

Military - Tactical - Equipment

NORTHERN DIVER

MINE WARFARE & MILITARY DIVING SPECIALISTS



THE
COBRA SQR

BOARDING LADDER

Technical Specifications User
and Maintenance Manual

www.ndiver-military.com

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SCOPE

This document provides all necessary information and knowledge about the use and maintenance of the COBRA SQR Titanium Tactical Ladder / Pole.

Manufactured in Australia & distributed by Apollo Australia Pty Ltd.

INTRODUCTION

Apollo products offer a high level of reliability, strength, simplicity, operational safety and easy maintenance characteristics that suit military diving applications.

The Apollo COBRA SQR Titanium Tactical Ladder / Poles offer easy covert access to decks, floors and buildings and is especially effective for use from RIBs. The COBRA SQR Tactical Ladder is also swimmable underwater.

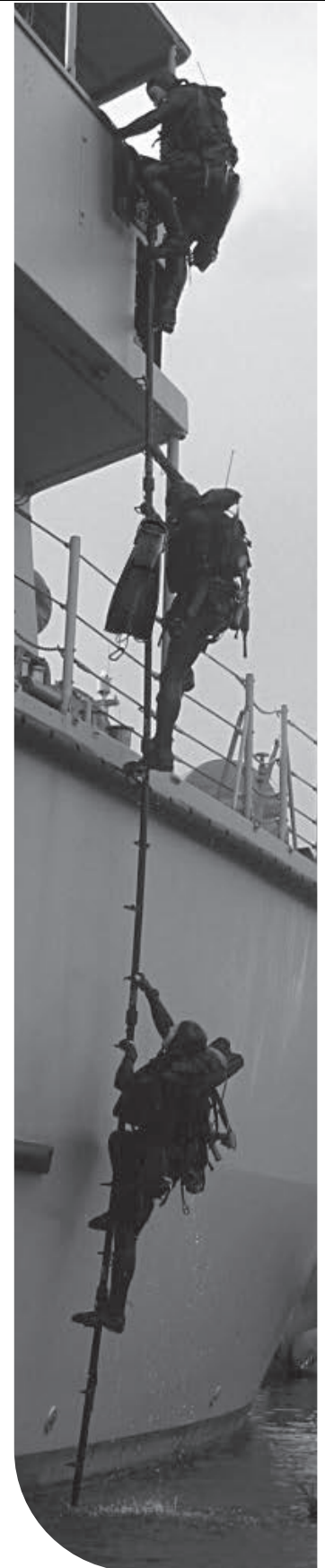
It is made of non-magnetic Titanium materials that are corrosion proof/resistant against seawater. The modular design allows for easy transport and assembly under most circumstances.

To facilitate easy climbs and descents the ladders rungs are spaced and incorporate an anti-skid surface and side slippage protection.

The Apollo COBRA Tactical Ladder has implemented a unique coupling design called the SQR (Secure Quick Release) self locking mechanism that allows the user to connect and disconnect the ladder sections with absolute ease.

The Ladder & Hooks are negatively buoyant in water and drain quickly as being established.

NB. The ladder may be customised to suit any buoyancy characteristic required by simply zipping on neoprene sleeves of differing thickness's. The neoprene sleeves also act to cushion impacts and minimise noise.



