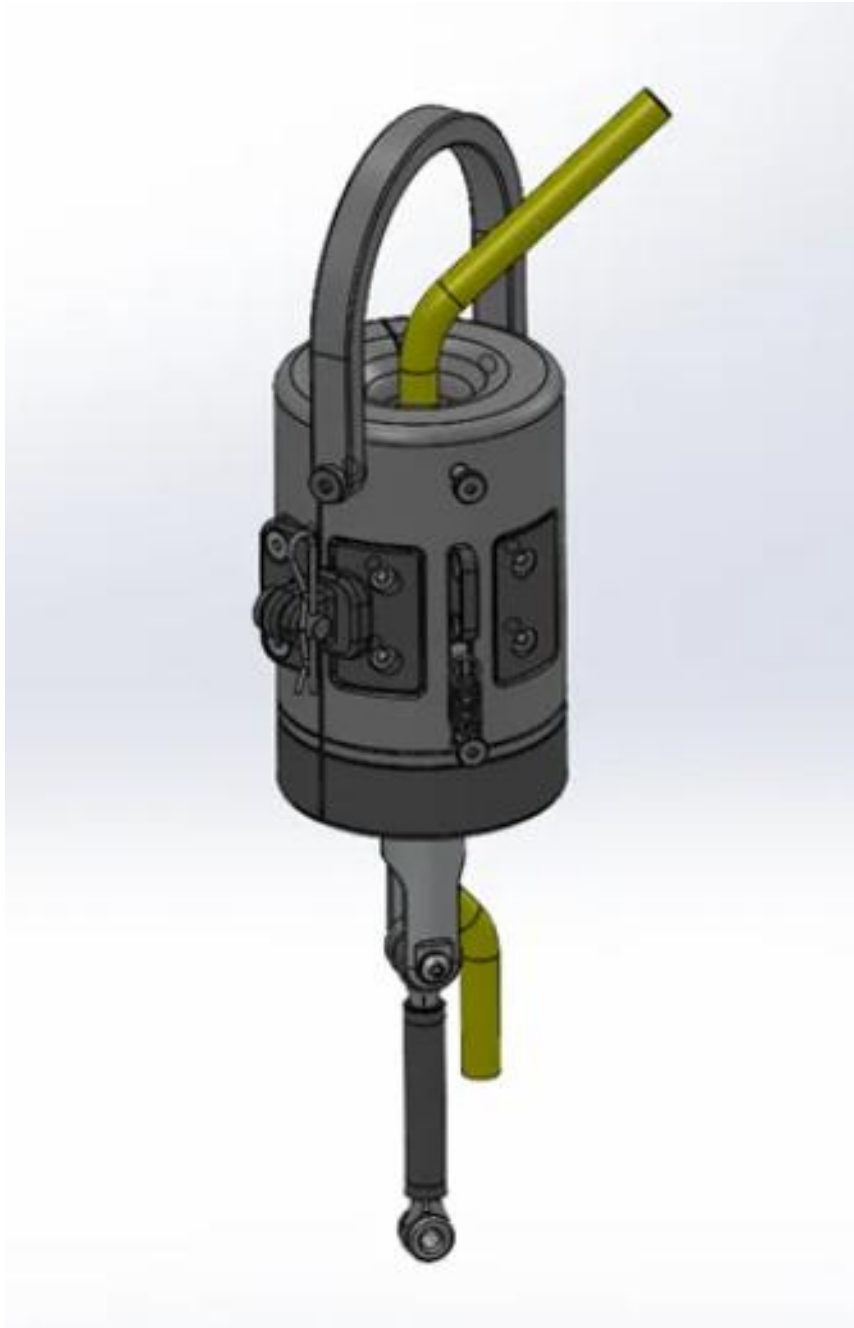


Atlantas – LR 500

User Manual v1.0



Atlantas Marine Ltd
Unit 38 Glenmore Business Park, Challenger Way
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Atlantas
MARINE

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System Overview

The Atlantas Marines Lock/Latch system is a mechanical design, designed to **DNV Standards**

This system provides a safe and secure method of launching and recovering free-swimming Observation Class ROV Systems.

The lock/latch robust design is built from 316 stainless steel with interchangeable 3D printed parts. Its mechanism has a fail-safe design incorporating 3 modes of operation, depending on the environment and method of launch and recovery of the ROV system.

Built out of Titanium, the bullet has been designed to operate with a soft tether with a maximum diameter of 14mm.

The maximum payload should not exceed the designed WLL of 0.5T in air.

