CAN-LIFT®

CAN-LIFT ASANSÖR SANAYİ VE TİCARET LTD. ŞTİ.

CL-SG

Tek Yönlü ve Çift Yönlü Kaymalı Fren Tertibatı
Kullanma Kılavuzu

CL-SG

Bi and Uni Directional Progressive Safety Gear
Operating Manual

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CAN-LIFT CL-SG PROGRESSIVE SAFETY GEAR ASSEMBLY & ADJUSTMENT & MAINTENANCE USER MANUAL

Can-lift Progressive Safety Gears are referred to as safety gear in this manual. The motor brakes will be referred to as electromechanical brakes so that the mechanical safety gears are not confused with the lift motor brakes. The ones which are referred to as safety gear are mechanical safety gear (progressive safety gear) in the car.

The safety gears are mainly the safety devices used against the risk of falling of the lift car. Its primary direction of operation is downwards. It does not allow the lift to accelerate when the ropes are broken upward.

Safety gears that provide safety against unexpected movements in the car can also be created with other devices that are not connected to the lift car. However, mechanical safety gears against free fall must be in the car.

A pair of safety gear is required to operate together on both guide rails to stop the lift car level in downward direction. In order for the assembly to work properly, a speed control device (governor) that is activated at the determined trigger speed and produces the necessary pulling force to move the gear lever, a synchronization system that distributes the force equally to both brakes, and a correctly adjusted brake group to have an equal effect on the guide rails are required. Explanations on these issues will be made in the following articles. All conditions must be met for the brakes to operate properly and efficiently.

DESCRIPTION OF SAFETY GEARS

Can-lift Progressive Safety Gears are designed to operate as descending and ascending. In case of a custom order, the safety gears that operate as descending only can be provided.

The main purpose of the safety gears is to stop the total weight of the car with the nominal load and its carcass and the equipment in the event of a free fall, with the desired deceleration acceleration at the trigger speed of the governor. Therefore, the load values of the safety gears must be calculated as follows:

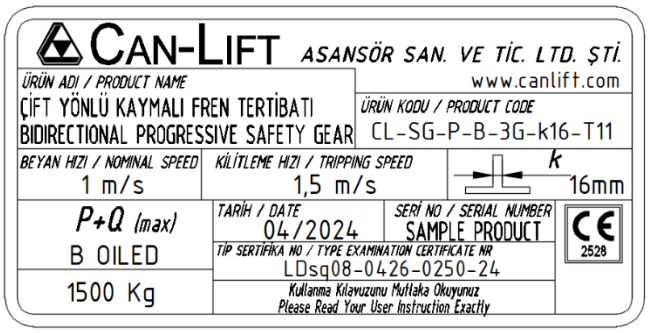
M= (car, car sling and doors) (P) + (nominal load) (Q) + 0,4* (weights of car compensation chain, rope and control cable) (K) kg

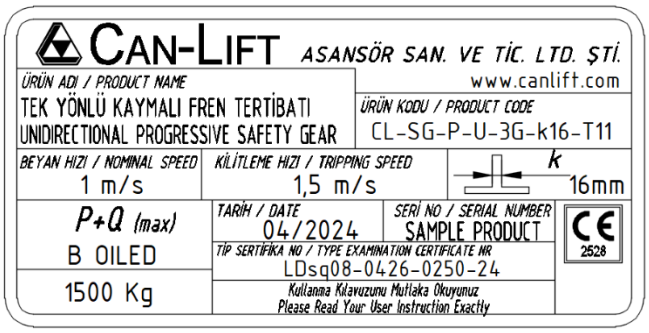
M = P+Q+0,4*K kg. (TS EN 81-20 M 5.6.2.1.1.1.)

The maximum nominal speed of Can-Lift to be used in this safety gear assembly is defined as 2,5 m/sec. These safety gear assemblies are designed for the use of guide rails with a thickness of 9 mm, 10 mm, 14mm and 16 mm.

The upper load limits for the safety gears are given for various types of guide rails based on various nominal speeds in accordance with the maximum and minimum M values.

It should be noted that the M values are within the values given in the tables according to the nominal speed of the safety gears to be used. The progressing distances given in the tables are the values to be reached at the free falling and triggering speed with the values of M. (Table in Page 49) These values cannot be reached in the rope tests performed with the nominal speed. The values should be taken from tables according to the test speed for such tests. However, these values are calculated depending on the friction values of the guide rails. The difference that may occur in guide rail material and change in surface roughness can change these distances at certain percentages.





LABEL DESCRIPTION

When you receive the product, check whether the label information is in accordance with your order or not. If there is a difference between the label values and your order values, please do not use the product and contact our company.

There is more information on the product label than the information specified in the standard. This is for the purpose of making a mutual agreement easier.

When you receive the product, check the information on the label to see:

First, whether the safety gear is bi or unidirectional, whether the safety gear is compatible with your system.

Second, check the (**P+Q**) value. An incorrectly selected safety gear will not safely stop the car and the people in it in case of need.

Third, compare the nominal speed and locking speed with the system speed to make sure they are the same. If the speed values are not the same, the safety gear will not stop with correct acceleration depending on the P+Q load.

Fourth, see the guide rail size (**k**), the type of guide rail production (**A, cold rolled; B, machined**) and the way the guide rail works (**oil**). If the system specifications and the label specifications match, then you have the correct safety gear.

You can use it after proper assembling.

PRODUCT CODE DESCRIPTION

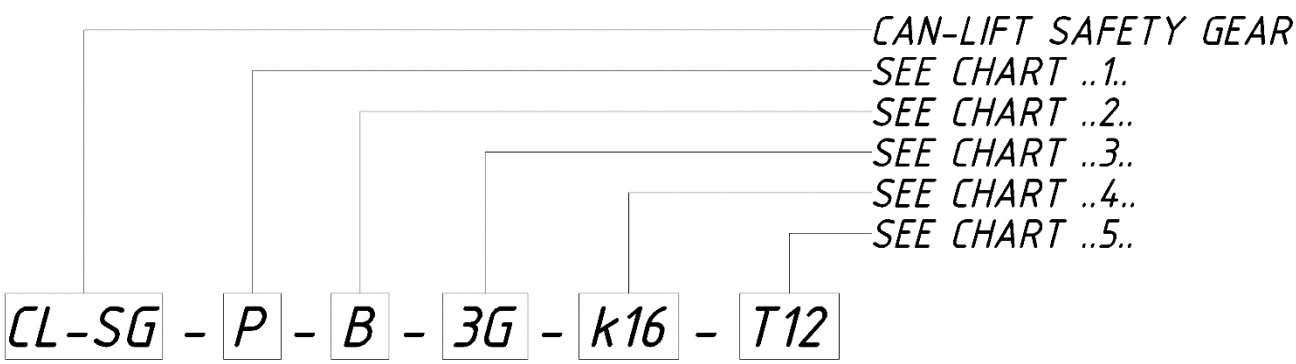


TABLE 1

P:	PROGRESSIVE
PH:	PROGRESSIVE HEAVY DUTY
I:	INSTANTANEOUS
IH:	INSTANTANEOUS HEAVY DUTY

TABLE 2

B:	BIDIRECTIONAL
U:	UNIDIRECTIONAL

TABLE 3

CAN-LIFT SAFETY GEAR CAPACITY LOAD-SPEED TABLES

TYPE B MACHINED GUIDE RAIL (Max P+Q Kg)

GROUP NO SPEED (m/s)	*1G*	*2G*	*3G*	*4G*	*5G*	*6G*	*7G*	*8G*
0.8	**925**	**1230**	**1550**	**1850**	**2250**	**2875**	**3500**	**4150**
1	**900**	**1200**	**1500**	**1800**	**2200**	**2800**	**3400**	**4000**
1.2	**890**	**1180**	**1475**	**1775**	**2150**	**2725**	**3300**	**3900**
1.6	**860**	**1150**	**1400**	**1700**	**2050**	**2575**	**3100**	**3625**
1.75	**850**	**1125**	**1375**	**1650**	**2000**	**2500**	**3025**	**3525**
2	**830**	**1100**	**1325**	**1600**	**1925**	**2425**	**2900**	**3375**
2.25	**810**	**1075**	**1300**	**1550**	**1875**	**2325**	**2775**	**3200**
2.5	**800**	**1050**	**1250**	**1500**	**1800**	**2225**	**2650**	**3050**

TYPE A COLD-DRAWN GUIDE RAIL (Max P+Q Kg)

GRUP NO HIZ m/s	*2G*	*3G*	*4G*	*5G*	*6G*	*7G*	*8G*
0,8	**625**	**775**	**975**	**1225**	**1550**	**2050**	**2575**
1	**600**	**750**	**950**	**1200**	**1500**	**2000**	**2500**
1,2	**590**	**740**	**930**	**1175**	**1470**	**1950**	**2450**
1,6	**570**	**700**	**880**	**1130**	**1400**	**1850**	**2300**

*** Do not use it on rail types other than the rail type specified on the label.!**

TABLE 4

GUIDE RAIL THICKNESS k:	**9**
	10
	14
	16

TABLE 5

ASSEMBLY TYPE	**T11**	WITH SUPPORT PLATE CENTER LEVER
	T111	WITH SUPPORT PLATE CENTER LEVER FOR REVERSE RAIL
	T112	BODY CENTER SYNCHRONOUS (BALANCING COUNTERWEIGHTS – L TYPE CAR FRAME
	T12	WITH SUPPORT PLATE ECCENTRIC LEVER
	T121	WITH SUPPORT PLATE ECCENTRIC LEVER FOR REVERSE RAIL
	T21	WITH SUPPORT FRAME CENTER LEVER
	T22	WITH SUPPORT FRAME ECCENTRIC LEVER

SECURITY WARNING

Key parts are highlighted in the user manual. The followings are indicated with the following signs in these parts:

General danger warnings 

Important notes 

Risk of injury 

Please be more careful when you see these signs.

IMPORTANT WARNING

If you use the Canlift bi-directional safety gear, the direction arrow on the safety gear and the red direction label must be mounted facing upwards. The safety gears do not operate within the desired values if the installation is not made right since the descending and ascending direction forces are different.

After each installation, check that the synchronization system and the safety gear levers operate smoothly. Jamming and sticking prevents the safety component from performing properly. The mechanism can be operated with a force of 200 N.

The protective oil on the guide rail during guide rail installation must be cleaned. If the safety gear is installed on the guide rail and moved before the guide rails are cleaned, protective oil fills into the gear and subsequently prevents the gear from functioning.

ASSEMBLY DIMENSIONS

Our company manufactures bidirectional and unidirectional progressive safety gear models for various speeds and weights. These models can be used by installing them with two different main assembly methods.

