



MANUFACTURER INSTRUCTION & MAINTENANCE MANUAL

K9 Winch Harness


MIM 200040

Revision 2

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GENERAL

This manual is provided for use with the K9 Winch Harness and provides operating and maintenance instructions for the use and caring for this equipment. The aircraft limitations and operational information is contained in the approved Flight Manual Supplement issued for the aircraft.

If the SETS K9 Winch Harness is used in conjunction with other equipment such as a winch hook connector, 'capewell' or Y Piece assembly, reference should be made to the Manufacturer User/Instructions for that equipment for information concerning technical data, instructions for use and operational limitations.

The SETS K9 Winch Harness is designed for restraint internal in the helicopter via the D-Links either side and for hoist operations via the lifting loops.

The approvals associated with this equipment prescribe the minimum performance standards which have been met by this assembly for the purpose of a person using this equipment for helicopter external lift. It is the responsibility of those wishing to install the SETS K9 Winch Harness on or within an aircraft to determine that the aircraft's installation conditions are within the approval requirements. The SETS K9 Winch Harness may only be installed if further evaluation, by the user/installer, substantiates an acceptable installation and is approved by the Civil Aviation Safety Authority or approved representative.



Figure 1: The SETS K9 Winch Harness

AMENDMENT RECORD

1. All amendments to content are to be recorded below;
2. All new content inserted during an amendment will be shown with a vertical line in the margin indicating the extent of the amended portion.

Amendment		Summary	Incorporated	
No.	Date	Sections/Pages Affected	Date	Name
1	-	Initial Issue	06/18	J.W.
2	06/18	Section 3, Section 18. P/N Update	06/18	J.W.
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2. Limitations of Use

SETS K9 Winch Harness is to be used in accordance with the instructions in this manual and the Approved Flight Manual Supplement issued to the aircraft.

The SETS K9 Winch Harness is designed for the winching and restraint inside the cabin of a dog to the maximum weight of 50kg. The K9 Winch Harness is provided for use outside the aircraft cabin when attached to the winch hook as a means of winching (lifting on a winch hook), a medium to large sized dog into or out of the helicopter. The SETS K9 Winch Harness attaches to the winch hook & would normally, but not necessarily, be used in conjunction with a winchman in a helicopter rescue harness.

The SETS K9 Winch Harness is only to be used by personnel trained in the correct fitting, assembly, disassembly and emergency release of the K9 Winch Harness, and who are familiar with the assembly's limitations and guidelines for installation and use as set out in this manual and the Approved Flight Manual Supplement.

CAUTION

Any modifications, additions or alterations to any part of the K9 Winch Harness assembly must be approved prior to use.

If any part of the webbing or covering material becomes exposed to corrosive or hazardous chemicals, the K9 Winch Harness should be retired from service.

Any repairs must be completed & certified by an approved repairer prior to placing the K9 Winch Harness back into service.

If any part of the assembly is worn or damaged, consult this manual or the manufacturer direct to establish the serviceability of the assembly prior to next use.

3. Design & Construction

SETS K9 Winch Harness Part Number: K9-50,

- i. The SETS K9 Winch Harness is a winching ‘valise’, which has been designed to safely winch dogs on an external helicopter winch up to a total weight of 50kg.
- ii. The SETS K9 Winch Harness has also been designed to restrain a dog inside of the cabin via the left and right D-links.
- iii. The SETS K9 Winch Harness is constructed using heavy-duty material, webbing, hook and loop fasteners, D- links, & stitching.
- iv. The SETS K9 Winch Harness has fluoro yellow lifting points at the upper most part of the harness, D-links to fasten the harness to floor fittings and red grab handles attached to the sides.
- v. The dimensions & weight of the SETS K9 Winch Harness are:

a) Length	130 cm	(51.2")
b) Width	27 cm	(10.6")
c) Height	42 cm	(16.5")
d) Weight (empty).....	1.3 kg	(2.9 lb)
e) Maximum allowable load.....	50 kg	(110 lb)

4. Description

- i. The SETS K9 Winch Harness is designed to fit a large dog that has been trained for special medical or police operations.
 - a) There are four large leg holes in the harness, two fore and two aft of the lifting point.
 - b) The harness itself is tapered along the neckline and into the body section of the harness to ensure stability and comfort.
 - c) The harness comes equipped with adjuster straps around the neck and over the top of the dog should the harness need to be adjusted.
- ii. The SETS K9 Winch Harness is constructed as to allow the dog continued mobility while being worn, as well as allow the handler to tie down the dog to aircraft structure as required.
 - a) One D-Link is provided on either side of the harness, for a total of two D-Links, or two rated and tested attach points.
 - b) A provision for a tagline if necessary is provided at the lower most position of the harness.

CAUTION

The SETS K9 Winch Harness is not designed as a life raft, personal flotation device or buoyancy aid.