Main Features

- The system has 3 modes of operation
 - Automatic
 - Semi-Automatic
 - Manual Mode
- Lightweight, portable and robust design
- Inbuilt fail-safe in Semi-Automatic or Manual Mode
- Interchangeable parts
- Designed for equal load distribution
- Low maintenance
- Corrosion resistant parts
- Designed to **DNV Standards**

Operation

It is the discretion of the winch operator to determine which mode the lock/latch is most appropriate to deploy/recover the ROV.

Atlantas Marine accept no liability for any incident or damage that may occur during the launch or recovery of the ROV system.

Before deploying/recovering the ROV the operator needs to assess the following

- Weather/sea state conditions
- Any structures that may potentially cause any conflict with the ROV beneath the area below the launch point and surrounding area
- Distance from platform to surface (sufficient tag line length for release)

Launch Procedure

1. Visually check the lock latch and bullet prior to use
2. Connect the tether inside the bullet (see fig...) and attach the bullets lifting point to the ROV
3. Attach the bobbin on the lifting bridle of the lock/latch to the lift wire
4. Remove the R-Clip and the vertical pin from the latch
5. Open the lock/latch door and place the tether in the latch
6. Close the latch, insert the pin and the R-Clip
7. Select which mode the latch will be operated in (see modes of operation)
Note: In automatic mode - the latch will automatically release from the bullet once the weight of the latch is off the bullet. Once the ROV is in the water and there is slack in the lift wire the bullet will automatically disconnect from the bullet.
8. Check the umbilical slides freely inside the latch, lower the crane wire until the latch slides and locks to the termination bullet.
9. Ensure the area is clear and lift the ROV from the deck and deploy
10. **Note:** If the bullet is rear mounted to the ROV and not attached to the top, then lift the front of the vehicle clear off the deck whilst the crane wire is being lifted to prevent any damage to any cameras, sonar or lights at the front of the ROV
11. When the ROV is on the surface ensure there is no weight on the latch prior to disconnecting from the bullet (if in automatic mode the latch will self-release at this point, if in manual mode pull the tag line to release the internal latch mechanism)
12. After the Latch has been released from the bullet, the latch can be recovered to surface
13. The tether may be left inside the latch during the ROV operations or be removed from the latch

Recovery Procedure

1. Select the mode required on the latch for the recovery (semi-automatic recommended)
2. Ensure the Pin and R-Clip are fully engaged on the latch
3. Lower the latch above the surface and manoeuvre ROV into position near to the surface just out from the launch point.
4. Pull tension on the tether and lower the latch into the water until the bullet engages inside the latch.
5. Pay in on the lift wire and confirm the bullet on the ROV is fully engaged inside the latch
6. Lift the latch until the tether goes slack
7. Recover the ROV to deck ensuring the area is clear during the recovery

8. Before landing the ROV on deck, support the front of the ROV if the bullet is rear mounted prior to landing on deck
9. Disengage the internal latch by pulling on the safety latch chord and reposition the toggle back into its holder
10. Lift the latch free from the bullet on the crane wire
11. Remove the R-Clip and Pin from the latch
12. Open the latch and remove tether
13. Close latch and install the Pin and R-Clip

Modes of Operation

Mode 1 – Fully Automatic

Note: This mode is to be used **only** when the crane operator is confident that the ROV will not disengage from the bullet by means of the ROV not hanging up on any structure beneath its launch point and the sea state is low with minimum swell.

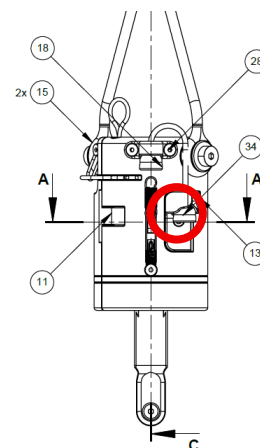
In automatic mode, the safety latch is left in the open position, and no tag line is required, so the ROV can engage and disengage itself from the bullet automatically. This allows the ROV to release and lock without any input from the operator other than raising and lowering the crane wire.

When Launching the Latch will automatically release from the bullet once the weight of the latch is off the bullet. Once the ROV is in the water and there is slack in the lift wire the bullet will automatically disconnect from the bullet. The latch is then clear to recover to surface.

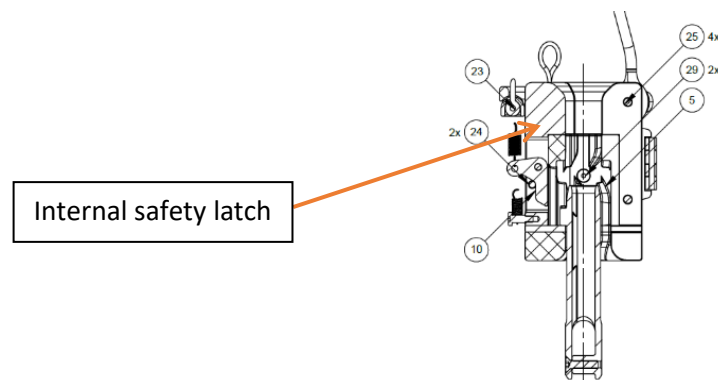
Mode 2 - Semi – Automatic

Note: This mode is advised to be used to recover the ROV as an alternative to using a lanyard, **do not** use this method to launch the ROV as it is not self-releasing.

