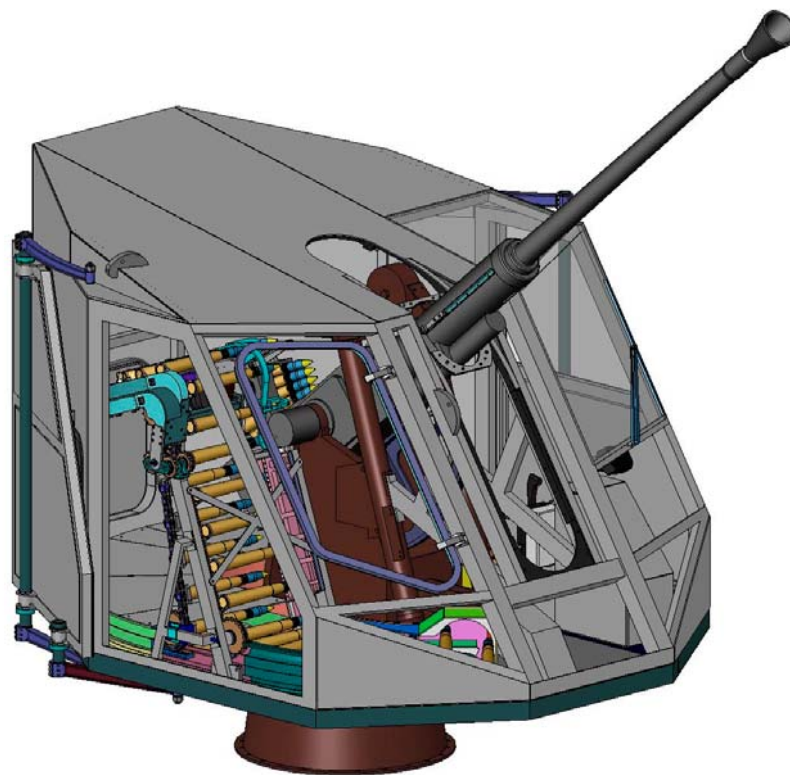


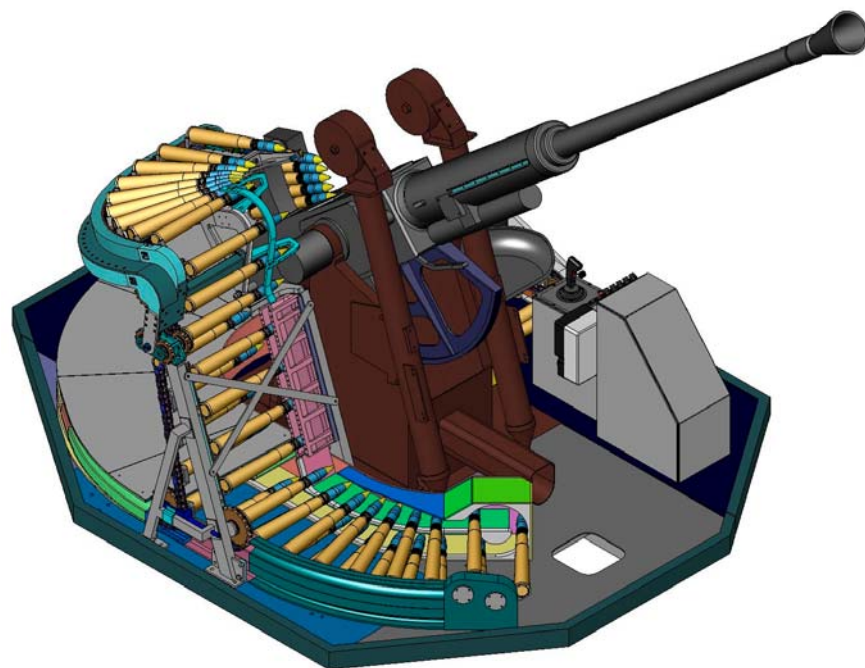
Automatic magazine and weather protection housing



