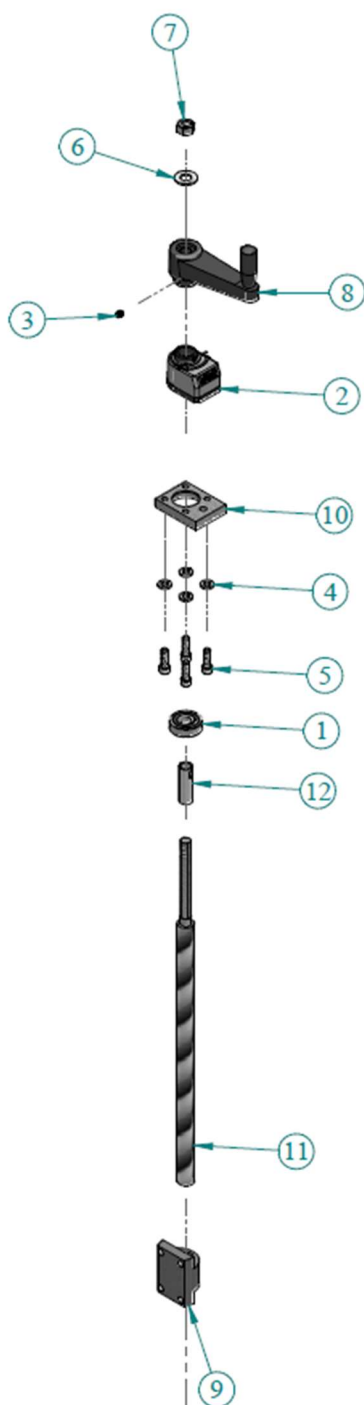
13.10: Retract motors**13.10.1: Lower retract motor**

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

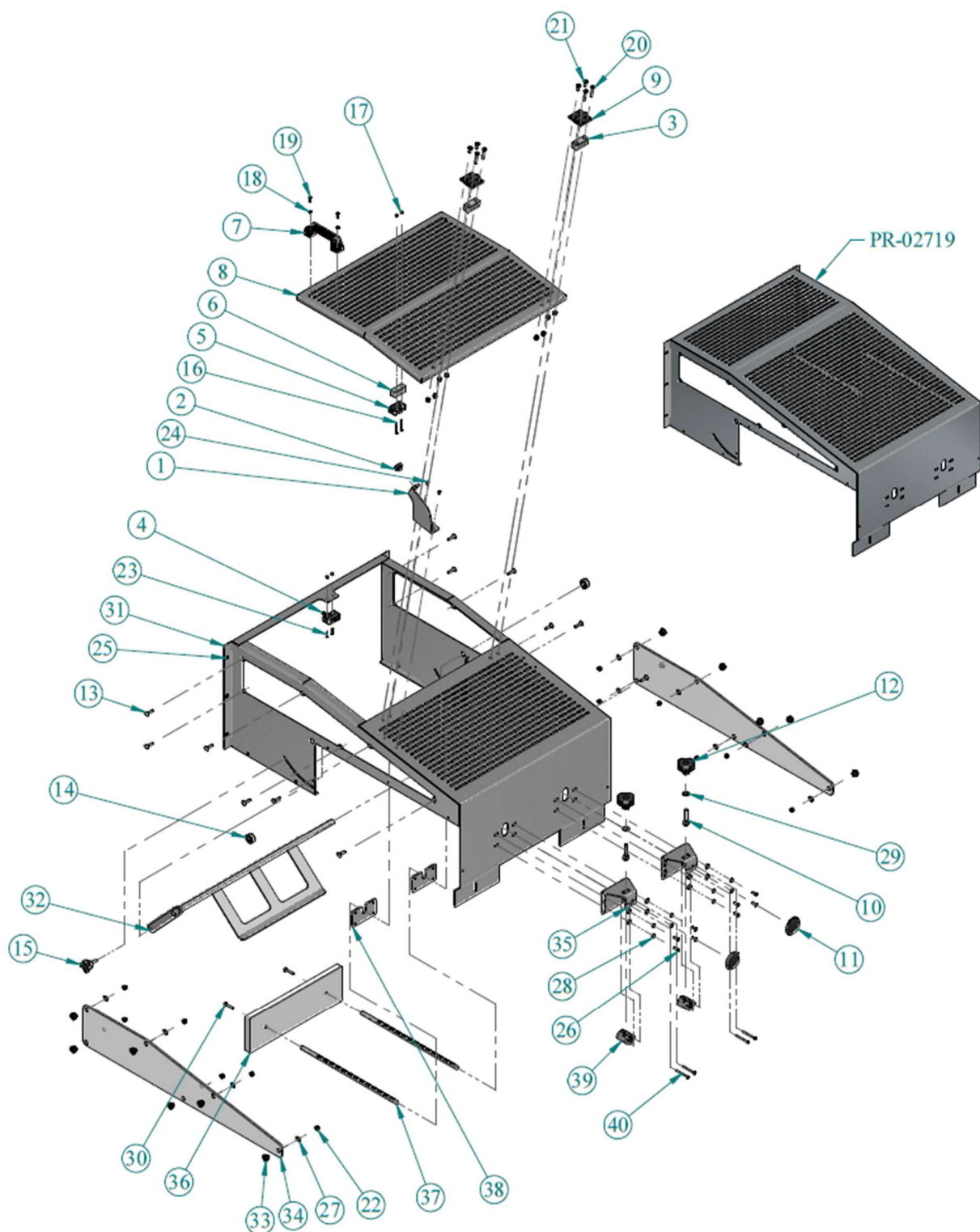
13.10.2: Upper retract motor

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

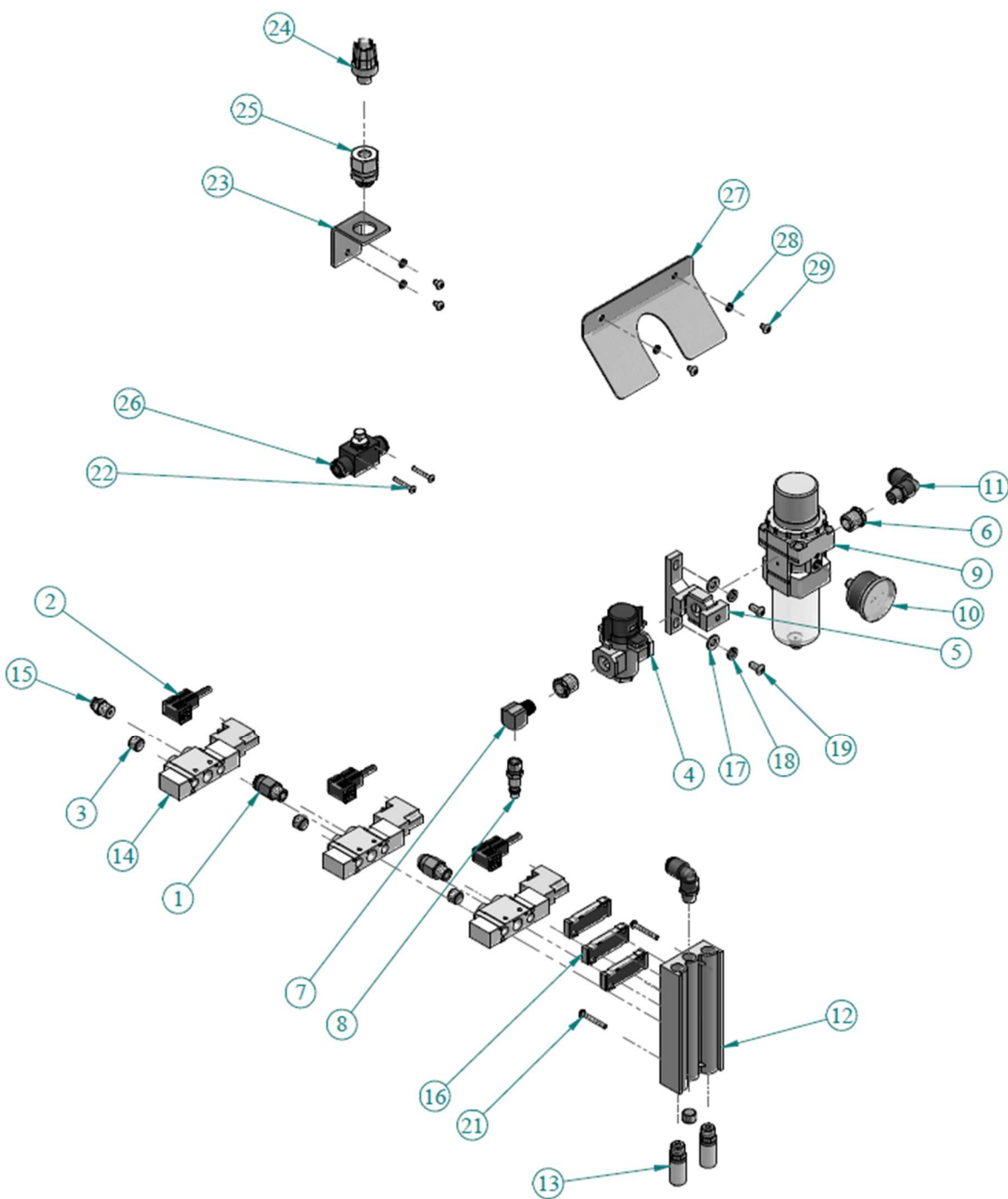
13.10.3: Height adjustment



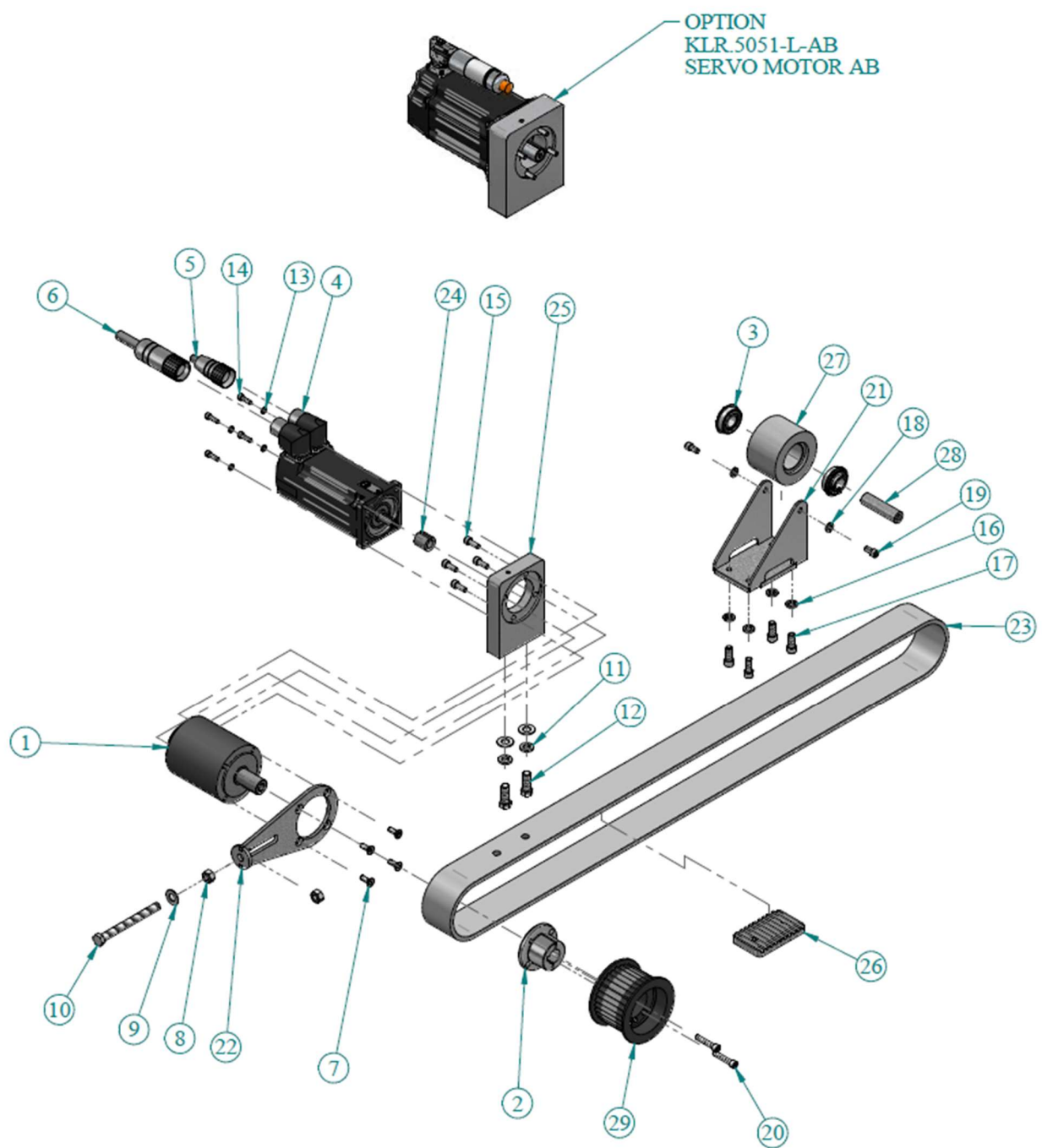
HEIGHT ADJUSTMENT			
No.	Part number	Qty	Title
1	PM-00106	1	BEARING
2	PM-00704	1	DIGITAL POSITION INDICATOR INCLINED LOWER
3	F06-190C04S	1	SET SCREW 10-24 X 1/4" STAINLESS
4	F02-250S	4	LOCK WASHER #14 STAINLESS
5	F10-250C12S	4	SOCKET CAP 1/4-20 X 3/4" STAINLESS
6	F01-375S	1	FLAT WASHER 3/8" STAINLESS
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

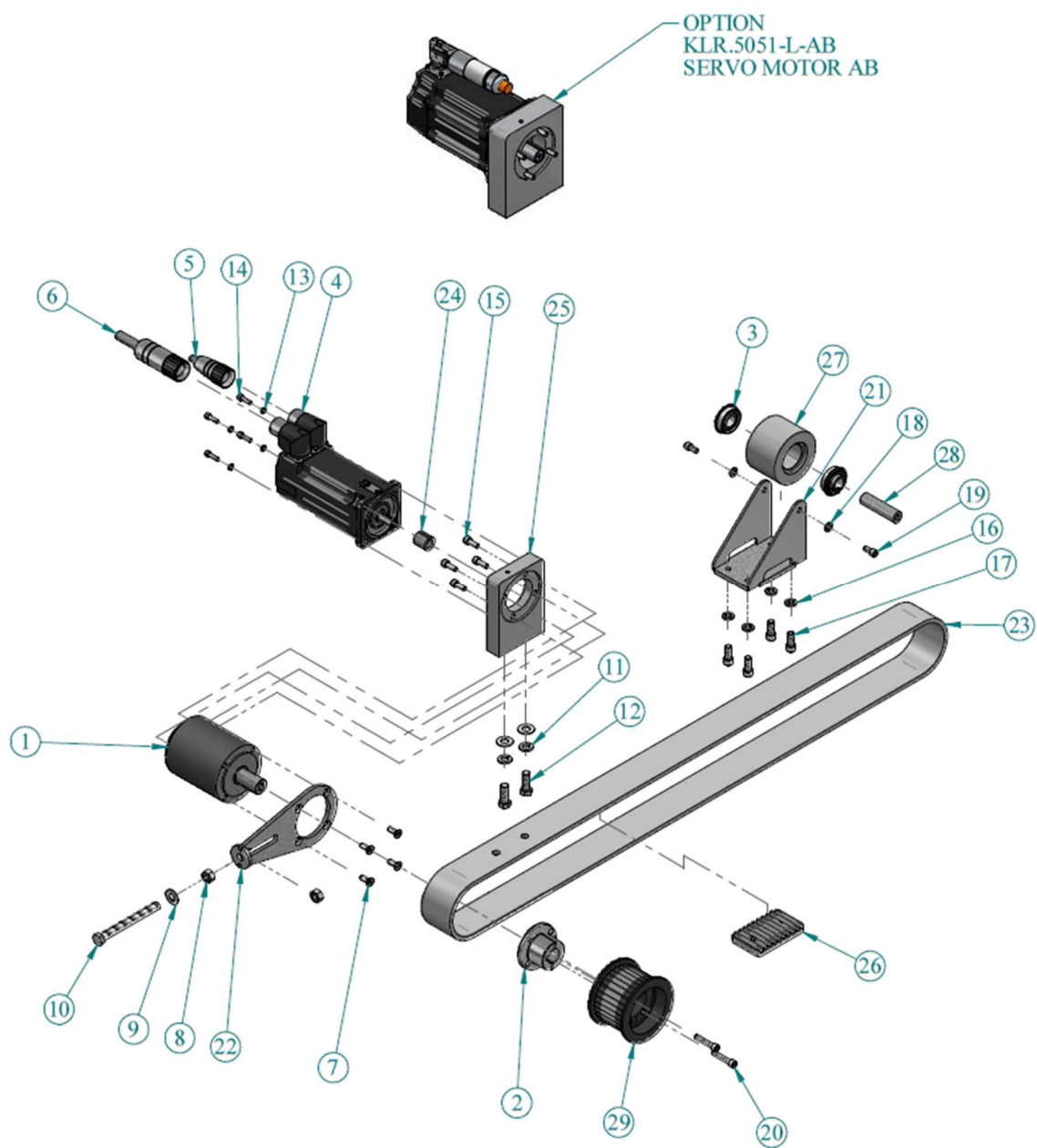
SLANTED GUARD			
No.	Part number	Qty	Title
1	PR-02924-B	1	DOOR STOP
2	PM-00182	1	END CAP
3	PR-10182	2	SPACER
4	PE-00538	1	SAFETY SWITCH
5	PE-00538-A	1	SAFETY SWITCH
6	PR-10184	1	SPACER
7	PM-03030	1	HANDLE BLACK POLYCARBONATE
8	PR-02922	1	TUNNEL DOOR
9	PM-03029	2	HINGE
10	PM-00143B	2	EYELETS BOLT FOR 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

