



# HIGH-FLOW/SIDE-LOAD TRANSMITTER HOUSINGS

A Bullet-Proof Design for Hard Condition Drilling



## PROPRIETARY ARMA-LOC™ LID SECURITY SYSTEM

The most secure lid retaining system on the market, this patented system utilizes magnetic stainless steel locking pins and sacrificial O-rings, paired with pin retainer clips.

## PATENTED URETHANE LID AND CAVITY

The innovative urethane sealed lid slot and universal housing cavity produces superior signal strength, cooling, extends battery life and virtually eliminates vibration. The large universal cavity also simplifies switching locator brands or sonde sizes.

## HIGH-FLOW FLUID PASSAGES

The largest internal fluid passages in the industry deliver high fluid or high CFM air volumes when it's needed.

## ADDITIONAL BENEFITS

### Front and Back API Threads

API threads on front and back deliver maximum versatility.

### 48-position Clocking Mechanism

Allows user to fine-tune the sonde for maximum control.

Specifications	3.5-inch Transmitter Housing	4.125-inch Transmitter Housing
Diameter:	3.5-inches	4.125-inches
Fluid Passage:	5/8-inch (dual)	1-inch
Length:	30-inches	33-inches
Transmitter Compatibility:	Fits up to a 1.5-inch x 19-inch transmitter	Fits up to a 1.5-inch x 19-inch transmitter
Thread Type (Front):	2-3/8-inch API Reg Box Threads	2-7/8-inch API Reg Box Threads
Thread Type (Rear):	2-3/8-inch API Reg Box Threads	2-7/8-inch API IF Box Threads



# HIGH-FLOW/SIDE-LOAD SLANT-NOSE DRILLHEAD

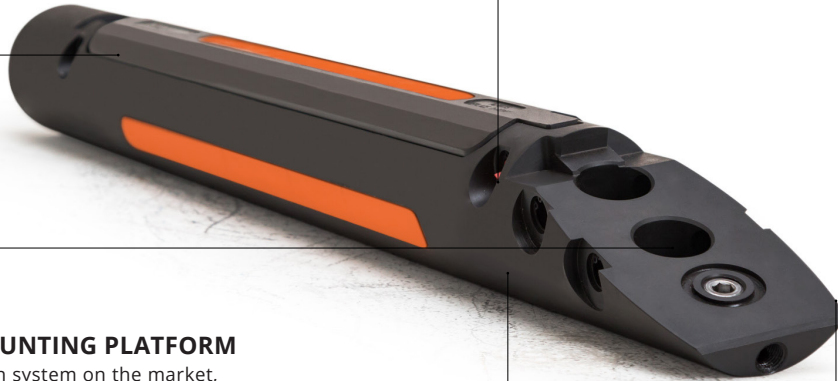
A Flexible Platform Designed For Durability

## PATENTED URETHANE LID AND CAVITY

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## RETAINER BOSS MOUNTING PLATFORM

The strongest bit retention system on the market, the patented Retainer Boss/Cross Pin design eliminates one of the weakest points of traditional drill head design: threads and bolts. This system virtually eliminates loss associated with loose or broken bolts.

## VERSATILITY

The slant-nose design provides a strong and stable mounting platform for a variety of bits, including the aggressive Bullet Bit, as well as Mill Tooth and TCI roller cone bits.

## ADDITIONAL BENEFITS

### Threaded Fluid Nozzles

Threaded fluid nozzles enhance the ability to tailor fluid volumes, as needed.

### API Threads

Drillheads have standard API connection for maximum strength and versatility.