The first one is for the models compatible with the method where car sling group is manufactured by plate metal bending. This model can be mounted inside the car sling plate.

The first assembly method has two types of product. The first one has center lever and the others have eccentric safety gear lever. The models with eccentric lever are designed for ease of application where the safety gear lever is located on the side of pulley in bottom pulley car slings or where the safety gear is used on the car with type L car frame. The assembly dimensions do not change, but the distance for sync steel tube is different. They are progressive safety gears which are produced as unidirectional and bidirectional. (Figure 1, Figure 2)

The models described in the first assembly method also have models where the sync system is installed from the opposite side and the safety gears face inward, for shaft designs with reverse guide rail installation. (Figure 3, Figure 4)

The safety gear in this group, which can be mounted inside the car sling plate column, also has a mode which can be mounted to a counterweight safety gear or a type L car frame and where synchronization is made from a measurement close to the guide rail center. (Figure 5)

The second assembly method is suitable for the car models which have frame system as the car sling system and the car sling group is made of components fixed on the frame.

The models with the second assembly method has two types of product. The first one has center lever and the others have eccentric safety gear lever. The models with eccentric levers are designed to allow their use when the safety gear lever is on pulley side in bottom pulley car slings, like in the plate material type, or to gain distance in case of shafts with insufficient dimensions. The assembly dimensions do not change, but the distance for sync steel tube is different. They are progressive safety gears which are produced as unidirectional and bidirectional. (Figure 6, Figure 7)

The shape of the safety gear lever is designed taking into account that the clips used in guide rail assembly hit the safety gear lever during the course of the car, or are dangerously close. This dangerous situation is more likely to occur on type TS ISO 8100-33 T89/ B guide rails with less height. As a precaution, the movable joints of the safety gear lever are designed as far as possible on the guide rail lug and the potential hazards have been avoided.

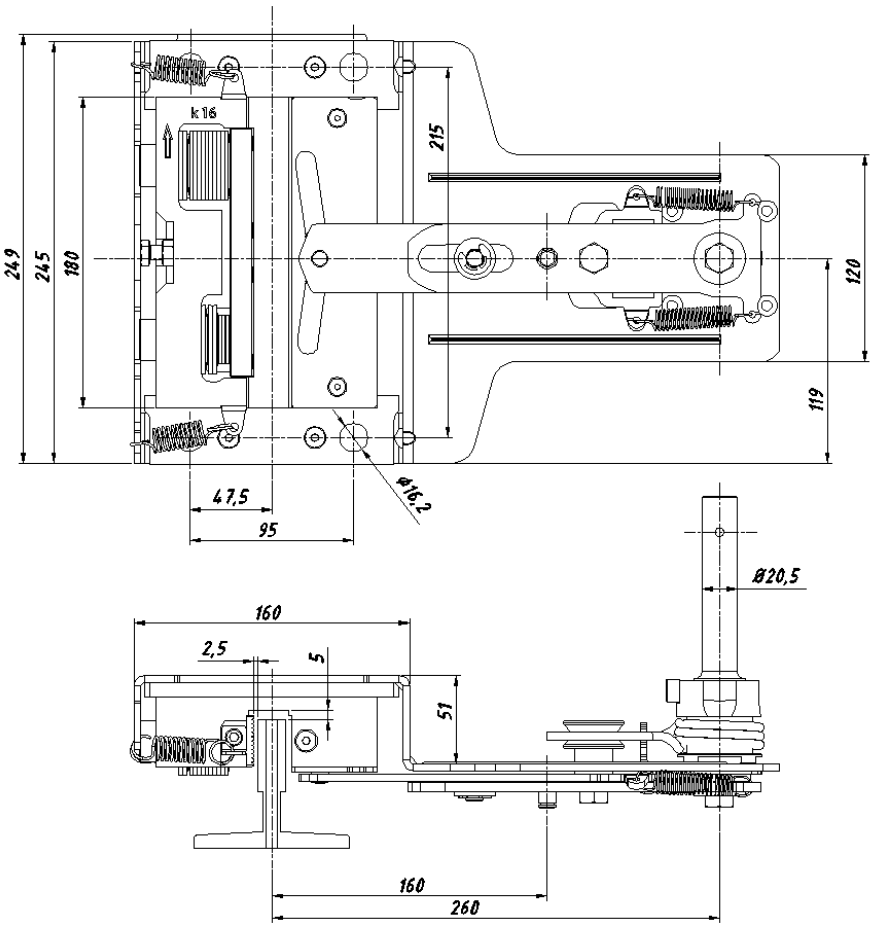


FIGURE 1 (T11)

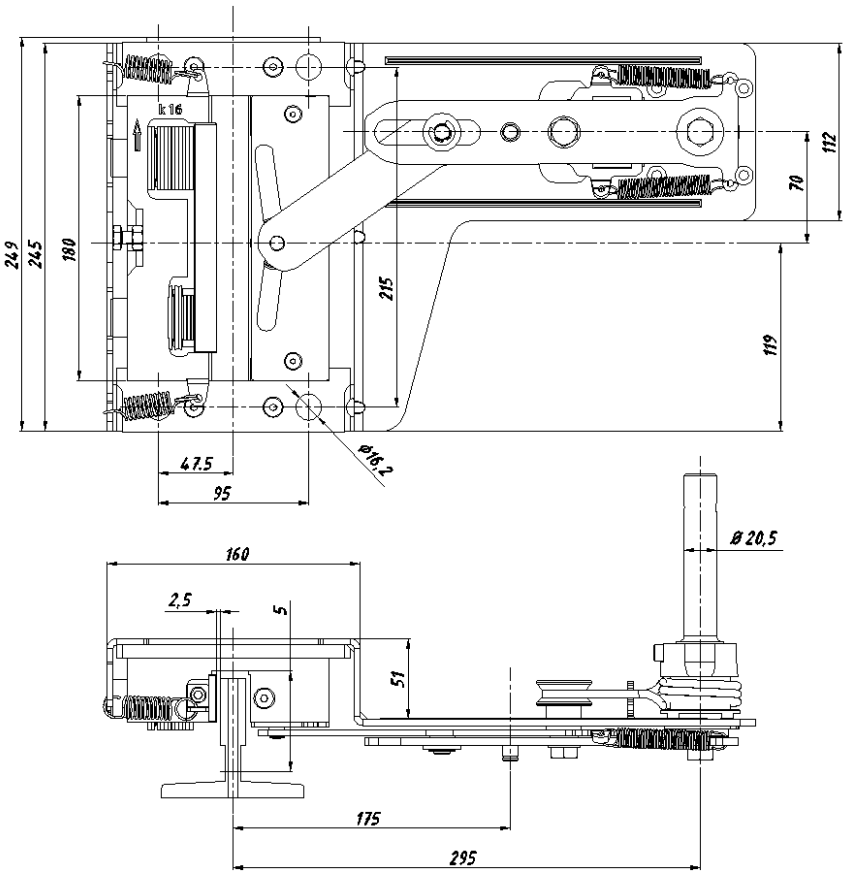


FIGURE 2 (T12)

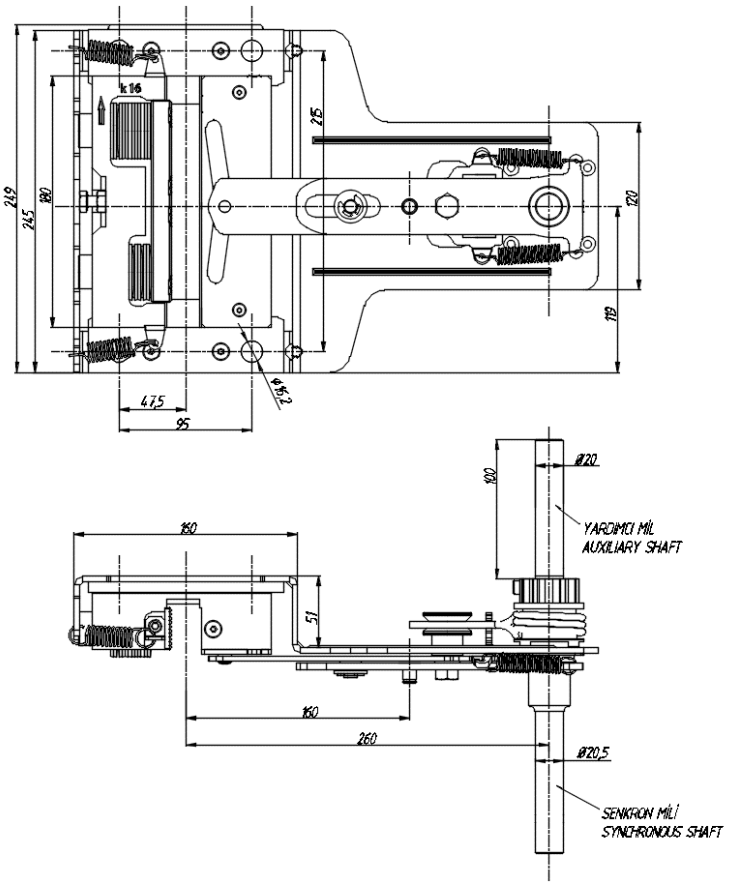


FIGURE 3 (T22)

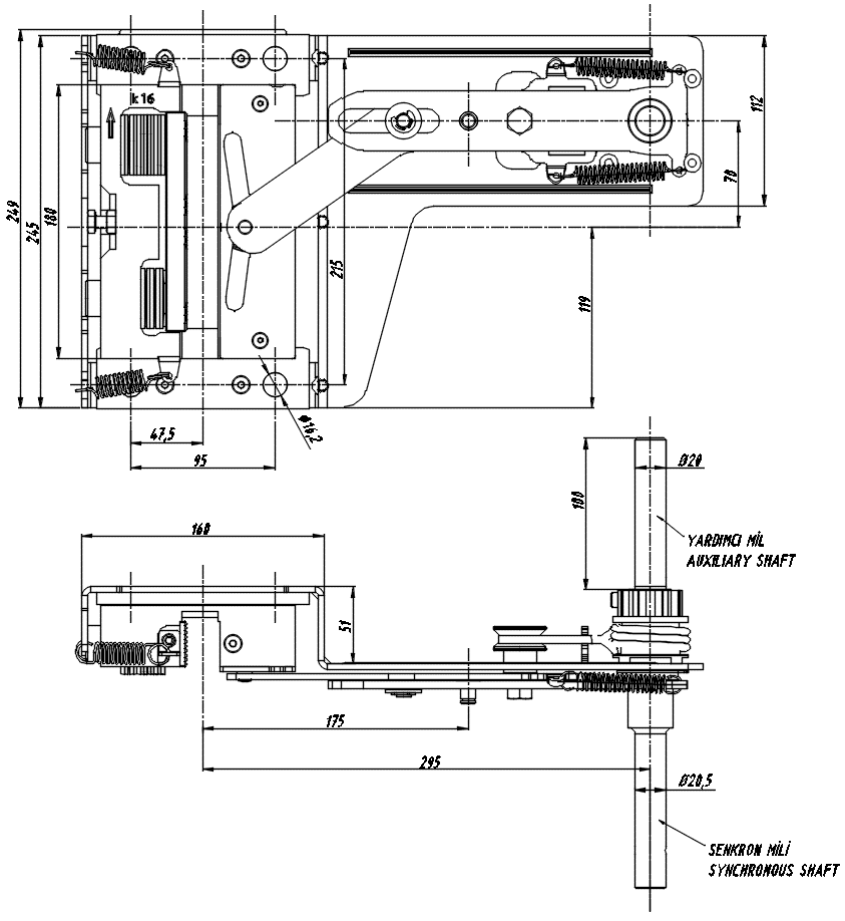


FIGURE 4 (T22)