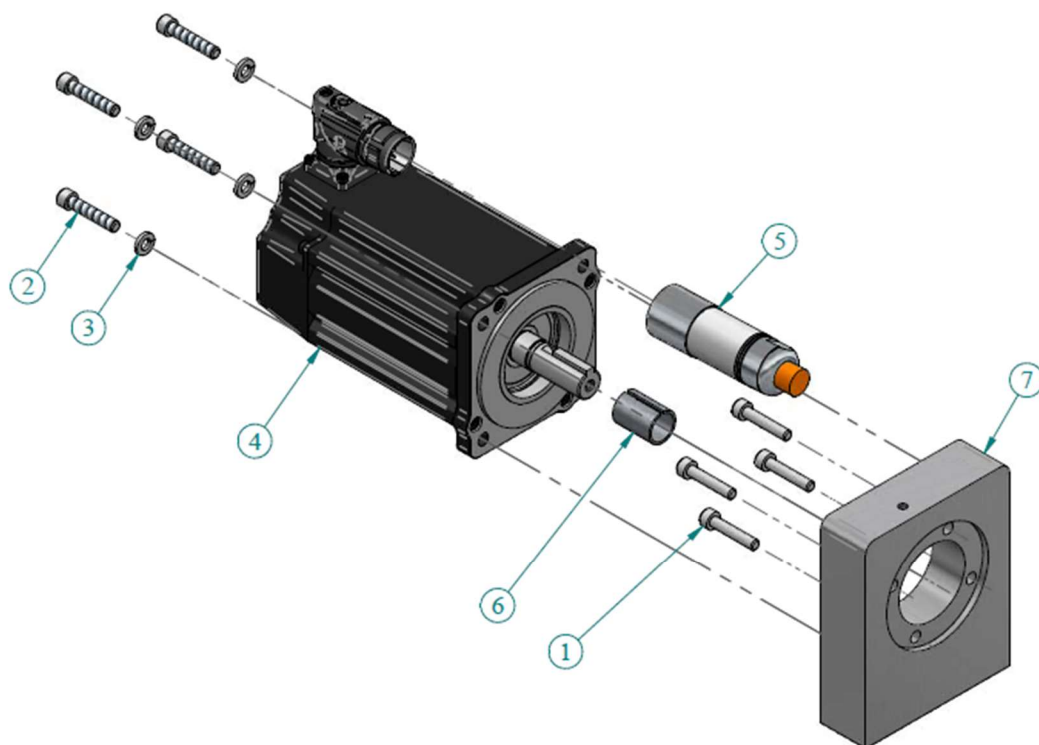
13.13: Servo motor

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

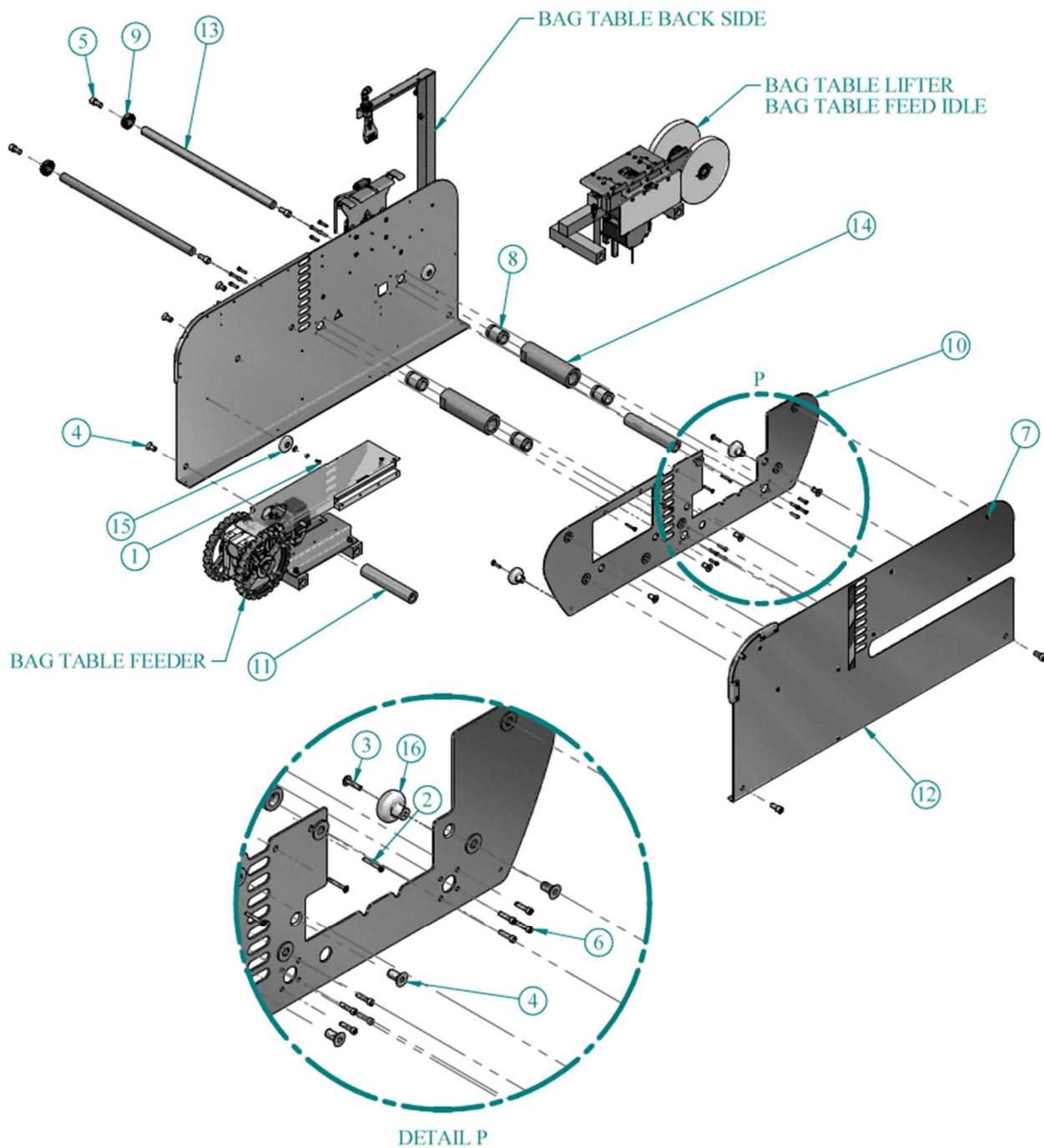
13.13.1: Servo motor for KLR.5051-AB



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

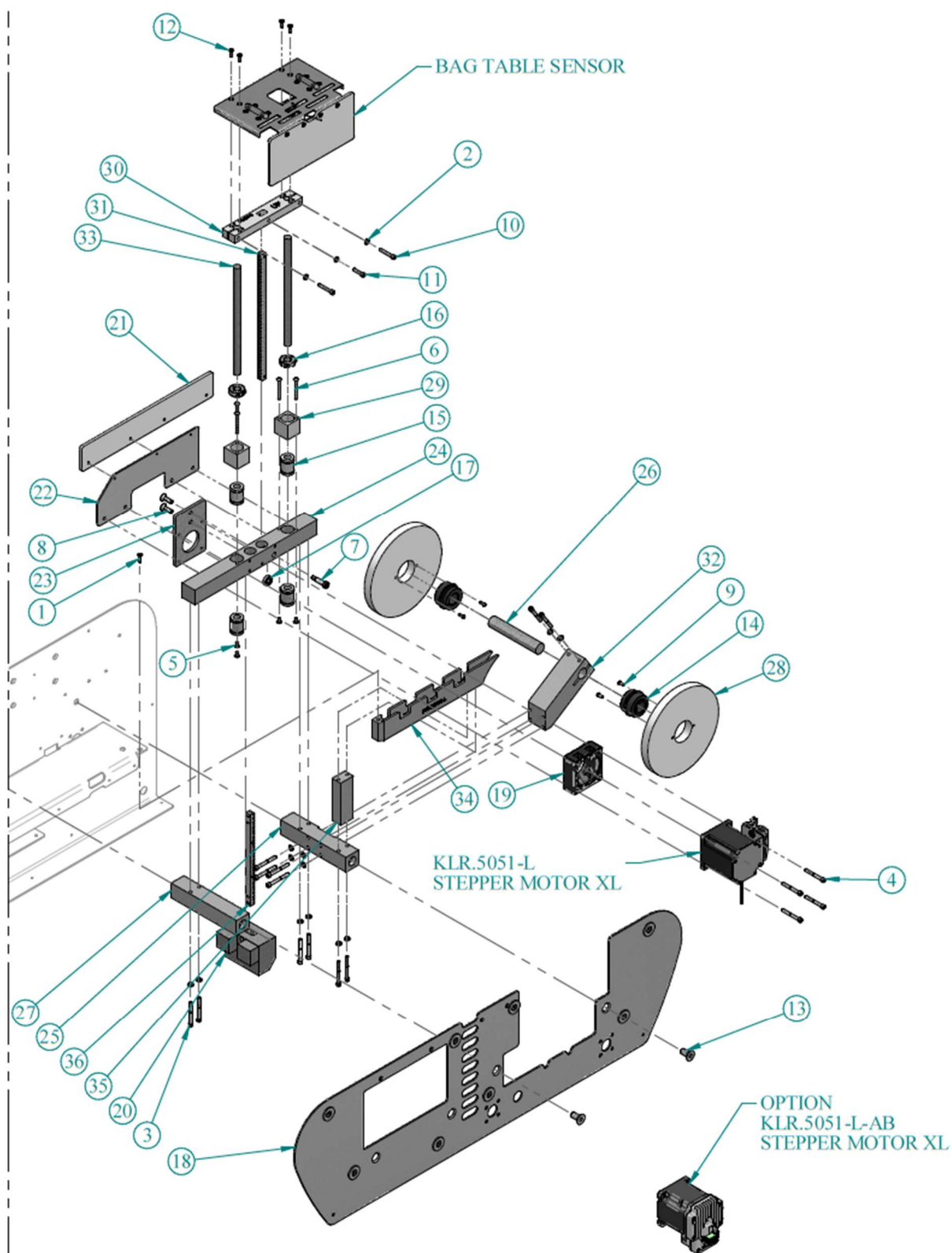
13.14: Bag table

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



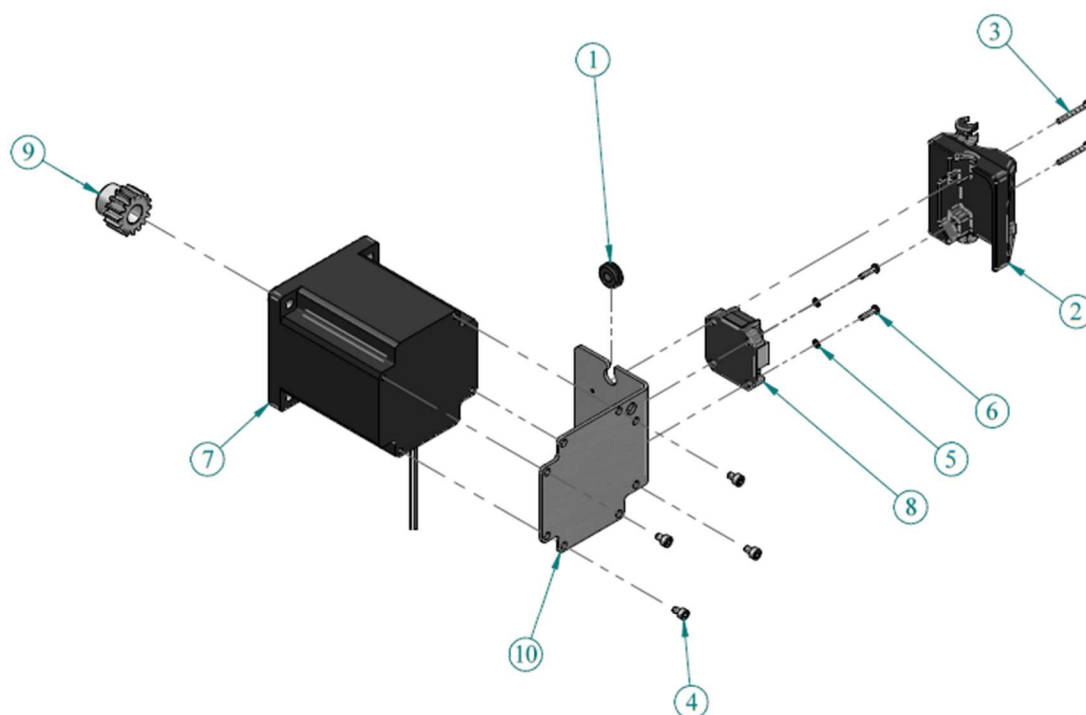
KLR.5051-L			
No.	Part number	Qty	Title
1	F11-250F08S	1	BUTTON HEAD 1/4-28 X 1/2" STAINLESS
2	F12-190F24S	4	FLAT HEAD 10-32 X 1 1/2" STAINLESS
3	F11-250F20S	2	BUTTON HEAD 1/4-28 X 1 1/4" STAINLESS
4	F12-500C16S	8	FLAT HEAD 1/2-13 x 1" STAINLESS
5	F10-500C16S	6	SOCKET CAP 1/2-13 X 1" STAINLESS
6	F10-250C16S	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)



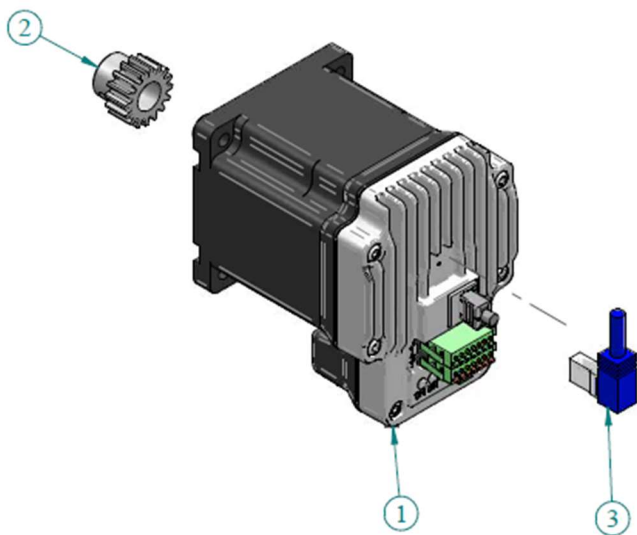
KLR.5051-L			
No.	Part number	Qty	Title
1	F12-190F12S	1	FLAT HEAD 10-32 X 3/4" STAINLESS
2	F02-250S	15	LOCK WASHER #14 STAINLESS
3	F10-250C36S	10	SOCKET CAP 1/4-20 X 2-1/4" STAINLESS
4	F10-250C32S	6	SOCKET CAP 1/4-20 X 2" STAINLESS
5	F11-250C06S	4	BUTTON HEAD 1/4-20 X 3/8" STAINLESS
6	F11-250C32S	4	BUTTON 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



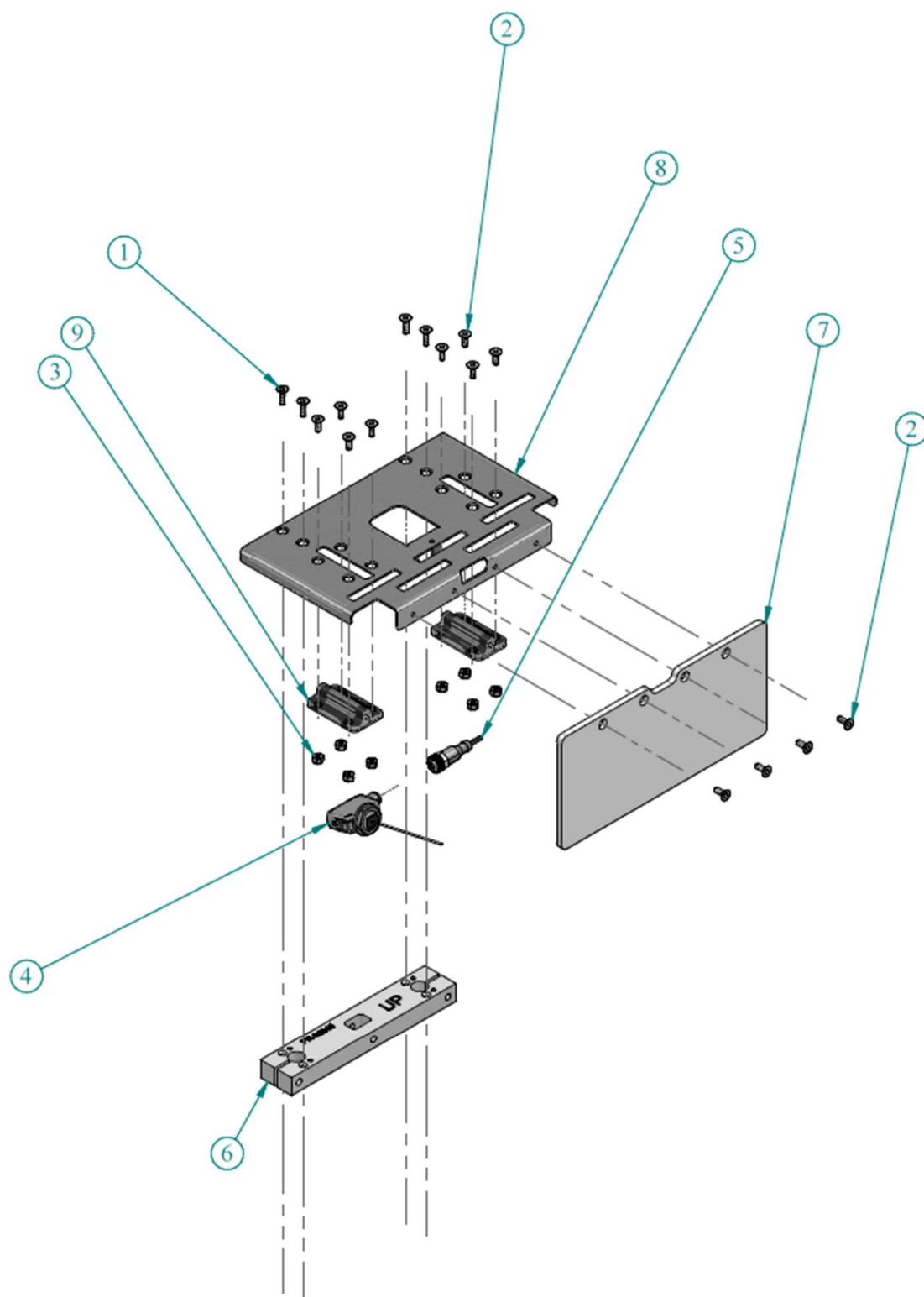
STEPPER MOTOR XL			
No.	Part number	Qty	Title
1	PM-03217-01	1	GROMMET 1/4 ID X 5/8 OD X 1/8 WALL
2	PR-95164-02	1	WIRE GUARD 02
3	F11-112C16S	2	BUTTON HEAD 4-40 X 1" STAINLESS
4	F10-M4-0.7X06S	4	SOCKET CAP M3 X 0.5 X6 MM STAINLESS
5	F02-112S	2	LOCK WASHER #4 STAINLESS
6	F11-112C08S	2	BUTTON HEAD 4-40 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



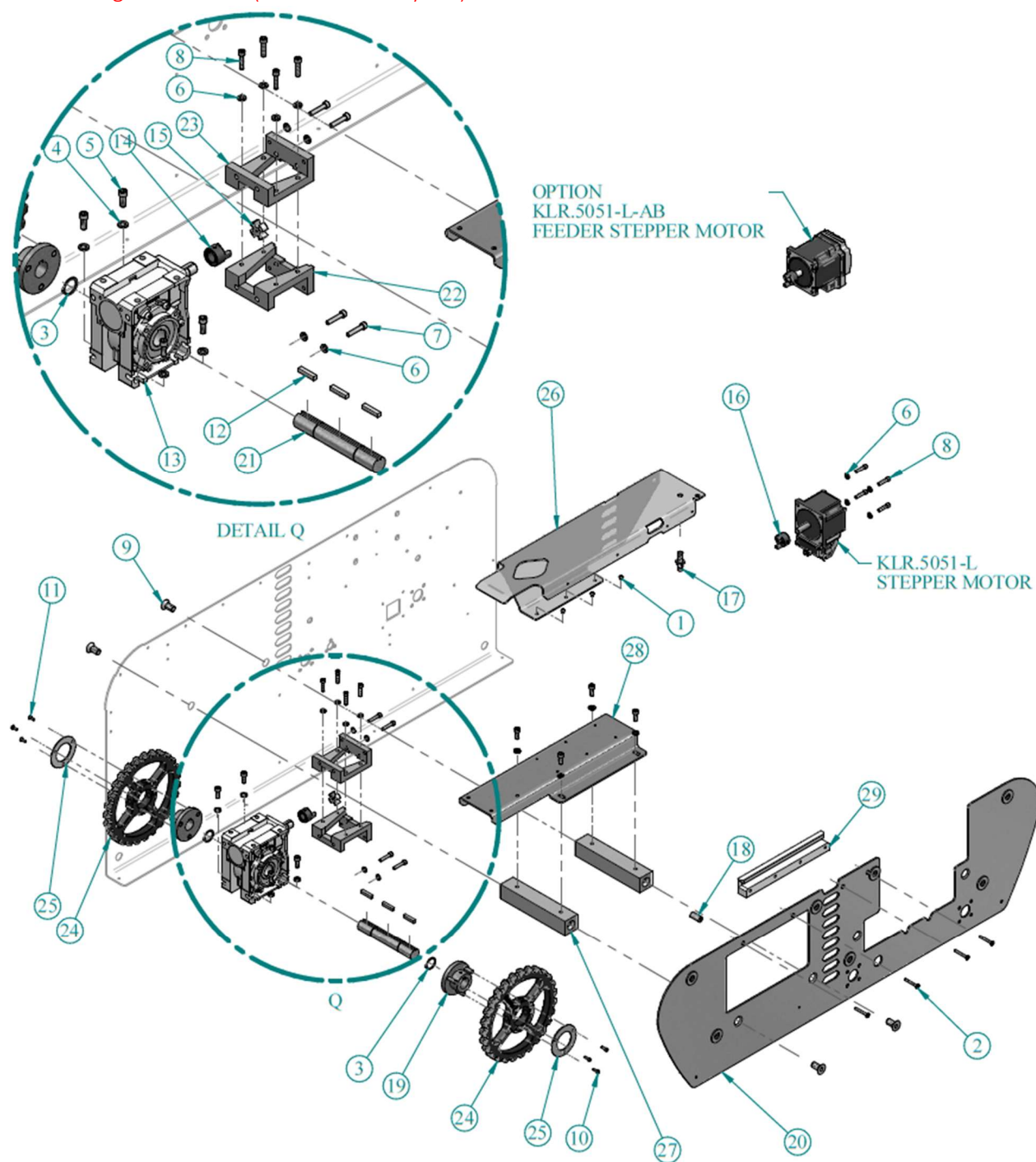
BAG TABLE LIFTER STEPPER MOTOR AB			
No.	Part number	Qty	Title
1	PE-00628	1	LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK
2	PR-02824	1	GEAR SPUR, BORE 14mm
3	PE-00626-10-90-R	1	CABLE ETHERNET 90° RIGHT CAT 6 LONGUEUR 10 PIEDS / 3.0 M

