

Helicopter Long Line Inspection Guidelines

Introduction

Aeromotion Australia has developed helicopter lifting equipment over an extensive period of time, producing a high-performance product. With best use and care practices applied, our long lines will provide an operational life of 10 years from introduction to service.

There are periodic inspection requirements during the service life, and this document assists with understanding your obligations with regard to the inspection and reporting process.

It is recommended by the Australian Standard AS 1380.1-1998 Fibre Rope Slings that periodic inspections by a competent person be carried out every 3 months. Aeromotion Australia agrees with this period, although exceptions are made based on the frequency of use and level of duty experienced.

Aeromotion Australia recommends daily preflight inspections prior to use are mandatory and must involve a thorough visual inspection of the long line in its entirety. Where areas of damage are identified, a photo record of the area is to be captured and the manufacturer must be made aware of this for assessment.

Furthermore, an annual inspection is recommended by a competent person and where damage or areas of concern exist the manufacturer must be made aware of this for assessment.

At five (5) years of service life contact the manufacturer providing details of the service log sheet, serial number, current inspection checklist report and photo records which are to be assessed for recertification and extension of service life as based on condition or the decision is to be made to remove from service. Depending on the condition, an estimate will be provided before any works are carried out to overhaul the long line.

All inspection events for our long lines are to be entered into the service log sheet with a current inspection checklist report and any relevant photos to be made available upon request.

Daily Preflight Inspection Process

Prior to use the long line must be removed from the bag or container and laid out in a large open clean area where possible. Particular attention must be paid when visually inspecting the entire outer cover noting any damage to the fabric that may indicate further damage to the inner rope or accessories has occurred. Pay close attention to any openings in the hook and loop fastener along the entire length of the cover as this may enable the inflow of air while in flight and potentially lead to an inadvertent opening of the outer cover. Where any openings exist ensure these have been closed with the use of a heavy smooth-faced tool by sliding it along the hook and loop to enhance the mechanical bond of the hook and loop fastener. Inspect each end of the longline paying close attention to the terminations, thimbles, end covers and cable strain relief system.

Disclaimer: This document is intended to provide information pertaining to the inspection of Aeromotion Australia's Long Lines; it is not to be used as a substitute for the manufacturer's maintenance and inspection programme, nor does it authorise third parties to perform maintenance and inspection on any of our products. For maintenance and inspection services contact Aeromotion Australia directly in the first instance.

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Annual Inspection Process

The annual (12 months) inspection is to be performed by a competent person who assesses the condition of the long line and can determine the suitability of continued use or the decision is made to remove from service for maintenance. As for the daily pre-flight inspection the same points are to be observed for the annual inspection with particular attention to be paid when visually inspecting the entire outer cover noting any damage to the fabric that may indicate further damage to the inner rope or accessories that may have occurred. Where damage has occurred photograph the area and contact the manufacturer for assessment. Pay close attention to any openings in the hook and loop fastener along the entire length of the cover. Where any openings exist ensure these openings are secured closed with the use of a heavy smooth faced tool by sliding it along the hook and loop to enhance the mechanical bond of the hook and loop fastener. Inspect each end of the longline up to three (3) metres from the termination by opening the end cover, body cover and inner cover. Caution when opening the covers hook and loop fastener as to not alter or move the position of the end cover relative to the body cover, this position is critical and it is important to not reduce the length of the cover by shortening the end covers position. The inner rope needs to elongate and if the cover is restricting the elongation of the inner rope the cover will tear. Close attention is to be paid to the terminations, eye protection, thimbles, end covers and cable strain relief system.

Five (5) Year Inspection Process

Upon the period of five (5) years service life contact the manufacturer providing details of the service log sheet, current inspection checklist report, serial number, photo records and any other details relevant which will be used to assess the suitability for recertification and extension of service life based on the condition. If the long line is assessed as suitable to extend service life an estimate will be provided before any works are carried out.

Glossary

Terminations - each end of the long line will have spliced eye terminations with tapered tails.

Thimbles - Heavy duty 316 stainless steel gusseted end fitting that is fitted to the rope at the load bearing point of the terminations.

Eye Protection - Tubular cover at the bearing point of the termination to protect from the ingress of dirt and abrasion affects to the spliced rope eye.

End Cover - A heavy duty and durable end protection cover 2 metres in length that has been positioned at a precise position to the body cover at each end of the long line.

Body Cover - The cover protecting the entire length of the long line as a continuous length with means of opening with hook and loop fastener. The Body cover has an inner and outer layer that separates the rope from the accessories.

Accessories - Power cable, airline/ foam line are fitted within the body cover separated by the inner rope cover

Cable Strain Relief System - used to retain the position of the accessories within the body cover and at the points of connection.

Hook and Loop Fastener - Used to secure and enclose the rope in the inner rope cover and to secure and enclose the whole assembly within the body cover.

Elongation - used to describe the stretch associated with rope under tension measured in percentage and referenced to the total effective length of the long line.

Inner Rope Cover - used to protect and isolate the structural rope from the effects of abrasion due to elongation.

Outer Cover - Used to contain and protect the assembly from the environmental hazards UV, Heat, Chemicals, Abrasion.

Assembly - refers to the whole system of long line and to also reference the assembly of the long line itself.

Data Label - Identification of the product with details of serial numbers, date of manufacture, Workload Limits etc, must be clear and visible to be compliant.

Inspection - To assess the product's condition and suitability for use.

Proof Load Test - a calibrated force is placed upon the long line to determine the adequacy of the design for achieving the required performance.

Competent Person - is someone who has practical and theoretical knowledge and relevant experience, sufficient to enable that person to detect and evaluate any defects and any weakness that may affect the performance of equipment