



CABLE SHOVEL DIPPERS

PRODUCT OVERVIEW



IT'S A BIG WORLD
LET'S MOVE IT!

INTRODUCTION

Hensley Industries has long been a leader in supplying innovative and high-quality ground engaging tools (G.E.T.) and wear parts to the global mining industry. Continuing that industry dedication, **Hensley Industries** now supplies high quality dippers and related dipper components.

When time is money, quality and durability are key to keeping production up and downtime to a minimum. **Hensley** dippers deliver on both counts. Our rugged cast-fabricated designs are customized to your specific mining operation and maintenance needs. 3-D solid modeling insures our dippers have an extremely high level of precision for better fits. A **Hensley** dipper is the tool you need to keep your profits up and your costs down.

To accomplish this, **Hensley** dippers demonstrate superior performance in terms of fill factor, durability in mining applications and lower maintenance requirements for better availability.

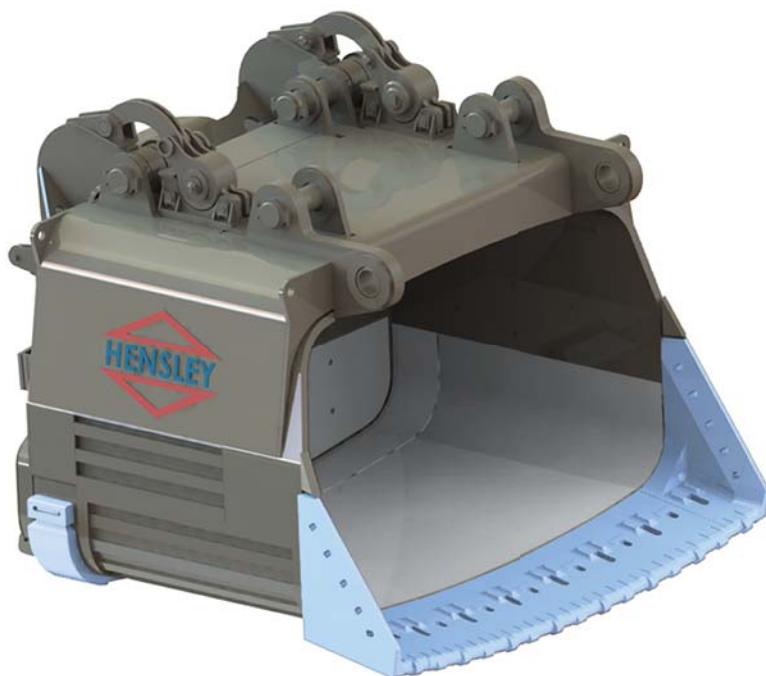
In addition to complete dippers, **Hensley** supplies components such as:

- | | | | |
|--|---|--------------|-------------------------|
| • Whisler lips:
WH-8, WH-10, WH-12 | • complete door assemblies | • snubbers | • replacement parts for |
| • lip front assemblies
(bowl) | • lower door assemblies | • liner kits | Hensley and |
| • Complete hammerless
G.E.T. components | • door latch mechanism
components (latch lever
and latch bar) | • bushings | OEM dippers |
| | | • pins | |

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Hensley dippers are tailored to your mine's specific operation and maintenance requirements. The rugged design is durable in all types of mining applications and extreme climates.

Hensley dippers will help you move more material quicker with fill factors that meet or exceed OEM dippers.

Customized wear options are available to protect your investment and extend its life cycle.