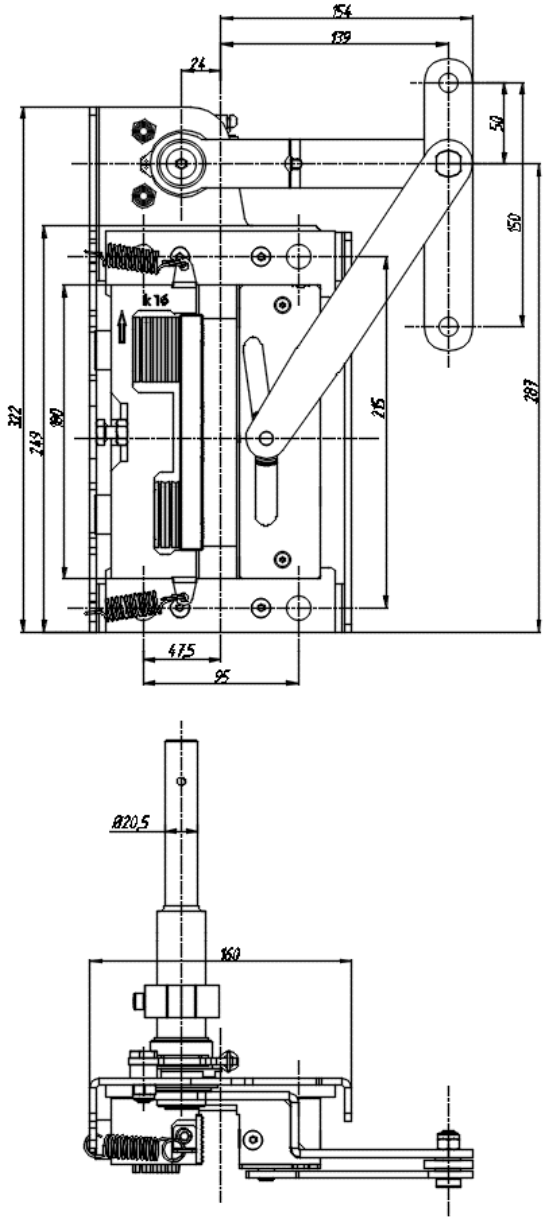


FIGURE 5 (T22)

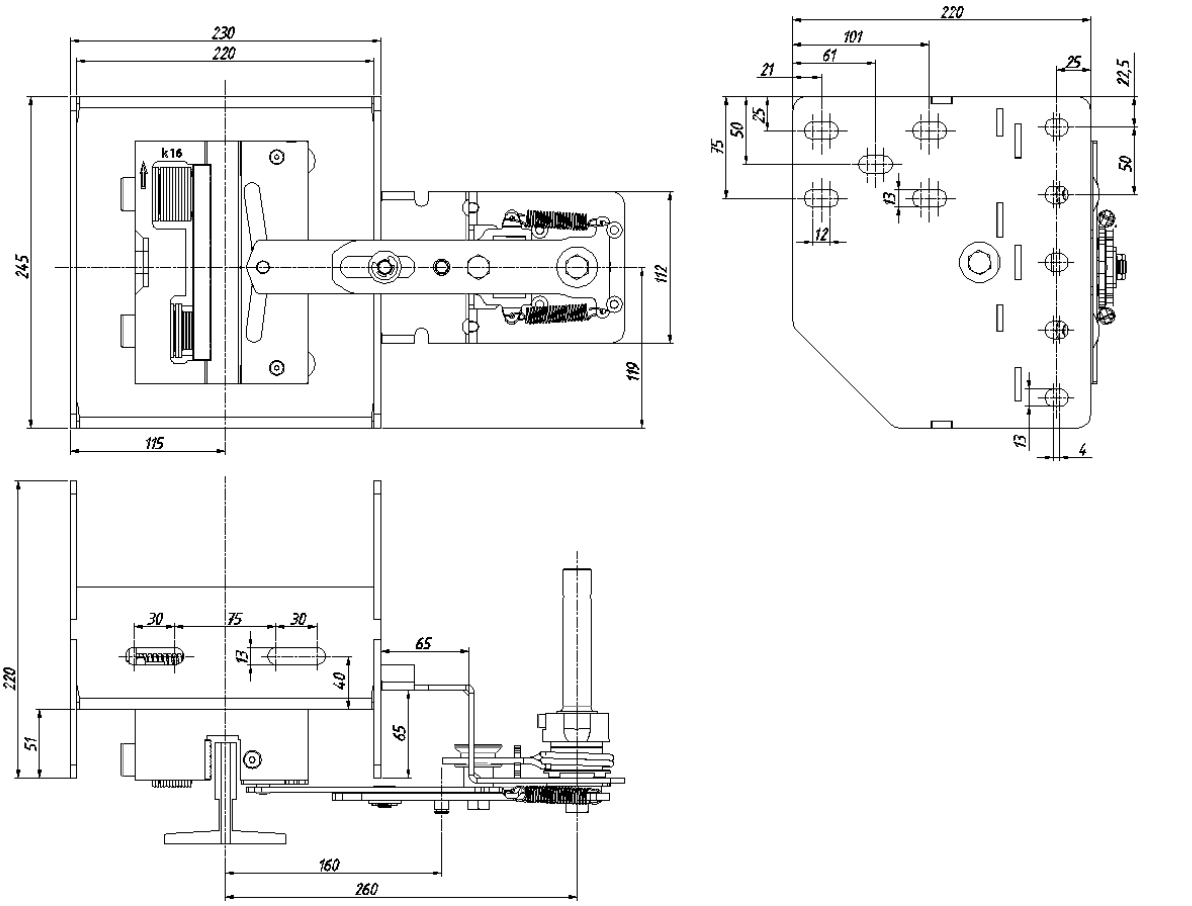


FIGURE 6 (T21)

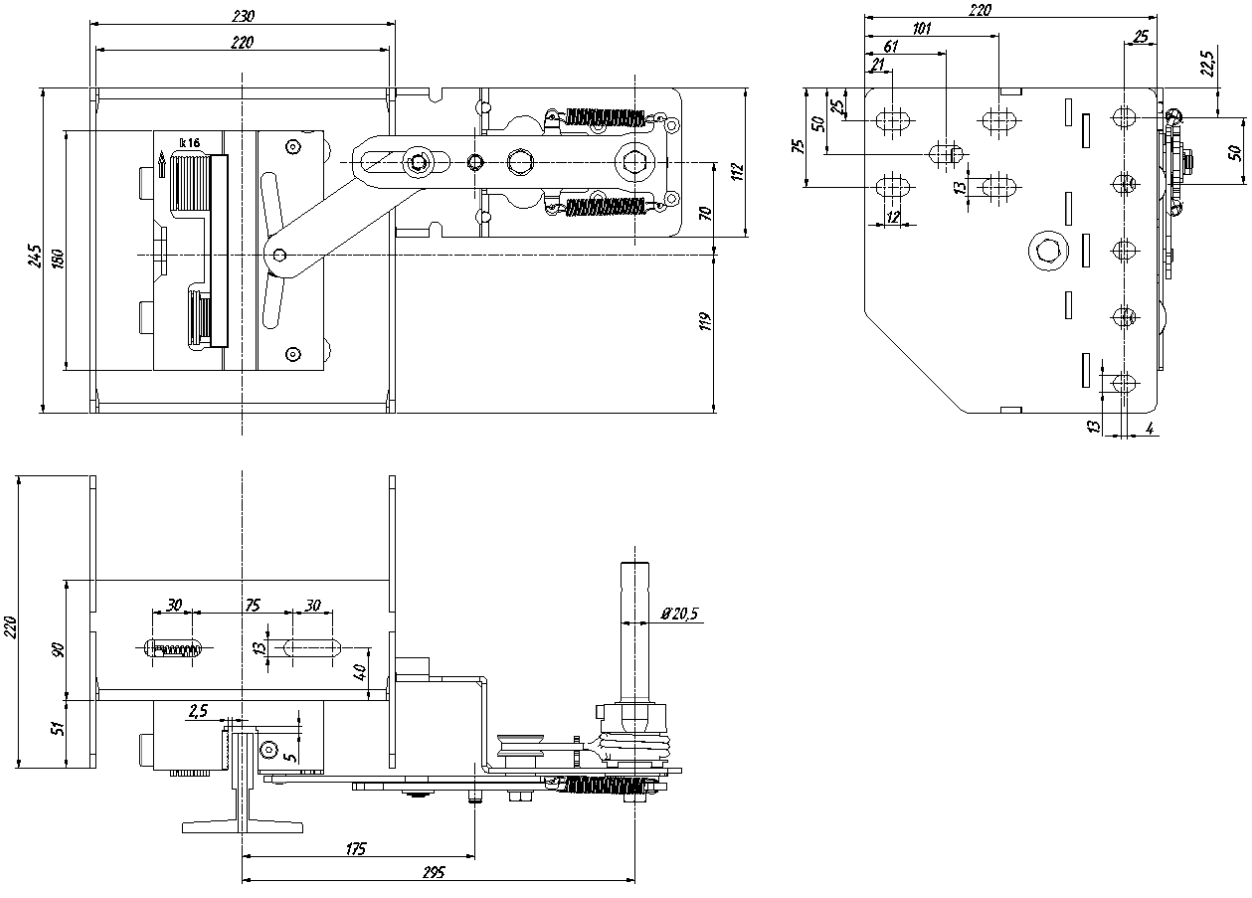


FIGURE 7 (T22)

INSTALLATION OF SAFETY GEAR SYNC STEEL TUBE

After the safety gears are mounted on the car support system, the safety gears on both guide rails must be connected to each other with the sync steel tube. If the sync steel tub is installed incorrectly and when the safety gears are activated, the safety gears on both sides might not stop the guide rail at the same time or one of them might not even be activated.