To set the lock/latch in the semi-automatic mode, the toggle (circled in red in the diagram adjacent) is to be disconnected from the holder. This will activate the sprung loaded latch internally which will lock in the bullet once engaged into the latch. When the ROVs bullet is connected into the latch (during the recovery), the bullet cannot disconnect itself until the operator releases the latch mechanism manually by resetting the toggle back into its holder. This is to be reset by the operator once the ROV is secure on deck.



This mode provides a safe and secure recovery and ensures the ROVs bullet being locked into the latch, eliminating the risk of the ROV disengaging from the latch in the event of any potential large swell on the surface or the weight of the ROV being released from the bullet.



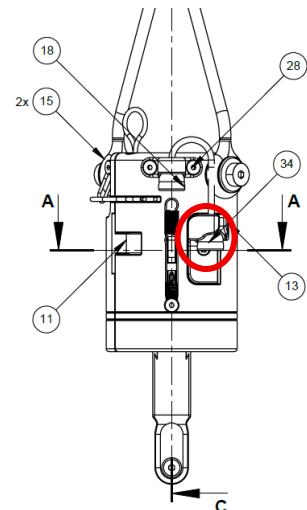
Mode 3 - Manual

Note: This mode is fully manual and is fail safe, meaning the ROV can only be released by means of a trip line. To be used if there are any obstructions beneath the launch point or if the sea conditions are not favorable. The operator has full control over the disconnection of the ROV. An alternative method to deploy the ROV if the operator is not confident to launch in the Automatic mode.

Manual Mode requires remote operation from an operator with a trip line attached to the toggle trip line loop.

The toggle will need to be released from its holder and have a length of trip line attached to the end loop. As per Mode 2, this will activate the sprung loaded latch internally which will lock in the bullet once engaged into the latch preventing the bullet being released from the lock.

During the launch, the trip line is to be kept slack until the operator is ready to disconnect the latch from the bullet. Release the ROV by pulling on the trip. When the ROV is free, the trip line and lock/latch can be recovered to the surface.



Precautions

Atlantas Marine's Latch system is regarded as a lifting device for offshore operations within the range of loads specified for the Latch system in use.

It is important that the operator of the equipment maintains a high degree of caution during all phases of the lifting operation and is competent to carry out the deployment and recovery of the ROV system.

If required, operator training can be provided by Atlantas Marine to use the system.

Technical Specifications

Lock/Latch dimensions

Length	137mm
Diameter	90mm
Weight	
Main lifting point diameter	30mm
Max Umbilical/tether size	17mm