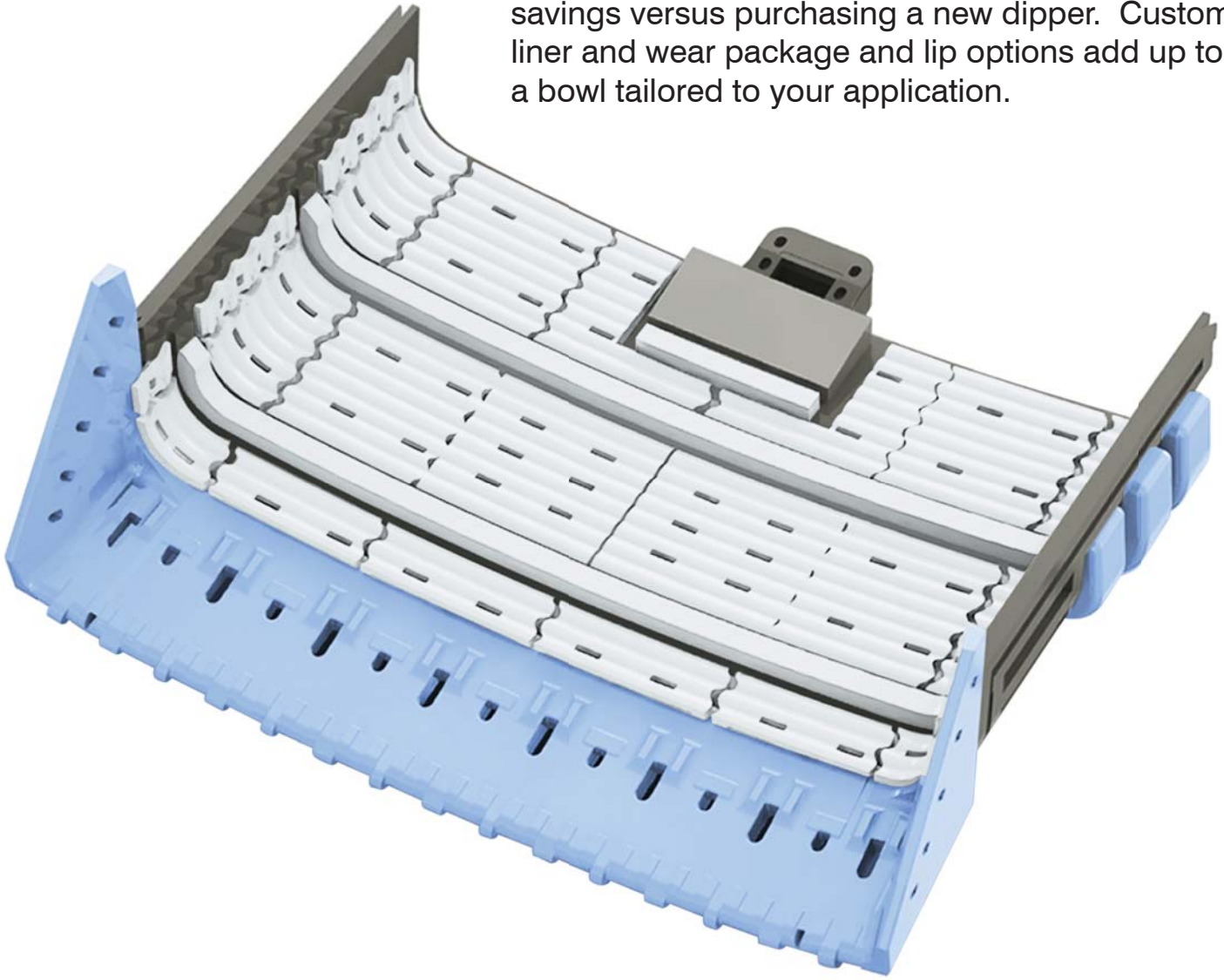
Hensley dipper features and benefits:

- Up to 80 cubic yard capacity
- Cast-fabricated alloy steel assemblies
- Heavy duty door and latch mechanism with either an internal or external latch keeper
- Bail bar designed for life cycle of dipper and higher lift versus competitors
- Available with cast alloy Whisler 8, 10 or 12 lips with a nominal hardness of 285BHN
- Replacement Whisler lips or complete lip fronts (bowls) available
- **Hensley** hammerless tooth/adaptor system and hammerless lip and wing shrouds
- Multiple liner package options can be customized for your digging conditions
- Heavy-duty mechanical snubbers that use special alloy discs for longer wear
- Most replacement parts in-stock and available for quick shipment
- Compatible with Caterpillar® (Bucyrus) or P&H shovels
- Competitively priced versus OEM dippers
- Shorter lead times for complete dippers compared to other manufacturers