When one of them is activated first and the other later or when none of them is activated, the load will be on one safety gear. Since the load is not distributed equally, there will be extra deflections and distortions in car sling, car sling group, car and guide rails and it may even cause the safety gear to be damaged significantly.

Therefore, the tube providing the synchronization must be correctly installed on both safety gear lever shafts. Safety gear manufacturers use materials with different section dimensions and shapes for the sync steel tube. This causes car manufacturers to experience difficulties in providing this profile.

Our company uses TS EN ISO 3183 3/4'' natural gas tube which can be found easily anywhere as a sync steel tube. It is rigid in terms of both diameter and wall thickness.

External diameter of the tube is d = 26.7mm, the wall thickness is s = 2,9mm.

To make the installation of the sync steel tube;

9- Measure the distance A between the safety gear lever shafts of the safety gears mounted on the car sling.

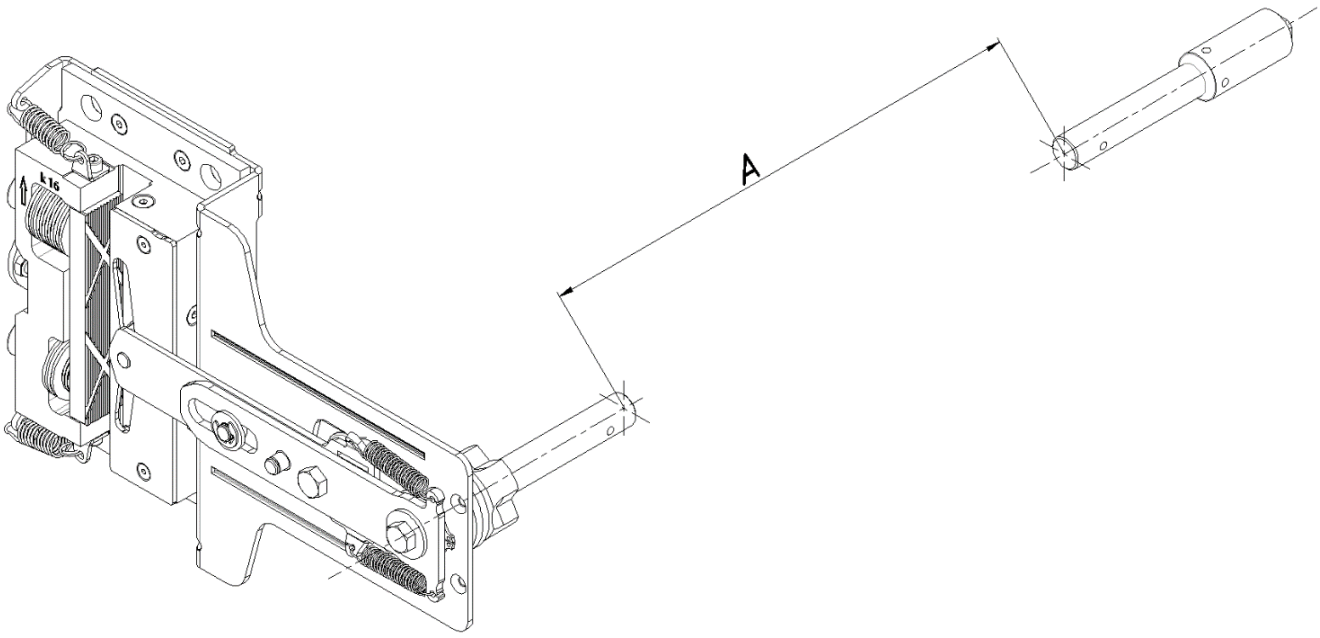


FIGURE 8

10- Cut a piece of tube which is 90 mm longer than the measured distance A using the tube described above. (Figure 9)

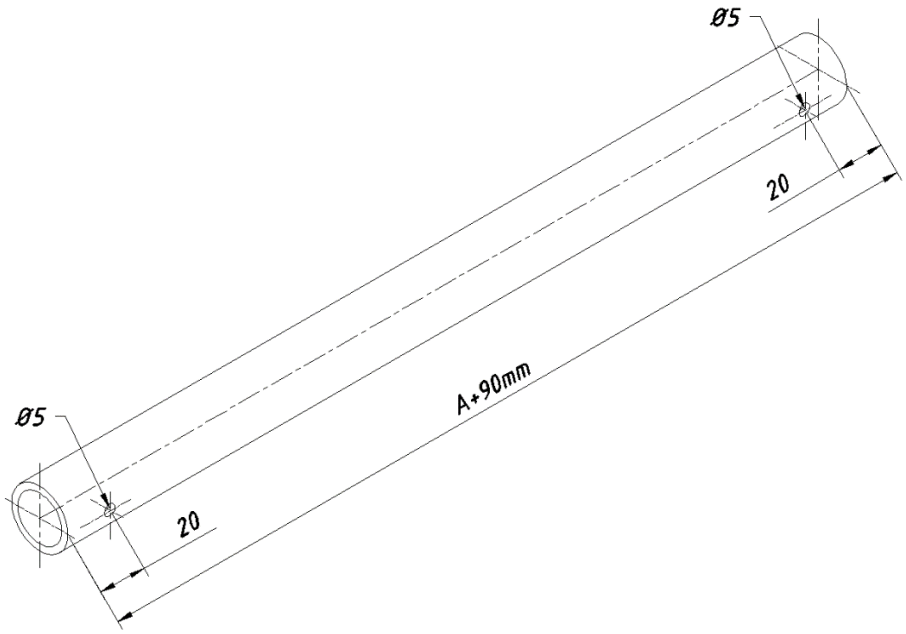


FIGURE 9

11- Drill only the single wall thickness of the tube with a Ø5 drill from 20 mm from both ends of the tube. Do not drill the tube completely. These half-holes will function as a guide hole when drilling the safety gear lever shaft. If these holes are drilled on their axis, they will be compatible with the holes on the shaft. Try to drill holes in the same axis along the tube's axis. (Figure 9)

12- Insert and center the tube on brake lever shafts. Make sure that the tube is placed equally to both brake lever shaft. Since a tube 90 mm distant from the distance A is cut, it has to be 45 mm to each side. It would be easier to mark by a pen beforehand. Insert the two U-shaped plates (Figure 10), an apparatus to drill the sync steel tube and to adjust the guide rail gap, provided in the safety gear box, to safety gear levers as shown in the (Figure 11).

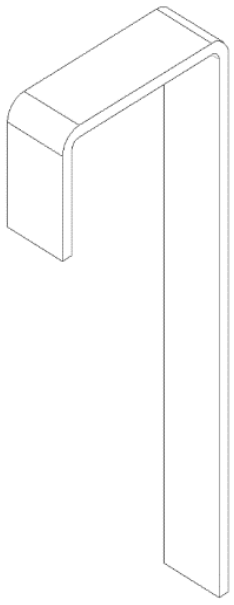


FIGURE 10

13- This will ensure that the safety gear levers remain in the correct position when drilling through the sync steel tube pin holes and prevent it from moving during the drilling process. (Figure 11)

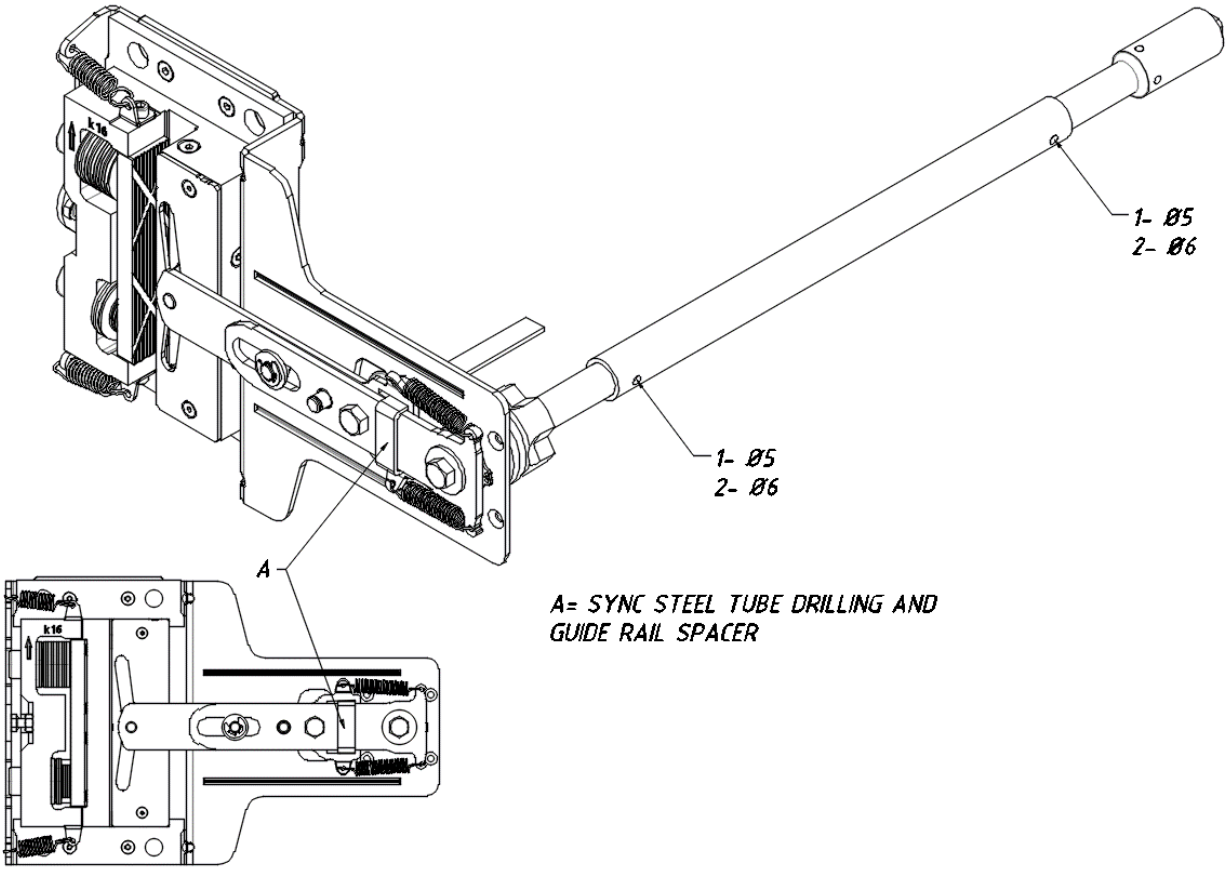


FIGURE 11

14- Using the Ø5 drill bit, first drill one side from end to end, using the guide holes you have previously drilled in the pipe. After drilling this hole and shaft with a drill fully, enlarge this hole with a Ø6 drill bit. This will make sure that the pin hole is properly sized and not eccentric. Drive the Ø6 slotted pin provided in the safety gear box in this hole. In this way, the sync steel tube will be connected to a safety gear lever shaft and secured.