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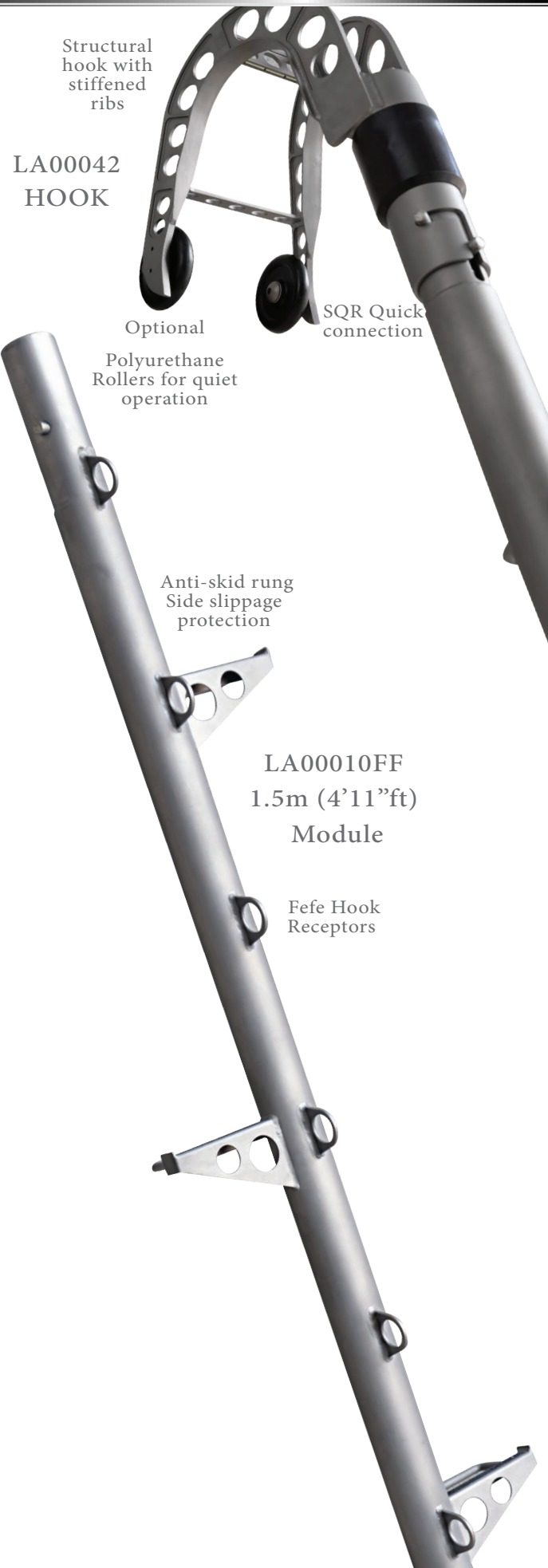
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KEY FEATURES

The main features of COBRA SQR Tactical Ladder climbing pole are:

A Modular Design Using:

- Long Reach: any number of sections can be joined together. Practically speaking this ladder may be used effectively to heights of approximately 12.5m (41ft)
- Built from superlight Titanium pipe
- 4 light Titanium steps for each section, equipped with hand protection hilts for safe climbing and descent. To facilitate easy climbs and descents the ladders rungs are spaced with an anti skid surface and side slippage protection.
- SQR (Secure Quick Release) self locking mechanism that allows the user to connect and disconnect the ladder sections with absolute ease.
- Colour: Titanium battleship grey
- The Apollo COBRA Titanium Tactical Ladder / Poles offer easy covert access to decks, floors and buildings and is especially effective for use from RIBs.
- Structural Titanium Hook
- High Load Capacity of over 1000kg (2205lbs)
- Protective Hand Grips/Steps
- Carries 4 – 6 operators simultaneously
- Corrosion Resistant materials
- Non-Magnetic (Titanium)
- Stable and Secure Deployment



Structural hook with stiffened ribs

LA00042
HOOK

Optional

Polyurethane
Rollers for quiet
operation

SQR Quick
connection

Anti-skid rung
Side slippage
protection

LA00010FF
1.5m (4'11"ft)
Module

Fefe Hook
Receptors

TECHNICAL DATA

Technical Specifications of Each Section:

Material: High Grade Titanium Alloy

Magnetic Signature: Non- Magnetic

Section Lengths: 1.5m or 3.0m (4' 11" or 9'10")

Section Weight 1.5m: from 2.3kg (4' 11": 5lbs)

Section Weight 3.0m: from 4.2kg (9' 10": 9.26lbs)

Total Load: 1000kg (2205lbs)

Step Load: 150kg (330lbs)

Step Height: 37cm (1'45")

Number of steps per 1.5m: 4 steps (4'11" 4 steps)

Safety features:

- Hand protection hilts
- Anti-skid step surface
- Step side lugs
- SQR safety locking system
- Fifi Hook Receptors (1.5m (4'11") Modules)

Maximum Total Height: Operators choice

Technical Specifications of Grapple Hook:

Material: High Grade Titanium

Coupling: High Grade Titanium Alloy

Max. Loads up to 1000kg (2205lbs)

Hook Sizes: Large, Medium and Small

Single and Twin Tine versions

Optional Rollers

Tritium Lights

Custom hooks are available on request



Various types available
LA00042 Hook

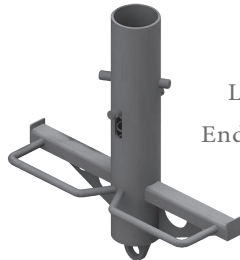
ACCESSORIES

Also available is an end cap with rungs, stand-off and up to 3m (9'10") integrated caving ladder that can be easily deployed when working from RIBs; allowing the boat to ride, swell/wash without risking damage or displacement of the Cobra pole.

