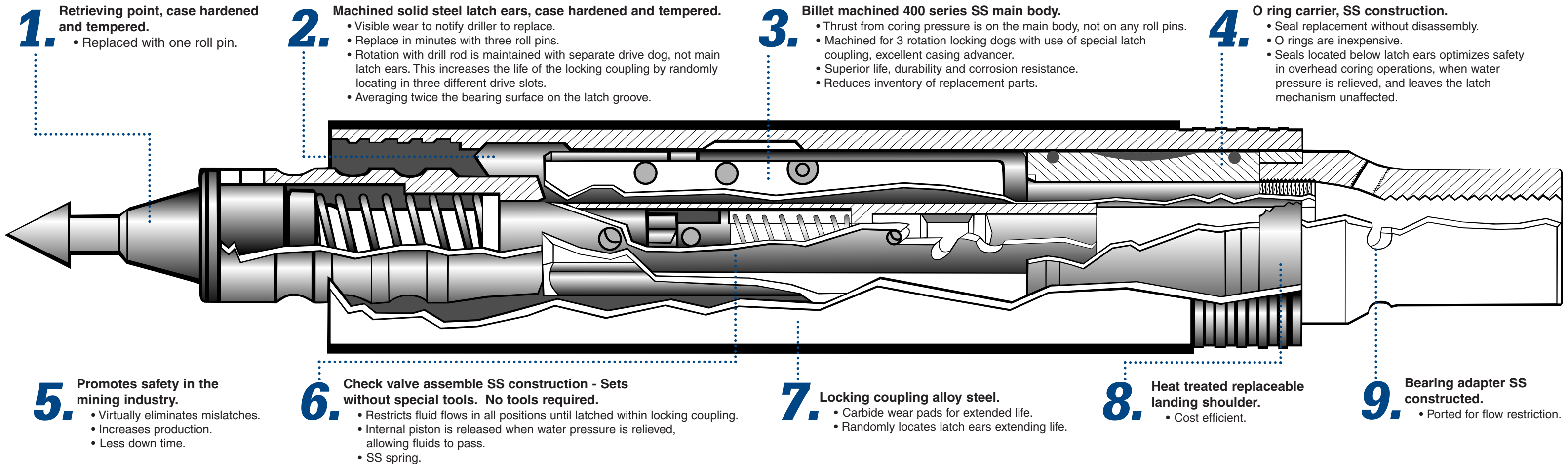


Revolutionizing the coring industry in **SAFETY, DURABILITY, EASE, and COST EFFICIENCY**

The patented Northwest Machine Works *LOCK n LOAD™* latch head is unlike any latch head you've ever used. With a multitude of features not available on any other unit on the market, the *LOCK n LOAD™* is unsurpassed in safety, durability, efficiency and ease of operation and maintenance. The *LOCK n LOAD™* latch head is so efficient it actually earned its name in the field, not in the marketing department...so unique it earned a U.S. patent (foreign patents pending).



1. Retrieving point, case hardened and tempered.

- Replaced with one roll pin.

2. Machined solid steel latch ears, case hardened and tempered.

- Visible wear to notify driller to replace.
- Replace in minutes with three roll pins.
- Rotation with drill rod is maintained with separate drive dog, not main latch ears. This increases the life of the locking coupling by randomly locating in three different drive slots.
- Averaging twice the bearing surface on the latch groove.

3. Billet machined 400 series SS main body.

- Thrust from coring pressure is on the main body, not on any roll pins.
- Machined for 3 rotation locking dogs with use of special latch coupling, excellent casing advancer.
- Superior life, durability and corrosion resistance.
- Reduces inventory of replacement parts.

4. O ring carrier, SS construction.

- Seal replacement without disassembly.
- O rings are inexpensive.
- Seals located below latch ears optimizes safety in overhead coring operations, when water pressure is relieved, and leaves the latch mechanism unaffected.

5. Promotes safety in the mining industry.

- Virtually eliminates mismatches.
- Increases production.
- Less down time.

6. Check valve assemble SS construction - Sets without special tools. No tools required.

- Restricts fluid flows in all positions until latched within locking coupling.
- Internal piston is released when water pressure is relieved, allowing fluids to pass.
- SS spring.

7. Locking coupling alloy steel.

- Carbide wear pads for extended life.
- Randomly locates latch ears extending life.

8. Heat treated replaceable landing shoulder.

- Cost efficient.

9. Bearing adapter SS constructed.

- Ported for flow restriction.

Compare these features with what you're using now, then give us a call:

Northwest Machine Works
2318 Grand Park Drive, Grand Junction, CO 81505 • (970) 242-1356 • FAX: (970) 241-1825 • www.northwestmachine.com

SPECIALIZED DRILLING TOOLS & SUPPLIES • PRECISION CNC MACHINING
Serving the industry since 1949

LOCK n LOAD™

Made in the USA

Proudly



Made in the USA



U.S. and Foreign
Patents Pending

LOCK n LOAD™

Revolutionizing the coring industry

.....DURABLE

- CNC machined stainless steel body.
- Wear parts constructed of precision machined, case hardened, tempered steel.
- SS springs and roll pins.

...SAFE

- Coring pressure bears on the main body of unit NOT the roll pins.
- Engineered wear areas give the driller easy visual indication when it's time for latch ear replacement.
- Ease of maintenance helps promote safety.
- Engineered spring housing forces latch ears into position.
- Check valve system:
 - ✓ gives positive indication that the latch head has landed.
 - ✓ restricts drilling fluid flow until the latch head is locked and fluid pressure is relieved by driller.
 - ✓ gives positive pressure indication of latch head malfunction.
 - ✓ check valve assembly in the slide tube locks into position, presetting without the use of any special tools.
 - ✓ resets automatically depending on drilling conditions.
- Tapered spring housing tightens in direct response to increased coring pressure. The higher the pressure, the tighter the unit.
- Upon retrieval, the spring housing extends past latch ears to open ports and relieve down hole vacuum, and to unlock the latch.

EFFICIENT

- Unlike traditional latch heads, the LOCK n LOAD™ disassembles easily and quickly without the use of special tools for fast field repair and maintenance.
- Latch ears replace in minutes with just 3 roll pins, and without complete disassembly of the unit.
- Conversion kit available to transform the unit to a casing advancer.
- Rotation locking dog engineered to align latch ears randomly and minimize wear in the latch coupling groove.
- O-ring carrier standard for polymer and water drilling.
- Compact design for underground drilling where space is premium.
- Compatible with current core barrels and retrieving assemblies.

LOCK n LOAD™

SIZE	LENGTH	WEIGHT
BQLL	18"	7 lbs.
NQLL	20 1/2"	12.5 lbs.
HQLL	25"	25/5 lbs.

**LIGHTER and
SMALLER
than standard
latch heads**

Conversion kits available for:
HQ, NQ, NQ2, NTW, BQTK, BQ, BTW, ATT and ATW core barrels.



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LOCK n LOAD™

**The latch head that
Revolutionized the
Coring Industry.**