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LIP FRONT CONVERSIONS

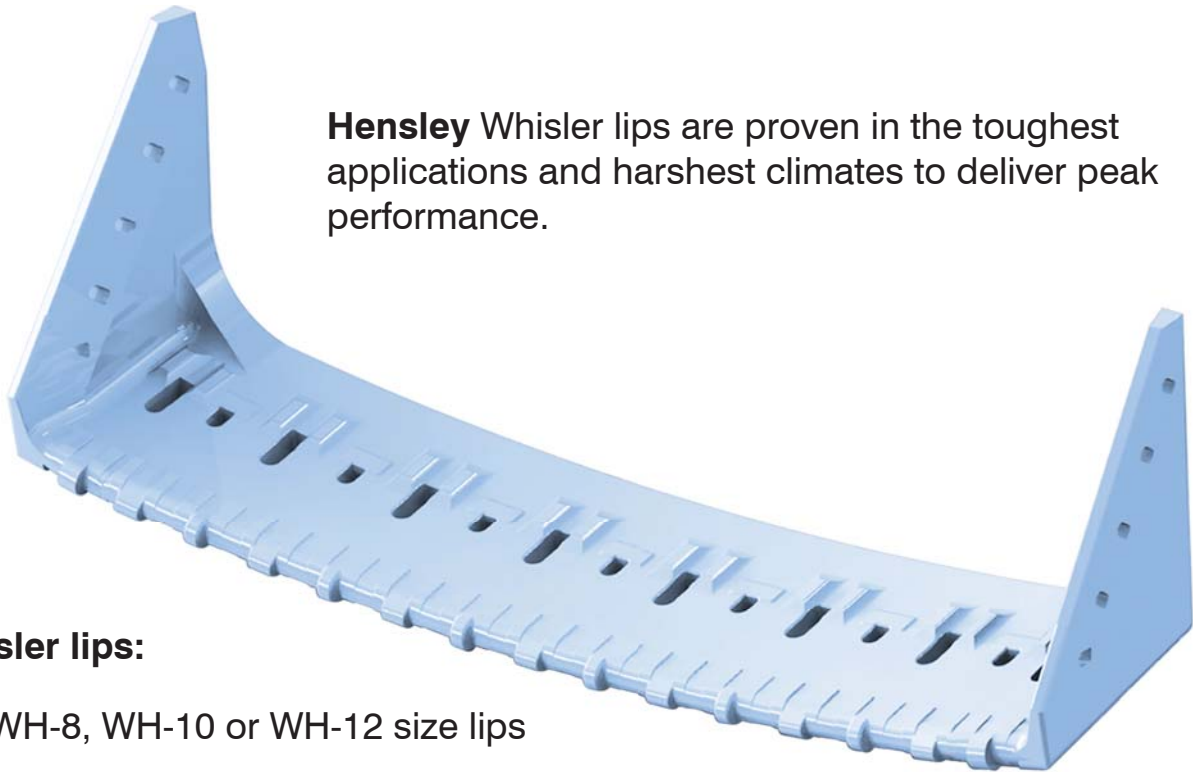
Replacing a worn lip front (bowl) with a **Hensley** cast-fabricated bowl can deliver considerable cost savings versus purchasing a new dipper. Custom liner and wear package and lip options add up to a bowl tailored to your application.



Hensley complete lip front replacements:

- Can be fitted to Whisler 8, 10 or 12 lips
- Designed to fit **Hensley** and OEM dippers
- Low alloy steel assembly
- Available with internal or external latch keeper
- Multiple liner package options can be customized for your digging conditions (Ripple Liner Plus™ liners and Trip Bar PLUS™ bars shown)

Hensley Whisler lips are proven in the toughest applications and harshest climates to deliver peak performance.



Hensley Whisler lips:

- Offered in WH-8, WH-10 or WH-12 size lips
- Low alloy steel with nominal 285 Brinell hardness
- Flared corners to increase the fill factor and protect the side of the dipper
- Multiple lip styles and radii available:
 - Spade
 - Staggered spade
 - Straight
 - Rounded corners (e.g. P&H Optima® Series dippers)
 - Flat
- Designed to fit **Hensley** and OEM dippers



Complete Whisler lip dressed with **Hensley's** hammerless XSC12 tooth and adapter system, lip and wing shrouds.

DOOR ASSEMBLIES & COMPONENTS

Hensley supplies complete door assemblies, lower doors and door latch mechanism components for our dippers as well as other OEM dippers.