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



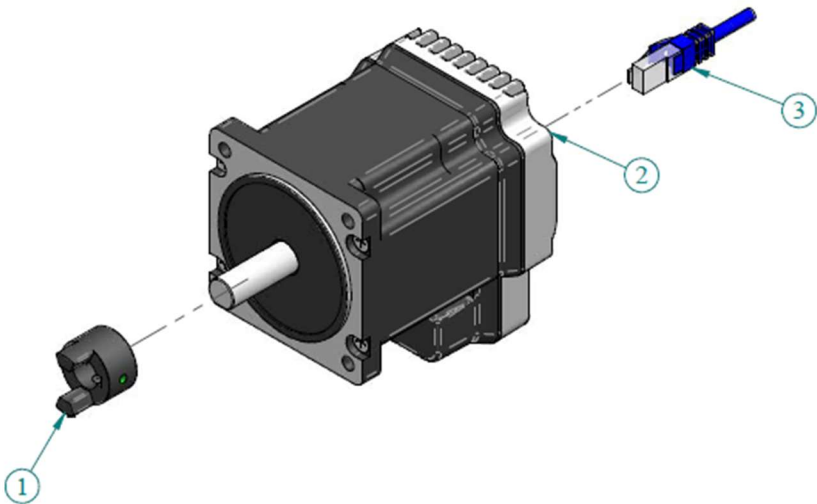
BAG TABLE SENSOR			
No.	Part number	Qty	Title
1	F12-190F10S	4	FLAT HEAD 10-32 X 5/8" STAINLESS
2	F12-190F08S	12	FLAT HEAD 10-32 X 1/2" STAINLESS
3	F03-164CNS	8	NYLON NUT 8-32 STAINLESS
4	PE-00957	1	LASER SENSOR 25-90MM
5	PE-00507-10	1	PHOTOCELL CABLE 10M
6	PR-02645	1	SHAFT HOLDER
7	PR-02751	1	SIDE GUIDE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

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



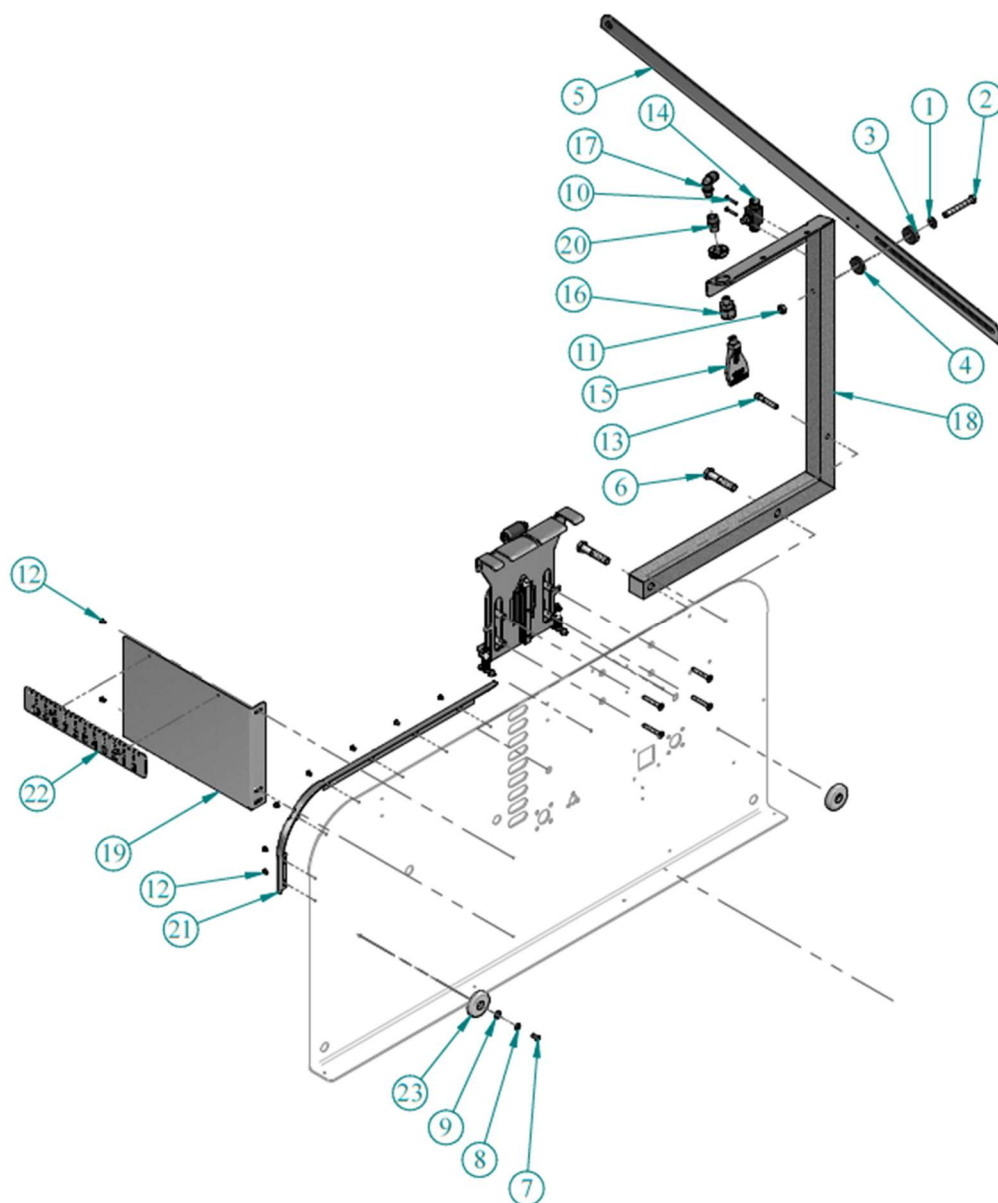
BAG TABLE FEEDER			
No.	Part number	Qty	Title
1	F11-190C04S	3	BUTTON HEAD 10-24 X 1/4 STAINLESS
2	F12-190F24S	4	FLAT HEAD 10-32 X 1 1/2" STAINLESS
3	f16-1000S	2	SNAP RING INT 1 STAINLESS S 3000
4	F02-312S	8	LOCK WASHER 5/16" STAINLESS
5	F10-312C12S	8	SOCKET CAP 5/16-18 X 3/4" STAINLESS
6	F02-250S	12	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



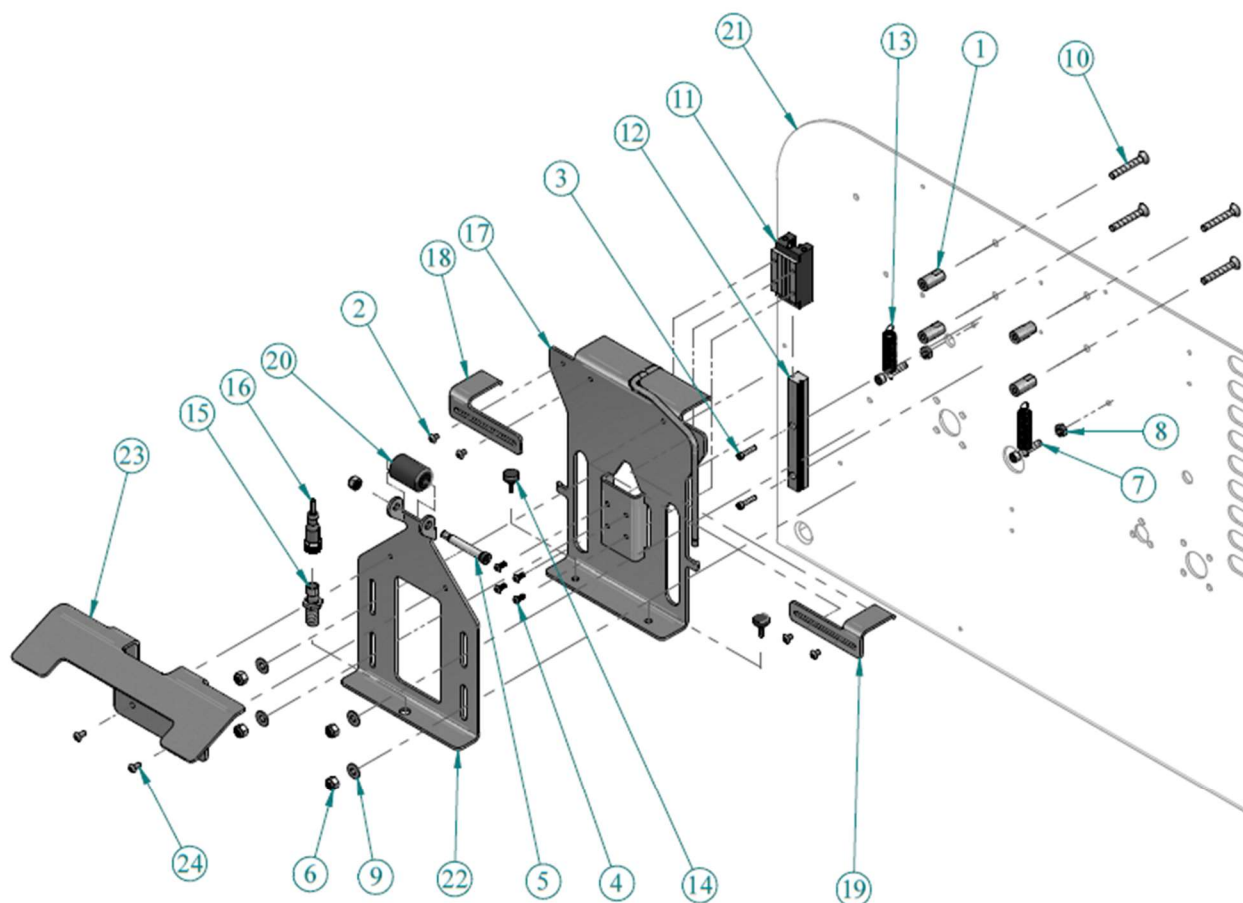
FEEDER STEPPER MOTOR AB			
No.	Part number	Qty	Title
1	PR-02903	1	HUB 5/16"L050 STOCK BORE
2	PE-00628	1	LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK
3	PE-00626-10	1	ETHERNET CABLE 10 FEET

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"

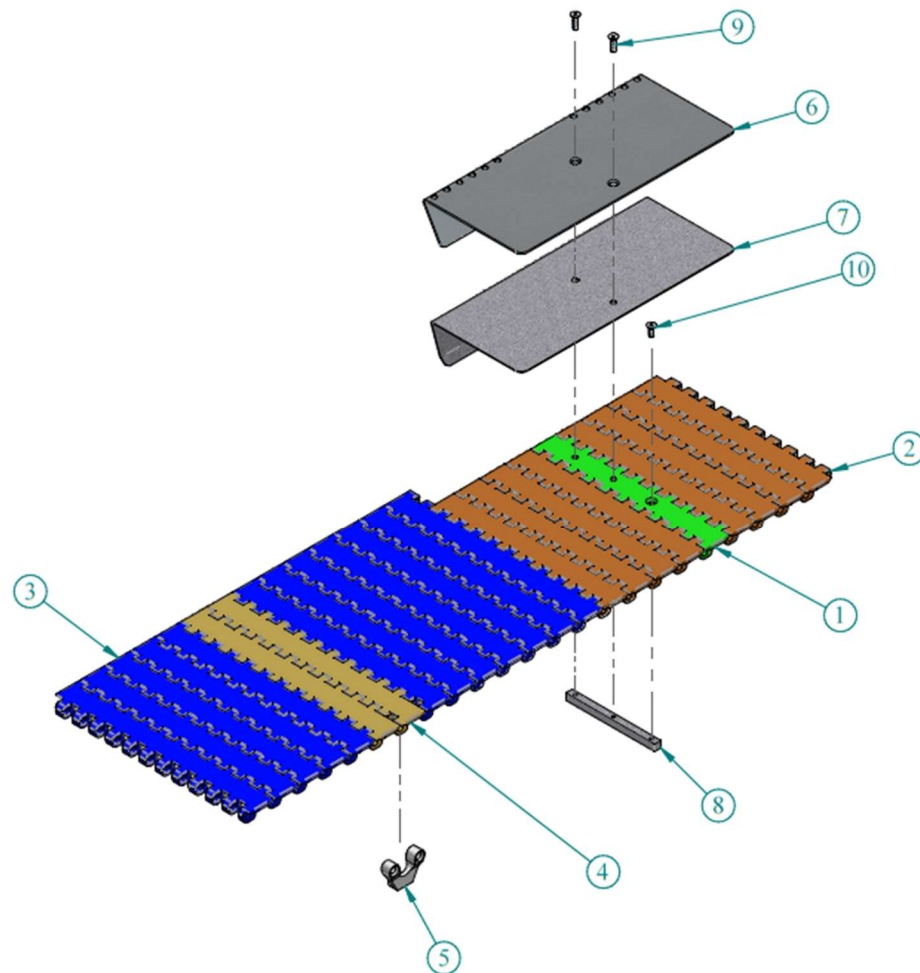
13.14.1.8: Bag table holder



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

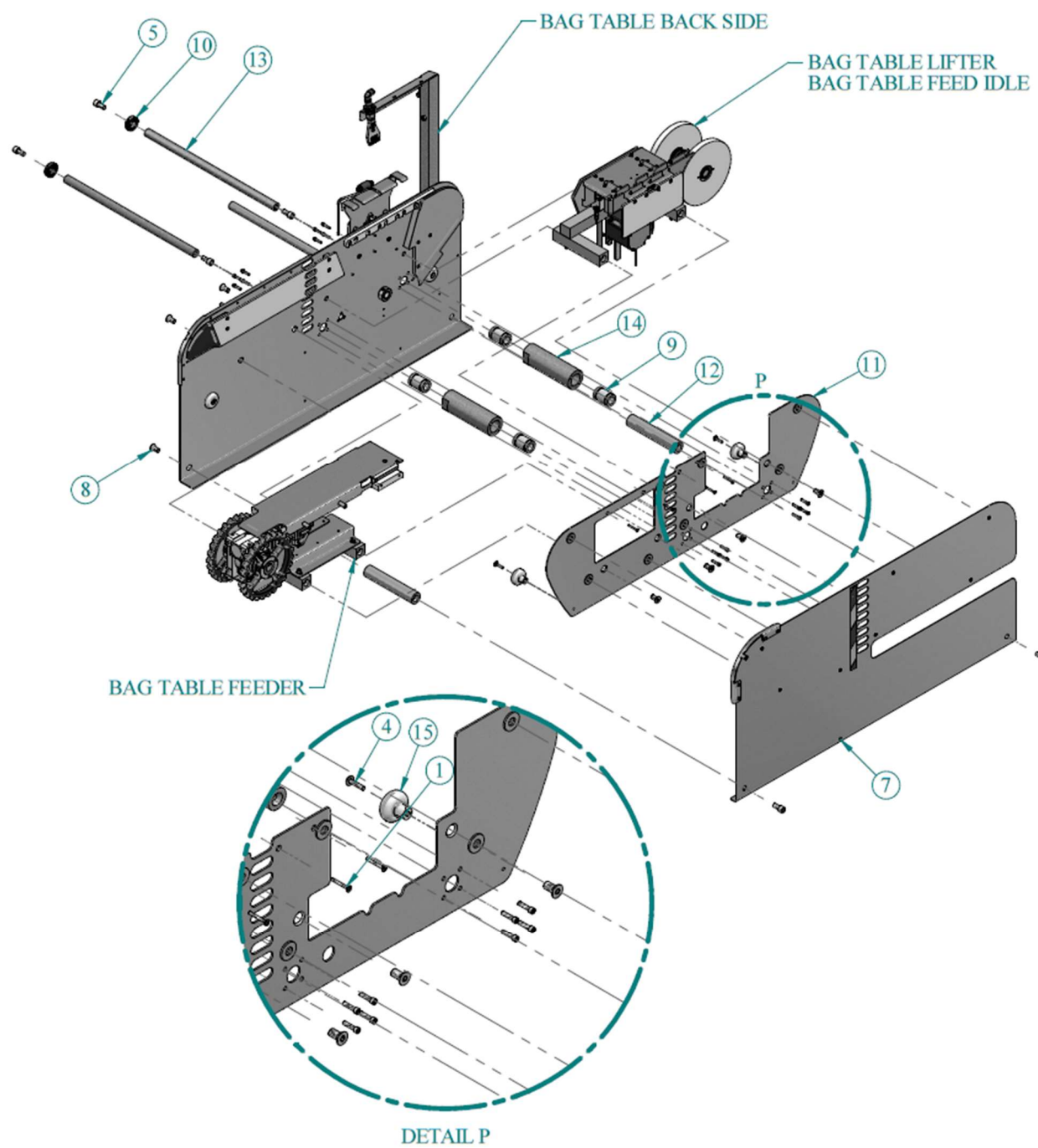
13.14.1.9: Bag table belt section (KLR-00422 – Beyond)

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



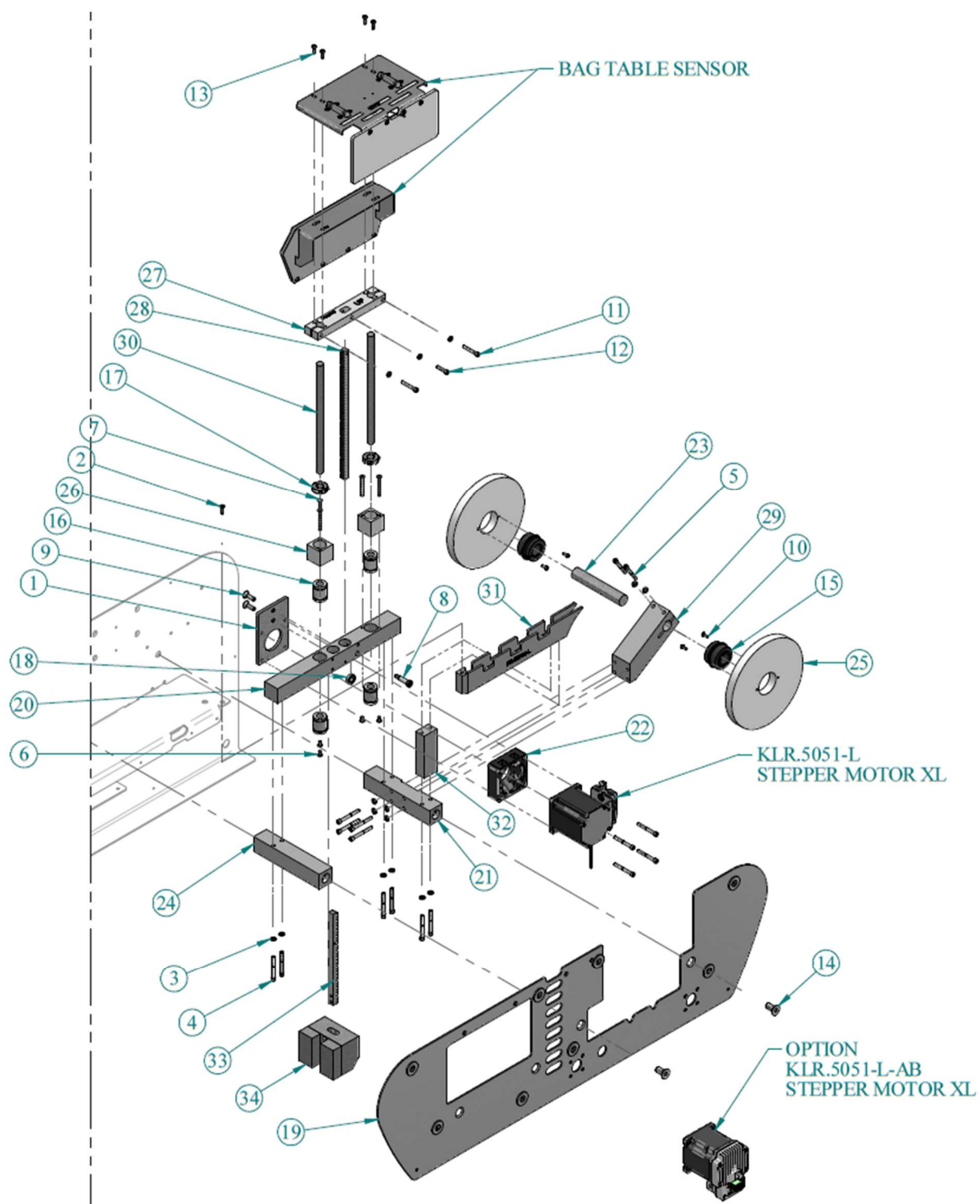
PB-00517-01			
No.	Part number	Qty	Title
1	PR-02855	5	MODIFIED HABA-LINK M2510
2	PR-02958	40	MODIFIED HABA-LINK M2510
3	PB-02510-08	60	COURROIE HABA-LINK M2510 x 8" LG. BLEU
4	PR-02851	10	MODIFIED HABA-LINK M2510
5	PR-02848	5	GUIDE
6	PR-02957	5	WICKET #8 PART "A" LEFT
7	PR-02956	5	WICKET SPRING
8	PR-02656-02	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)