Materials

Lock Latch Body	SS 316
Fixings	SS A4-70
Inner guides	PA12 – MJF – 3D Printed

Bullet dimensions

Length	150mm
Outside Diameter	26mm
Weight	
Max umbilical/tether size	17mm

Materials

Body	Titanium
Fixings	SS A4-70
Inner guides	PA12 – MJF – 3D Printed

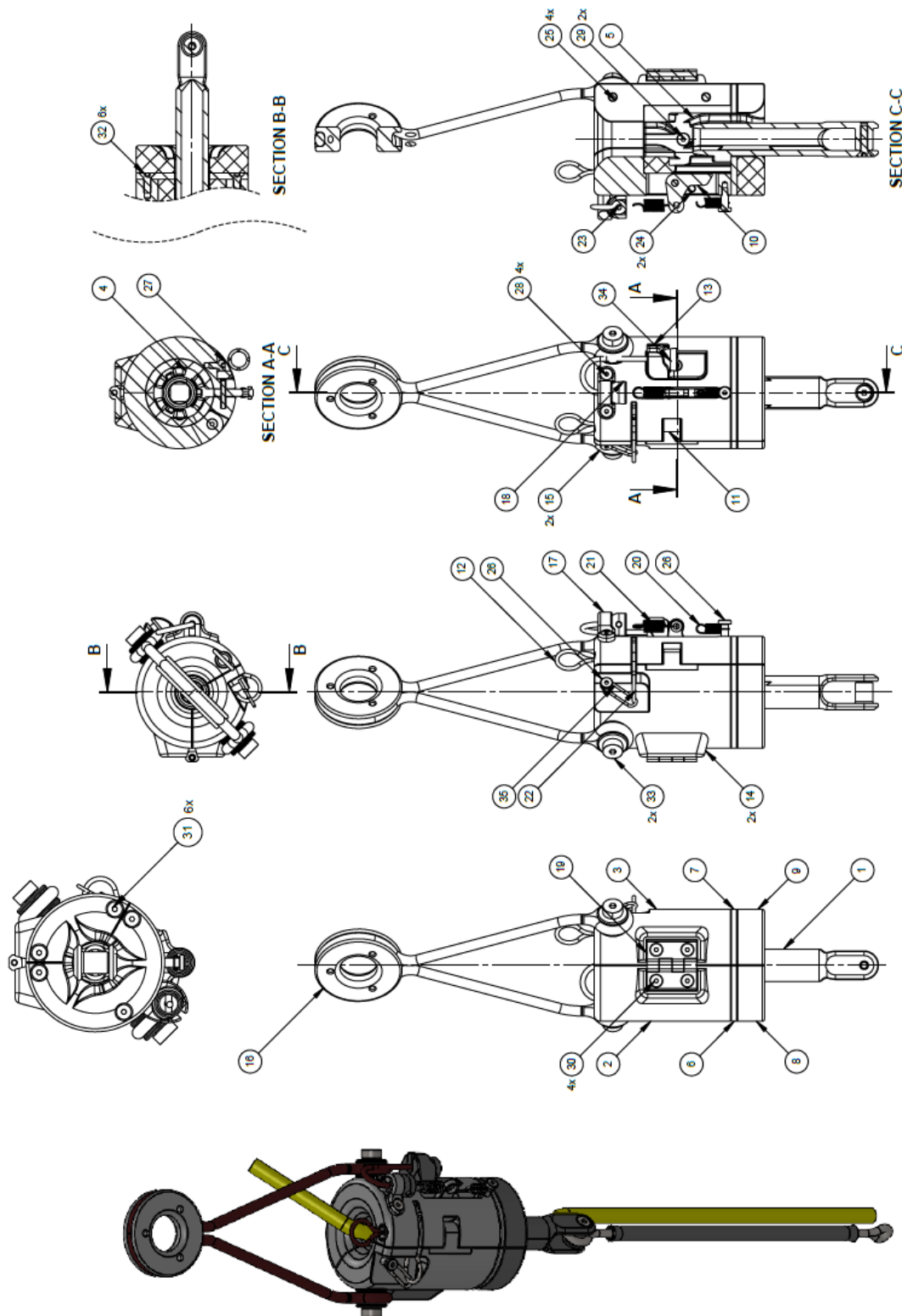
Load capabilities

Working Load Limit	0.5 Tonnes
Test load:	2.0 x WLL
Dynamic factor (DAF):	3
UKCA/CE marking	
Design Code:	DNV Rules for Application of Lifting