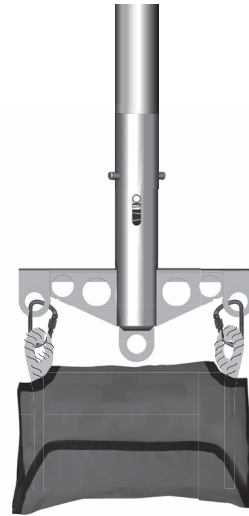
Various end cap options are available to choose from.



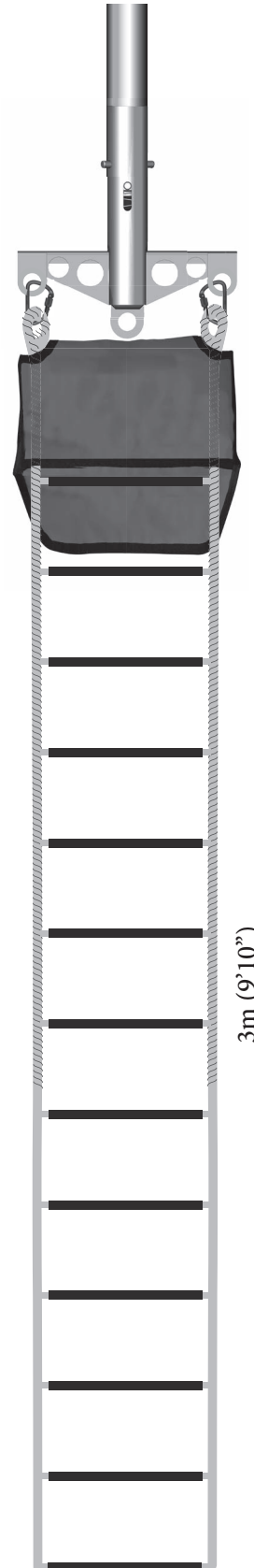
LA00025
End Cap



LA00026
End Cap with
rungs



LA00027
End cap with rungs,
stand-off and
3m/9'10" integrated
caving ladder

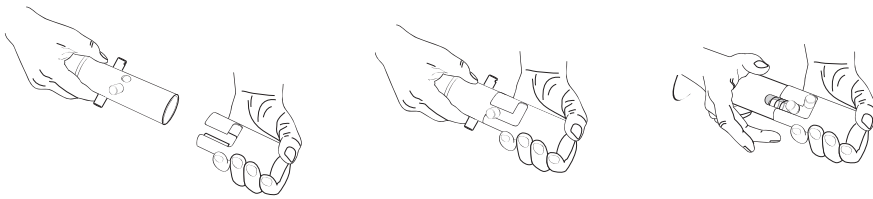


ASSEMBLY AND DISASSEMBLY

The COBRA SQR Tactical Ladder is simple to assemble and disassemble due to the unique SQR (Secure Quick Release) coupling. The coupling is automatically self locking.

ASSEMBLY / DISASSEMBLY - SECTION TO SECTION

In order to assemble the sections see diagram below:



ASSEMBLY AND DISASSEMBLY OF HOOK /GRAPNEL

In order to assemble or disassemble the grapnel to the section, follow the same connection system as above.

ASSEMBLY AND DISASSEMBLY OF LUG FOR S/STEEL ROPE LADDER

In order to assemble or disassemble the lug to the section, follow the same connection system as above.

GENERAL MAINTENANCE

1. When using the ladder always attempt to hang it freely, like a rope, and support it only by the hook in a position as close to the pole as possible. Endeavor not to support the ladder from just the hook tips as this may reduce the load bearing capability. See Diagrams.
2. Always leave the opposite end of the ladder free hanging or use an elastic “bungee” strap to secure. Do not support it on both ends.
3. Tritium Light Cells have been incorporated on the underside of the hook strut to assist with placement of the hook in darkness

The following should be done after each use:

Freshwater-rinse to remove debris. A mild soapy solution may be used, but after cleaning, please rinse with freshwater. Warm water will remove salt crystals far more efficiently than cold.

1. Store in a dry, shaded area.
2. After use we recommend the application of a dry Teflon lubricant on all couplings. This will ensure a smooth easy connection.
3. After each use inspect all parts of the ladder for cracks, gouges or bends. If you have any concerns these should be addressed with your in country distributor or an engineer prior to continued use.
4. Bi-Annual inspection and Recertification is mandatory by your in country distributor.















The COBRA SQR Tactical Ladder is virtually maintenance free and should give you many years of service.