15- Then repeat the same procedure as described in Article 6 at the other end of the tube. At the end of the pin driving, the sync steel tube and the safety gear levers are connected to each other correctly.

16- Finally, remove the U-shape spacers that secures the position of the safety gear levers. Otherwise, the safety gear brake will not run. This apparatus is provided only to help you during the correct drilling process. They will then be used by the assembler in the shaft to adjust the space between the gear and the guide rail surface. Please put both of them in their bags, tie to a suitable place of the car sling to help the assembler reach them.

NOTE: You can install the sync steel tube on the safety gear lever shaft using the holes on the safety gear lever shaft. However, pinning will be incorrect if you make mistakes in drilling axis and the distance between axis while drilling the tube. This will negatively affect the braking operation. Our company recommends the method described step by step above.

GAP ADJUSTMENT BETWEEN SAFETY GEAR AND RAIL

The safety gear plate which rubs against the guide rail while braking must not contact with the guide rail during the normal course of the car. There must be a certain amount of gap between them. This gap is specified as 2.5mm by our company.
It must be adjusted during shaft installation of the lift.
There are two ways for connecting the safety gears to car sling group. The first is the method to be applied in the cars where the car sling group is made by bending the plate, and the second is the method to be applied for the safety gears suitable for the frame system under the car sling group.

In order to make the adjustment process easier, our company provided a U-shaped spacer shown in Figure 10 and indicated by A in Figure 11. This spacer is also used by the car manufacturer in the process of drilling the sync steel tube and installing the pin. (Figure 10)

3- For the plate bending system, insert the long side of this spacer from the gap between the friction plate and guide rail on the side of the safety gear springs. Push the short end into the gap until it contacts the safety gear body. (Figure 12)

If the spacer with a thickness of 2.5mm cannot be pushed in, the gap is very small. If it moves too much when pushed in, it means the gap is very big. It means the guide rail is too close to the roller. The roller may contact with guide rail and activate the safety gear as a result of wear in roller over time.

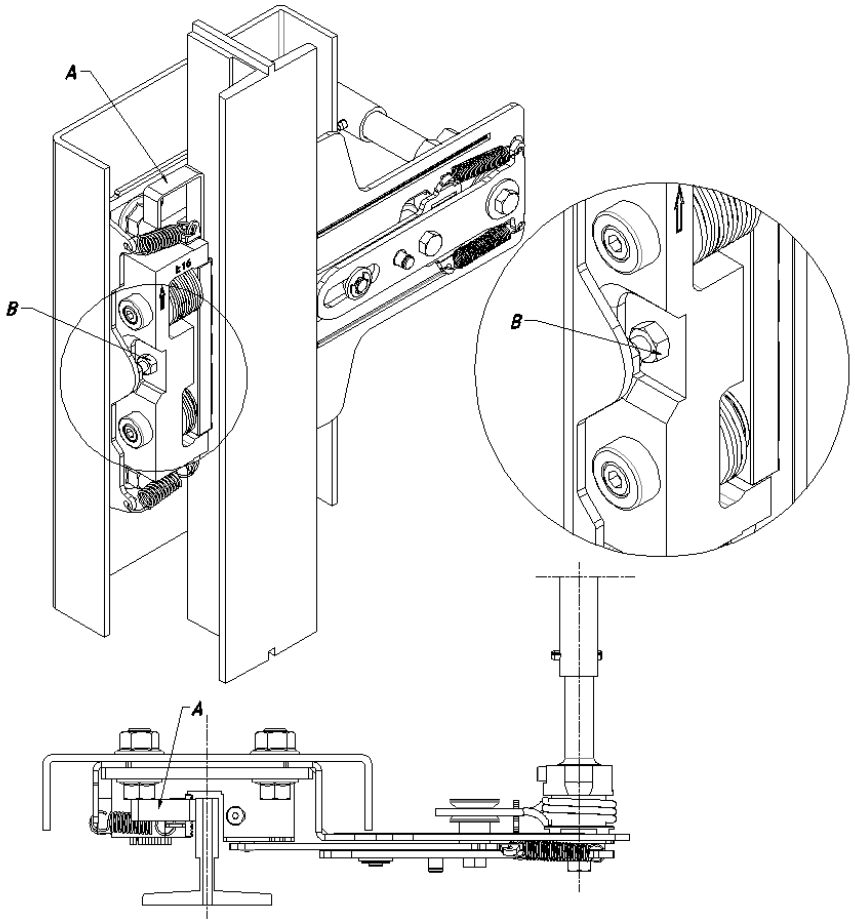


FIGURE 12

Open the bolt shown with the letter B in the Figure and the lock nut on the top with the key AA13. Move the bolt using the key. Check the gap by manually moving the plate inside the gap. Adjustment of tightness is proper if you can remove the plate from the gap by your hand without any difficulty. When you find that adjustment, tighten and fix the lock nut.
Do this for the other safety gear.

4- For the frame system, insert the long side of this spacer from the gap between the friction plate and guide rail on the side of the safety gear springs. Push the short end into the gap until it contacts the safety gear body. (Figure 13)

If the spacer with a thickness of 2.5mm cannot be pushed in, the gap is very small. If it moves too much when pushed in, it means the gap is very big. It means the guide rail is too close to the roller. The roller may contact with guide rail and activate the safety gear as a result of wear in roller over time.

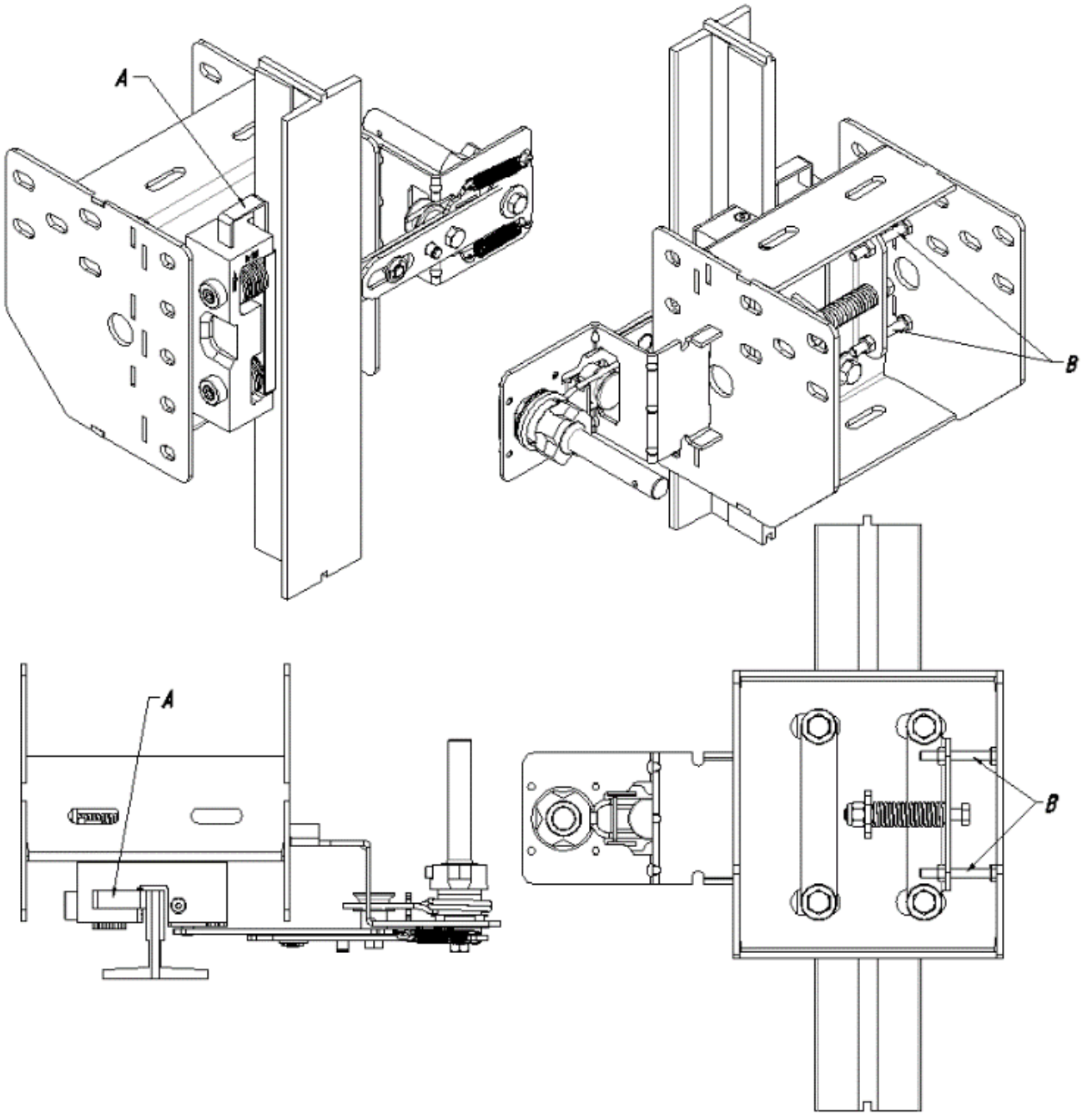


FIGURE 13

Open the bolts located on the back of the head shown with the letter B in the Figure and the lock nuts on the top of the head with the key AA13. Move the bolt using the key. Check the gap by manually moving the plate inside the gap. Adjustment of tightness is proper if you can remove the plate from the gap by your hand without any difficulty. When you find that adjustment, tighten and fix the lock nut.

Do this for the other safety gear.

SAFETY GEAR SWITCH ASSEMBLY

The function of the safety gear switch is to cut off the safety circuit current when it is triggered for any reason to prevent the motor from being stopped and to prevent the lift from restarting.

The safety gear switch should be installed in its place around the safety gear lever shaft in safety gear models of support plate or frame.

Shaft designs may sometimes cause problems in the position of connecting the switch.