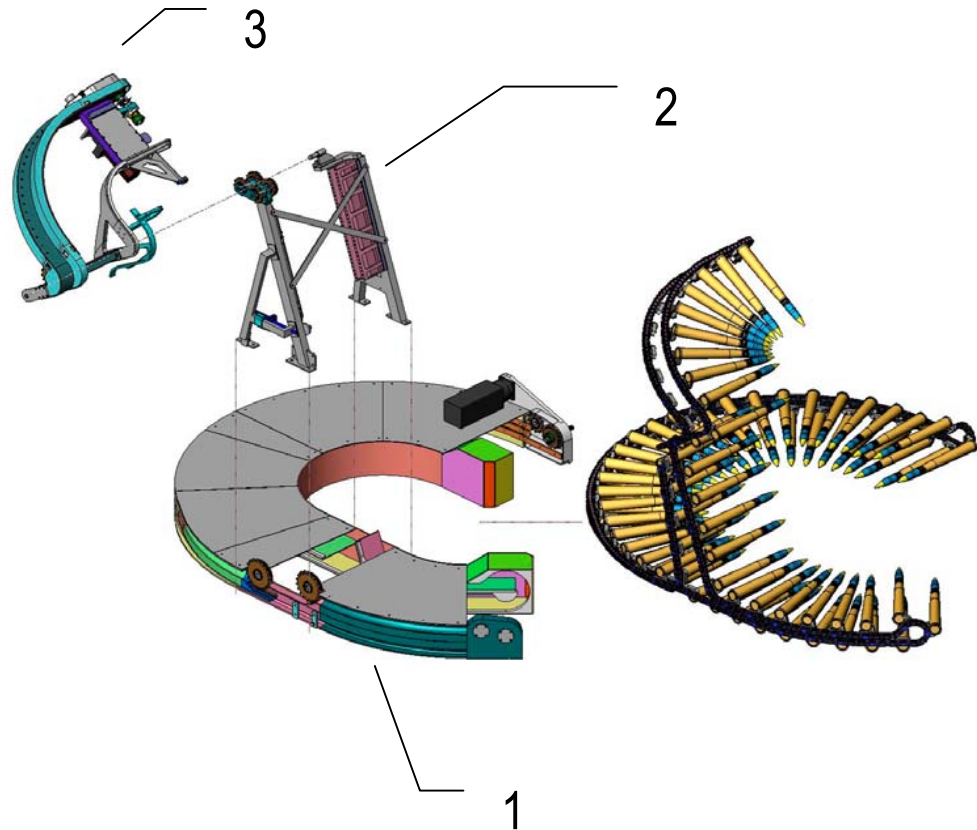
- To improve the efficiency in anti aircraft defence, an automatic magazine for the L70 gun has been developed. The idea was to design a system that can be attached to the existing gun without any major change in its construction.
- The magazine system is based on known transport technology. In comparison to existing magazine systems, the main advantage is the direct transport of the cartridge from its storage location to the gun without changing the carrier.
- We chose a standard bolt chain, which has a unique feature: It can not only be bend in one, but in two planes.
- With help of this property, we managed to design a system that is made of very few components. It is reliable, easy to maintain and competitive in price.
- To protect gun, the magazine and its operating console, a weather protection housing was introduced at the same time.
- The complete system is patent pending.

Weapon system:	Bofors L/70 SAK40 N67 Army and Navy
Capacity:	102 cartridges
Frequency:	5 cartridges per second
Weight:	Does not exceed original total weight
Material:	Stainless steel and seawater resistant alum.
Motor drives:	Two servomotors with gears
El. requirements:	3x440VAC, 50/60 Hz, max. 10 Amp., 4kW max load
Cartridge transport:	One single endless chain with 102 clips

- 96 cartridges are connected to the chain.
- The chain will lift each cartridge close to vertical within the middle part magazine.
- At the turning center of the gun the chain is guided from two sides.
- Directly above the gun the cartridge is delivered into todays feeding mechanism.
- The empty chain part will run through the turning point parallel to the delivery part and back to the lower part.