Latch Bar Service Hole

- Allows for easy removal / replacement of latch bar
- Eliminates need to work underneath dipper to remove latch bar

Laminite® Wear Resistant Material

- Weld-on protection
- For high impact high abrasion areas
- Nominal 700BHN
- Multiple sizes & styles available (wear buttons & chocky bars shown)

Heavy Duty Latch Lever



Bearing Plate PLUS™ (BPP™)

- Protects door frame from latch bar wear
- Made of abrasion resistant overlays for longer wear life
- All bearing plates same size eliminating different sized upper and lower bearing plates



Flat Liner PLUS™

- Upgrade over weld-on wear ribs
- Cast product
- Available in 1.5" - 4" plates
- Base hardness of approximately 500BHN with 700BHN inserts
- Greater wear life than AR500 plates

DOOR ASSEMBLIES & COMPONENTS



Fill Slot

- Allows operator to monitor fill
- Unique to **Hensley** dippers
- Allows operator (on some dippers) to monitor G.E.T. for worn or missing parts

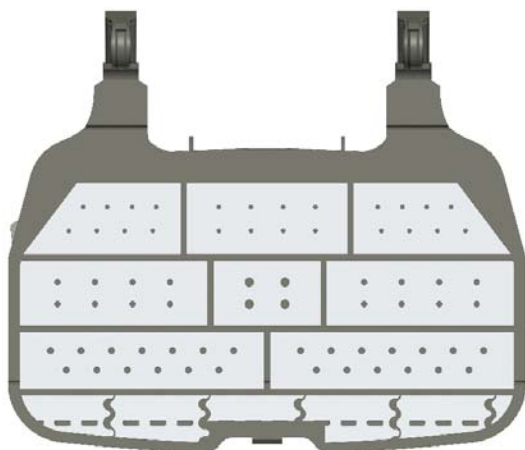


Rubber Bumper PLUS™ (RBP™)

- Prevents damage to door frame by latch lever
- Mounts to door opening in frame
- Can remain mounted for over 8,000 hours

Latch Bar

- Cast Manganese.
- Standard weld-on bar end insert
- Upgrade to bolt-on bar end insert for quicker replacement (shown right)



Interior Door Protection

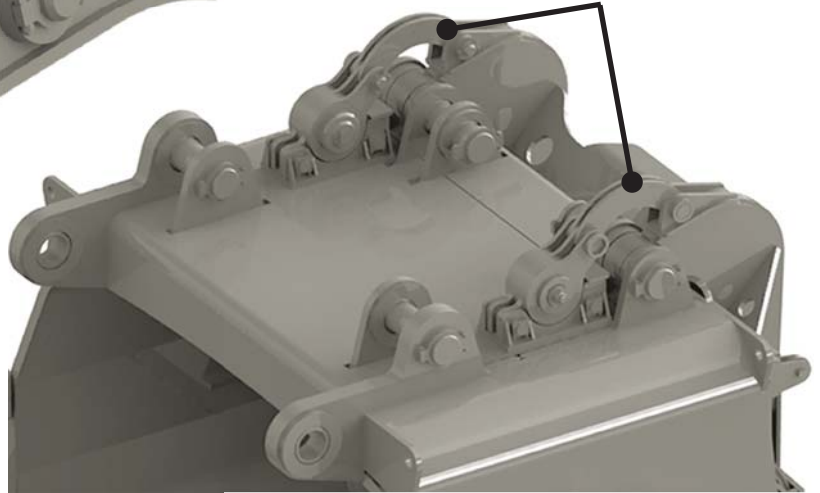
- AR500 wear plate with 450BHN - 500BHN (upper rows)
- Flat Liner Plus™ with approximately 500BHN with 700BHN inserts for longer wear (lower rows)

SNUBBER ASSEMBLIES

Complete snubber assembly shown



Snubber assemblies installed



Controlling door oscillation is key to preventing damage to the dipper and to the door. **Hensley** mechanical snubbers will help protect your dipper from impact damage to the door and rear of the dipper. **Hensley** offers three heavy-duty snubbers and one extra heavy-duty snubber for larger dippers. **Hensley** snubber assemblies are easy to service and can be overhauled during a scheduled PM period.