Appliances, No.2 .22

Drawings

Lock Latch Assy

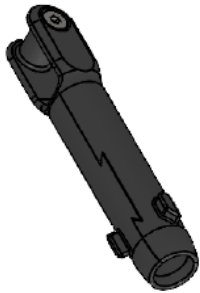


Latch Parts List

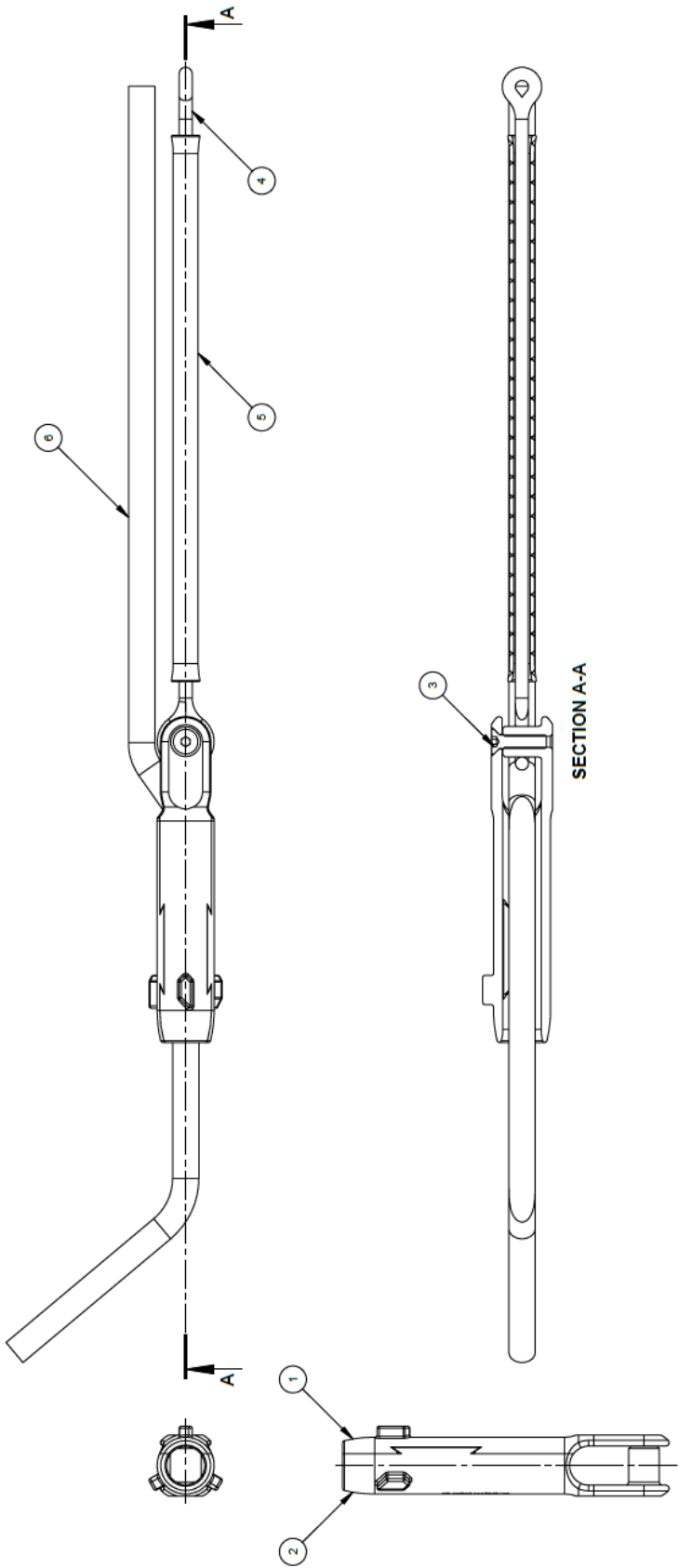
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	MASS (kgs)	QTY.
1	RP7649	BULLET ASSEMBLY - ROV LIFTING LOCK - 8WL 0.5T	SEE TABLE	0.19	1
2	RP7653	HOUSING - 1 - ROV LIFTING LOCK - 8WL 0.5T	88 315L	2.44	1
3	RP7654	HOUSING - 2 - ROV LIFTING LOCK - 8WL 0.5T	88 315L	1.20	1
4	RP7655	INTERNAL HOUSING - 1 - ROV LIFTING LOCK - 8WL 0.5T	PA12 - MJF - BLACK - 3D PRINTED	0.08	1
5	RP7656	INTERNAL HOUSING - 2 - ROV LIFTING LOCK - 8WL 0.5T	PA12 - MJF - BLACK - 3D PRINTED	0.04	1
6	RP7657	END PLATE - 1 - ROV LIFTING LOCK - 8WL 0.5T	88 315L	0.14	1
7	RP7658	END PLATE - 2 - ROV LIFTING LOCK - 8WL 0.5T	88 315L	0.07	1
8	RP7659	END FERRULE - 1 - ROV LIFTING LOCK - 8WL 0.5T	PA12 - MJF - BLACK - 3D PRINTED	0.10	1
9	RP7661	END FERRULE - 2 - ROV LIFTING LOCK - 8WL 0.5T	PA12 - MJF - BLACK - 3D PRINTED	0.05	1
10	RP7662	PAWL - ROV LIFTING LOCK - 8WL 0.5T	88 315L	0.03	1
11	RP7663	LATCH - ROV LIFTING LOCK - 8WL 0.5T	88 315L	0.05	1
12	RP7664	LOCKING PIN - ROV LIFTING LOCK - 8WL 0.5T	88 315L	0.03	1
13	RP7665	RETAINING PLATE - ROV LIFTING LOCK - 8WL 0.5T	PA12 - MJF - BLACK - 3D PRINTED	0.02	1
14	RP7666	HINGE PLINTH - ROV LIFTING LOCK - 8WL 0.5T	PA12 - MJF - BLACK - 3D PRINTED	0.01	2
15	RP7667	BOBBIN - ROV LIFTING LOCK - 8WL 0.5T	88 315L	0.04	2
16	RP7668	LIFTING BOBBIN - ROV LIFTING LOCK - 8WL 0.5T	88 315L	0.45	1
17	RP7722	FAIRLEAD - ROV LIFTING LOCK - 8WL 0.5T	88 315L	0.03	1
18	RP7723	TOGGLE - PAWL TRIP LINE - ROV LIFTING LOCK - 8WL 0.5T	PA12 - MJF - BLACK - 3D PRINTED	0.00	2
19	8KU 2101-400-316	88316 SCREW ON HINGE 40x40mm	SEE TABLE	0.02	1
20	LE 030CD 013316	TENSION SPRING - LEE 8FRING8	88 315L	0.00	1
21	LE 041D 03 9316	TENSION SPRING - LEE 9SPRING	88 315L	0.00	1
22	2.8mm x 61mm DOUBLE WOUND R CLIP	2.8mm X 61mm R CLIP WITH LANYARD	A4	0.01	1
23	DIA 4 x 16 PARALLEL PIN - DIN 7 ISO 2338		A4	0.00	2
24	DIA 5 x 22 PARALLEL PIN - DIN 7 ISO 2338		A4	0.00	2
25	DIA 6 x 8 PARALLEL PIN - DIN 7 ISO 2338		A4	0.00	4
26	M5 (6mm) x 10mm LOW HEAD SOCKET SHOULDER SCREW - A4	MOO-88HL-M5-4-A4	A4 - 1.4401 (XECNIM617-12-2)	0.00	2
27	M5 x 8 SOCKET HEAD CAP SCREW - DIN 912 ISO 4762		A4-70	0.00	1
28	M5 x 12 SOCKET C8K HEAD SCREW - DIN 7991		A4-70	0.00	4
29	M5 x 14 SOCKET C8K HEAD SCREW - DIN 7991		A4-70	0.00	2
30	M5 x 16 SOCKET C8K HEAD SCREW - DIN 7991		A4-70	0.00	4
31	M5 x 35 SOCKET C8K HEAD SCREW - DIN 7991		A4-70	0.01	6
32	M6 x 16 SOCKET C8K HEAD SCREW - DIN 7991		A4-70	0.00	6
33	M8 (10mm) x 16mm SOCKET SHOULDER SCREW - A4		A4-70	0.02	2
34	PAWL TRIP LINE	REF. ONLY	Example	0.00	1
35	TRIP LINE		DYNEEMA	0.00	1