In our design, the switch can be mounted to a position most suitable among the three positions. Therefore, the safety gear switch are delivered unassembled to the gear, with its assembly frame. The switch is only mounted so that it is not tight to the switch frame that assists in the assembly.
As can be seen in the Figure, the switch can be mounted around the safety gear lever shaft at positions of A, B, C. (Figure 14)

The positions A and B are the easiest to place. C can also be preferred if required. Note that the frame base of the car is not a problem for position C and that there is nothing to prevent the switch from operating.

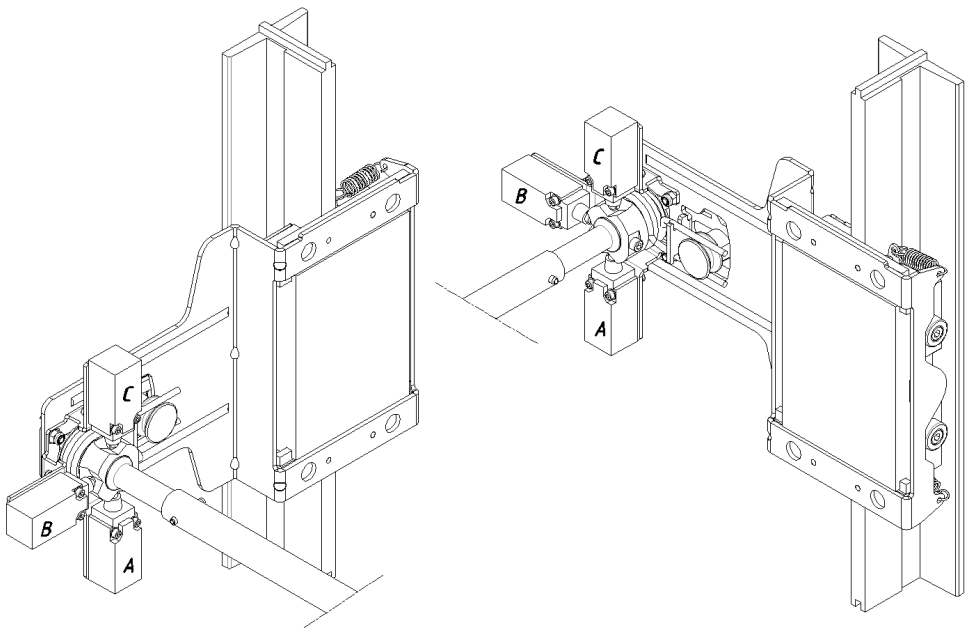


FIGURE 14

Remove the two countersunk head bolts and the fiber nut at the end of the switch frame to mount the safety gear switch to the positions A, B, C.
After the switch is in proper position, mount the countersunk bolt from the guide rail side of the plate that supports the safety gear lever. Mount and tighten the fiber nut to the bolt. Tighten both fibered nuts sufficiently and fix the frame. The switch frame may be in a moving position to make adjustments on it.
After the safety gear switch is positioned and the switch frame is secured, the safety gear switch is adjusted and secured.

Push forward the switch to enter fully into the slot on the pressure wheel. Leave a gap as shown in the figure so that the wheel at the end of the switch does not touch the pressure wheel slot. This gap is necessary to avoid minor vibrations during operation. (Figure 15)

The switch must not be loose and not change its position by shaft movements over time. Thus, any tightening to fix it must be performed carefully to avoid any change in switch position in the future.

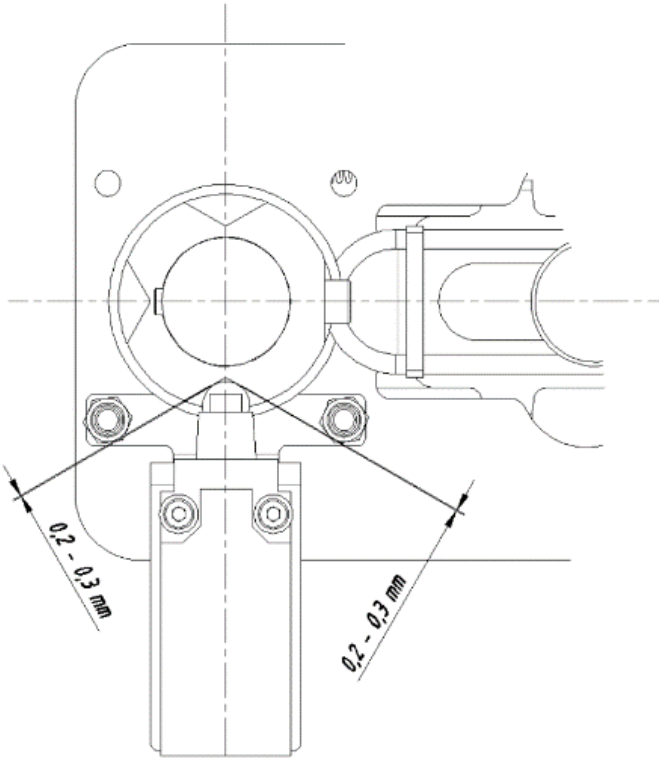


FIGURE 15

Finally, make the electrical connection of the switch properly. The switches that we use are in the form of (NC). Keep this in mind when connecting the cables.

CONNECTING THE OVERSPEED GOVERNOR ROPE

In order to connect the overspeed governor rope to the safety gear lever, our company has designed a different plate.
This plate minimizes the errors caused by positioning of the overspeed governor and lower tensioning group at different distances from the guide rail axis due to their dimensions while positioning in shaft.
This plate will help avoid any problems in its use with either our CL08 Overspeed Governors or other overspeed governor brands.
In our models with standard center lever in our safety gear design, the distance between the guide rail axis and the rope axis is 160 mm. However, in our models with eccentric lever to be used with different designs, it is 175 mm.

You can attach the rope assembly plate to the safety gear lever at regular or rotated position.

Looking at the picture, it is possible to connect the overspeed regulator rope to the safety gear lever at 25 mm intervals at distances between 95 mm and 225 mm from the guide rail in the **center lever** model by attaching the plate in two directions.

In the other figure, it is possible to connect the overspeed governor rope to the safety gear lever at 25 mm intervals at distances between 110 mm to 240 mm from the guide rail in the **eccentric lever** model by attaching the plate in two directions. (Figure 16)

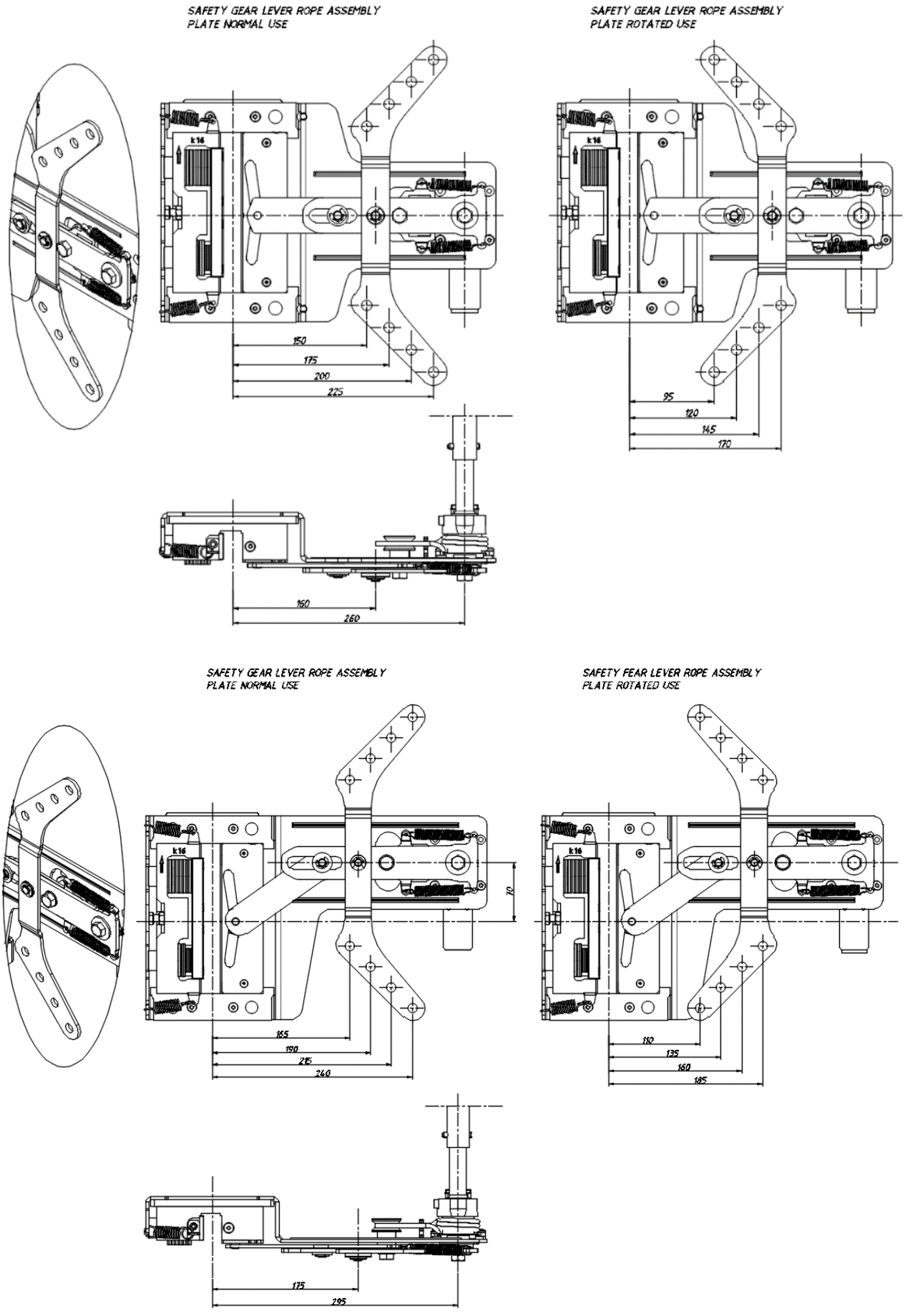

SAFETY GEAR LEVER ROPE ASSEMBLY
PLATE NORMAL USE
k16
150
175
200
225
150
260
SAFETY GEAR LEVER ROPE ASSEMBLY
PLATE ROTATED USE
k16
95
120
145
170
SAFETY GEAR LEVER ROPE ASSEMBLY
PLATE NORMAL USE
k16
70
155
190
215
240
175
295
SAFETY FEAR LEVER ROPE ASSEMBLY
PLATE ROTATED USE
k16
110
135
160
185

FIGURE 16

By taking advantage of the bending of the rope mounting plate, you can move it closer to or further away from the car at a distance of 10 mm on the axis of the rope. (FIGURE 17)

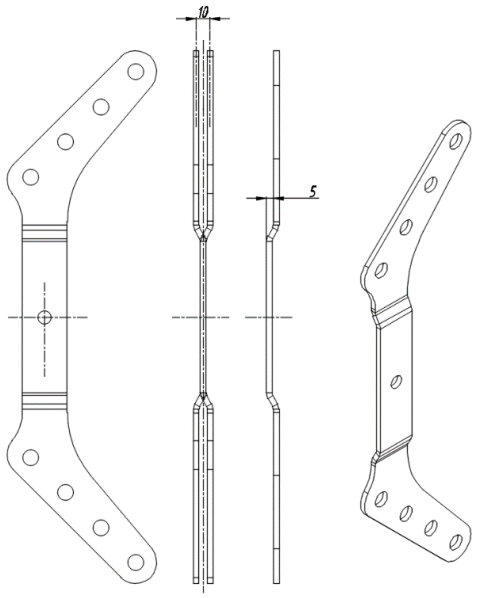


FIGURE 17

Depending on the required size, insert the rope assembly plate to the safety gear pull lever pin. There are two washers and one retaining ring on the safety gear pull lever pin. Insert and fix one washer underneath the rope assembly plate and the other between the top of plate and the retaining ring.