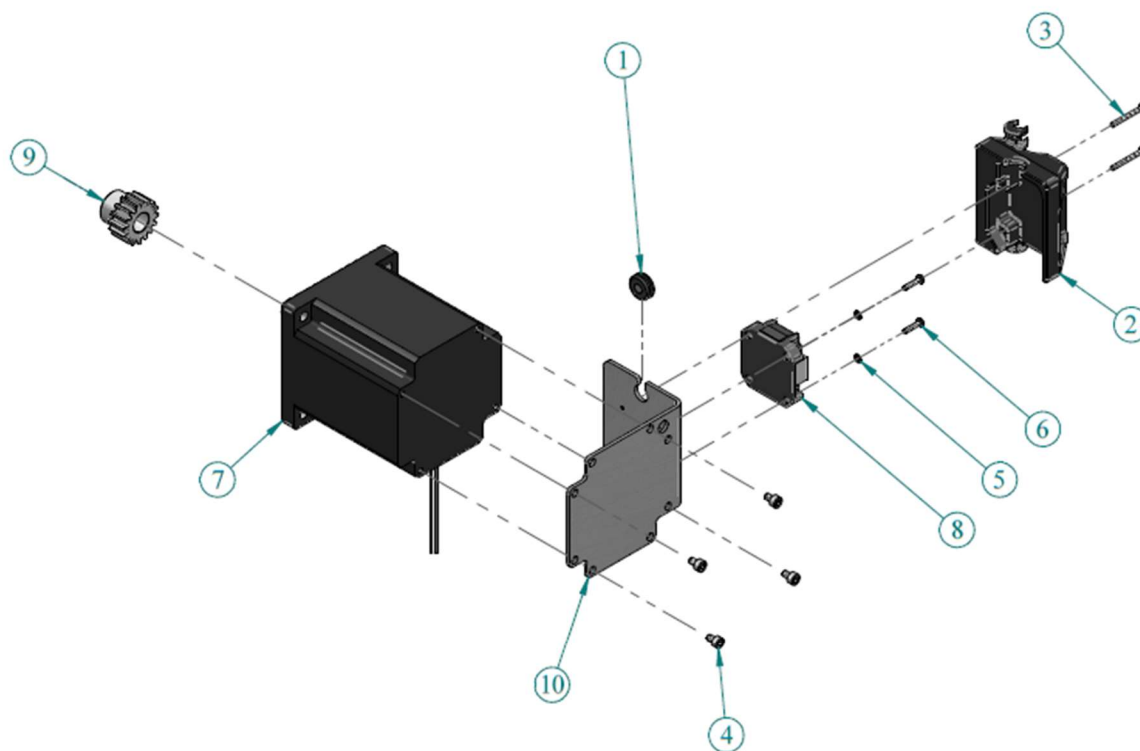
BAG TABLE			
No.	Part number	Qty	Title
1	F12-190F24S	4	FLAT HEAD 10-32 X 1 1/2" STAINLESS
2*	F01-250S	2	FLAT WASHER 1/4 STAINLESS
3*	F02-250S	2	LOCK WASHER #14 STAINLESS
4	F11-250F20S	2	BUTTON HEAD 1/4-28 X 1 1/4" STAINLESS
5	F10-500C16S	6	SOCKET CAP 1/2-13 X 1" STAINLESS
6*	F10-250C16S	8	SOCKET CAP 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)



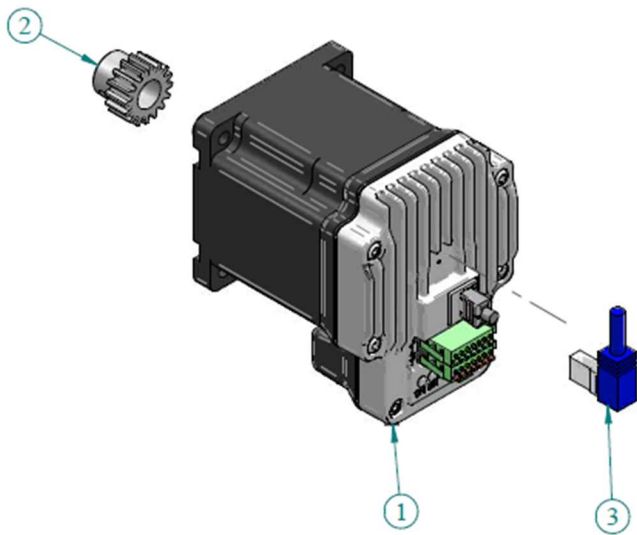
BAG TABLE LIFTER			
No.	Part number	Qty	Title
1	PR-02833	1	MOTOR BRACKET FOR SLIDING TABLE
2	F12-190F12S	1	FLAT HEAD 10-32 X 3/4" STAINLESS
3	F02-250S	15	LOCK WASHER #14 STAINLESS
4	F10-250C36S	10	SOCKET CAP 1/4-20 X 2-1/4" STAINLESS
5	F10-250C32S	6	SOCKET CAP 1/4-20 X 2" STAINLESS
6	F11-250C06S	4	BUTTON 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



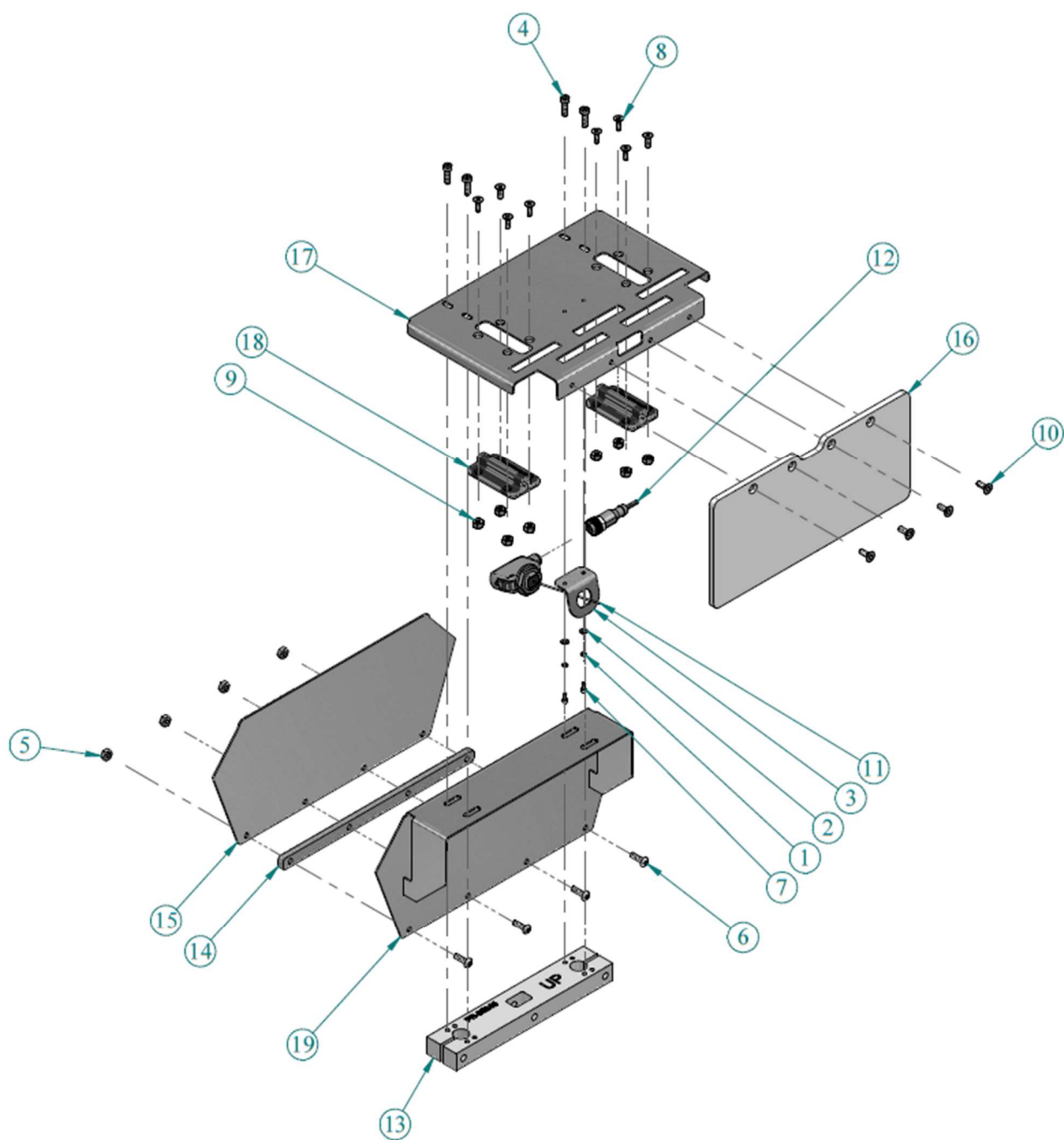
STEPPER MOTOR XL			
No.	Part number	Qty	Title
1	PM-03217-01	1	GROMMET 1/4 ID X 5/8 OD X 1/8 WALL
2	PR-95164-02	1	WIRE GUARD 02
3	F11-112C16S	2	BUTTON HEAD 4-40 X 1" STAINLESS
4	F10-M4-0.7X06S	4	SOCKET CAP M3 X 0.5 X6 MM STAINLESS
5	F02-112S	2	LOCK WASHER #4 STAINLESS
6	F11-112C08S	2	BUTTON HEAD 4-40 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



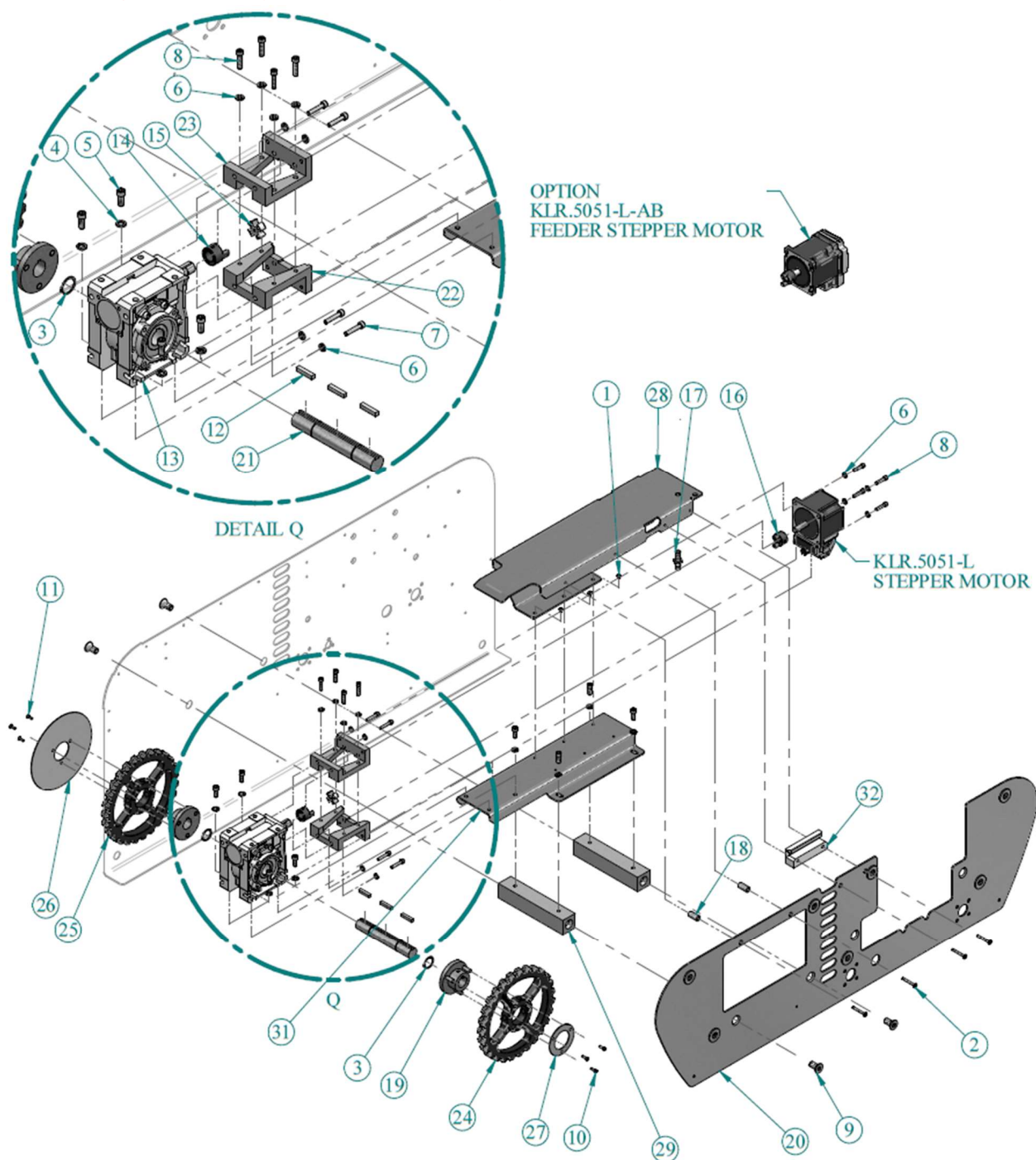
BAG TABLE LIFTER STEPPER MOTOR AB			
No.	Part number	Qty	Title
1	PE-00628	1	LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK
2	PR-02824	1	GEAR SPUR, BORE 14mm
3	PE-00626-10-90-R	1	CABLE ETHERNET 90° RIGHT CAT 6 LONGUEUR 10 PIEDS / 3.0 M

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



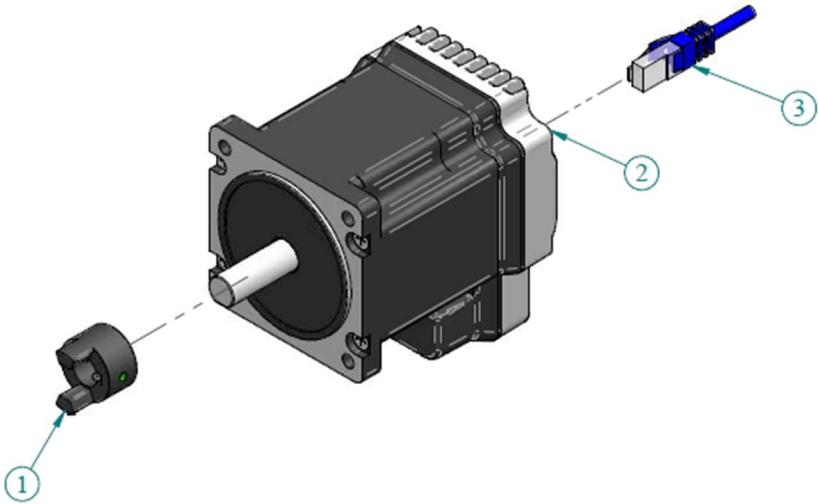
BAG TABLE SENSOR			
No.	Part number	Qty	Title
1	F02-112S	2	LOCK WASHER #4 STAINLESS
2	F01-112S	2	FLAT WASHER #4 STAINLESS
3	PR-02921	1	BRACKET POUR CAPTEUR LASER
4	F10-190F10S	4	SOCKET CAP 10-32 X 5/8" STAINLESS
5	F03-190FNS	4	JAM NUT HEX 10-32 STAINLESS
6	F11-190F10S	4	BUTTON HEAD 10-32 X 5/8" STAINLESS
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)



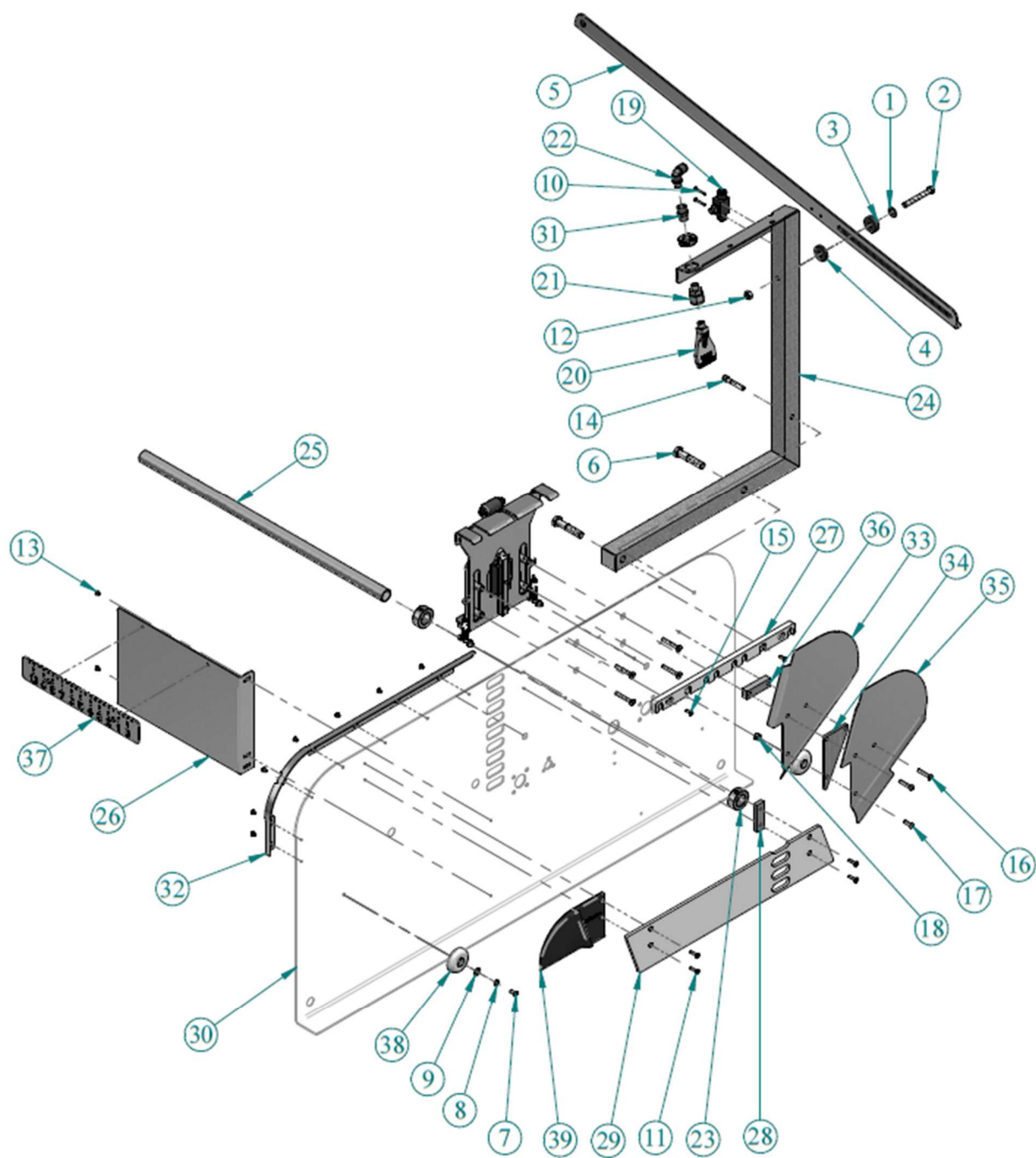
BAG TABLE FEEDER			
No.	Part number	Qty	Title
1	F11-190C04S	3	BUTTON HEAD 10-24 X 1/4 STAINLESS
2	F12-190F24S	4	FLAT HEAD 10-32 X 1 1/2" STAINLESS
3	f16-1000S	2	SNAP RING INT 1 STAINLESS S 3000
4	F02-312S	8	LOCK WASHER 5/16" STAINLESS
5	F10-312C12S	8	SOCKET CAP 5/16-18 X 3/4" STAINLESS
6	F02-250S	12	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