Bullet Assembly

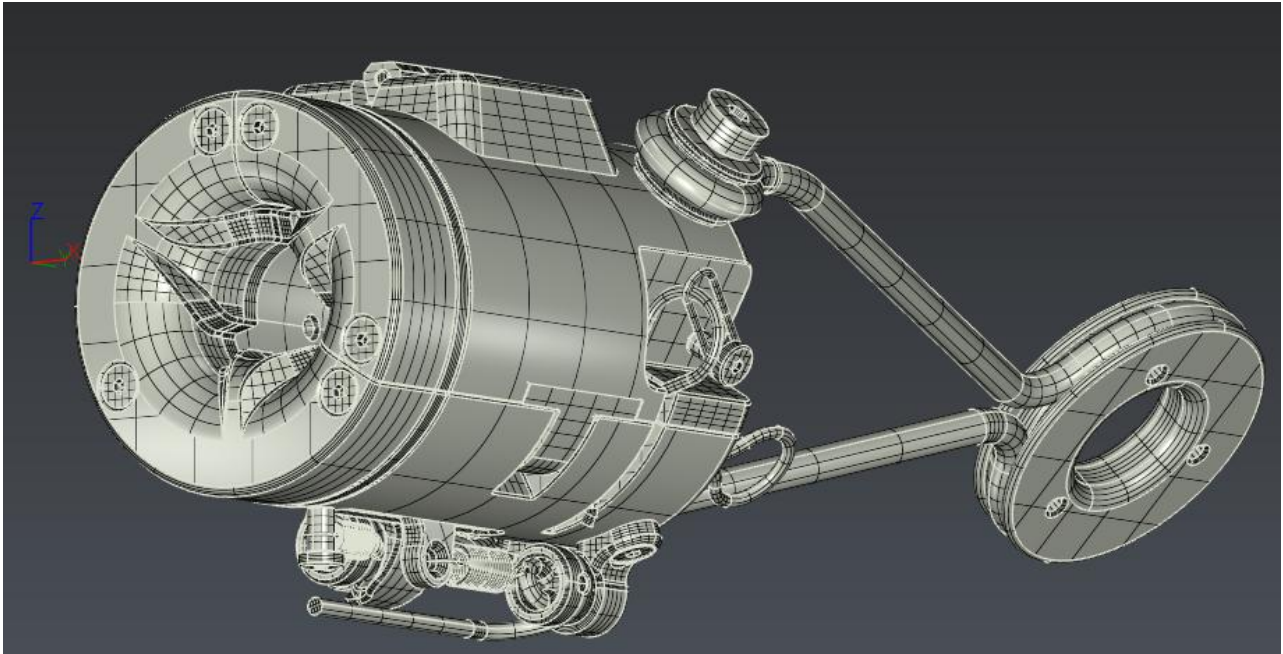
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	MASS (lbs)	QTY.
1	RP7650	BULLET HALF - 1 - BULLET ASSY - SWL 0.5T	Ti 6AL-4V grade 5	0.06	1
2	RP7651	BULLET HALF - 2 - BULLET ASSY - SWL 0.5T	Ti 6AL-4V grade 5	0.12	1
3	M6 x 25 SOCKET CSK HEAD SCREW - DIN 7991		A4-70	0.01	1
4	RP7652	STROP - BULLET ASSY - SWL 0.5T	DYNEEMA	0.01	1
5	RP7651	STROP COVER - BULLET ASSY - SWL 0.5T	PA12 - MJF - BLACK - 3D PRINTED	0.02	1
6	TETHER - 12mm		REFERENCE	0.07	1