- 1 The **lower part magazine** consists of a bended chain guiding.
- 2 The **middle part magazine** guides the chain from horizontal drive within the lower part to close to vertical movement.
- 3 The **upper part magazine** guides the chain from perpendicular to parallel to the gun.



Operation of the automatic magazine

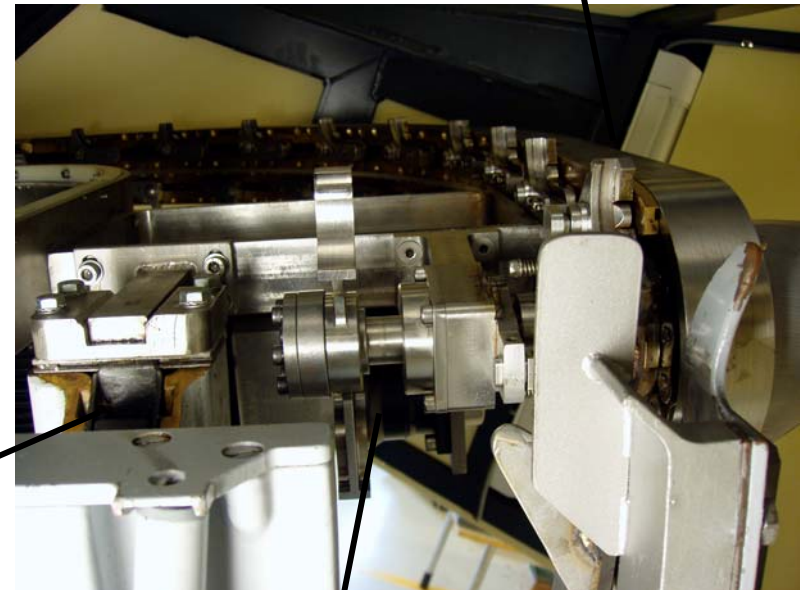
- The loading position is on the right-back side of the gun.
 - 8 cartridges at a time, manually.
 - Any amount of cartridges can be loaded, less than total of 96.
- Unloading of 8 cartridges at a time.
- Motors are activated by means of a switch on the operator console.
- If serious failure to the system, single rounds or clips with 4 rounds can be loaded manually.



- At the cartridges destination, the gun's own feeding mechanism, the chain passes tangentially.
- At a certain adjustable angle, the cartridges are released and taken over by the gun's own feeding claws.