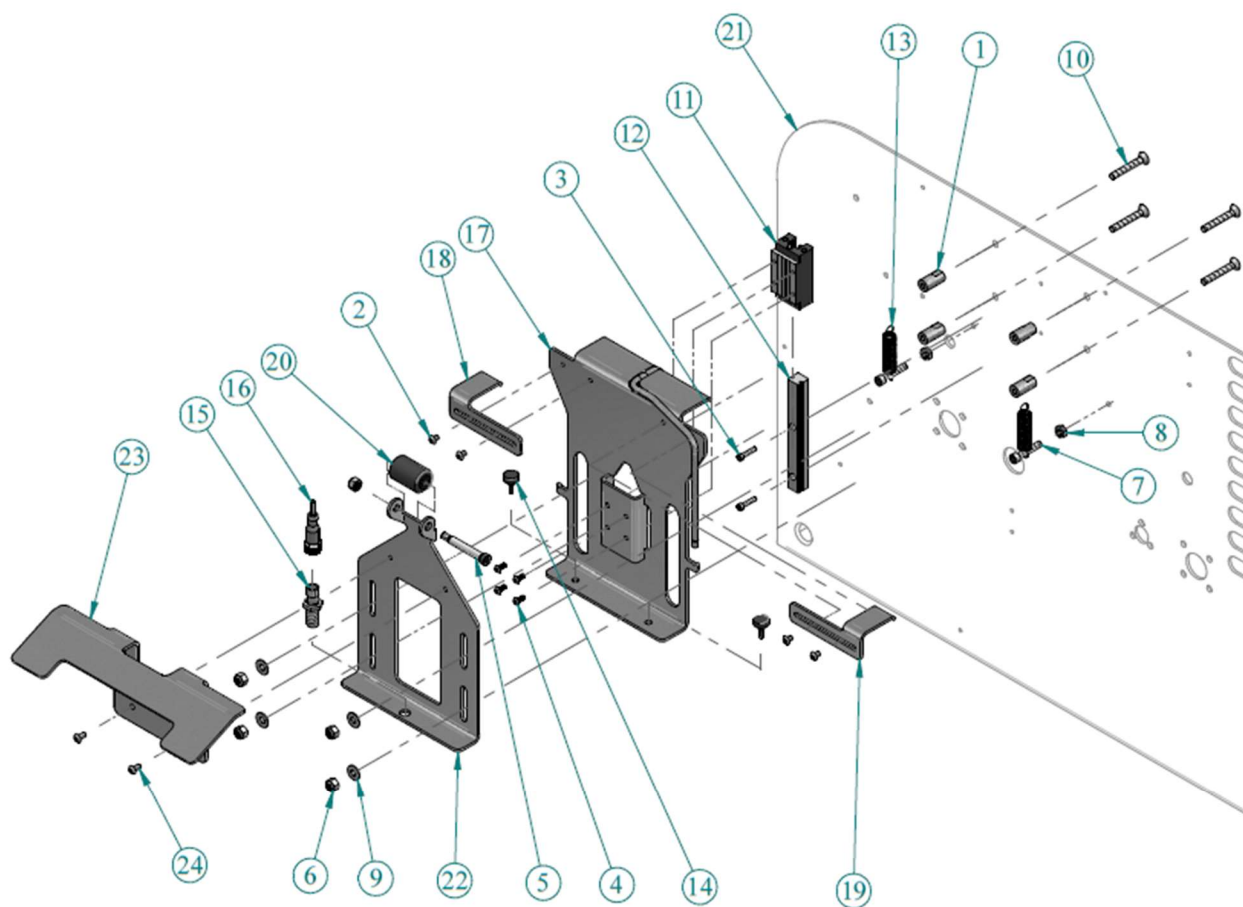
FEEDER STEPPER MOTOR AB			
No.	Part number	Qty	Title
1	PR-02903	1	HUB 5/16"L050 STOCK BORE
2	PE-00628	1	LEXIUM, CLOSE LOOP, ETHERNET, 85MM, 2 STACK
3	PE-00626-10	1	ETHERNET CABLE 10 FEET

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



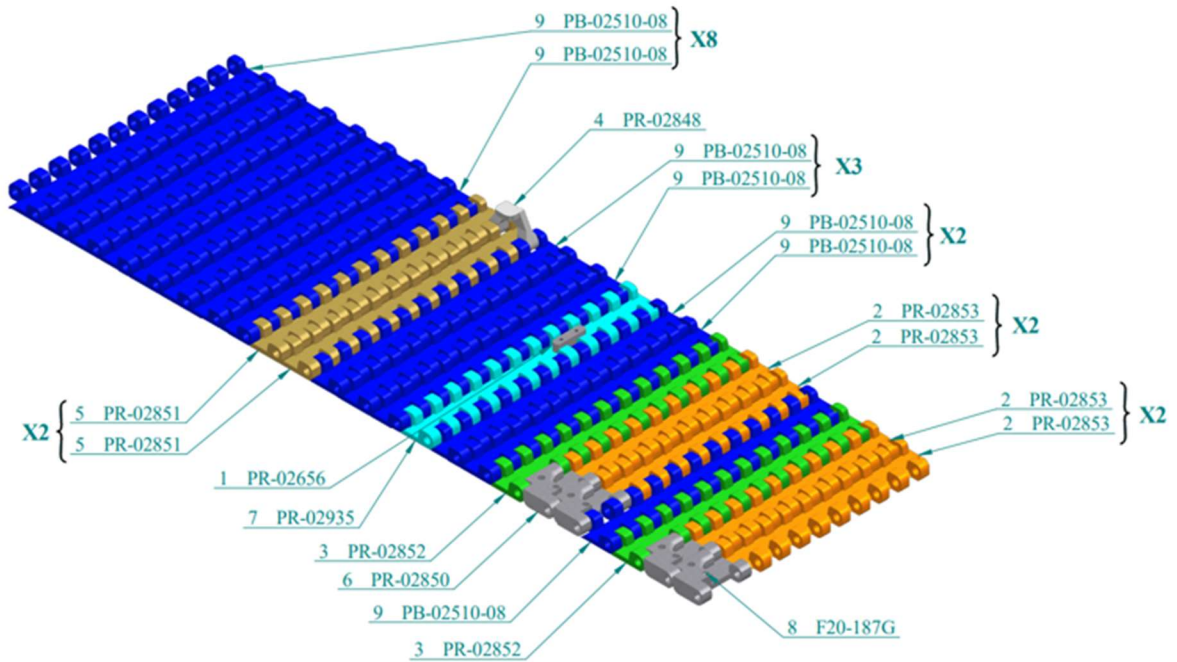
BAG TABLE HOLDER			
No.	Part number	Qty	Title
1	PR-02910	4	BUSHING
2	F11-190F04S	4	BUTTON HEAD 10-32 x 1/4" STAINLESS
3	F10-164C12S	2	SOCKET CAP 8-32 X 3/4 STAINLESS
4	F11-M4-0.7X10S	4	BUTTON HEAD M4-0.7 X 10 STAINLESS STEEL
5	F05-312-28S	1	SHOULDER SCREW 5/16 X 1 3/4" X 1/4-20 STAINLESS
6	F03-250CNS	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)

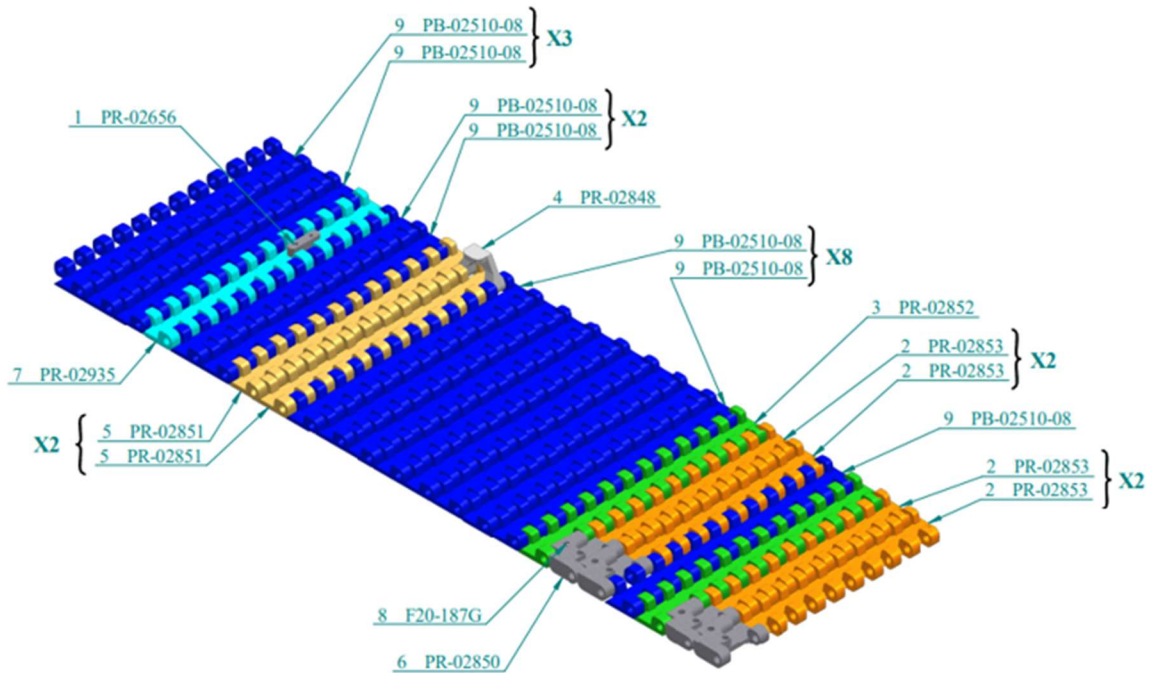


Left and right-handed version are similar but have difference in the assembly. Use caution in using this exact assembly. Anything else then that will end up with a bag table not loading properly.

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



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

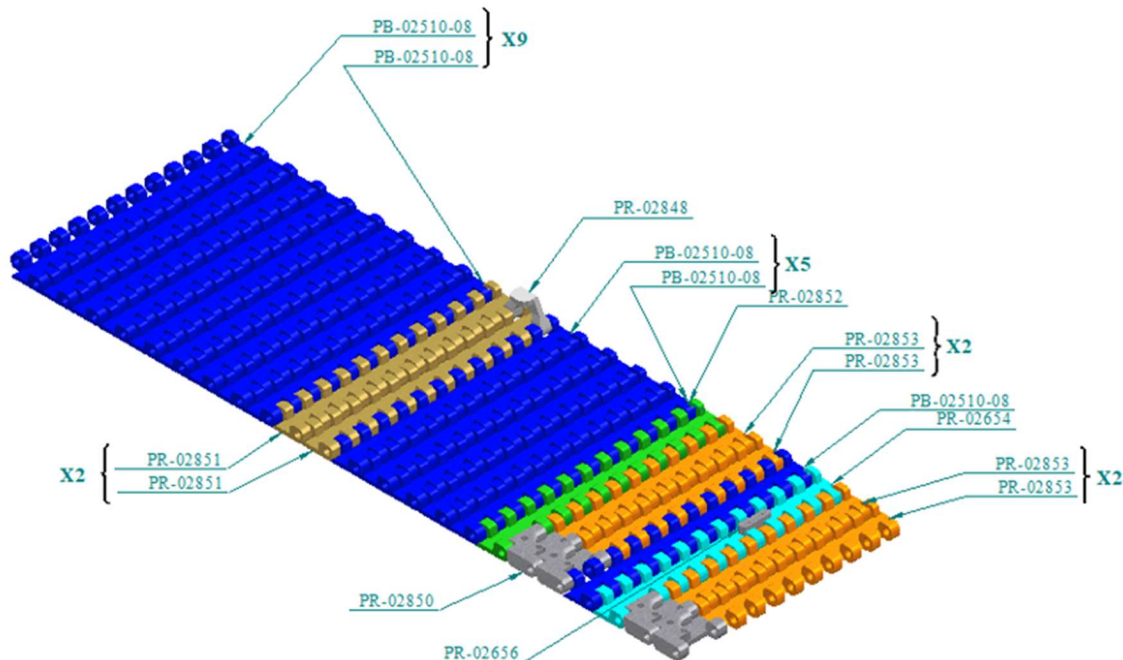


13.14.2.10: Bag table belt section (KLR.5051-AB and KLR.5051 with SN: 2415 – 2642; 2681 – 2682)

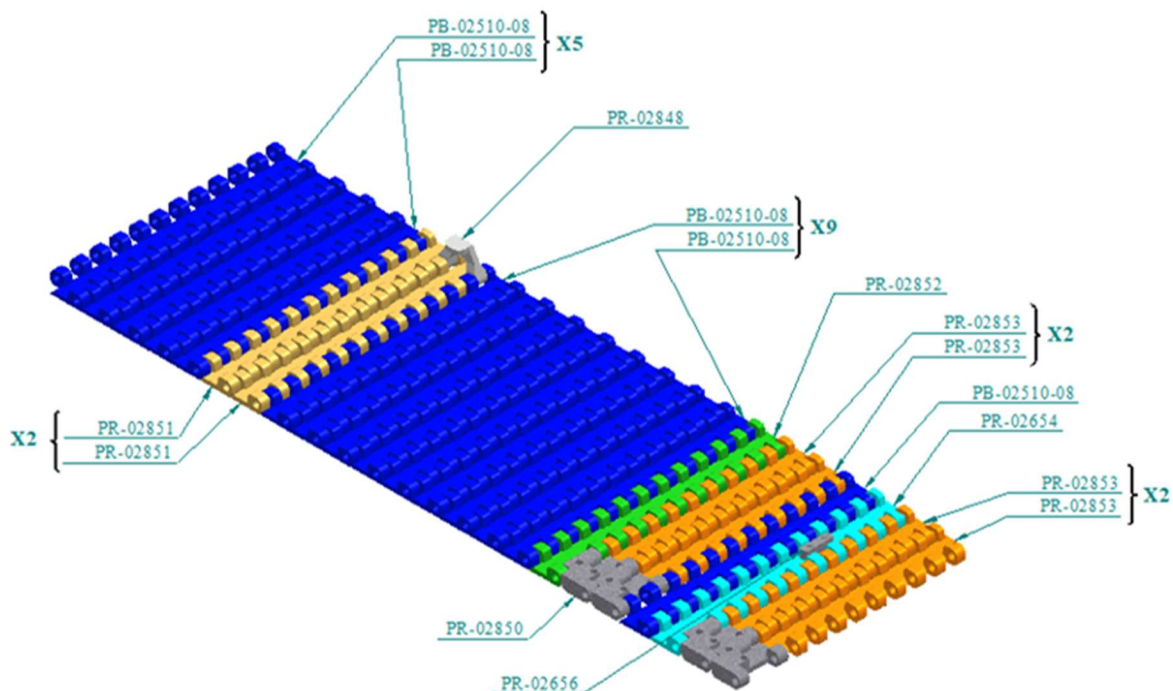


Left and right handed version are similar but have difference in the assembly. Use caution in using this exact assembly. Anything else then that will end up with a bag table not loading properly.

