



2.75 Cased Hole LineSaver

Adjustable Cable Cutter Head (ACCH)



TimeSaver
Downhole Products, LLC

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Application

- The Cased Hole Adjustable Cable Cutter Head is a tension-driven tool designed for wireline logging, well interventions and perforating operations performed with tool strings deployed with single-conductor wireline cables – it does not include a mechanical weak point.
- Using a proprietary hydraulic time-delay/mechanical release system, the ACCH offers a reliable controlled method to remove the wireline cable from the stuck tool string, without pulling high tensions, or depending on the functionality of electro-mechanical devices and the integrity of the mono-conductor cable.
- The physical and operating specifications included in this document are typical values listed for reference; the actual cable cutter heads are designed to support specific customer applications, tool strings, well conditions and operating practices.
- Equivalent ACCH cable cutter heads are also available for open hole applications that support a variety of multi-conductor cable types and sizes.
- The ACCH has been designed to exceed the long operating life and reliability that the most demanding tool strings and hostile environments require.

Benefits and Advantages

- The ACCH uses a full-strength cones-and-basket cable anchoring method where all internal and external armor wires support the tensions pulled on the cable – the breaking strength of this arrangement is about 85% of the nominal fixed-end cable breaking strength.
 - The integrity of this anchoring method is not compromised over multiple runs, a notorious problem of the popular “turned-back armor wires” cable heads that require frequent re-headings.
 - This anchoring method is proven to stand the high-tension cycles required when managing a stuck-tool situation without degradation.
 - This anchoring method is immune to the tension shocks resulting from the detonation of large perforating guns or pipe-recovery severing tools.
- The hydraulic time-delay/mechanical release system of the ACCH ensures that the cable cutting mechanism is only triggered when the tension on the head has been kept above the “Load Lock” tension set before running the tool string in the hole, for a predetermined amount of time, typically between five to ten minutes.
 - This proprietary feature allows the safe removal of the cable from the stuck tool and the well using relatively low tensions to avoid stressing and possibly damaging the cable and surface rig-up equipment. The optimum “Lock Load” tension value to set on the ACCH before running in hole is best determined using simulations made with forces-modeling software.



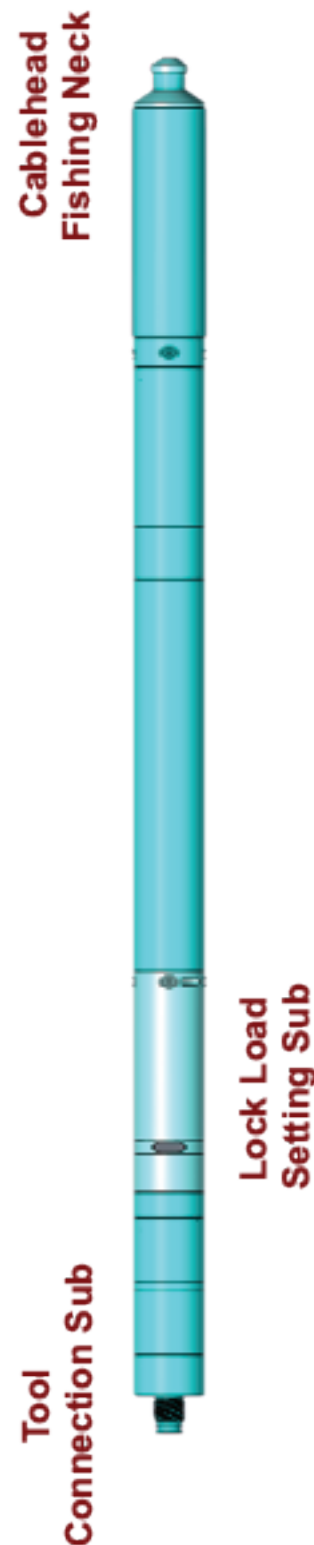
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- This proprietary feature prevents the cable cutting mechanism from being unintentionally triggered, while negotiating tight or sticky sections of the well, where momentary overpull events take place.
- This proprietary feature supports the popular practice of holding high tension on stuck tools for few minutes without cutting the cable by simply slacking off the cable tension before the triggering time has elapsed. This sequence can be repeated an unlimited number of times without compromising the functionality of the ACCH.
- The ACCH head is fully compatible with the TripSaver Adjustable Wireline Jars (AWJ), these two devices use the same hydraulic time-delay/mechanical release system.
 - They both can have similar or different Lock Load tensions settings, while their activations are controlled by the amount of time the tension pulled on the stuck tool string is held above these settings.
 - The ACCH is designed to support time-delays of several minutes, while the AWJs is designed to be activated within a minute. Consider the case where the AWJ is set to fire after holding the tension above its 4,000 lb. Lock Load for 40 secs, while the ACCH is set to cut the cable after holding the tension above its 6,000 lb. Lock Load for 10 minutes.
- In wireline operations where Grease Injection Pressure Control Equipment is required, it is a best practice to have a downhole tool and/or weight bar as part of the section of the tool string section released, this prevents the cable from being ejected out of control at the top of the lubricator stack - to satisfy this requirement a clamp-on sinker bar(s) is mounted on the cable section right above the ACCH without any physical connection to the ACCH head.

Other Key Features

- The ACCH functionality is implemented within a single tool; the image at the right shows its key sections.
- The ACCH can be fitted with different fishing head profiles and bottom tool connection subs to support a variety of fishing systems and tool string connection types.
- The process to set up the Lock Load tension in the ACCH is simple and done by the rotation and locking of a dedicated housing section – refer to the Lock Load Setting Sub in the ACCH image.
- The ACCH time-delay function is easily reset by slacking off the tension on the head, the force exerted by an internal spring-mechanism make this possible.
- The ACCH supports the same cones and baskets used by the wireline service company on their regular cable heads; after the naked cable is fed through the fishing neck sub down to the bottom section of the ACCH, it is reheaded and secured before wiring and screwing up the tool connection sub.



SPECIFICATIONS

Environmental Specifications

Temperature/Pressure Operating Limits ⁽¹⁾	400° F (204.4°C) @ 25 Kpsi
Make-up Temperature ⁽²⁾	Minimum: – 20° F (– 28.9°C)
Storage Temperature ⁽³⁾	Maximum: 200° F (93.3°C) Minimum: – 40° F (– 40°C)

1. The temperature range of the environment in which the instrument will operate at its specified performance.
2. The temperature range of the environment in which the instrument can be assembled (lab or field joints) without damage to or impedance from seals or other components susceptible to temperature extremes.
3. The temperature range of the environment that the instrument can withstand in a non-powered state and still meet its specified performance once the instrument has returned to its operating temperature range.

Physical Specifications

Maximum Outside Diameter	2.750 in
Make-Up length	6.0 ft
Instrument Weight in Air	85.0 lb.
Calculated Tensile Strength	200,000 lb.

Conductive Path Specification

Number of Feedthrough Conductors	1
Conductors Maximum Current	7.0 A (Limited by the pressure terminals)
Conductors Maximum Voltage	500 Vac (Limited by the pressure terminals)

Operational Specifications

Tool String Connection	Defined by the customer. Typical: GO-A Pin
Lock Load Adjustable Setting Range	Defined by the customer. Typical range: 1,000 to 6,000 lb.
Cutting Time-Delay Range	Defined by the customer. Typical range: 5 to 10 minutes

To learn about the applicable patents to these products, visit <https://timesaverdhp.com>



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