



PURPOSE:

In the event of an object being stuck between the kick plate and the belt, the quick release shall be put in place to relieve the tension of the spring holding the kick plate against the object for easy removal.

The quick release device will be built in a way to be easily accessible, easily operated by the operator, and to be easily re-assembled by a certified lift mechanic.

TECHNICAL BULLETIN 200316 RELIEF PLATE – QUICK RELEASE

To: All Operators of Magic Carpet Lifts
Subj: Relief Plate – Quick Release

The following language is in 7.2.3.4 in the B-77-2017 standard. This subject is related to Belt transition stop device.

“A belt transition stop device shall be provided. If an object continues to follow the belt past the belt transition stop device, the device shall move to relieve the pinch point and initiate the stop.

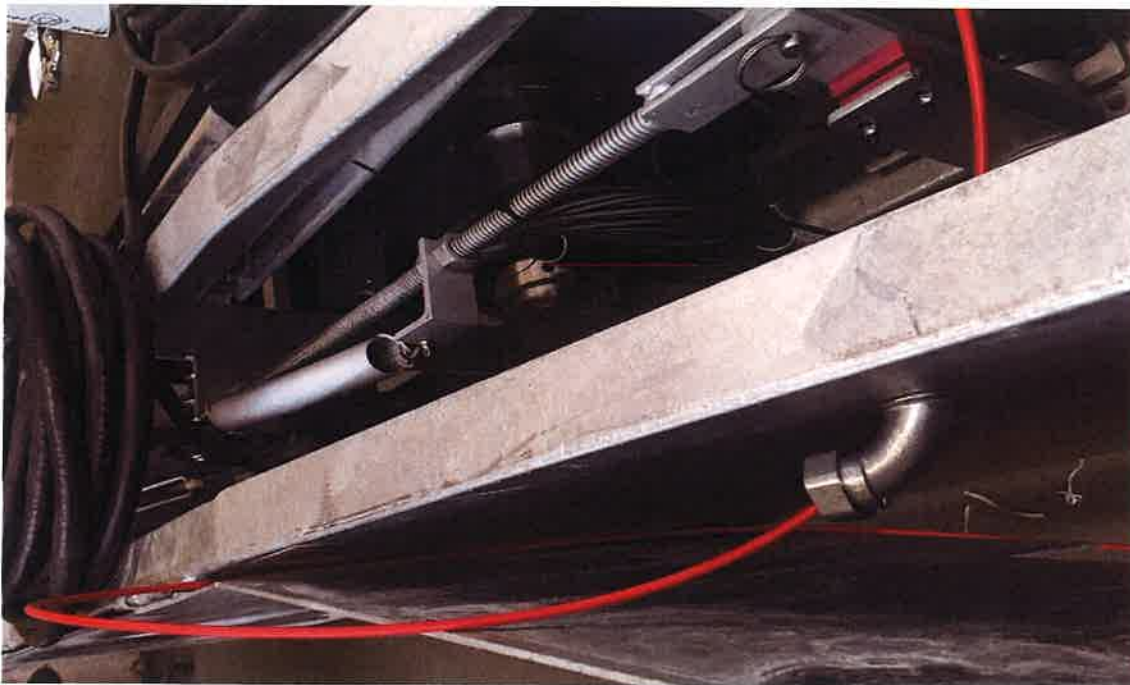
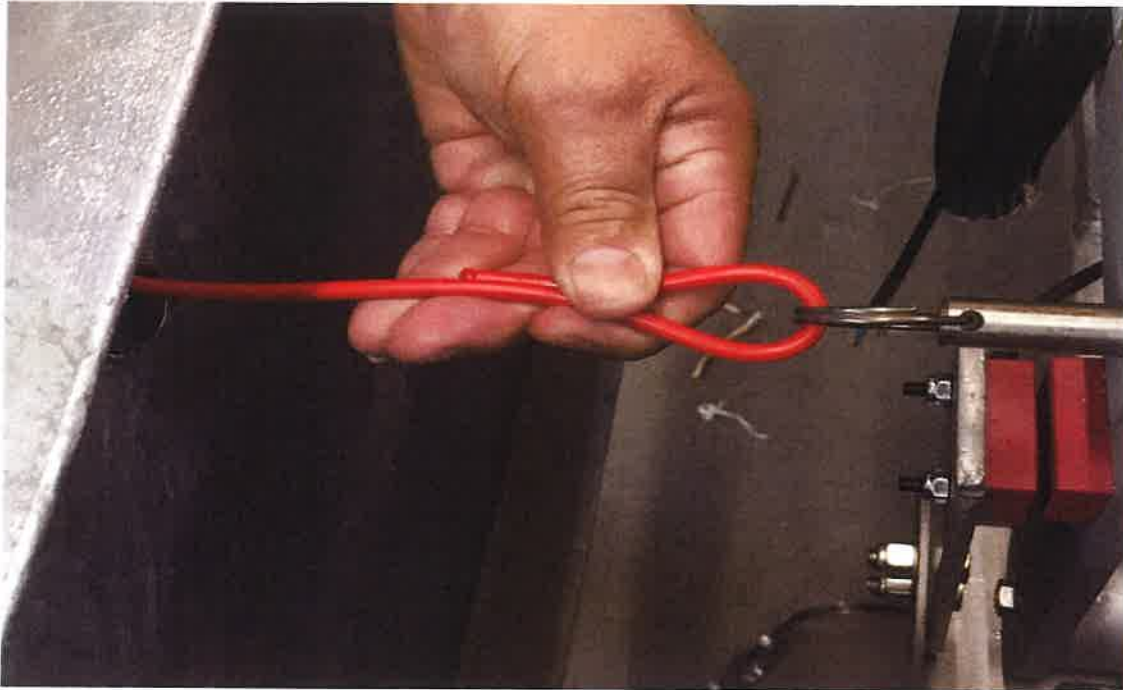
As a minimum, the belt transition stop device shall have the following features:

- a) the leading edge of the device shall be marked with yellow and black warning stripes;*
- b) the device shall be designed to limit the maximum opening size between the leading edge of the device and the belt to 2.5 inches (64 mm);*
- c) a stop shall be initiated by a force on the transition device not to exceed 30 pounds (133 newtons). The activating force shall be applied tangentially to the belt surface at the leading edge of the belt transition stop device);*
- d) the design of the device shall allow the operator **to readily remove entangled objects**. The conveyor shall be inoperable if the relief system is in use;.”*

Currently to get to the quick release pin, you would have to unscrew the socket head bolts on the right-side cover plate using an Allen wrench stored at the unload station. Some say this isn't "readily".

ACTION: For faster opening of the modular transition plate plastic, a pip pin is inserted to replace the bolt in the relief plate arm clevis. A pip pin has a locking feature such as a hole for a cotter pin that is used to secure them. Put a cable wire or lanyard through the pip pin and take it outside of the unit as shown below.

The cable wire or lanyard goes through the 90-degree elbow to the outside.





And then run it up a control post and just have a quick release at the end of the conveyor with a pull cord and T-Handle, like a lawn mower pull cord.

The pip pin ring can be attached with a lanyard to a pull cord with a T-Handle.

Route the lanyard through electrical conduit fittings so that the release T-Handle is out of the way, but somehow hidden from guests who may pull the handle out of curiosity.

Resetting of the relief plate will require access under the bolted door cover. The Allen wrench must be kept handy for cover bolt security.