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: 2025-10-07

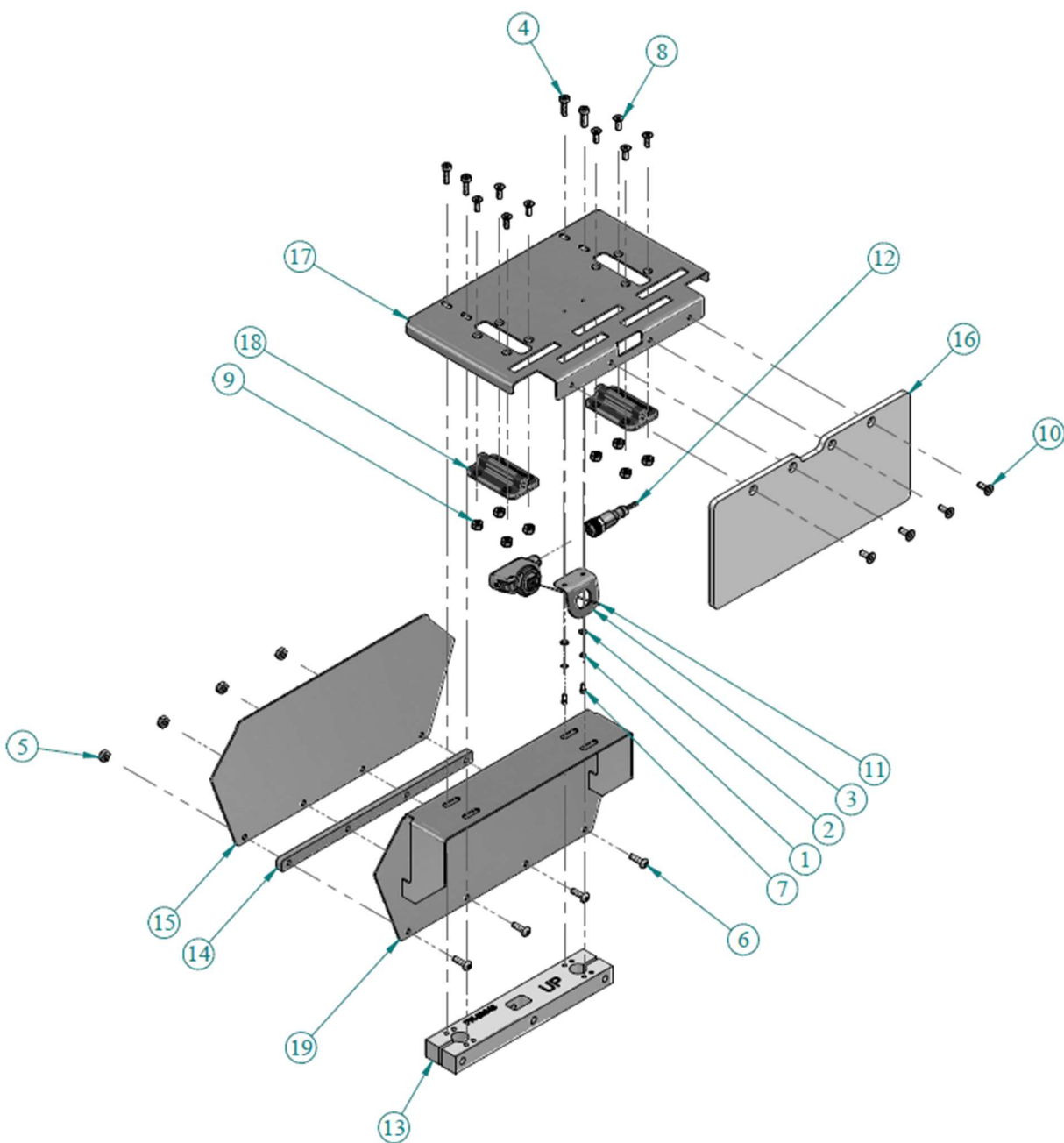
KLR.5051

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

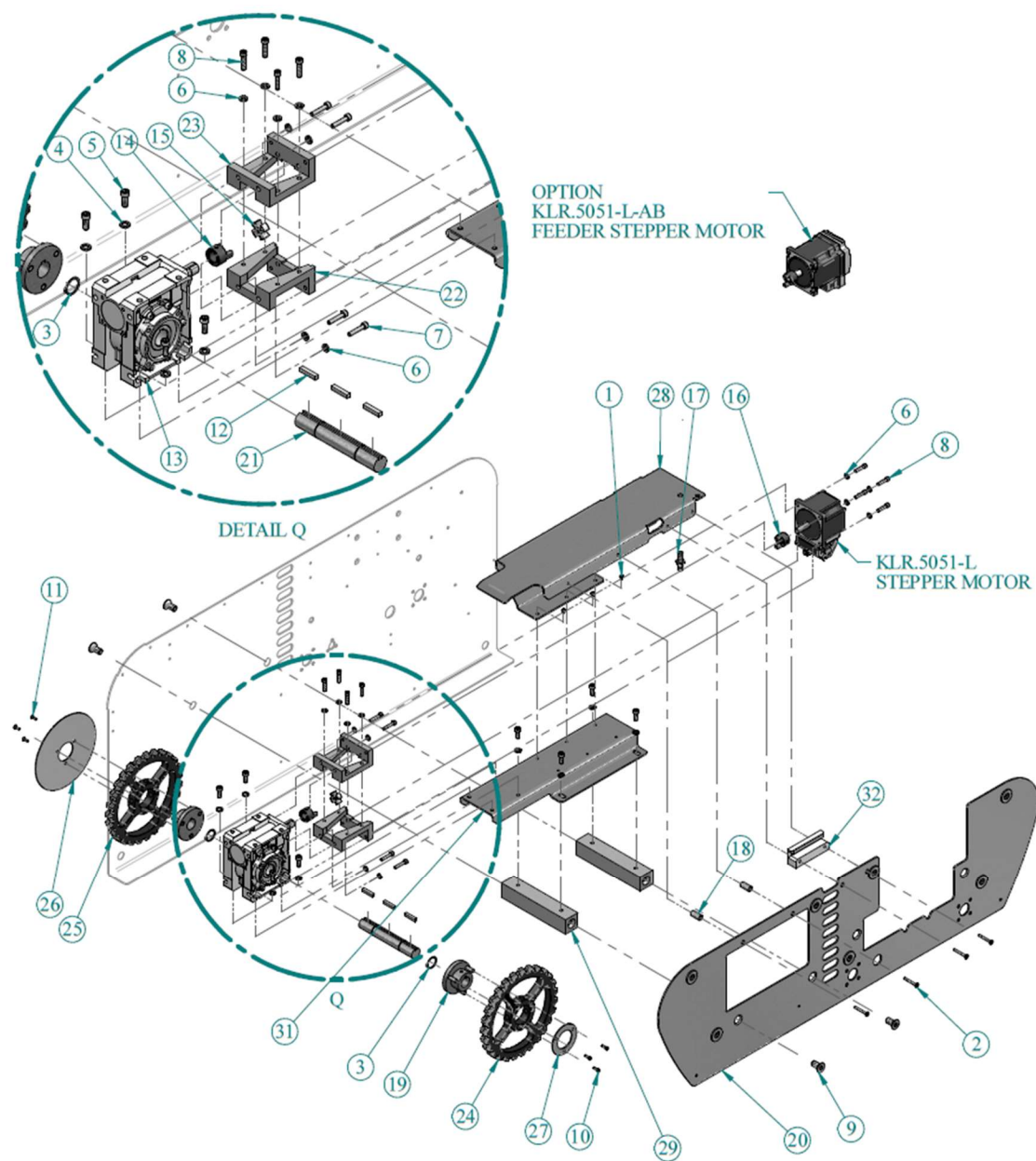


Revision: 2025-10-07

13.15.3: Bag table sensor

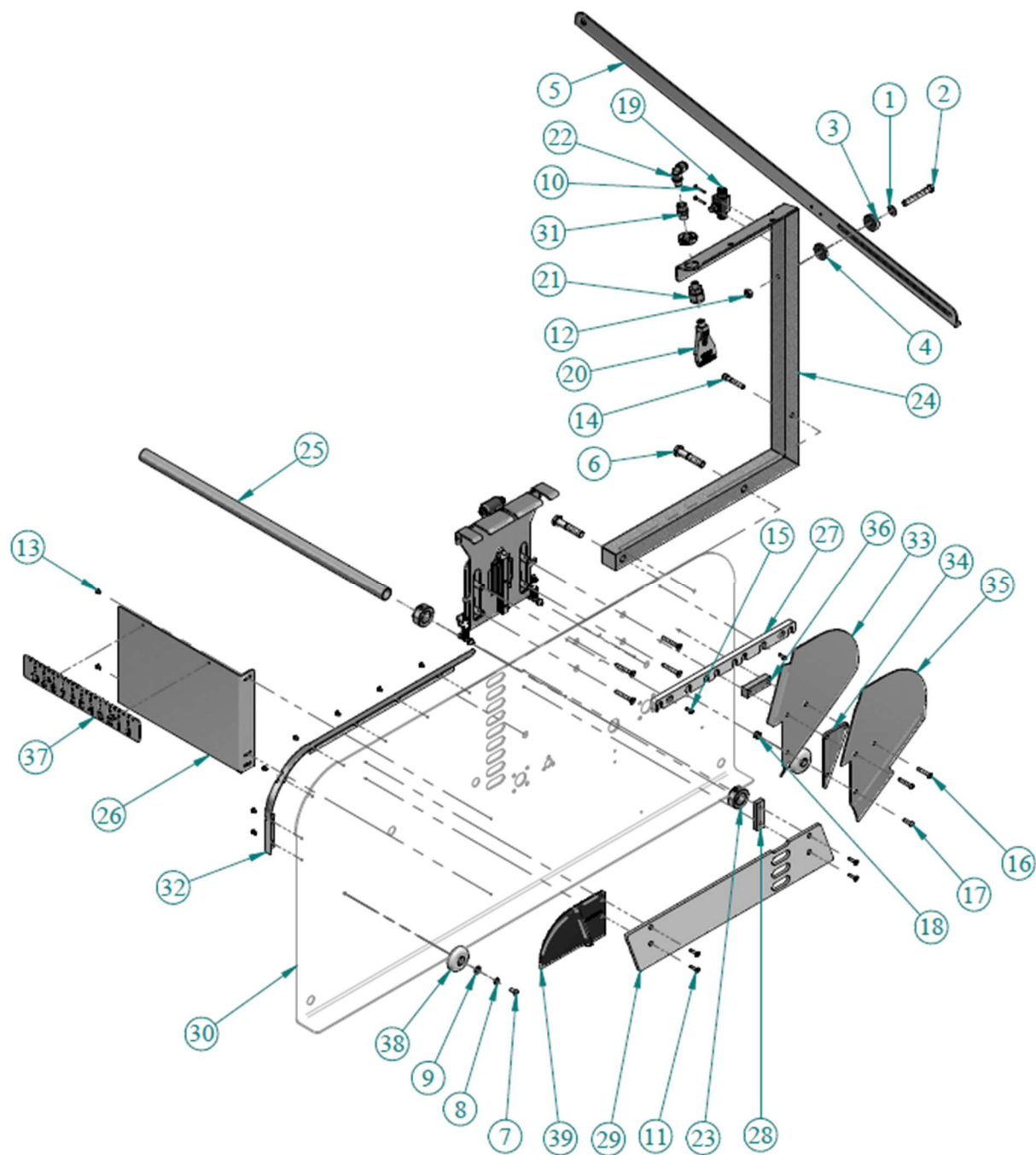


BAG TABLE SENSOR			
No.	Part number	Qty	Title
1	F02-112S	2	LOCK WASHER #4 STAINLESS
2	F01-112S	2	FLAT WASHER #4 STAINLESS
3	PR-02921	1	BRACKET POUR CAPTEUR LASER
4	F10-190F10S	4	SOCKET CAP 10-32 X 5/8" STAINLESS
5	F03-190FNS	4	JAM NUT HEX 10-32 STAINLESS
6	F11-190F10S	4	BUTTON HEAD 10-32 X 5/8" STAINLESS
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

13.16: Bag table feeder

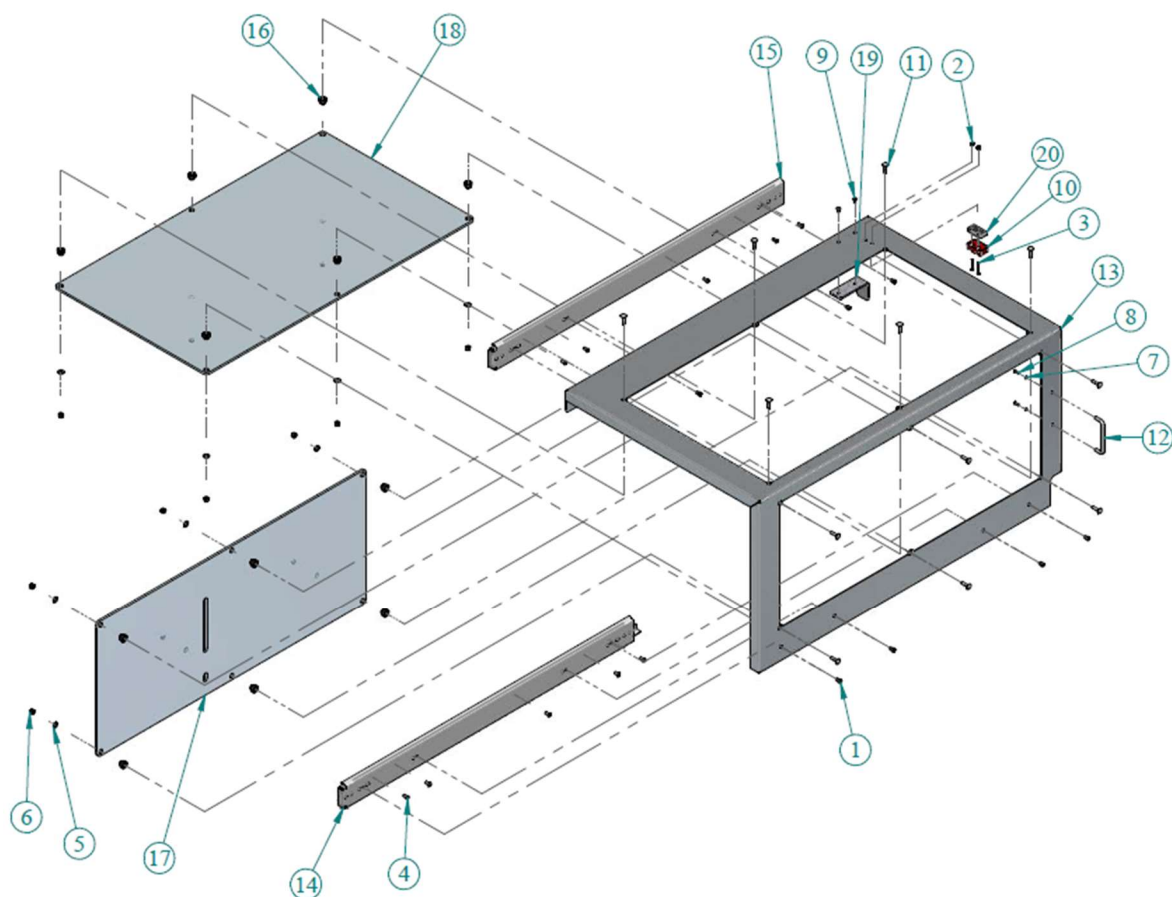
BAG TABLE FEEDER			
No.	Part number	Qty	Title
1	F11-190C04S	3	BUTTON HEAD 10-24 X 1/4 STAINLESS
2	F12-190F24S	4	FLAT HEAD 10-32 X 1 1/2" STAINLESS
3	f16-1000S	2	SNAP RING INT 1 STAINLESS S 3000
4	F02-312S	8	LOCK WASHER 5/16" STAINLESS
5	F10-312C12S	8	SOCKET CAP 5/16-18 X 3/4" STAINLESS
6	F02-250S	12	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



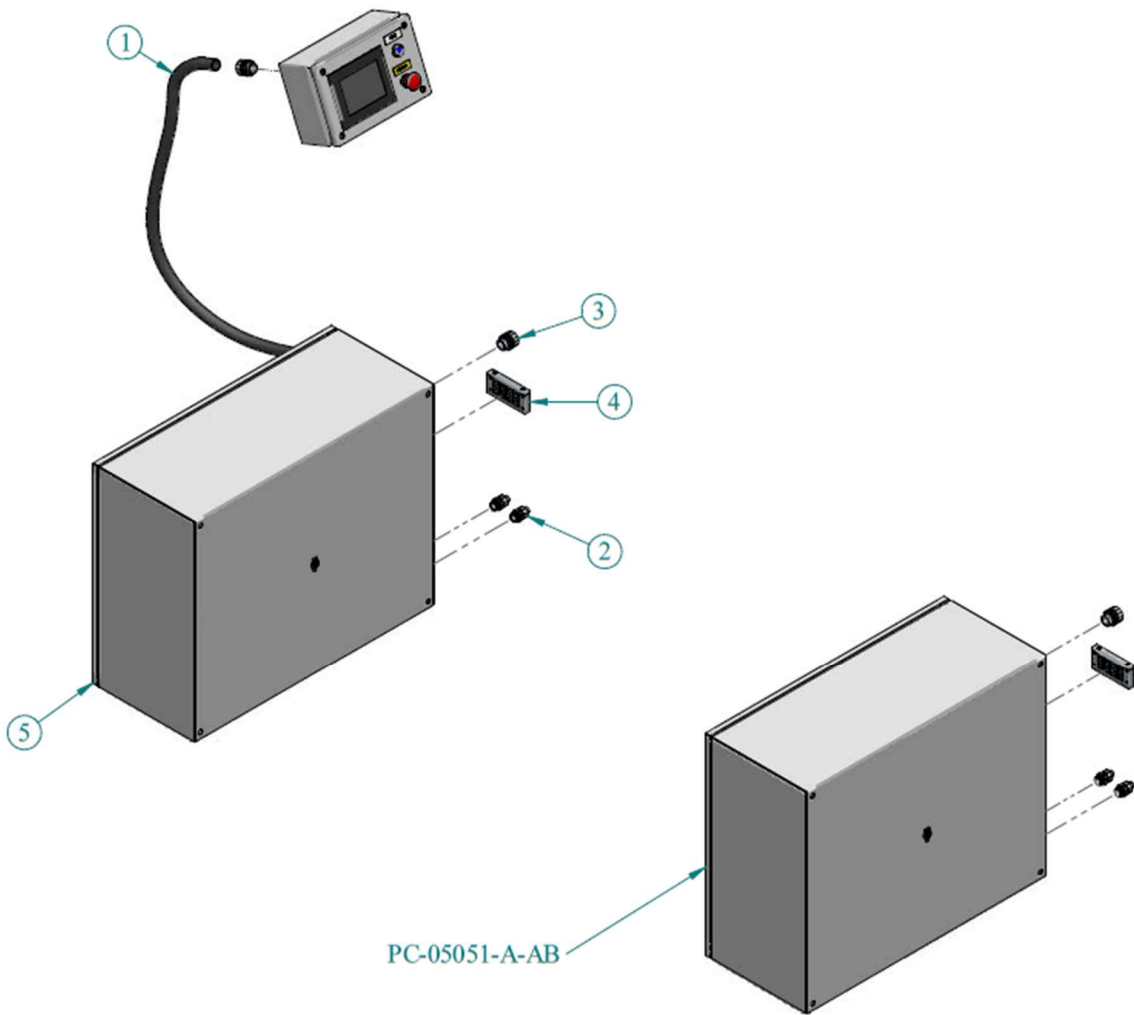
BAG TABLE BACK SIDE			
No.	Part number	Qty	Title
1	F01-375S	1	FLAT WASHER 3/8" STAINLESS
2	F13-375C44S	1	HEX HEAD 3/8-16 X 2 3/4" STAINLESS
3	PR-02906	1	WASHER 3/8"
4	PR-02905	1	WASHER 3/8"
5	PR-02797-L	1	RAIL LEFT
6	F13-500C40S	2	HEX HEAD 1/2-13 X 2 1/2" STAINLESS
7	F11-250F08S	1	BUTTON HEAD 1/4-28 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

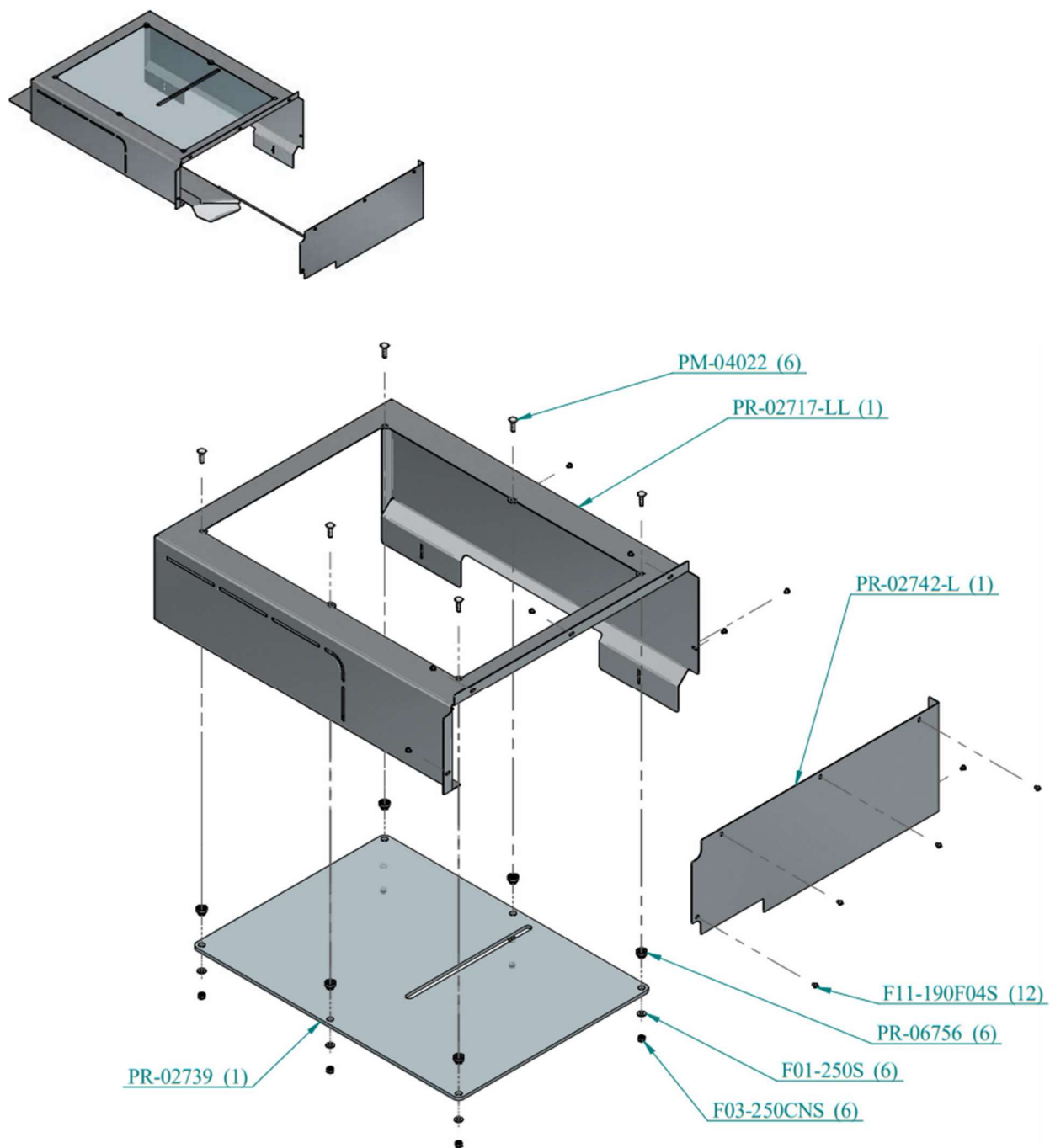


DOOR			
No.	Part number	Qty	Title
1	F10-250C05S	8	SOCKET CAP 1/4-20 X 5/16" STAINLESS
2	F03-164CNS	2	NYLON NUT 8-32 STAINLESS
3	F11-164C20S	2	BUTTON HEAD 8-32 X 1 1/4" STAINLESS
4	F11-250C08S	10	BUTTON HEAD 1/4-20 X 1/2" STAINLESS
5	F01-250S	12	FLAT WASHER 1/4 STAINLESS
6	F03-250CNS	12	NYLON LOCK NUT 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

