Subject: Cross-arm assemblies on Hallift bar lifts and/or chair lifts
• URGENT ACTIONS REQUIRED

Sent to: All passenger ropeways owners/operators, contractors in Scope 8 and consultants

1. **Background**

   This safety alert is a result of investigations into a potentially serious incident caused by the collapse of a cross-arm assembly on Model 1000 Hallift T-bar. Fortunately, there were no injuries as result of this particular incident.

   Due to seriousness of the incident, an independent professional engineer was retained to determine the cause of the cross-arm assembly collapse. In his report the consultant proposed corrective measures to prevent recurrence of such type of equipment failure. Von Roll Tramways Inc., the lift manufacturer, was provided with the engineer’s report for their perusal and action.

   Attached with this is the Service Bulletin Number 1999-001, dated February 9, 1999 and issued by Von Roll Tramways Inc. to all operators of Hall Surface Lifts and Hall Chair Lifts. The Service Bulletin provides instructions to operators of Hallift bar and chair lifts about the inspection and corrective measures required to maintain the safety of Hallift bar and chair lifts.

2. **Order to all owners/operators and contractors of passenger ropeways**

   The requirements of the Von Roll Tramways Inc Service Bulletin Number 1999-001, dated February 9, 1999 shall be implemented immediately in the following manner:

   2.1 Remove from service all Hall surface lifts and Hall chair lifts immediately. The requirements of the Service Bulletin shall be complied with before any lift is returned to operation during the rest of 1998/1999 ski operating season.

   2.2 Before the start of every ski operating season the requirement of the Service Bulletin shall be complied with.

   2.3 Records of the inspections including any repair done as mandated in the Service Bulletin shall be kept in the log book required by Section 54(2) of the Ontario Regulation.

   C. E. Vlahovic, Chief Engineer
February 9, 1999

SERVICE BULLETIN NUMBER 1999-001 ACTION REQUIRED

TO: ALL OPERATORS OF HALL SURFACE LIFTS AND HALL CHAIRLIFTS

SUBJECT: CROSSARM CLAMP BOLTS

As a result of a failure of bolts which fastened a T-bar crossarm to a tower tube, Von Roll is recommending certain inspections be performed on certain types of lifts manufactured since 1954.

The type of attachment affected by this bulletin is one wherein the crossarm is manufactured in halves and clamped to either a similar crossarm half or a plain back clamp. On surface lifts, there are six bolts per assembly; and on chairlifts there are eight bolts per assembly.

Although the connection which failed was not examined by Von Roll, information available to us indicates that the bolts which failed were not of a type currently recommended by us. The bolts also showed indications of corrosion and bending which may have contributed to the failure.

Corrective Action

To be taken within 30 days.

1) Visually check crossarm clamp bolts to ensure that the correct bolts are present. The correct bolt must be a type A325 Structural Bolt with A325 Heavy Hex Nut (also A325). This bolt will have the designation 'A325' on the bolt head and other designations which determine the manufacturer. The A325 bolt may be either galvanized or plain finish. T-bars use a size 3/4" x 2-3/4" long bolt, and chairlifts use a size 7/8" x 3-1/4" long bolt. USE EXTREME CAUTION WHEN REMOVING AND REPLACING THE BOLTS.
   - Do not attempt to replace the bolts when the lift is operating.
   - Do not remove more than one bolt at a time.

2) Check bolts for corrosion and bending. If any bolts show signs of corrosion or bending they shall be replaced with the correct bolt(s) as listed above.

Von Roll Tramways Inc.
753 West Main Street • P.O. Box 869
Watertown, NY 13601 USA
Tel. (315) 788-1280, Fax (315) 788-1321
3) Inspect the bolts for signs of loosening. The bolts should be snug, but not to the point where they unduly distort the clamping halves. Some distortion is normal, and indicates that the clamp is tightened sufficiently to withstand the imposed loads. Further tightening is detrimental.

4) Visually inspect the clamp halves for signs of cracking, tearing and corrosion. Contact Von Roll for recommendations if any indications are found.

5) Chairlifts must have their crossarms tack-welded according to the enclosed procedure IN-40-131. This procedure has been part of the installation instructions since 1972, and is included here as a reminder.

To be performed annually.

1) Inspect the referenced crossarm bolts as per steps 2), 3) and 4) above.

Thank you for your continued effort in providing safe and reliable transportation to your guests.

Sincerely,

VON ROLL TRAMWAYS INC.

Laurence L. Wollum
Vice President, Engineering
After chairlift is fully tested and approved for operation, adjusted tower arms must be welded in place. The clamping is satisfactory for normal conditions, but welding is necessary for improved safety. Most codes require the arms to be fixed against rotation.

Welding is to be done by a certified welder. Low hydrogen electrodes (7016-7018) are to be used. At temperatures below freezing, the area to be welded should be preheated until it is at least warm to touch.

Either the top or bottom of the clamp is welded with 3 - 2" long 1/4" fillet welds. More weld is unnecessary and makes future adjustment of the tower arm difficult.