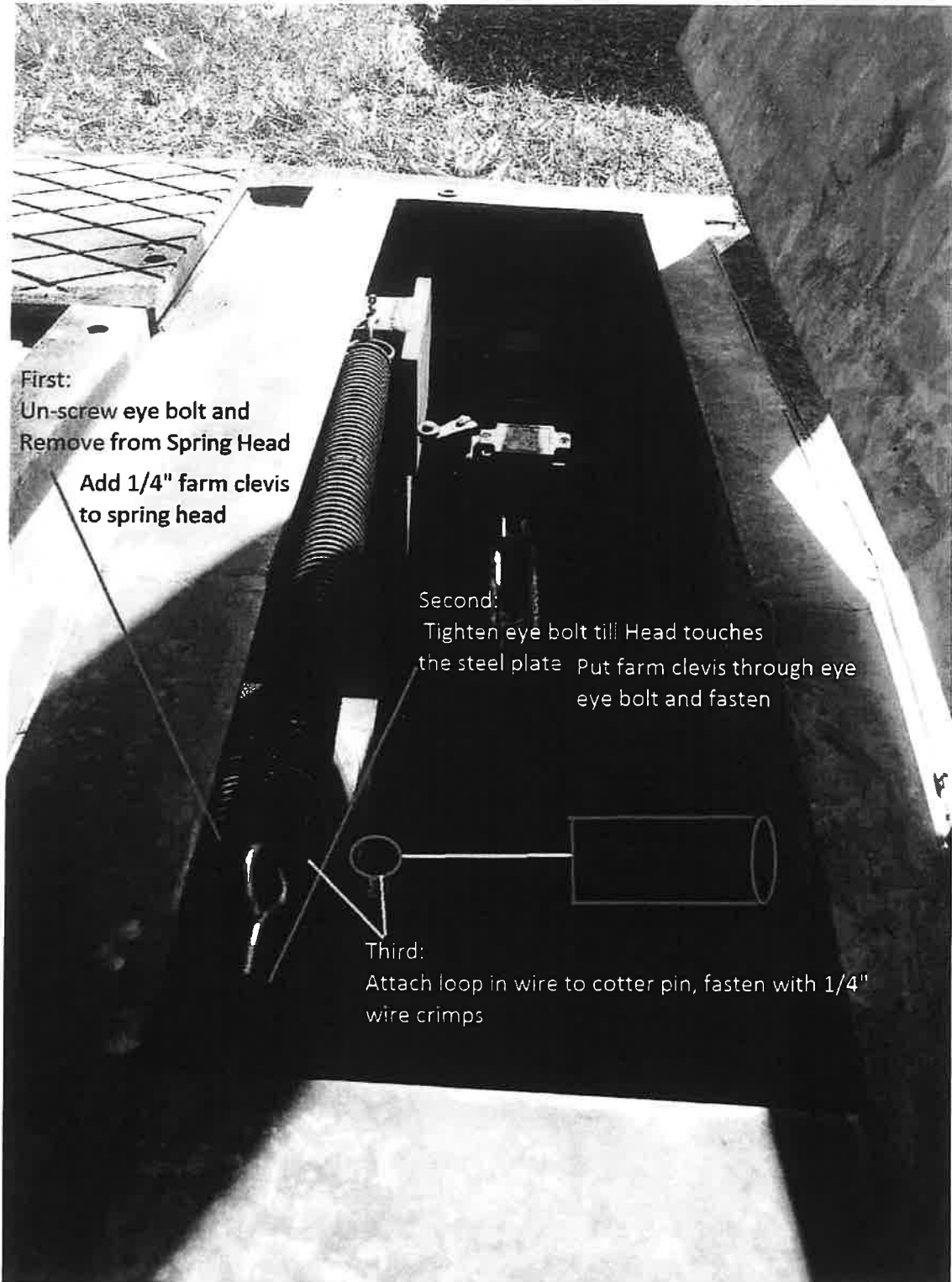
Materials Needed

Material	Description	Cost
¼" aircraft cable	Cable to pull pin out of clevis	On Hand
Handle	Comfortable handle to pull	On Hand
Cotter Pin	Pin holding spring through clevis	On Hand
½" hole saw	For drilling hole on West side of structure	On Hand
Conduit glue	For gluing elbows to pipe	On Hand
Screws	For conduit brackets	On Hand
¼" Farm Clevis	To hold spring on to eye bolt	\$1.88/each (Grainger)
10ft of ½" Conduit	To hold pull cable through out system	\$5.25/10 feet (Home Depot)
½" 90 degree elbow conduit	For the turns to make pull cable accessible	2.07/each (Home Depot)
½" LB shaped conduit body	The 90o coming out of the structure	\$5.93 (Home Depot)
½" PVC cap	To stop the cable and pin from going through system	3.09/Each (Grainger)
½" conduit fasteners	To secure conduit pipe to structure	\$2.32/bag of 5 (Home Depot)
¼" wire crampons	To create loops in cable	\$3.80/each, X2 (Grainger)

Actions

(Please note the pictures provided in the bulletin were taken with a different model than the Brimacombe magic carpet. Thus the system has been adjusted to satisfy the bulletin requirements).