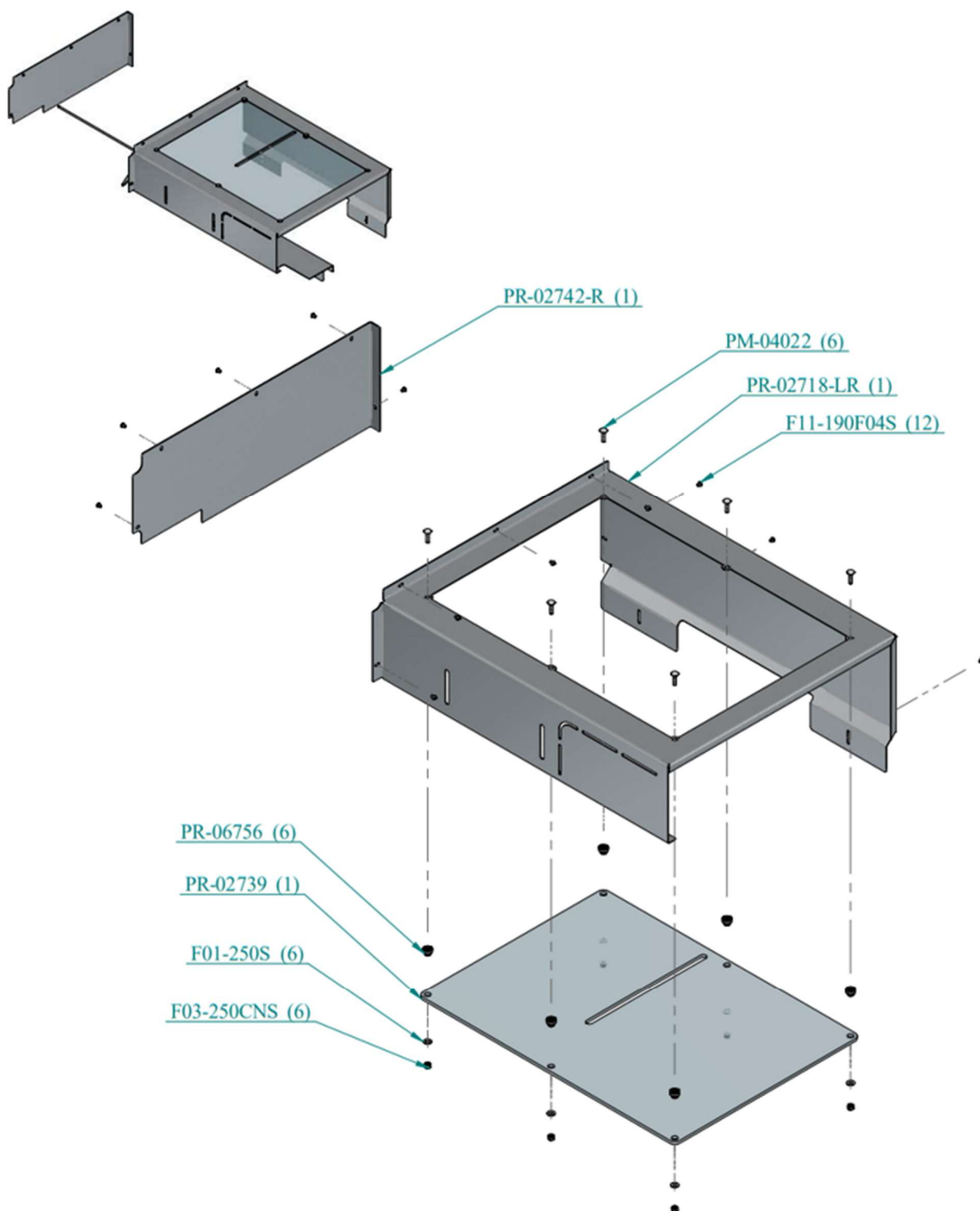
13.20: Control panel



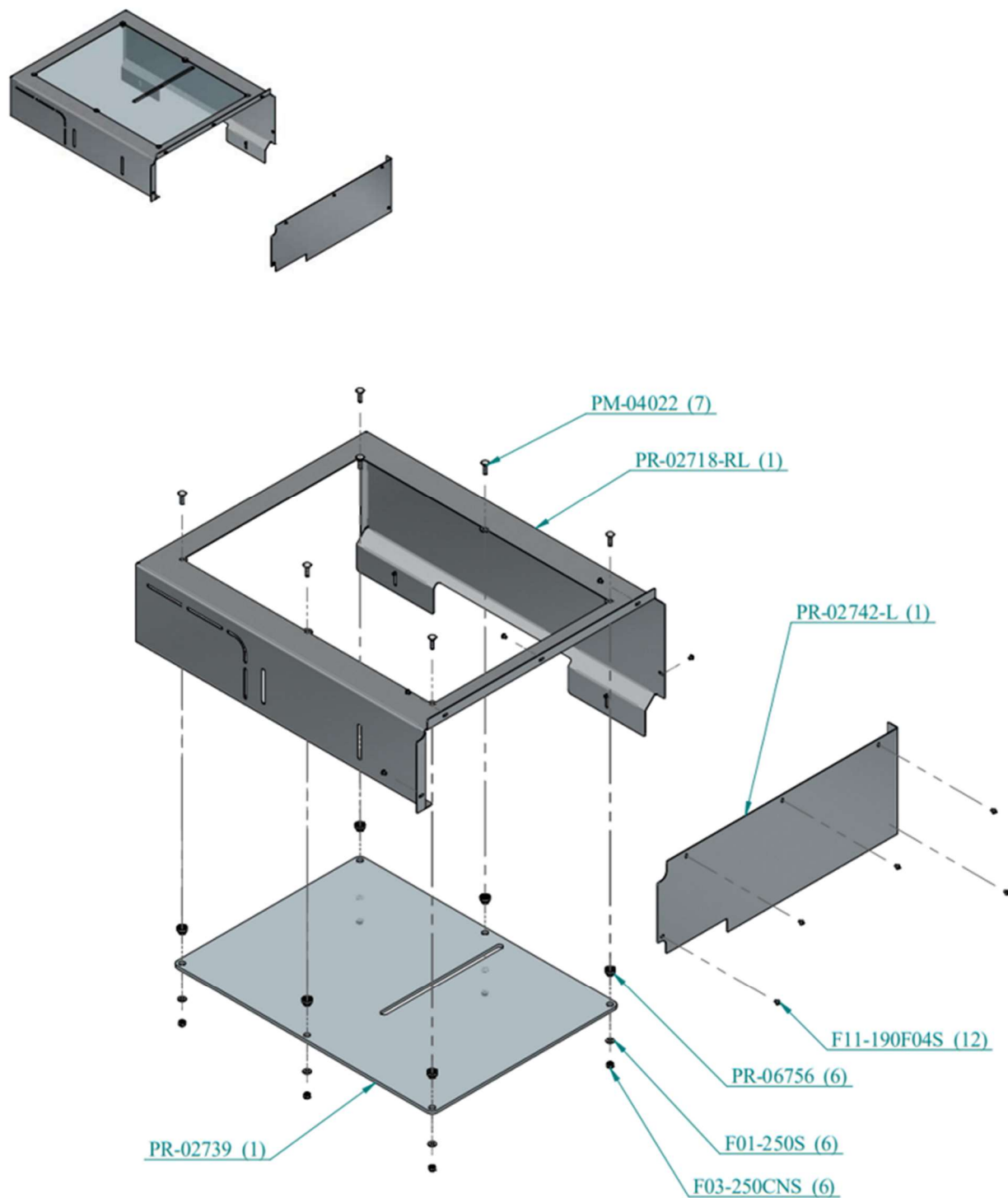
KLR.5051-L			
No.	Part number	Qty	Title
1	PR-02919	1	LIQUID-TIGHT FLEXIBLE METAL PIPE
2	PE-00110	2	CONNECTOR 1/2"
3	PE-00111	2	CONNENTOR 3/4"
4	PFA-5051	1	PASSE-FIL - CADRE AVEC GROMMETS
5	PC-05051-A	1	CONTROL BOARD