5. **Lifting**

- i. The SETS K9 Winch Harness has two lifting loops on the top of the harness.
- ii. The lift points are fluro yellow to avoid being misidentified and must both be used during lifting operations.
- iii. The lifting loops are constructed using heavy duty webbing, which continues down the sides & under the base of the K9 Winch Harness.
- iv. The lifting loops are reinforced at the junction where they are attached to the outside of the K9 Winch Harness. The outside webbing is a one-piece length of webbing from the foot of the harness around the front & to the opposite side. The juncture points are reinforced with heavy duty stitch patterns at each of these junctures & around the front of the K9 Winch Harness.



*Figure 2: SETS K9 Winch Harness attachment points
(fluro yellow lifting loops).*

Any of SETS Y Piece Assemblies (HW-YP [] fitted with the large gate two action snaps) may be used with the SETS K9 Winch Harness.

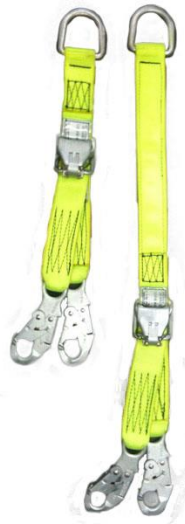


Figure 3: SETS K9 Winch Harness compatible winch hook connectors (Y Piece) shown with Capewell Release installed.



Figure 4: SETS K9 Winch Harness compatible winch hook connector (Y Piece) shown without Capewell Release installed.

6. Carrying the K9 Winch Harness

- i. The SETS K9 Winch Harness is fitted with four Grab Handles.
- ii. These handles are low profile and are located on the top of the harness.
- iii. These handles are large enough for crew to use to carry the K9 Winch Harness or as grab handles to assist in the emplaning of the harness.

7. Drainage

- i. The SETS K9 Winch Harness is constructed such that any water that is captured by the harness will quickly be dispersed through the leg holes of the harness.

8. Visibility

- i. The SETS K9 Winch Harness has been constructed using a light blue with contrasting colours and material for high visibility for day & night use;

9. Lowering Un-assisted

- i. The SETS K9 Winch Harness can be lowered with the lift handles or using an 'extension strop' such as the SETS HW-STPX [].

10. Storage

- i. SETS equipment should be stored in a secure area which is free from dirt, oil, grease, moisture, direct sunlight, extreme changes in temperature & rodents;
- ii. The SETS K9 Winch Harness should be stored away from non-aircraft/industrial products.

CAUTION

Inappropriate storage of the SETS K9 Winch Harness may lead to a deterioration of the materials, webbings & tapes.

11. Maintenance - General

- i. The recommended maintenance schedules for the inspection of the SETS K9 Winch Harness are as follows:
 - a) Before & after use;
 - b) Yearly inspection & recertification by a CASA Approved Maintenance Workshop.
- ii. The recommended maintenance repair of the SETS K9 Winch Harness is 'on condition' due to damage or wear. This maintenance may be carried out by a CASA approved maintenance workshop using the appropriate tools & materials as described & limited herein.

12. Inspection

i. Before & After Use:

The K9 Winch Harness should be inspected by the crew member as follows:

- a) Inspect the webbing handles and lifting loops with particular attention to the winch hook attachment loops & at the harness reinforcing horizontal straps to ensure there is no damage, pulled stitches or tears – some wear on the fabric ‘wear covers’ at the winch hook attachment loops is OK as long as it doesn’t extend into the main handles;
- b) Inspect the K9 Winch Harness fabric for damage – tears, cuts etc;
- c) Inspect the internal of the harness & hook & loop fastener for damage & to ensure the fastener tapes hold adequately;
- d) Inspect the neck and top adjusters for damage of the fastener straps & hardware;

ii. Yearly inspection & recertification:

The yearly inspection routine should be carried out per the Before & After Use inspection.

13. Continued Airworthiness:

- i. The SETS K9 Winch Harness requires a yearly inspection & recertification for continued airworthiness to the end of life at 5 years or, after the 5 year overhaul has been completed, 10 years.
- ii. The SETS K9 Winch Harness requires a 5 yearly overhaul for continued airworthiness up to a 10 year end of life. This overhaul may only be carried out by SETS.

Overhaul Requirements:

- a) Complete a yearly service inspection & repair/replace any necessary sub parts.
- b) If suitable, at the 5 year overhaul, extend the life for a further 5 years (to 10 years end of life from the original Date of Manufacture). Re-label the K9 Winch Harness for an End of Life (TX Date) of 10 years from the original Date of Manufacture.

14. Salt Water Immersion

To clean the K9 Winch Harness:

- i. Thoroughly wash the harness in warm water;

CAUTION

If using soaps & detergents in the cleaning of the K9 Winch Harness, the product should be checked to ensure there will be no detrimental effect on the webbings & materials in the K9 Winch Harness.

