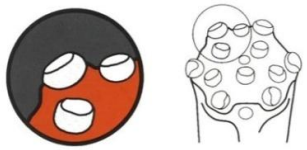
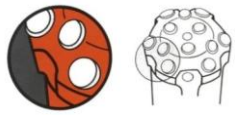
Rock Bit Care - Button

The total life or distance that a rock bit will drill depends on many factors. Of these, rock bit reconditioning can be the major factor both in the cost and performance of any rock bit, button or rooftop insert.

BODY WEARS AWAY – EXCESSIVE PROTRUSION
Button bits should be reconditioned when the body wears away faster than the button wears, causing it to protrude excessively. This will prevent the button from pinching or shearing off. This frequently happens in softer abrasive ground.



WORN FLUSH WITH BODY
When the button wears at a more rapid rate than the body, especially in harder, more abrasive rock, the buttons should be reconditioned frequently.



SURFACE FRACTURING
Button bits should be reconditioned if the buttons polish or shows signs of surface fracturing in non-abrasive rock. This will prevent the surface fractures from propagating which could result in fracturing the buttons.

Rock Bit Care - Rooftop

DULLNESS OF CUTTING EDGE
Rooftop bits should be reconditioned when the dullness of the cutting edge is 3/32” (2.5mm) flat, measured on the gable halfway between the center hole and the outside diameter of the bit.

WORN OUTSIDE CORNER
A bit should be sharpened when the outside corner of the insert has worn in excess of 3/16” (5.0mm) radius.

REVERSE GAGUE
Rock bits should be gauge ground when the bit begins to reverse gauge.

SURFACE FRACTURING
In non-abrasive ground, a bit should be sharpened periodically to remove any high polished area of the insert or surface fracturing to prevent the surface fractures from propagating which could result in a fractured insert.

Tips on Drilling

BE PREPARED Experienced, skilled drill operator Avoid improper bit handling, i.e. carbide against carbide damage Drill rig properly lubricated	Sufficient drilling accessories on hand Keep accessories clean and free from damage Striking face is square and true
STARTING THE DRILL Firm footing for the drill	Align and collar the hole properly Begin slowly and adjust the feed and throttle as the bit buries
DRILLING Maintain enough rotation for good penetration	Excessive rotation will wear the gauge Maintain correct feed pressure
Insufficient air pressure leads to a loose drill string and premature wear Sufficient air pressure is ideal to keep the bit from bouncing on the bottom Too much pressure will buckle and bind the steel in the hole	Over feeding in hard rock will reduce penetration Over feeding in soft rock can lead by burying the bit and hanging the steel
CLEAN HOLE Blow the hole frequently when drilling deep	Soft or muddy ground can seep, causing the steel to hang up Blow with every drill rod added below the hole, preventing a plugged steel
DRILL DIESELING Occurs with insufficient feed pressure Also happens with full throttle when withdrawing the bit	Dieseling heats up the drill and burns off the lubricant Results could include a destroyed hammer Stop dieseling by reducing the drill throttle and increasing feed pressure
CHANGING BITS Try to follow a larger bit with a smaller bit Try to use new bits with new steel	Use lubricant on bits, as well as couplings and steel threads Remove bits with a bit wrench or “rattle” loose, no beating with a hammer