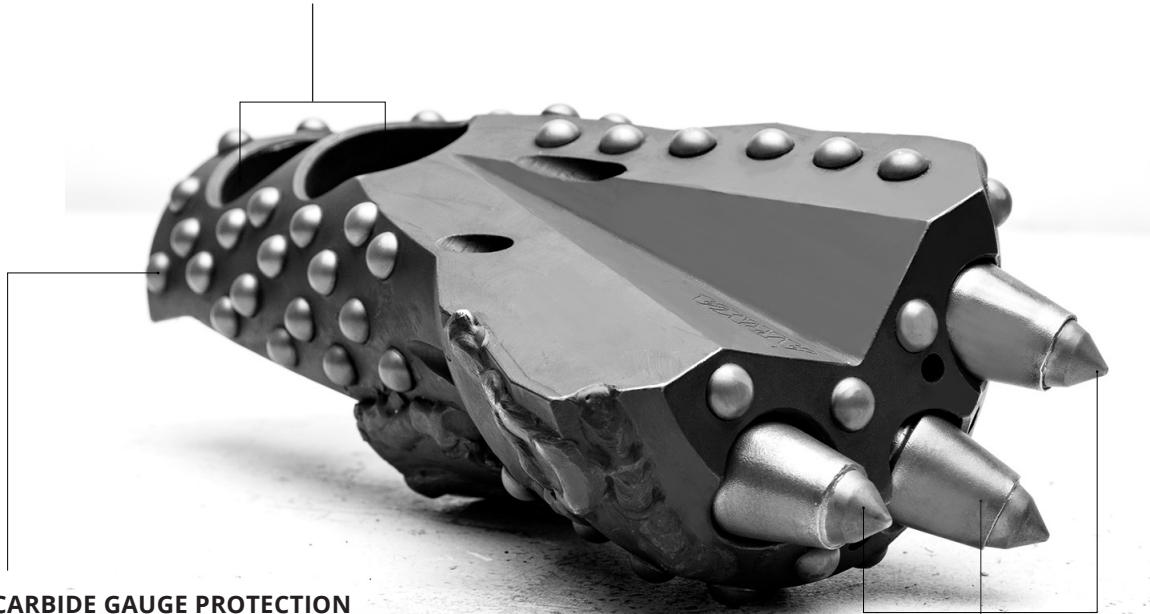


## BULLET BIT

An Aggressive Design for Hard Rock

### RETAINER BOSS MOUNTING PLATFORM

The strongest bit retention system on the market, the patented Retainer Boss/Cross Pin design eliminates one of the weakest points of traditional drill head design: threads and bolts. The strength of the mounting platform is ideal for hard condition drilling.



### CARBIDE GAUGE PROTECTION

Seventy-four pressed carbide buttons are strategically placed to provide wear protection to the main bit body and cutting face.

### CUTTING GEOMETRY

The three tooth cutting geometry and face angle have been perfected through many years of testing to provide smooth cutting, predictable steering and efficiency.

### ADDITIONAL BENEFITS

#### Carbide Cutting Teeth

The bit is designed to retain the stress put against the shank of the cutting teeth. The cutter geometry has been engineered to promote tooth rotation for maximum cutter life.

#### Easily Adapt to Varying Field Conditions

Tooth spacer system (included) allows users to match tooth height with ground conditions. Multiple cutter options are available for added versatility.



## TCI OR MILL TOOTH BITS FOR ROCK CONDITIONS

A direct connect option for the Armadrillco drillhead

### RETAINER BOSS MOUNTING PLATFORM

TCI and Mill Tooth bits mount to the industry's strongest bit retention platform, featuring the patented Retainer Boss/Cross Pin design. This system eliminates hardware loss associated with loose or broken bolts—a common weak point of traditional drill head design.



### TUNGSTEN CARBIDE INSERT (TCI) BIT

Designed for medium to hard formations, the roller cone TCI bit is designed for penetration. Highly durable, TCI bits also boast a very low cost per foot drilled.

### MILL TOOTH BIT

Designed for soft to medium-hard formations, the Mill Tooth bit delivers high penetration rates, durability and long tool life.

### ADDITIONAL BENEFITS

#### Sealed Bearing Structure

A field-proven sealed bearing design forms an impenetrable fluid barrier, resulting in reduced torque and fuel consumption, as well as extended tool life.

#### Bit Geometry Optimized for Slant-Nose Drill Head

The inter-relationship between the rotational cone axis and the angle of the drillhead has been perfected over thousands of drilled feet to deliver optimum penetration and crushing action.



## DIRECT CONNECT BITS

A direct connect option for the Armadrillco drillhead

### SERRATED BIT

An all-purpose tool, the Serrated bit performs well in a variety of soil conditions—from soft to medium hard. The Serrated Bit comes in either a 4- or 5-inch size.



### LARGE CHEVRON BIT

Ideally suited for hard-soil conditions, the Large Chevron Bit comes in either a 4- or 5-inch size.



### POINTED BUTTON BIT

The Pointed Button Bit has a tapered body designed for exceptional penetration in soft, compacted soils. The Pointed Button Bit comes in either a 4- or 5-inch size.



### RETAINER BOSS MOUNTING PLATFORM

All bits mount to the industry's strongest bit retention platform, featuring the patented Retainer Boss/Cross Pin design. This system eliminates hardware loss associated with loose or broken bolts—a common weak point of traditional drill head design.

### ADDITIONAL BENEFITS

#### Built To Last

All bits are manufactured from 3/4-inch 4140 HT materials and feature Armadrillco's 2-hole pattern.