- ii. Thoroughly rinse the entire assembly in clean water – it may require several rinses;
- iii. Air-dry the assembly out of sunlight & away from any heating elements;
- iv. When dry complete the 'Before & After Use' inspection.

15. Fresh Water Immersion

To clean the K9 Winch Harness:

- i. Thoroughly rinse the entire assembly in clean water – it may require several rinses;
- ii. Air-dry the assembly out of sunlight & away from any heating elements;
- iii. When dry, complete the 'Before & After Use' inspection.

16. Inspection Sheet - Example

- i. The following Inspection Sheet can be used for the purpose of logging maintenance as completed.

K9 Winch Harness – Inspection Sheet		
Date:	/ /	Job No:
Name:		
Description:	Part #	Sno.
	Dom.	Man.
Data Referenced:		
Inspection:	Work Required	Completed
<u>Item</u>	<u>Check</u>	
Lifting Loops	Webbing	
	Stitching	
Harness – LHS	Webbing	
	Stitching	
	Cobra Attachments	
Harness – RHS	Webbing	
	Stitching	
	Cobra Attachments	
	Straps	
Harness – Base	Webbing	
ID Tag:		
Final Inspection By:	<i>Signature:</i>	Lic No:
Release:		
Date:	No.	<i>Signature:</i>

Figure 5: Inspection Sheet Sample

17. Repairs - Limitations

- i. Repairs are limited to the following schedule. No major repairs are permitted to be conducted by the operators of the K9 Winch Harness. All major repairs not listed below are to be returned to SETS to be conducted by the manufacturer:
 - a) Hook & loop fasteners:
 - Overstitching of non-damaged tapes.
 - Replacement of damaged or worn out tapes – removal of old tape by unpicking or cutting is required.
 - b) Webbing:
 - Handles – no repairs allowed.
 - Reinforcing webbing & tapes – no repairs allowed.
 - c) Fabric:
 - For cuts & tears – patch area using same type fabric (1000den Cordura) allowing a 25mm overlap of damaged area on all sides.
 - No repairs to fabric for tears or damage which is 25mm (1”) or less from webbing, seam or other part. Send to manufacturer for repairs.
 - d) Lifting Loop Assembly:
 - No repairs allowed.
 - Send to manufacture for repairs or replacement of entire lifting loop assembly.

18. Materials

QTY PER ASSY				LIST OF PARTS AND MATERIALS		
-4	-3	-2	-1	ITEM	PART NUMBER	DESCRIPTION
				1	K9-50	K9 WINCH HARNESS- ASSY
			1	2	SETS-K9-01-02	K9 WINCH HARNESS - BELLY
			1	3	SETS-K9-01-03	K9 WINCH HARNESS - LHS
			1	4	SETS-K9-01-04	K9 WINCH HARNESS - RHS
			4	5	330	HOOK
			2	6	330	LOOP (PILE)
			2	7	330	LOOP (PILE)
			1	8	A105/38BLK	WEBBING - EDGE REINFORCE
			1	9	A105/38BLK	WEBBING - BELLY REINFORCE
			2	10	A105/38BLK	WEBBING - CENTRE CROSS REINFORCE
			2	11	A105/38BLK	WEBBING - COBRA ATTACH (MALE)
	2			12	A105/38BLK	WEBBING - COBRA ATTACH (FEMALE)
1	1			13	A105/38BLK	WEBBING - D RING ATTACH
			2	14	A105/38BLK	WEBBING - HEAD & TAIL FASTENER ATTACH
		1		15	A105/25BLK	WEBBING - SIDE NECK ADJUST
		1		16	A105/25BLK	WEBBING - SIDE NECK FIXED
		1		17	A105/25BLK	WEBBING - TOP NECK ADJUST
		2		18	A105/25BLK	WEBBING - TOP NECK FIXED
			1	19	A4046/44, BLUE	WEBBING - LIFTING LOOPS
			2	20	-	WRAP, FLURO YELLOW
1	1			21	MS22046-2	D-RING
			2	22	H5056	QUICK RELEASE, ADJUSTABLE (MALE)
	2			23	H5056	QUICK RELEASE, ADJUSTABLE (FEMALE)
			3	24	104-0100	LADDERLOC, HEAVY DUTY
			4	25	A108/25,RED	WEBBING
A/R	A/R	A/R	A/R	26	T90	THREAD, POLYESTER
			A/R	27	T135	THREAD, POLYESTER
A/R	A/R	A/R	A/R	28	T70	THREAD, POLYESTER, BINDING
			1	29	SETS-K9-01-29	SETS ID TAG
			1	30	SETS-K9-01-30	SETS LABEL

19. Tools & Equipment

Sewing Machine – light/medium industrial – straight lock stitch
Sewing Machine – heavy industrial – straight lock stitch
Sewing Machine – light/medium – bar-tack stitch
Sewing Machine – light/medium – twin needle binding machine
Sewing Machine – light/medium – ziz zag stitch