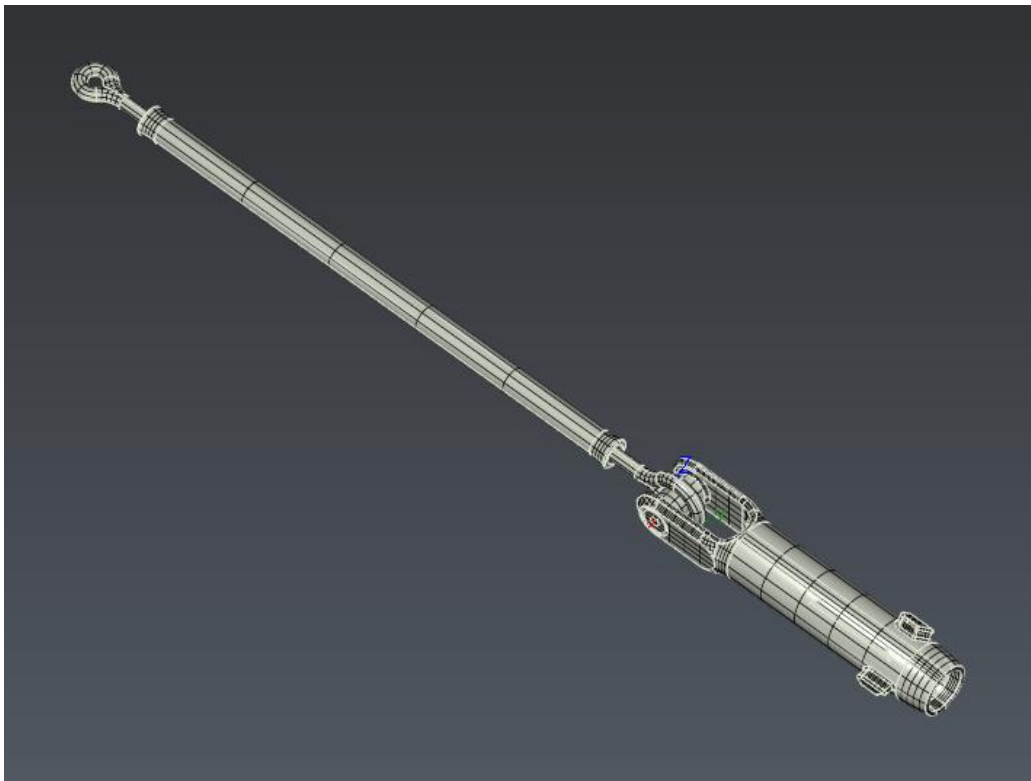
ISOMETRIC VIEW
SCALE 1:2



Latch Assembly Model



Bullet Assembly Model



Standard Spares Kit

RP8370 SPARES KIT (Advanced) - ROV LIFTING LOCK - SWL 0.5T (RP7648)

BOM Reference	Part No.	Quantity
4	RP7655 INTERNAL HOUSING - 1 - ROV LIFTING LOCK - SWL 0.5T	1
5	RP7656 INTERNAL HOUSING - 2 - ROV LIFTING LOCK - SWL 0.5T	1
8	RP7659 END FERRULE - 1 - ROV LIFTING LOCK - SWL 0.5T	1
9	RP7661 END FERRULE - 2 - ROV LIFTING LOCK - SWL 0.5T	1
12	RP7664 LOCKING PIN - ROV LIFTING LOCK - SWL 0.5T	2
16	RP7668 LIFTING BOBBIN - ROV LIFTING LOCK - SWL 0.5T	1
18	RP7723 TOGGLE - PAWL TRIP LINE - ROV LIFTING LOCK - SWL 0.5T	2
19	HANGING BRIDLE - ROV LIFTING LOCK - SWL 0.5T	1
20	TETHER - LOCKING PIN - 200mm - ROV LIFTING LOCK - SWL 0.5T	1
21	PAWL TRIP LINE A - 105mm - ROV LIFTING LOCK - SWL 0.5T	1
22	PAWL TRIP LINE B - 270mm - ROV LIFTING LOCK - SWL 0.5T	1
24	SKU 2101-400-316 SS316 SCREW ON HINGE 40x40mm	1
25	LE 030CD 01S316 TENSION SPRING - LEE SPRINGS	1
26	LE 041D 03 S316 TENSION SPRING - LEE SPRING	1
27	2.8mm X 61mm R CLIP WITH LANYARD	2
29	DIA 5 x 20 PARALLEL PIN - DIN 7 ISO 2338	2
31-38	FASTENERS	1