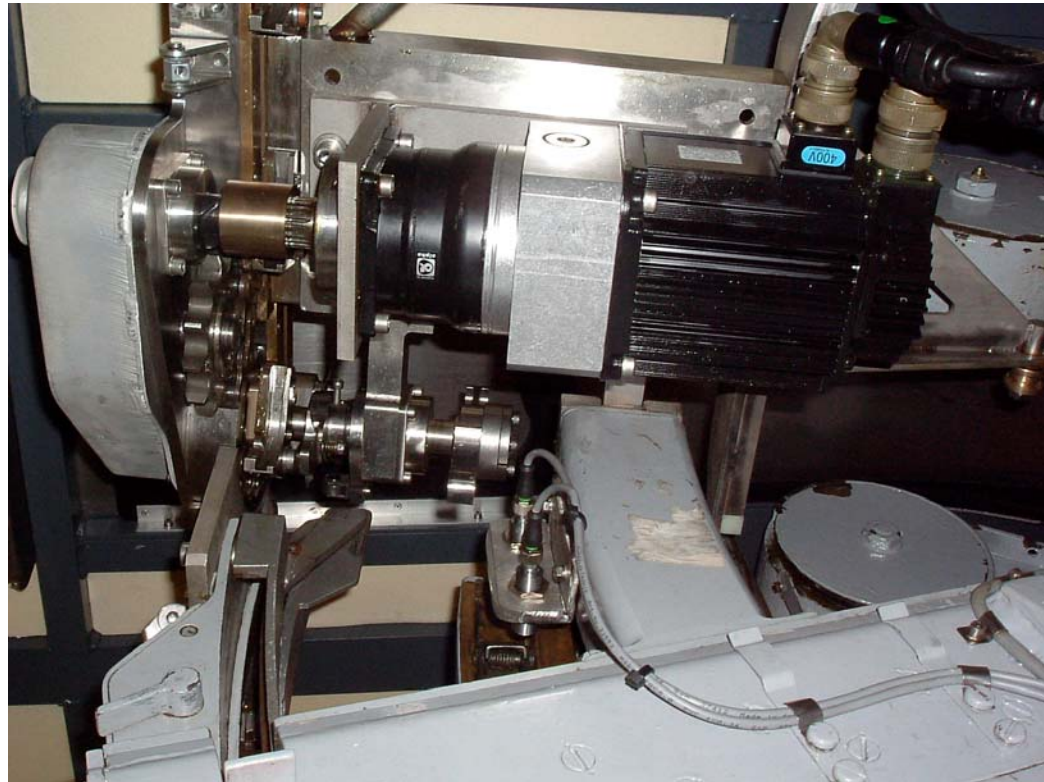
Claw

Clips



Delivery shaft

- The upper servo motor drives the delivery shaft by means of an external drive chain.
- The picture shows the gun/magazine interface from the underside.



- The transport arrangement, lower part, is covered with a shielding with anti skid coating.
- The second servo motor drives the chain within the lower part.
- The second servo motor is located at the chain turnpoint under the operators seat.



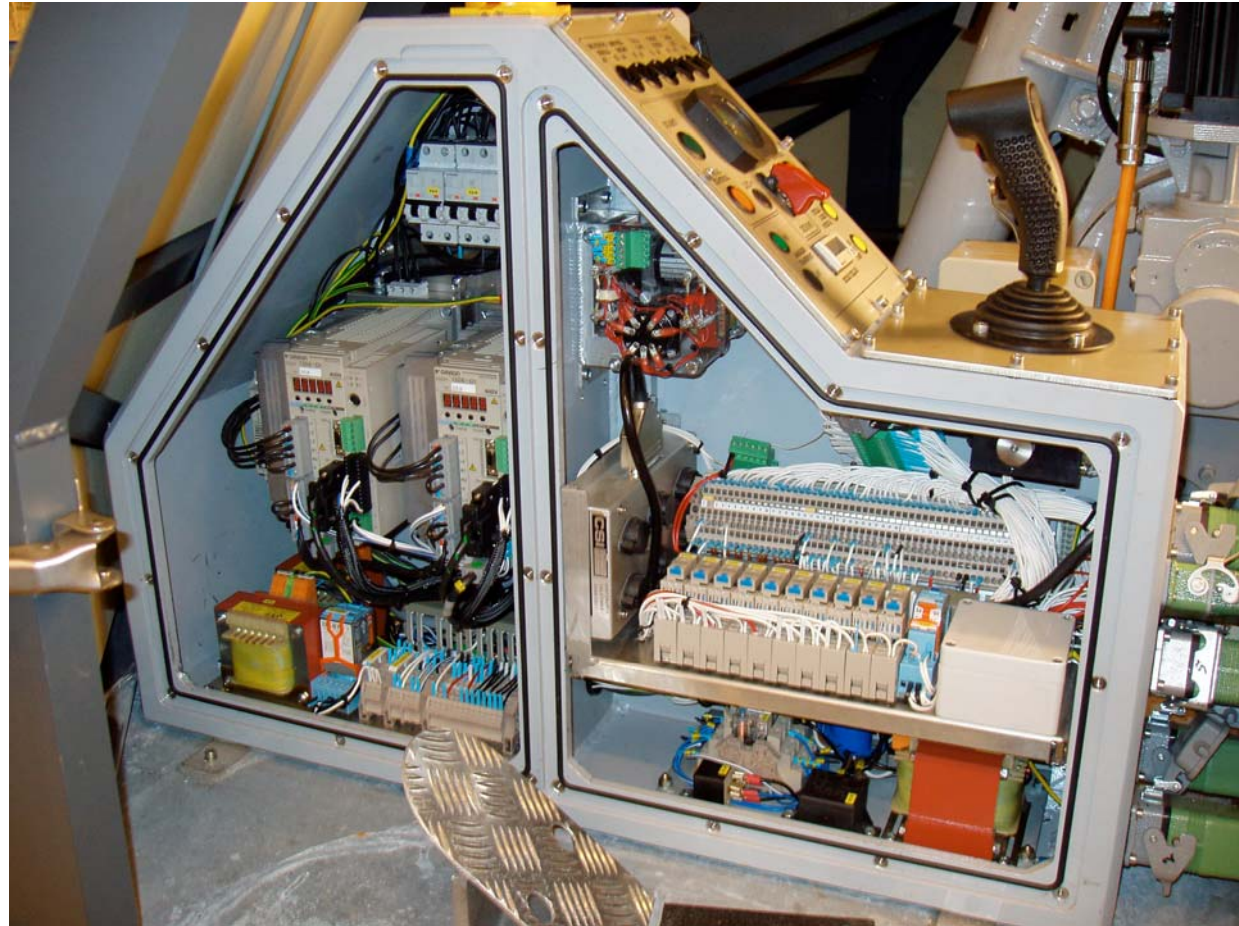
- The control console has a new design with control equipment for the operator.
- An improved joystick with dead man's grip and firing button.
- New improved chair for the operator.