1. Open hatches to expose the kick plate tension system
2. Alleviate the spring tension on the kick plate by un-doing clevis pin and removing. (CAUTION, spring may be under some tension). Remove clevis from spring.
3. Unbolt the eye-bolt on the opposite side, and remove the spring with eye bolt attached.
4. Unwind eye bolt from spring head.
5. Put the eye bolt back in original position and tighten all the way till the head meets the metal plate
6. Put the original clevis back in original position with the spring attached and tighten the clevis pin fully.
7. Put a new clevis on the eye bolt and stretch spring so a cotter pin can be put through clevis to hold spring tension. At this point the spring should be holding the kickplate in its intended position. (Some adjustments may need to be made to kick plate height for bulletin...(add bulletin about kick plate height)).
8. Alleviate Spring tension once again by removing cotter pin (CAUTION, spring may be under some tension)
9. Drill a 1/2" hole on the West side of the structure approximately to wear the cotter pin is going to be holding the spring.
10. Create a loop on one end of the cable by using a cable crimp. Feed cable through 1/2" hole so that the hook will be facing the cotter pin
11. Drill a slightly bigger hole than 1/4" in a conduit cap. This will be the stopper for the cable, and feed it through the cable till it meets the loop.
12. Cut a small piece of conduit and glue it to a 90o LB shaped conduit body. Feed it through the cable so the small piece of conduit meets the cap first.
13. Cut and measure a length of conduit so it goes to the south west post of the overhang structure. Add another 90o elbow, and Cut and measure another piece of conduit pipe for desired handle height. Feed the wire through each part.
14. Glue all pieces of conduit together
15. Attach conduit brackets to outside of the structure where needed.
16. Attach the cotter pin to the loop, and put it through the clevis holding the spring. At this point a small flange can be put in the end of the cotter pin to make sure the cotter pin stays in place during normal operation but easily straightened when cable is pulled.
17. Feed handle through the non loop side of the cable and create a loop with another wire crimp.
18. Adjust kick plate to necessary height
19. Close hatch
20. Test device



First:
Un-screw eye bolt and
Remove from Spring Head
Add 1/4" farm clevis
to spring head

Second:
Tighten eye bolt till Head touches
the steel plate. Put farm clevis
through eye eye bolt and fasten

Third:
Attach loop in wire to cotter pin, fasten with 1/4"
wire crimps



Handle

Conduit



Actuation of Device via Operator

In the event than an object were to get stuck between the spring loaded kick plate and the belt, the Magic Carpet® Lift should stop initially via the switches required by the authorities to stop the carpet movement in the event of the kick plate being depressed.

1. The operator should see a problem of a patron not being able to remove gear or self from the area and shall NOT restart the carpet for any means.
2. The operator will make sure the patron is okay in terms of injury, and shall call ski patrol if necessary. This would be considered a lift incident if the patron is injured, and protocol should be followed by your ski lift procedure.
3. The operator will call maintenance and explain the situation that the kickplate needs to be reset.
4. The operator will walk over to the handle on the west post of the structure and pull upwards. This will pull the cotter pin out of the clevis, thus releasing the spring tension on the kickplate. This should allow the patron or operator to remove whatever obstruction is in the way, safely.
5. At this time, the operator shall NOT attempt to restart the Magic Carpet® Lift and await maintenance personnel arrival and confirmation the Magic Carpet® Lift can be restarted.

Reassembly by Certified Ski Lift Mechanic

After the event that the quick release system has been released. The reassembly must take place by a certified SLM before the operator can restart the carpet. At no time should the operator be opening hatches or working on the system without proper certification, lock-outs, and tools.

The mechanic responding to the incident should remember to bring these tools:

- PPE (safety glasses, work gloves)
 - A pair of needle nose pliers.
 - A metric allen key set
 - A spare cotter pin
 - A spare farm clevis
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1. Shut main power off to the magic carpet and put a lock-out and tag-out on the main power switch.
 2. Remove key from lock-out lock and securely fasten to key ring, and keep on person till finished working on magic carpet. This will ensure that nobody other than the mechanic working on the magic carpet can restart the carpet.
 3. Open hatch to expose the quick release system. (West side hatch, allen key head bolts)
 4. Inspect device to make sure all parts are in good condition and all present.
 5. Pull spring back to clevis attached to eye bolt
 6. Reinsert cotter pin through clevis and spring head.
 7. Put a small bend at the end of the cotter pin to keep the cotter pin in place while under normal operation.
 8. Observe the kickplate is operating properly.
 9. Close hatch and fasten down allen key bolts.
 10. Remove lock-out from the main power switch
 11. Turn on main power switch
 12. Test the kickplate operation, and switches (The kickplate light should illuminate on the panel when the kickplate gets depressed)
 13. Confirm the operator the magic carpet is ready to restart when all obstructions are clear.