RP8370 SPARES KIT (Advanced) - ROV LIFTING LOCK - SWL 0.5T (RP7648)

BOM reference	Part No.	Quantity
1	RP7649 BULLET ASSEMBLY - ROV LIFTING LOCK - SWL 0.5T	1
1 (3)	M6 x 25 SOCKET CSK HEAD SCREW - DIN 7991	1
4	RP7655 INTERNAL HOUSING - 1 - ROV LIFTING LOCK - SWL 0.5T	1
5	RP7656 INTERNAL HOUSING - 2 - ROV LIFTING LOCK - SWL 0.5T	1
8	RP7659 END FERRULE - 1 - ROV LIFTING LOCK - SWL 0.5T	1
9	RP7661 END FERRULE - 2 - ROV LIFTING LOCK - SWL 0.5T	1
12	RP7664 LOCKING PIN - ROV LIFTING LOCK - SWL 0.5T	2
16	RP7668 LIFTING BOBBIN - ROV LIFTING LOCK - SWL 0.5T	1
18	RP7723 TOGGLE - PAWL TRIP LINE - ROV LIFTING LOCK - SWL 0.5T	2
19	HANGING BRIDLE - ROV LIFTING LOCK - SWL 0.5T	1
20	TETHER - LOCKING PIN - 200mm - ROV LIFTING LOCK - SWL 0.5T	1
21	PAWL TRIP LINE A - 105mm - ROV LIFTING LOCK - SWL 0.5T	1
22	PAWL TRIP LINE B - 270mm - ROV LIFTING LOCK - SWL 0.5T	1
24	SKU 2101-400-316 SS316 SCREW ON HINGE 40x40mm	1
25	LE 030CD 01S316 TENSION SPRING - LEE SPRINGS	1
26	LE 041D 03 S316 TENSION SPRING - LEE SPRING	1
27	2.8mm X 61mm R CLIP WITH LANYARD	2
29	DIA 5 x 20 PARALLEL PIN - DIN 7 ISO 2338	2
31-38	FASTENERS	1

Maintenance

- Washdown lock latch with freshwater to remove salt deposits after use
- Check lanyards are secure to Pin and R-Clip
- Inspect lifting bridle and bobbin on the latch is free from wear and degradation
- Lubricate springs
- Check M8 shoulder screws on lifting bridle are tight and secure (item 33)

Safety

Material Specifications

Certification

Certificate of Conformity (COC)

CE Declaration of Conformity (DOC)

Material Identification

Lifting Certificate

Technical Support

If you have any technical questions not covered in the manual or need to contact us about equipment maintenance or repair, please use the contact details below.

Address

Atlantas Marine
Unit 38
Glenmore Business Park
Challenger way
Yeovil, Somerset
BA22 8XG
UK

Telephone

+44(0)1935 426000

Email

support@atlantasmarine.com

Website

www.atlantasmarine.com

EU Declaration of Conformity

Object of declaration; ROV Lock/Latch

Manufacturer;

Unit 38
Glenmore Business Park
Challenger way
Yeovil, Somerset
BA22 8XG
UK
+44 (0) 1935 426000

info@atlantasmarine.com

This declaration is issued under the sole responsibility of the manufacturer.

The object of the declaration described above is in conformity with the relevant European Union harmonised legislation;

2001/95/EC General Product Safety Directive

2014/30/EU Electromagnetic Compatibility (EMC) Directive

Conformity is shown by compliance with the applicable requirements of the following documents;

Reference and date	Title
BS EN 61000-6-1:2007	Electromagnetic compatibility (EMC). Generic standards. Immunity for residential, commercial, and light-industrial environments.
BS EN 61000-6-3:2007 +A1:2011	Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial, and light-industrial environments.

Signed for and behalf of; Atlantas Marine Ltd.

Place of issue; Yeovil

Name; Mike Underwood

Position; Service Manager

Signature;

The technical documentation for the object of declaration is available from the address above.

Atlantas Marine Ltd
Unit 38 Glenmore Business Park, Challenger Way
Yeovil, Somerset BA228XG

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