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PRODUCT CODES AND SPECIFICATIONS

	CODE	NSN NUMBER	DESCRIPTION	SIZE / TYPE / DIMS	WEIGHT DIMS	LOAD
TWIN TINE FLEXI HOOKS						
	LA00044	4030-66-159-4585	Flexi-Hook Large Tritium Lights and Rollers	Structural Titanium with wheels L 376 x H 383 x D 202mm L 1'3" x H 1'4" x D 8"	2.34kgs 5.16lbs (Approx)	
	LA00042	4030-66-159-4584	Flexi-Hook Medium Tritium Lights and Rollers	Structural Titanium with wheels L 313 x H 343 x D 173mm L 12'5" x H 13'5" x D 7"	1.88kgs 4.15lbs (Approx)	
SINGLE TINE AND LOOP HOOKS						
	LA00019		Hook Large	Structural Titanium	1.8kgs 3.97lbs (Approx)	
	LA00016	4030-66-159-4581	Hook Small Single	Structural Titanium L 222 x W 356 x D 48.2mm L 9" x H 2'2" x D 2"	0.85kgs 1.87lbs (Approx)	
SINGLE TINE AND LOOP HOOKS						
	LA00008L		Wire Loop Hook Large	Titanium & Stainless Steel LOOP DIMENSIONS L 533 x W 300 x D 48.2mm L 1'9" x H 12" x D 2"	0.92kgs 2.02lbs (Approx)	
	LA00008		Wire Loop Hook Medium	Titanium & Stainless Steel LOOP DIMENSIONS L 526 x W 300 x D 48.2mm L 1'9" x H 12" x D 2"	0.41kgs 0.9lbs (Approx)	

 = 125kgs (276lbs) + 100%
Safety Factor = 250kgs (551lbs)

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PRODUCT CODES AND SPECIFICATIONS

MODULES	CODE	NSN NUMBER	DESCRIPTION	SIZE / TYPE / DIMS
MODULES STANDARD AND FLEXIBLE				
Weight 2.62kgs/5.78lbs - (Step Spacing 760mm/2'5") 	LA00010	5540-66-158-4925	Ladder 1.5m (4'11") module Interlocking sections NEUTRAL BOUYANCY (1000kgs/2205lbs Load)	Titanium L 1620 x W 318mm L 5'4" x W 13"
Weight 2.42kgs/5.33lbs - (Step Spacing 760mm/2'5") 	LA00010B	 Step and Fefe hook	Ladder 1.5m (4'11") module Interlocking sections POSITIVE BOUYANCY (1000kgs/2205lbs Load)	Titanium L 1620 x W 318mm L 5'4" x W 13"
Weight 2.7kgs/5.9lbs - (Step Spacing 760mm/2'5") 	LA00010FF		Ladder 1.5m (4'11") module Interlocking sections NEUTRAL BOUYANCY with Fefe (1000kgs/2205lbs Load)	Titanium L 1620 x W 318mm L 5'4" x W 13"
Weight 2.52kgs/5.55lbs - (Step Spacing 760mm/2'5") 	LA00010FFB		Ladder 1.5m (4'11") module Interlocking sections POSITIVE BOUYANCY with Fefe (1000kgs/2205lbs Load)	Titanium L 1620 x W 318mm L 5'4" x W 13"
Weight 4.5kgs/9.92lbs - (Step Spacing 760mm/2'5") 	LA00011		Ladder 3m (9'10") module Interlocking sections NEUTRAL BOUYANCY (1000kgs/2205lbs Load)	Titanium L 3140 x W 318mm L 10'8" x W 13"
Weight 4.2kgs/9.26lbs - (Step Spacing 760mm/2'5") 	LA00011B		Ladder 3m (9'10") module Interlocking sections POSITIVE BOUYANCY (1000kgs/2205lbs Load)	Titanium L 3140 x W 318mm L 10'8" x W 13"
Weight 4.65/10.25lbs Kgs - (Step Spacing 760mm/2'5") 	LA00011FF		Ladder 3m (9'10") module Interlocking sections NEUTRAL BOUYANCY with Fefe (1000kgs/2205lbs Load)	Titanium L 3140 x W 318mm L 10'8" x W 13"
Weight 4.35/9.6lbs Kgs Step - (Spacing 760mm/2'5") 	LA00011FFB		Ladder 3m (9'10") module Interlocking sections POSITIVE BOUYANCY with Fefe (1000kgs/2205lbs Load)	Titanium L 3140 x W 318mm L 10'8" x W 13"