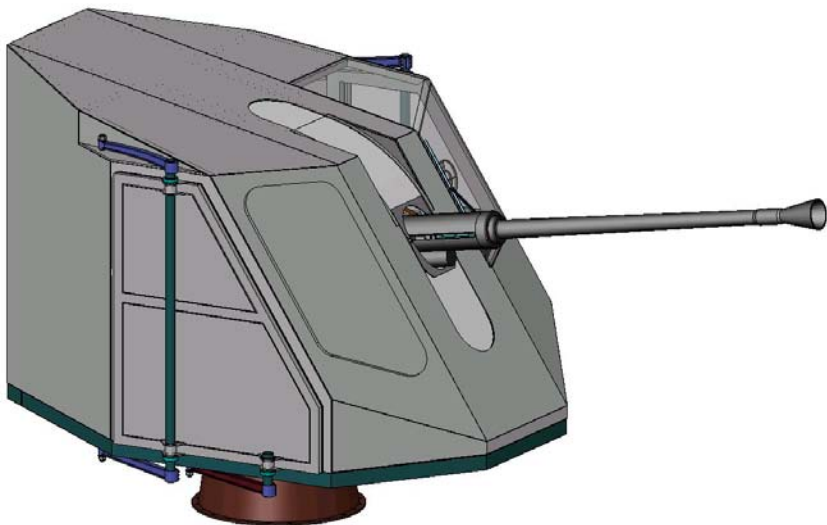


- Selector switches, on/off, for lighting, service brake, ventilation, windscreen wipers and loading lamp.
- Push buttons for start/stop, local/remote control and light dimmer.
- Push button for magazine transport on.
- Push button for magazine transport off.
- Light for cartridges in index position.
- Light for lower magazine empty.
- Cartridge counter.
- Instrument showing the azimuth angle.
- Firing safety switch.



- The new console houses all electronics.
- The thick metal walls protect against electrical interference.