Use the thimbles attached on the rope assembly plate. If the thimbles are not in the desired holes for the rope size, remove and insert to the desired hole.

Attach one end of the overspeed regulator rope to the corresponding plate hole according to the design of shaft interior by a thimble in accordance with the TS EN 13411-3 A1 standard.

Tie the other end in the same way by adjusting the rope length according to the tension pulley lever stance position specified by the regulator manufacturer.

SAFETY GEAR TESTS

FIRST CONNECTION CONTROL TEST

After the lift installation is completed, the lift control must be carried out by the persons who are authorized to control. The purpose of the first test is to check whether the connections and settings are made properly.

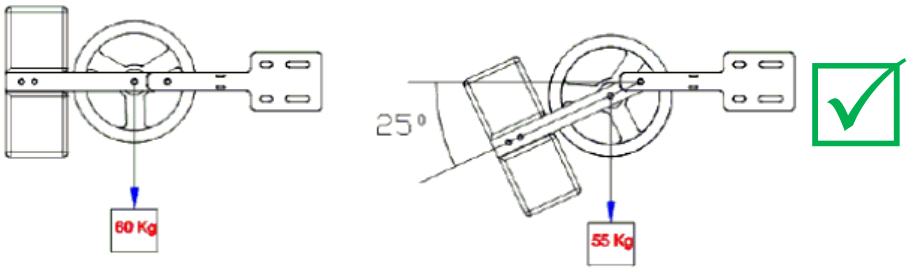
Before testing the safety gear, the protective oil on the guide rails must be cleaned. If the car will be moved during assembly, guide rail cleaning should be done during the first guide rail assembly. The protective agent on the guide rails should be cleaned with a degreasing solution and no mechanical cleaning should be made. Since the mechanical cleaning may cause deterioration of the guide rail surface, it causes problems in the operation of the safety gears, and the operation and comfort of the lift.

Before starting the safety gear testing, all the materials in the shaft should be removed and there should be no one in the shaft. Incorrect or incomplete installation should be avoided as it may cause injuries.

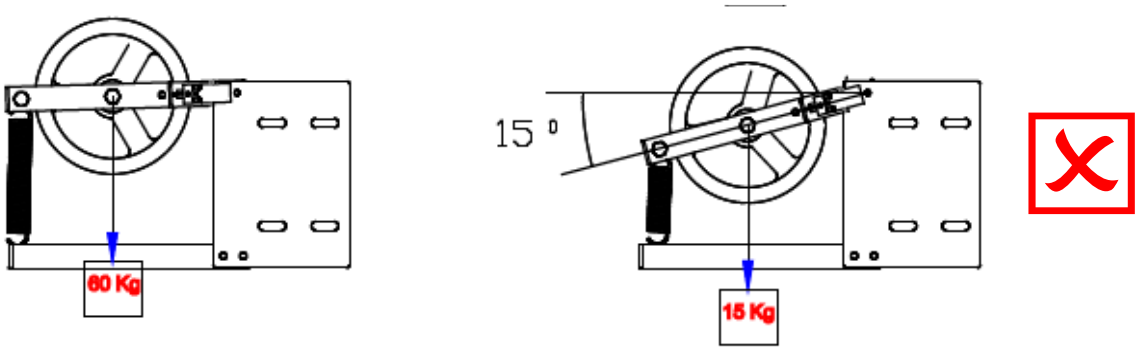
Before starting the safety gear test, check the overspeed regulator. In particular, make sure that the regulator assembly, fixation and direction are correct and that the ropes are at the tension required by the standard.

OVERSPEED GOVERNOR TENSION SYSTEM

The purpose of the tensioning system is to keep the overspeed governor rope tensioned and to provide a minimum pulling force of 300 N on each rope. This pulling force is the value specified by the standard TS EN 81-20 M 5.6.2.1.1.1.d. As a result of an approximate calculation, if at least 30 kg of tension load is required on each rope, a load of 30 + 30=60 kg will be required on both ropes. Therefore, a sling load over 60 kg should be created in the center of the tensioner pulley. This load tensioner pulley is required not only for the parallel position to the ground but also for the position where the rope elongation switch at the tensioner pulley will be engaged after rope elongation, because the tension load should be able to maintain its capacity unless the rope tensioner switch cuts the circuit. In the weighted systems with the knurled lever, the tension angle changes after rope elongation, but we can observe that 90% of the sling load is still effective because the Cos (25) value gives the value of 0.90 even at angles of 25^0 after elongation.



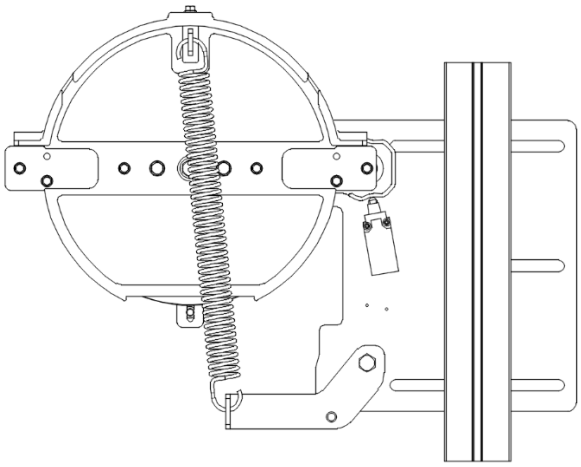
However, the situation is different in spring tensioning systems, so it is important. It is also important for a spring tensioning system to allow the springs at the last elongation point where the switch will be activated still provide the desired tension load on the rope. In many spring systems, when the rope elongation starts, the load that will tension the rope in the tensioner pulley will decrease rapidly when the springs close. After a while, balance occurs between the pulling force of the springs and the elongation force of the rope and the rope elongation stops.
As seen in the picture below, if the spring tensioning system is at the end of the pulley lever, when the rope elongates, the end of the pulley lever sags down more than the sagging amount of the pulley center. The length of spring is closed and it cannot generate tension force. The proportion of the length of the spring itself to its operating length is important.



At this point, however, the tension force on the tensioner pulley has been reduced to almost 150 N instead of 600 N, and a value that is much lower than the tension value that will provide the braking force in the rope levers. The most deceptive part is that when the elongation of the rope reaches the equilibrium point, the overspeed governor rope still stands tense and does not show any need for intervention. However, the rope pulling force on the tensioner pulley has already lost the tension that can cause the safety gear to be activated. In this case, the safety gear cannot be activated.

Before the safety gear testing, check whether the ropes provide sufficient tension and pulling force or not. In case of using spring tensioner, it is highly recommended to use the overspeed governor and lower tensioner systems of our company, and if the safety gears do not operate in the upward direction, the tension system should be checked.
In the spring system manufactured by our company, the spring is positioned in the axis of pulley center. And a long spring is used. When the rope elongates, the length of the spring shortens as much as the pulley center sags down, and it is still able to produce sufficient tension force when compared to its own length up to the point where it cuts the tension contact.

CAN-LIFT SPRING TENSION SYSTEM IN COMPLIANCE WITH THE STANDART REQUIREMENTS



SHAFT CONTROL

Before starting the test, the lift should be moved along the shaft to check whether the guide rails are cleaning, whether the connections of guide rail, bracket and flange, and bolt nuts are complete and whether there is an obstacle or not in the shaft. It should be ensured that the guide rails are lubricated in the friction skating lifts, the guide rails in the roller skating lifts are clean and the safety gear which is used is suitable for the features of the mounted lift. It is recommended to perform the shaft control travel i the revision speed.

STATIC TEST

The first test should be done while the car is not occupied and at revision speed. When the lift is in revision speed and the electromechanical brake is on, the overspeed governor will be locked if it has a remote control, if not it is locked mechanically. This action can also be made using the locking coil in the UCM overspeed governors.

- It is checked whether both safety gears are engaged,
- connections are normal,
- synchronization works properly,
- the safety gear switch switches off the circuit.

The lift is moved in the opposite direction at the revision speed, it is checked whether the safety gear switch is released from the guide rail or not and the safety gear switch turns to normal state and the synchronization system is restored. The safety gear track on the guide rails is measured to check that both safety gears are synchronized. There may be one or two cm differences; however, if it is more than that, the guide rail distance and sync steel tube settings must be reviewed.
If the test is positive on bi-directional safety gears, the same test must be carried out in the other direction.

DYNAMIC TEST

Before starting the test, check whether there is someone in the shaft, in or on the car. Considering that there may be mechanical damage to the machine or motor chassis during braking, necessary safety precautions should be taken in and around the machine and around the shaft.

This test is conducted at nominal speed in downward direction with the car loaded by 125% of the nominal load. (TS EN 81-20 M 6.3.4. b)

In remote controlled overspeed governors, the 125% loaded car can also be tested by means of a overspeed governor locking device or by mechanically actuating the overspeed governor manually while operating at the nominal speed.
After the test, it is checked whether

- both safety gears are engaged,
- connections are normal,
- synchronization works properly,
- the safety gear switch switches off the circuit.

The lift is moved in the opposite direction at the revision speed, it is checked whether the safety gear switch is released from the guide rail or not and the safety gear switch turns to normal state and the synchronization system is restored. The safety gear track on the guide rails is measured to check that both safety gears are synchronized.

If the test is performed with 125% load, the necessary part of the load may need to be removed from the car. Because there is no requirement for the motor to pull the car up with a stuck brake and a 125% load. Therefore, it is recommended to perform the test at a level suitable for load discharge.