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	CODE	NSN NUMBER	DESCRIPTION	SIZE / TYPE / DIMS	WEIGHT DIMS
FLEXIBLE JOINTS - FOR VERTICAL ALIGNMENT AND STRENGTH					
	LA00013		Flexible Knuckle/ Joint Module (1000kgs/ 2205lbs Load) SMALL	Titanium L 375 x W 55.3mm L 1'3" x W 2.2"	1.54kgs 3.4lbs
	LA00014		Flexible Module (1000kgs/ 2205lbs Load) MEDIUM	Titanium L 510 x W 55.3mm L 1'8" x W 2.2"	1.8kgs 3.96lbs
NEOPRENE MODULE SLEEVES - REDUCES NOISE AND ADDS BOUYANCY					
	Neoprene sleeves		Neoprene sleeves	To fit 1.5m/ (4'11") Modules (2 x for 3 m Modules)	0.2kgs 0.44lbs
	LA00203 LA00205 LA00207 LA00209		3mm 5mm 7mm 9mm		

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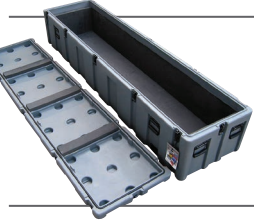

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	CODE	NSN NUMBER	DESCRIPTION	SIZE / TYPE / DIMS	WEIGHT DIMS
END CAPS					
	LA00027		End cap with rungs, stand-off and up to 3m/9'10" integrated caving ladder	Heavy Duty Fabric	TBA
	LA00028		End Cap with rungs and Stand-off	Titanium H 280 x W 267.5 x D 121mm H 11" x W 10.5" x D 5"	0.932Kgs 2lbs
	LA00026		End Cap without rungs	Titanium	0.4 Kgs 0.88lbs
	LA00025	5340-66-158-4972	End Cap	Titanium L 208 x W 48.2mm L 8" x W 1.8"mm	0.48 Kgs 1.05lbs
TELESCOPIC PUSH POLES					
	LA00049		Titanium Push Pole (Under development)	Titanium/Carbon fibre 1200mm - 2000mm Approx 3'11" - 6'7"Approx.	
STORAGE AND MAINTENANCE					
	LA00030	8105-66-158-4929	Ladder Bag	Heavy Duty Fabric	
	LA00032	8145-66-158-4928	Storage Box	2200 x 550 x 450 mm 7'2" x 2'9.5" x 1'5"	35 kgs 77lbs
	LA00035		Easy Glide Teflon Lubricant	Propellant	

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STORAGE SOLUTIONS

DEPLOYMENT - SEA - AIR - LAND

The Spacecase© Storage Containers we provide with the Cobra Ladder are ideal for storage and transit protection.

These Storage Containers are made from a high strength UV stabilised polyethylene material; they are stackable and interlocking and have pad-lockable quality catches as standard. They offer ideal protection against harsh environmental conditions as they are highly durable, impervious to most chemicals, moisture and will not dent or rust.



LA00032

2.2m

NSN 8145-66-158-4928

LA00110

3.2m

COBRA LADDER BAG

Customised self draining bag, will hold up to 10 x 1.5m sections of ladder plus hooks. For easy transit to area of operations.



LA00030 NSN 8105-66-158-4929

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WARRANTY & REPLACEMENT POLICY

All products sold by Apollo Australia Pty Ltd are covered by a 12 month warranty, and as implied by law, from date of purchase, by the end user, subject to the following conditions.

- a. That upon “proof of warranty” and if required “relevant service record” Apollo Australia will repair, replace, credit or offer an upgrade at our discretion for any product or part with defects in workmanship or materials. Apollo Australia makes no representation as to suitability for use nor accepts any responsibility for any incidental damage to persons or property.
- b. If repairs are carried out on products void of warranty, all labour, parts and freight costs will be charged.
- c. Damage, neglect, accident, improper repair, or fair wear and tear is not covered.
- d. All items should be returned FIS to Apollo Australia P/L along with warranty details. For your protection we suggest all items should be sent to us by traceable courier, certified or registered mail.
- e. An RGA (Returned Goods Authority) number is to be requested from Apollo Australia prior to goods being returned for warranty or repair.
- f. This warranty becomes null and void if:

The product has not been properly serviced and maintained as per this manual.

Unauthorized modifications have been made to the product.

The product has been abused or subjected to conditions which are unusual or exceed the product's intended service.

The product has been serviced by non authorized service agent and/or with non original spare parts.