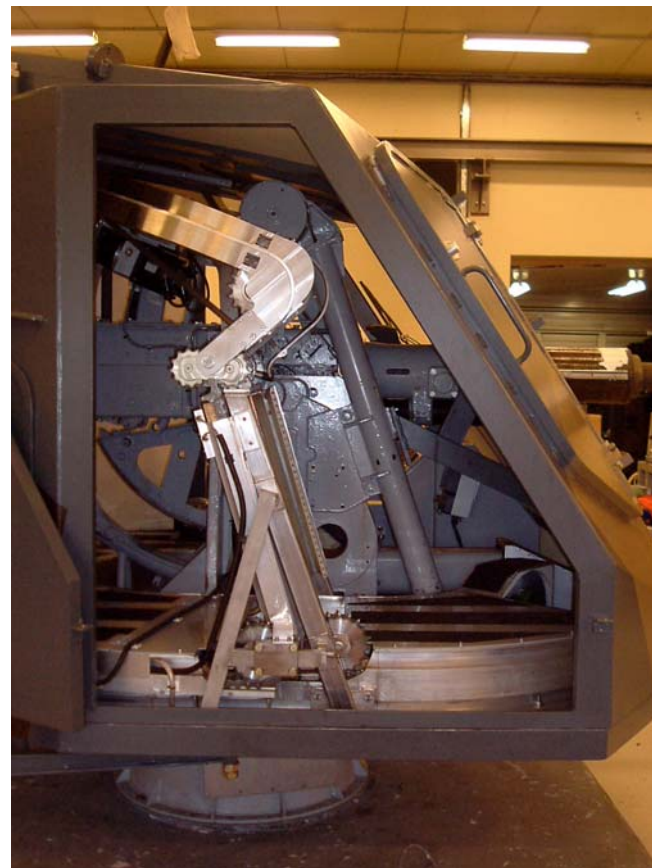




- The housing protects material and personell from weather and rough sea.
- Corrosion is reduced to a minimum, stand-by readiness is increased.



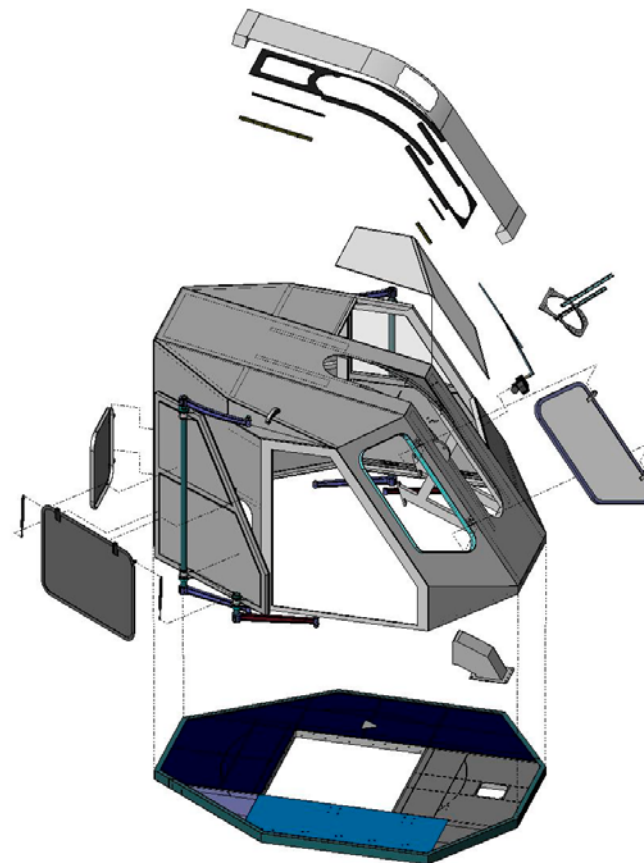
- Two main doors, one on each side, fold back and enable gun operation in open position for max. ventilation.
- Here, the side door for service is open.
- Lower-, middle- and upper parts are visible.



- The housing is made of seawater resistant aluminium.
- Its shape is designed to withstand heavy seas.
- Its good strength is achieved by a combination of strong beams and thick plates, which are all-welded.
- The housing forms one complete item.



- Five doors make it easy to both enter and evacuate.
- Up to three persons are able to do service within the housing at the same time.
- There is a bended window with view from -5 to 90 degrees.
- There is also a wiper that guarantees good sight in rain or heavy sea.



- 22 mm thermal and noise insulation material is applied on the inside of the housing.
- Entrance through the hatch at the back of the housing is also possible.