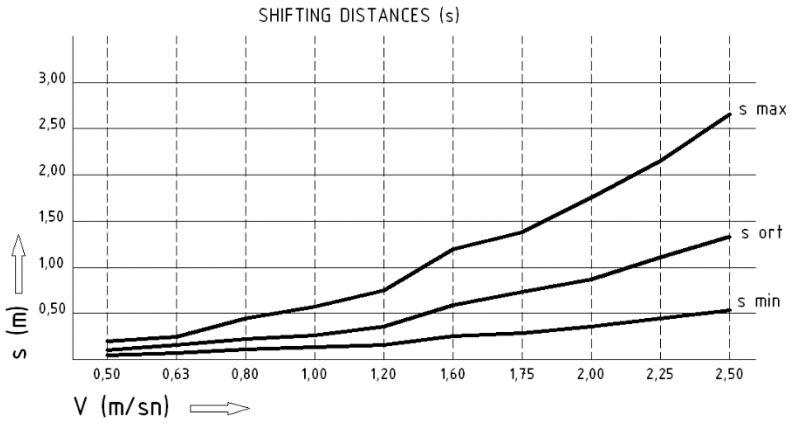
The same test is also performed when the empty elevator car goes upwards to accelerate in the upward direction. In the upward direction, the safety gear does not have to stop the lift, it is sufficient that the lift slows down to the speed of the bumper. (TS EN 81-20 M 5.6.6)

After each test, check the car, machine chassis, guide rails, and safety gears. There should be no deficiency in the system which will prevent the lift operation. The burrs on the guide rails must be cleaned.

The safety gear systems must be inspected and the safety gear pairs replaced if a fault is observed. In particular, visual inspection of the traces of friction, crushing, and the operation of the levers will be sufficient on the safety gear rollers and the compression plates.

It should be noted that the safety gears are designed based on the free fall of the P + Q load, whereas in these tests only the Q / 2 load is effective. Therefore, the desired progressing distances cannot be obtained.

For rope tests, the acceptable condition is to measure v_0 as nominal speed of the lift and get a value just higher than the value of s_{min} as progressing distance.



v	Tripping v	s min	s ort	s max
0,50	0,80	0,03	0,08	0,16
0,63	1,00	0,05	0,13	0,25
0,80	1,31	0,09	0,22	0,44
1,00	1,50	0,11	0,29	0,57
1,20	1,71	0,15	0,37	0,74
1,60	2,16	0,24	0,59	1,18
1,75	2,33	0,28	0,69	1,38
2,00	2,63	0,35	0,88	1,76
2,25	2,92	0,44	1,09	2,18
2,50	3,23	0,53	1,33	2,65

MAINTENANCE, INSPECTION AND REPAIR

Brakes should be properly checked and maintained at least once a year, in addition to the routine checks determined by the standard and local governments. This control essentially involves controlling that the mechanisms are active, that there is no jamming or sticking and the safety gear switch is active. The deformation that may occur due to the corrosion, moisture, jamming, impacts can prevent the operation of mechanisms. Safety gear materials may have suffered damage due to unintentional braking. There may also be damage caused by normal operation and maintenance. In this case, please contact Canlift.

Excessive lubrication on the guide rails or improper greasing may be filled into the mechanism. In this case, the safety gears must be cleaned and their mechanisms should be restored to working order. This should be part of the maintenance activity. In the case of guide rail lubrication, ISO VG 320 is to be used at temperatures between -5 and +35 degrees Celsius and ISO VG 460 oils are to be used between +5 and +50 degrees Celsius.

It is forbidden to replace any part of the safety gear material except for by Canlift. They must be replaced in pairs in case of a deterioration of the safety gears. It is forbidden and not allowed to operate the lift without a safety gear, even if it is for a very short period of time during replacement of safety gears.

The safety gears have to be replaced after six tests as loaded or with ropes or after two tests in free fall. The way the tests are performed or any braking after an accident must be recorded in the lift book. If there is a deficiency in these records or there is a defect in safety gear materials, Canlift do not accept any responsibility.

CHECKLIST

BUILDING:		**DATE:**		
NO	**CHECK ITEM**	**OK**	**NOT OK**	**DESCRIPTION**
1	Overspeed governor rope connection			
2	Synchronization			
3	Safety gear switch			
4	Right safety gear lever			
5	Right safety gear roller and springs			
6	Right safety gear cleaning			
7	Left safety gear lever			
8	Left safety gear roller and springs			
9	Left safety gear cleaning			
10	General rust, jams, cleaning			

After this check, any malfunction except for deformation, can be fixed and cleaning that would not interfere with the system's operation can be made. Any other intervention will void the warranty and liability obligation. In case of a malfunction in the system, Canlift should be informed and new reliable material should be installed under technical responsibility.

PERIODIC CHECKS AND TESTS, IMPORTANT STRUCTURAL CHANGES OR CHECKS AND TESTS AFTER AN ACCIDENT (TS EN 81-20 APPENDIX C)

C.1 Periodic checks and tests

Periodic inspections and tests should not be more comprehensive than the inspections and tests carried out before the lift is put into service. Periodic tests should not cause any stresses that may affect the safety of the lift or any excessive wear due to repetition. This applies in particular to components such as safety devices and bumpers. If tests are to be carried out on these components, these tests will be carried out **when the car is empty and at low speeds**. **Otherwise, the company conducting the tests will take the responsibility.**

RESPONSIBILITY AND WARRANTY

The warranty is valid for two years, provided that the warranty requirements and controls are complied with.

Before starting the installation, it should be checked whether the features of the safety gear correspond to that of the lift and that the guide rail thickness and the skating features match with the one written on the label and that the serial numbers of both safety gear are the same.

The capacity, speed and guide rail usage values of the safety gear assemblies are printed on the label. The safety gears will only function if they are used in accordance with these values. No changes may be made to the factory settings of the safety gears. Canlift acknowledges that the persons who will install, adjust and use this security components have good command of lift and is competent in lift maintenance and testing.

It is prohibited for unauthorized persons to install, adjust, test, and operate the security components. In case of unauthorized persons interfering with the security components, the whole responsibility belongs to the installation company.

Installation and adjustment of the safety gears must be carried out in accordance with the operating instructions. Canlift is not responsible for the security of the products which are damaged during the installation or that are improperly installed or damaged during transportation or not installed in accordance with the user manual and does not give guarantee for these products.

Safety gear assemblies must be used with each other. Both identical products have the same serial numbers. Products that are not used together or have materials that have been added or modified or changed, or have a safety gear roller or compression pallet that have been changed or damaged, whose maintenance and checks are not made on time or have been installed by using materials except original parts will not be considered under the warranty and Canlift does not accept any responsibility for these products. The installation, maintenance, inspection and testing of these security components must only be carried out by qualified personnel and all safety instructions must be strictly followed.

Please take measures to prevent the material from being removed from the shaft openings before installing or adjusting the safety gears in the shaft. Close the shaft openings. Take precautionary measures against falling of necessary hand tools. It is important for your safety that the safety gears and their components are installed and connected in a safe area outside the shaft before the car carcass is placed in the shaft. Car carcasses should be installed on the ground floor as much as possible and the safety gear adjustments should be made on the ground floor.

Car carcass installation should be done on the ground floor, the overspeed governor assembly must be finished, overspeed governor rope and safety gear connection must be made, carcass should be taken to the last floor after these operations. If the car is used as a scaffold, the overspeed governor switch, as well as overspeed governor connections must be activated. **Before the safety gears and the overspeed governor are activated, the carcasses must never be moved in the shaft even with a crane.**

The relevant electrical connections must be made by authorized electricians. The connection and control of the safety gear switch must be made by authorized persons to install the controller. The safety gear switches are non-lock, normally-closed (NC) contacts, and they return to their original state when the lift is removed from the safety gear, and the lift gets mechanically ready for operation. (TS EN 81-20 M 5.66.2.1.4.1.)

AB TİP İNCELEME SERTİFİKASI

No: LDsq08-0426-0250-24

CAN-LİFT ASANSÖR SAN. VE TİC. LTD. ŞTİ.

İnönü Mah. Balçık Köyü Yolu Üzeri. Geposb İçi. 7. Cadde. No :6 GEBZE / KOCAELİ, TÜRKİYE

D KARE GÖZETİM TEST VE BELGELENDİRME TİC. LTD. ŞTİ.; yukarıda unvanı belirtilen firmanın ürettiği ve aşağıda teknik özellikleri belirtilmiş olan asansör güvenlik aksamının, **2014/33/AB Asansör Yönetmeliğinin 1 numaralı Ekinde belirtilen Temel Sağlık ve Güvenlik Kurallarını** karşıladığını değerlendirmiş olup, onaylamaktadır.

2014/33/AB Ek IV/A Asansör Güvenlik Aksamı İçin AB Tip İncelemesi (Modül B)

ÜRÜNÜN;

Tanımı	: 2014/33/AB Asansör Yönetmeliği Ek-I'in 3.2. maddesinde bahsi geçen düşmeleri önleyen yani kabinin düşmesini veya kontrolsüz hareketini engelleyen tertibatlar
Adı	: Tek ve Çift Yönlü Kademeli Güvenlik Tertibatı
Markası	: CAN-LİFT
Tipi	: CL-SG-P
Tip Varyasyonları	: CL-SG-P-B/U-1G-KXX-TXX, CL-SG-P-B/U-2G-KXX-TXX, CL-SG-P-B/U-3G-KXX-TXX CL-SG-P-B/U-4G-KXX-TXX, CL-SG-P-B/U-5G-KXX-TXX, CL-SG-P-B/U-6G-KXX-TXX CL-SG-P-B/U-7G-KXX-TXX, CL-SG-P-B/U-8G-KXX-TXX
Temel Özellikler	: Sertifika Eki'nde detaylandırılmıştır.

Bu sertifika ve ekinde belirtilen tipler ve ekipmanlar üzerinde gerçekleştirilecek değişiklikler veya ilgili standart üzerinde meydana gelebilecek değişikler durumunda sertifikanın geçerliliği D KARE tarafından yeniden değerlendirilmelidir.

Bu sertifika 22/04/2024 tarihli ve LDsq08-0422-0250-24 numaralı final raporunda belirtilen bulgular doğrultusunda düzenlenmiştir.

Güvenlik ekipmanının uygunluğunun değerlendirilmesi sırasında TS EN 81-20:2020 ve TS EN 81-50:2020 standartlarında belirtilen muayene ve deney metotları kullanılmıştır.

Selcan GÖRMÜŞ

Genel Müdür

NOTIFIED BODY 2528 Dsq

LIFTS-2528-2400101

Yayın Tarihi : 26 Nisan 2024

Geçerlilik Tarihi : 25 Nisan 2029

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