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

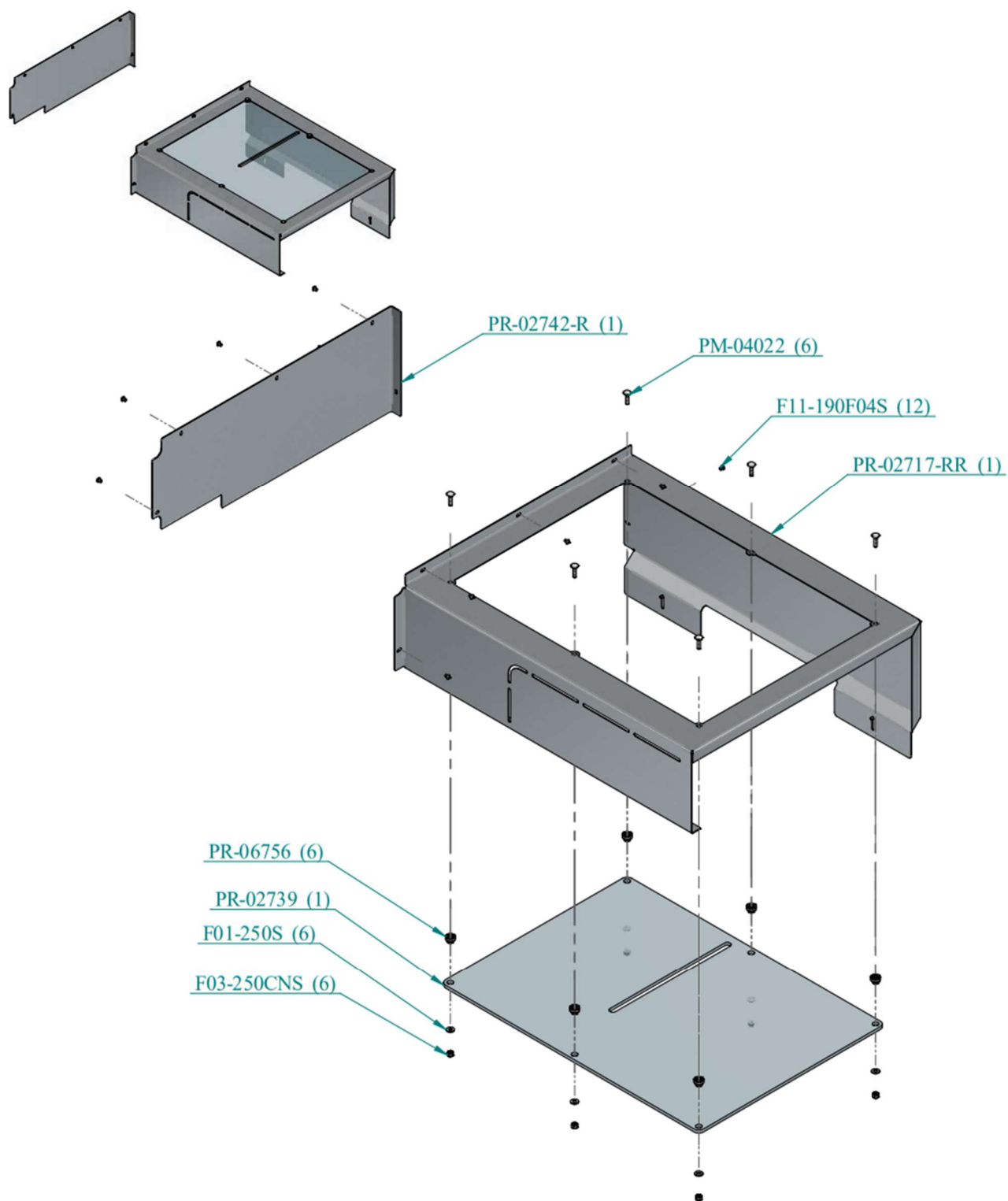
13.21.2: KR-5051-SG-LR



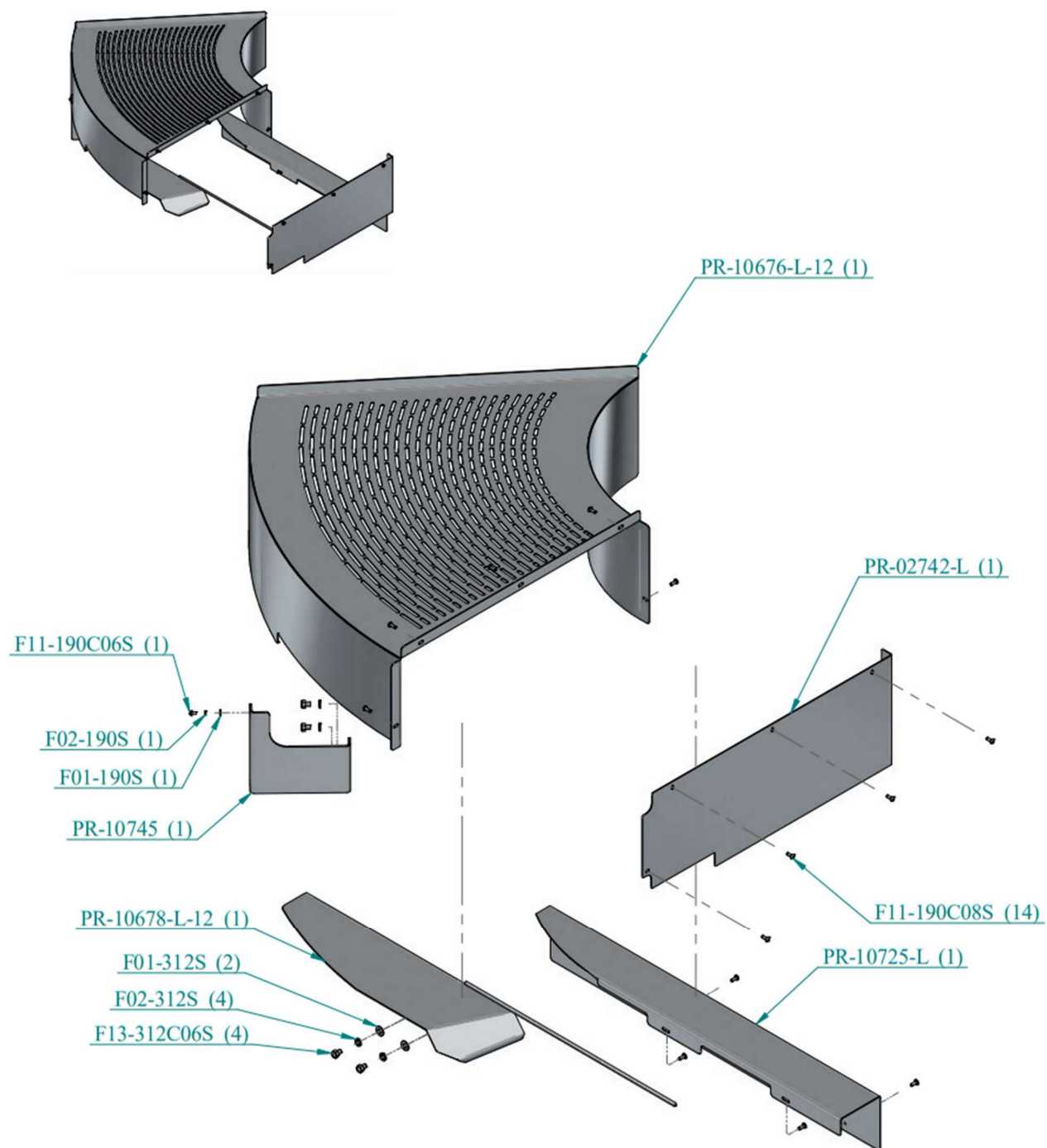
13.21.3: KR- 5051-SG-RL



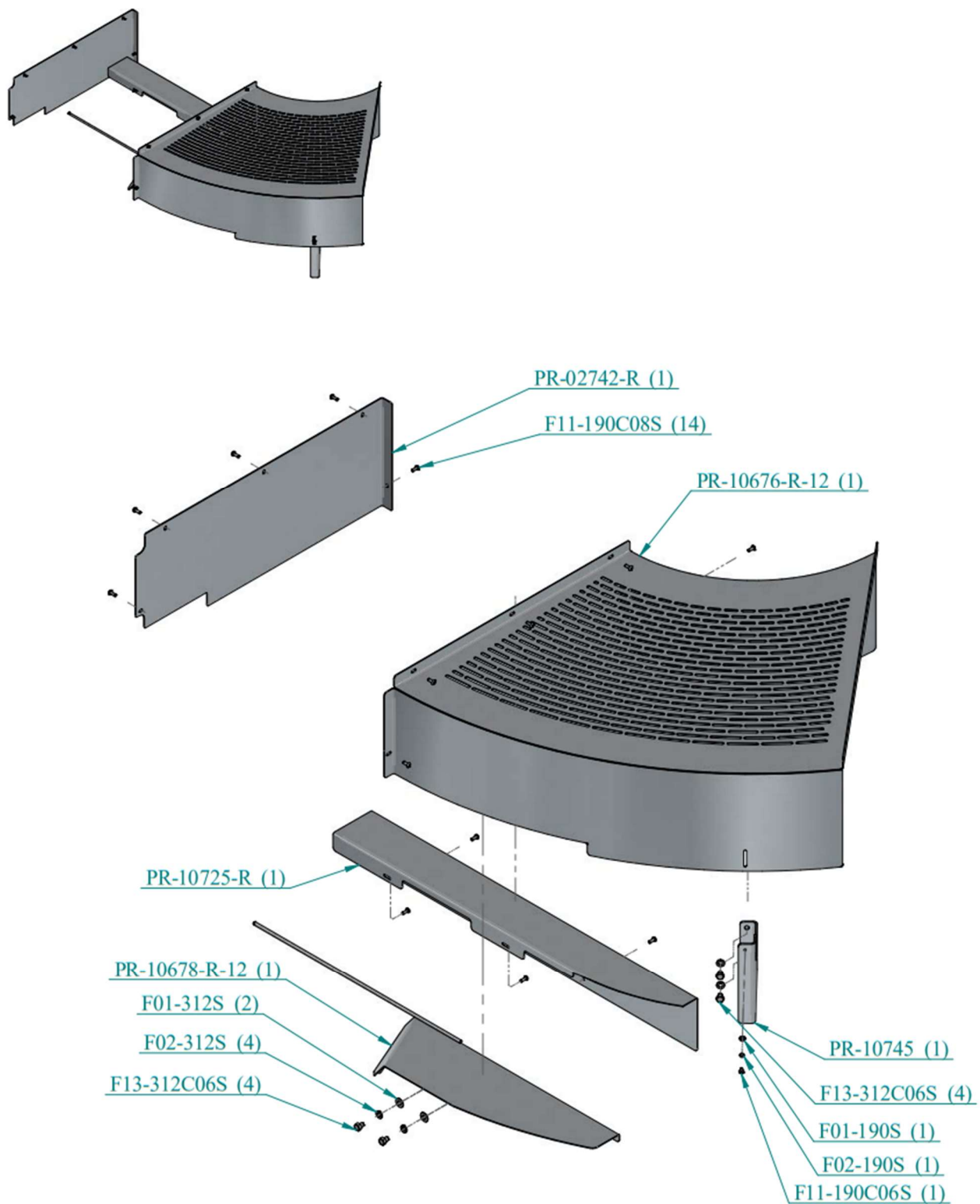
13.21.4: KR-5051-SG-RR



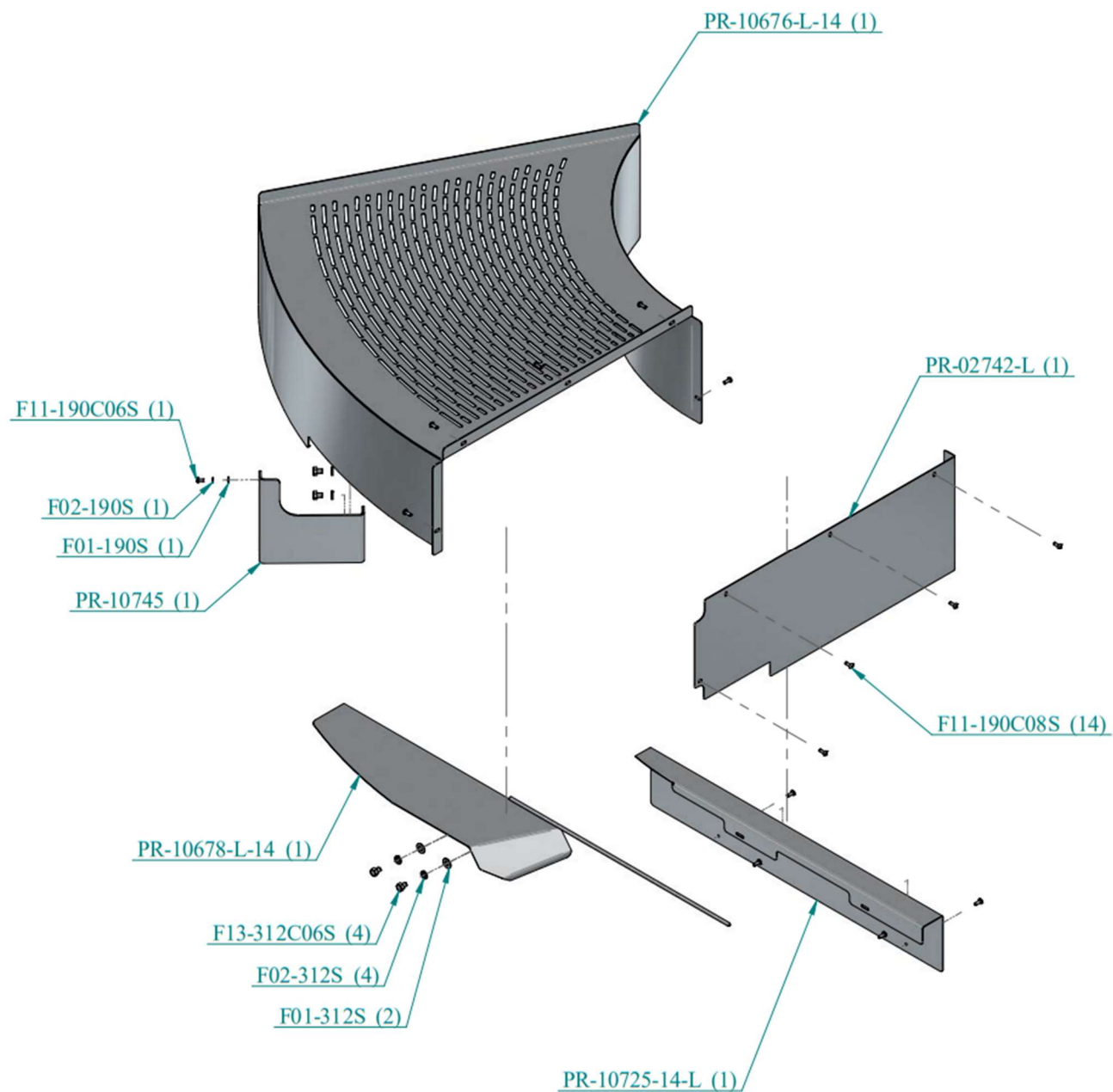
13.21.5: KR-5051-SG-CO-L-12



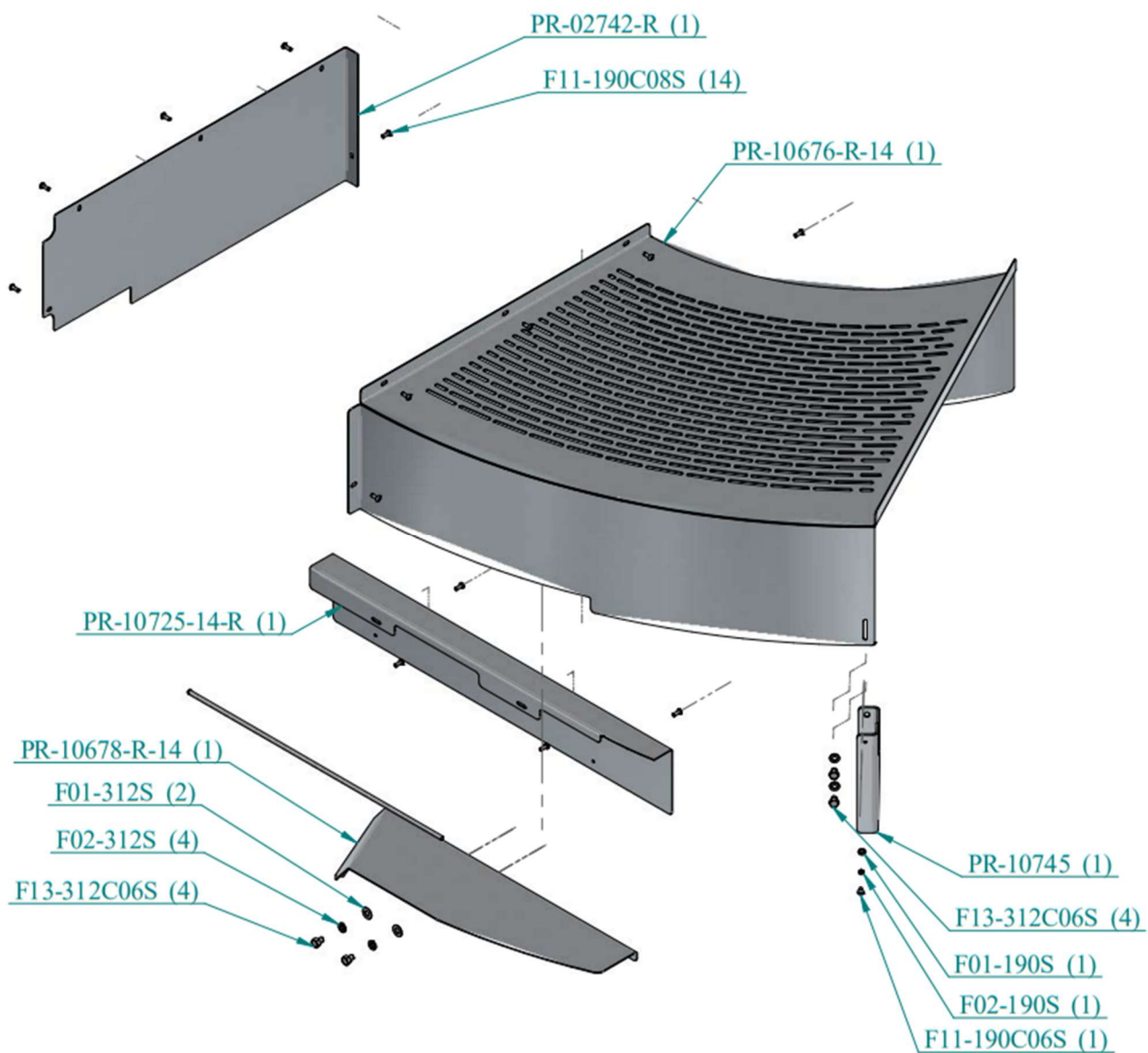
13.21.6: KR-5051-SG-CO-R-12



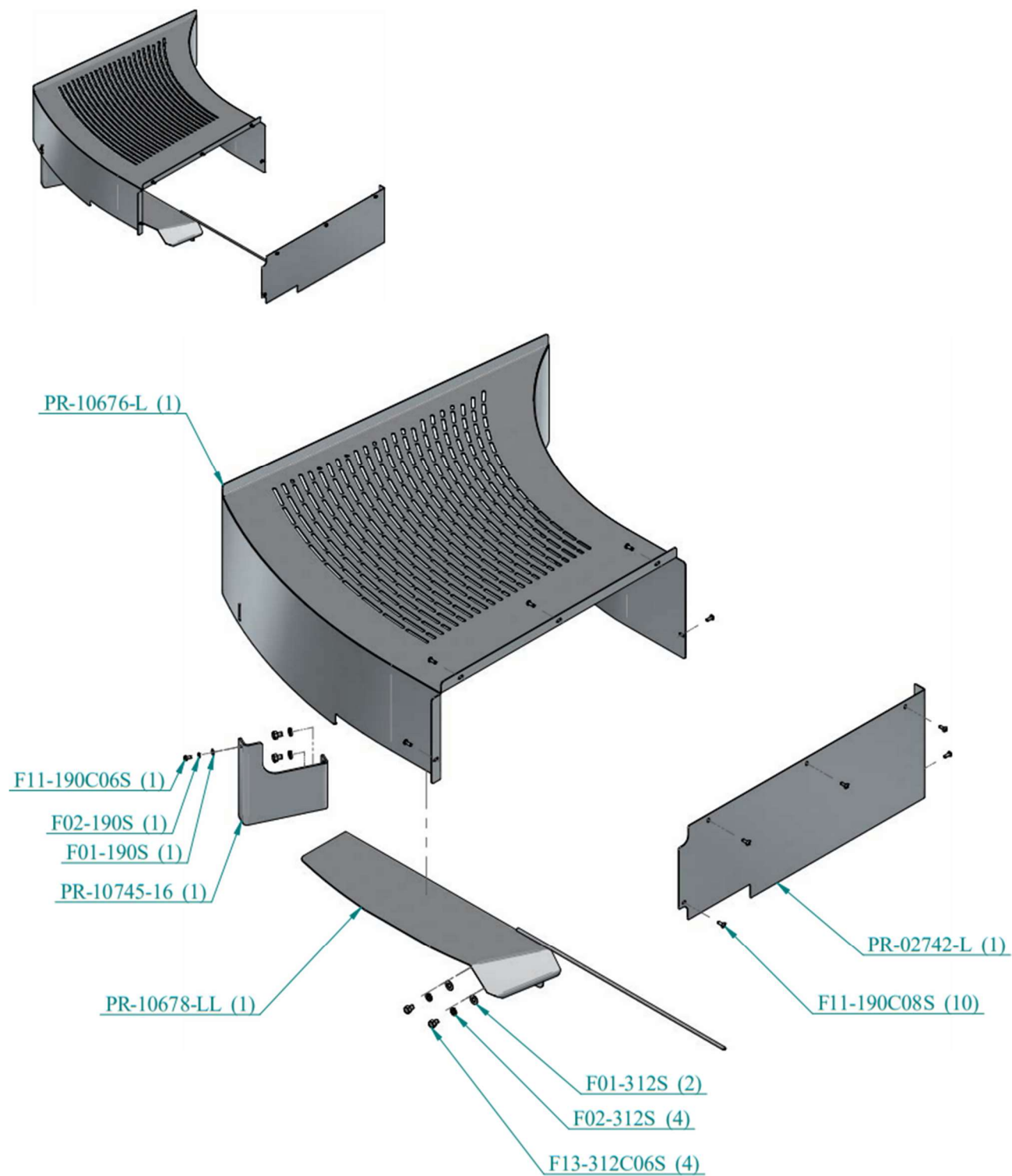
13.21.7: KR-5051-SG-CO-L-14



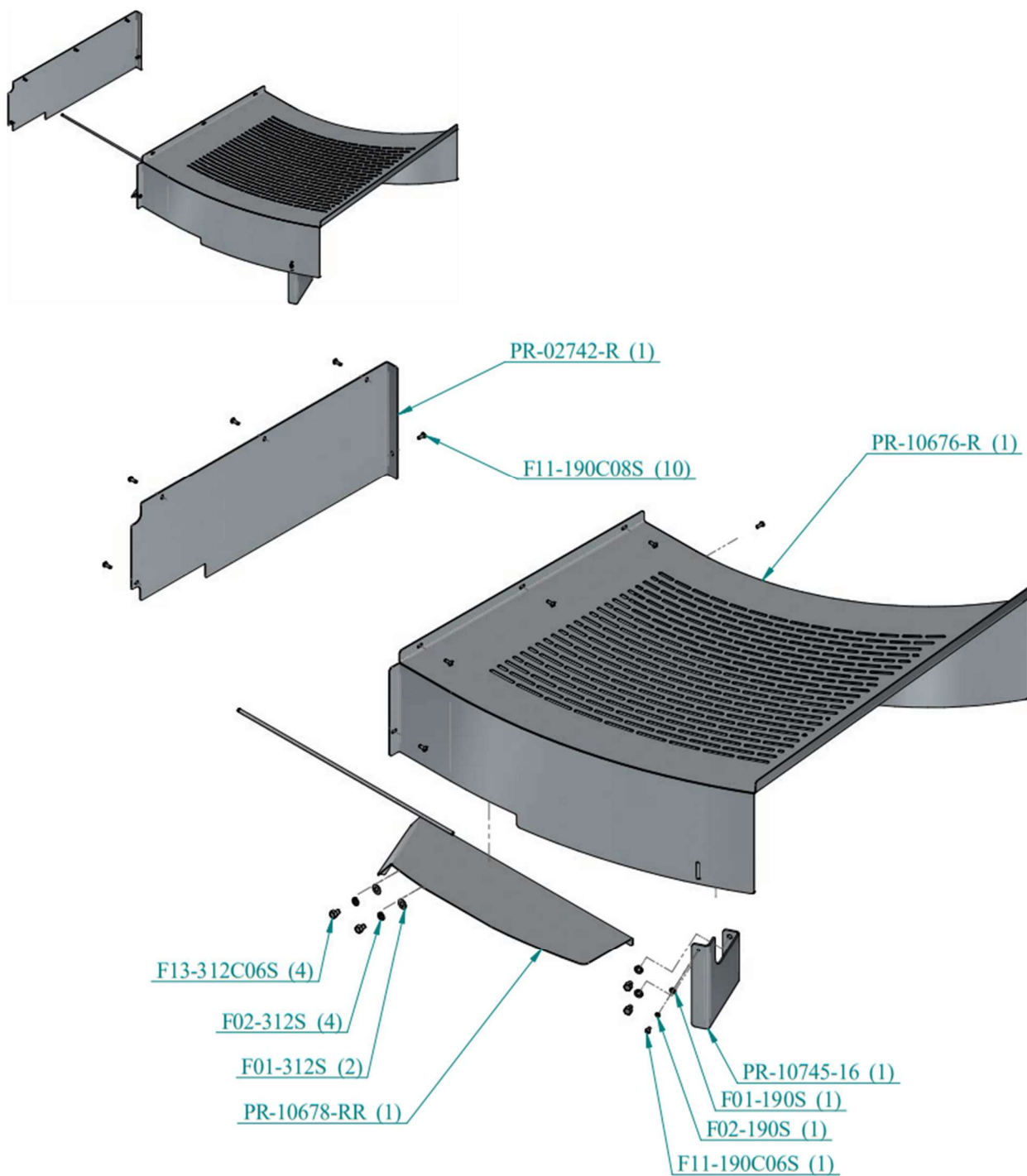
13.21.8: KR-5051-SG-CO-R-14



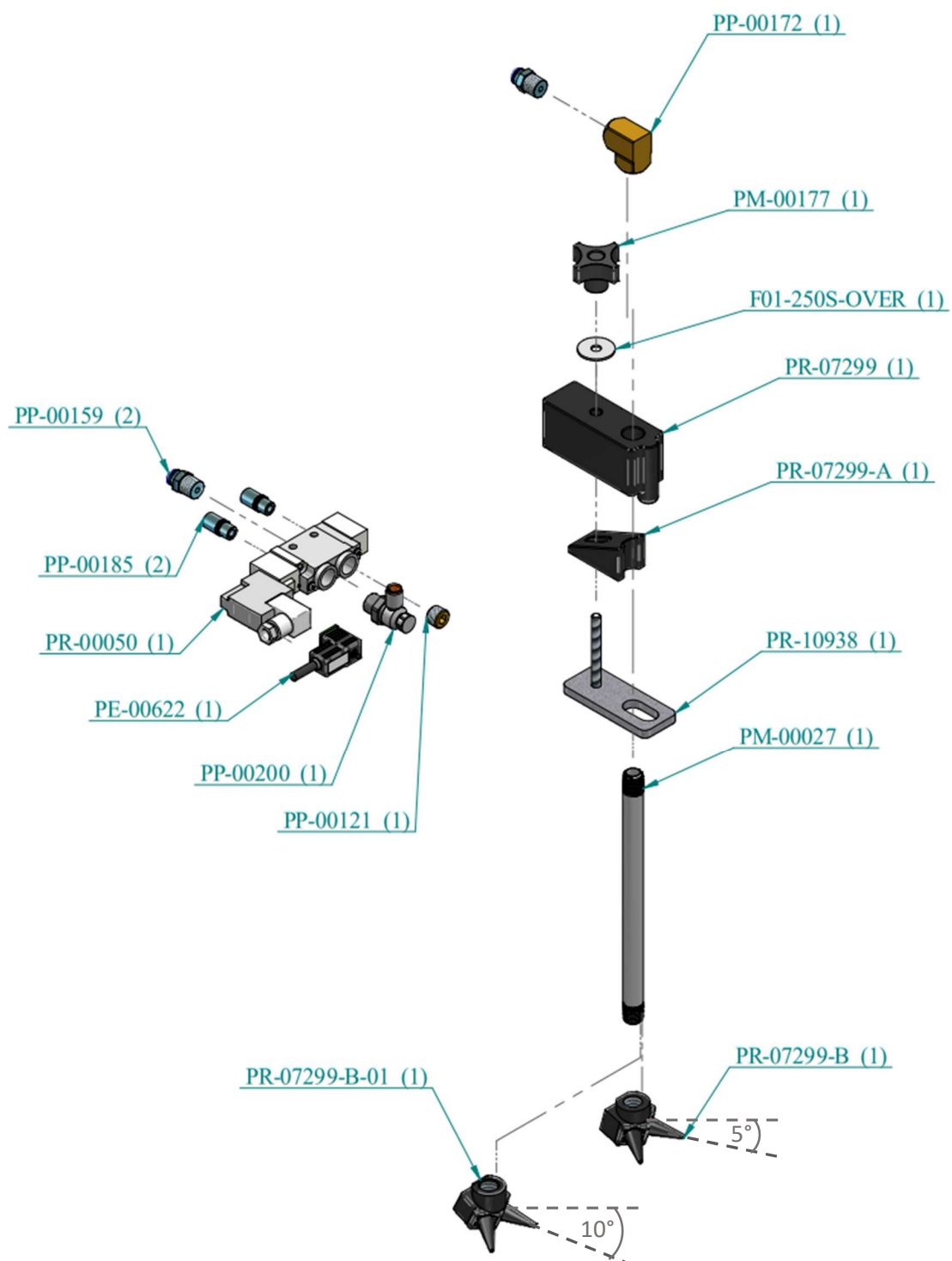
13.21.9: KR-5051-SG-CO-L-16



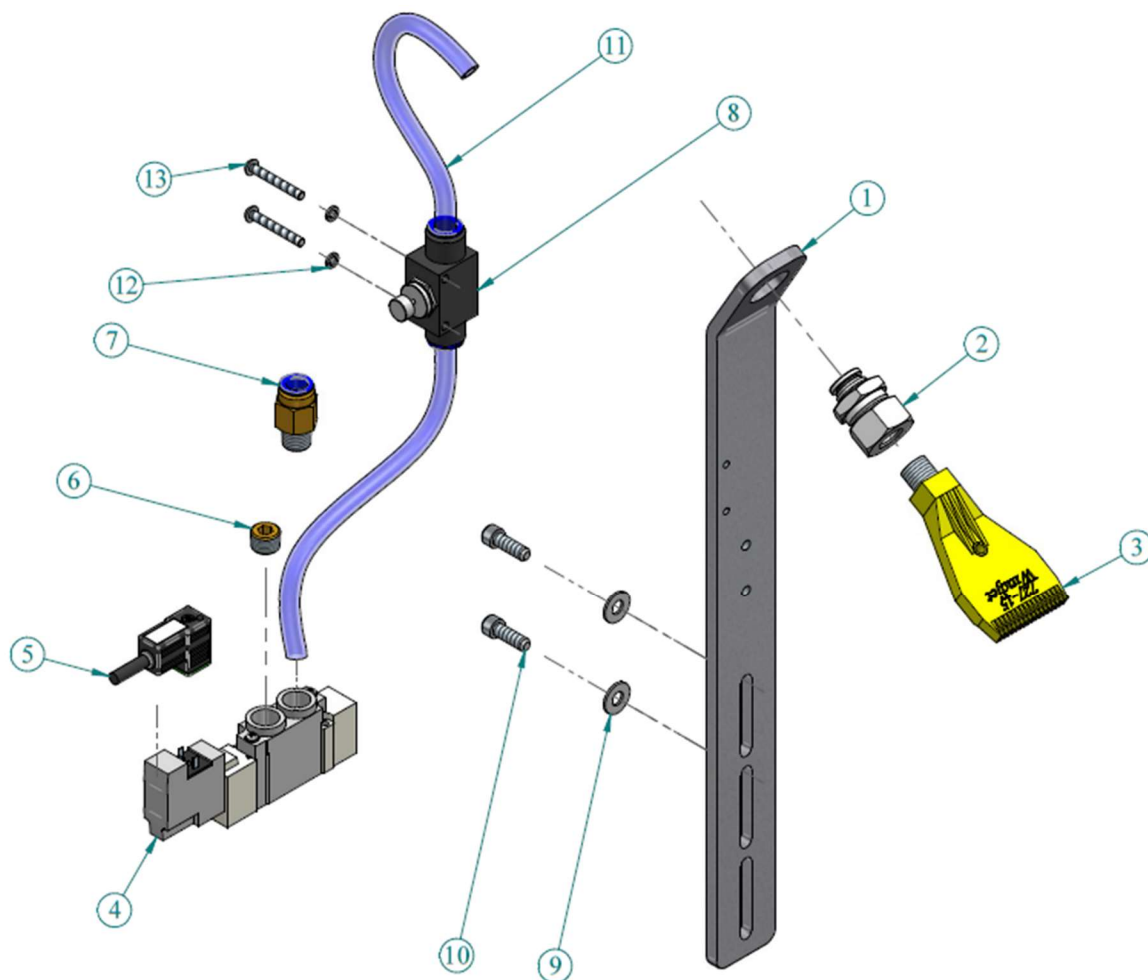
13.21.9: KR-5051-SG-CO-R-16



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

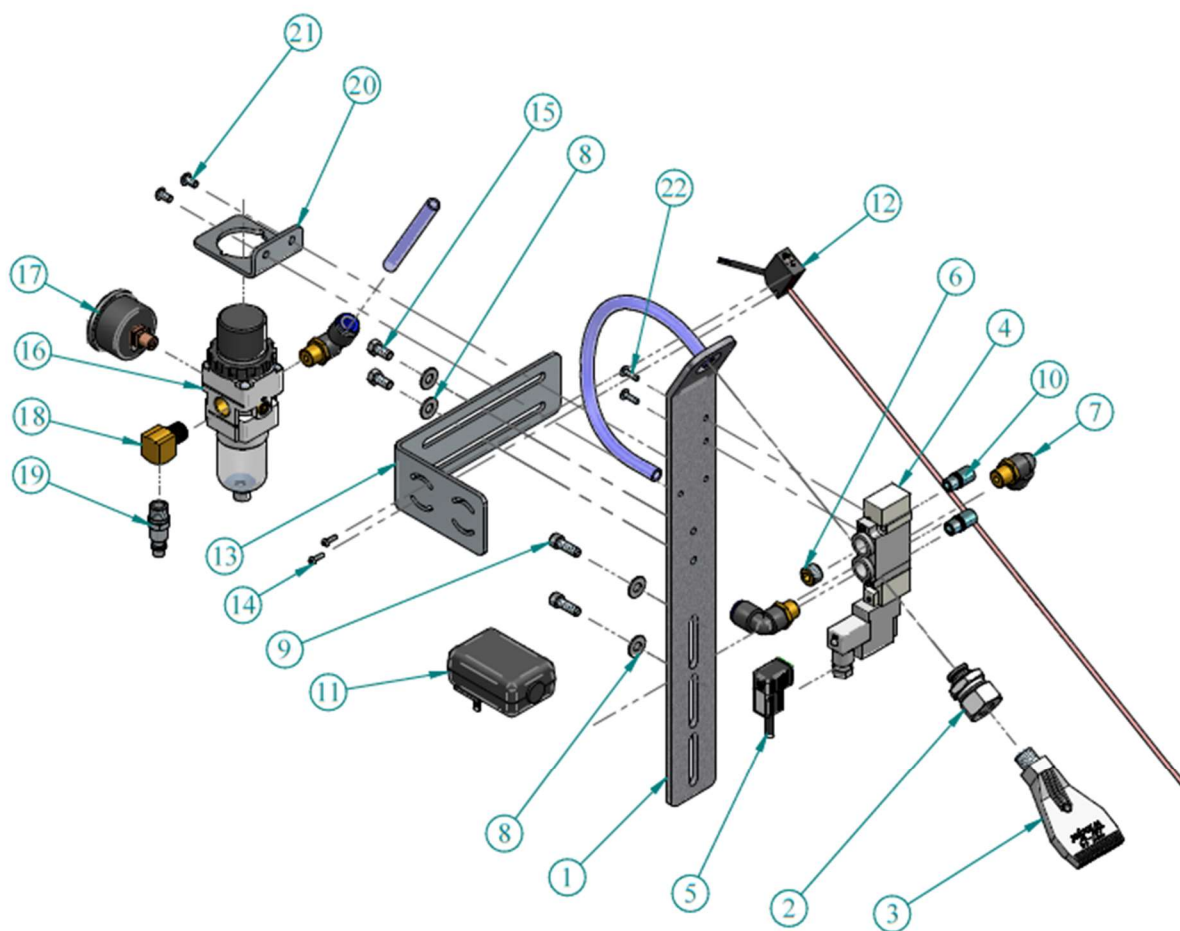


13.21.11: KR-HS70B-FLATBAG-C (option)



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)



KR-HS70B-FLATBAG-A			
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-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: 2025-10-07