Hensley mechanical snubber assemblies and components:

- Four heavy-duty models: HD16", HD19", HD22" and XHD22" for larger dippers
- **Hensley** snubbers are available as complete assemblies or replacement parts
- **Hensley** snubbers use special alloy discs for longer wear life
- Internal spring system is protected by the snubber
- Can be fully assembled in the shop prior to installation versus most competitors' snubbers that must be assembled on the dipper resulting in more shovel downtime
- Can be mounted to different snubber brackets and transition mounting brackets are available for installation on existing brackets on OEM dippers
- Parts available for OEM snubbers

BAIL BAR & LATCH KEEPER



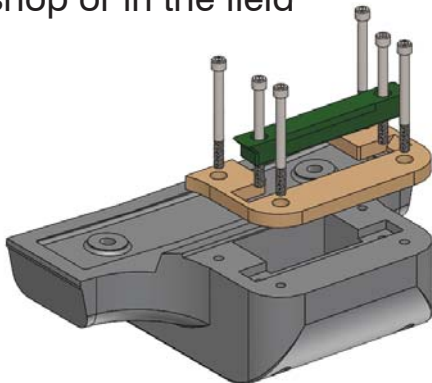
Bail Bar

- Cast-fabricated
- Designed to last the life cycle of the dipper
- Front cable deflector to protect hoist cables
- Height allows for higher lift versus competitors
- Wear blocks welded to lower lugs for wear protection
- Easy to use cable locks



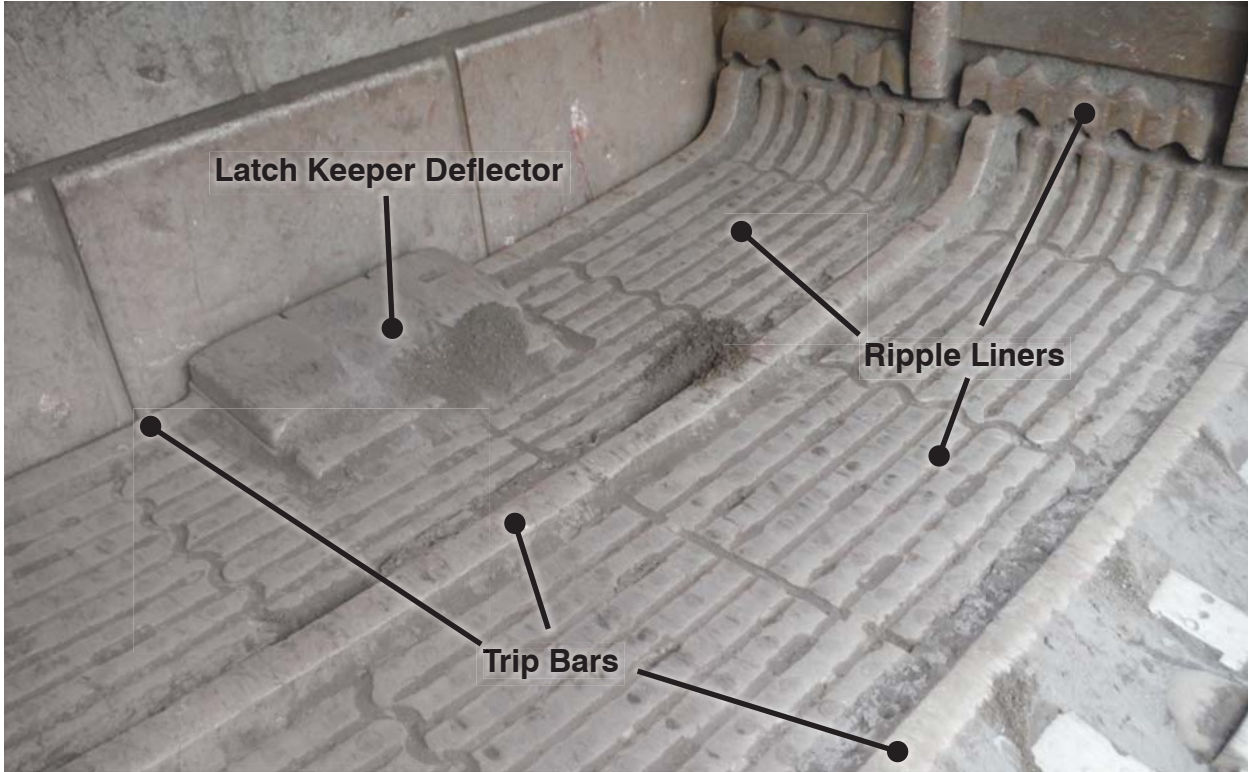
Latch Keeper (Dutchman) with bolt-on wear parts

- Bolt-on wear plate and insert
- For internal or external latch keepers
- Bolt-on parts allow for quicker replacement in the shop or in the field



WEAR LINER PACKAGES & WEAR PARTS

Wear liners can dictate the life cycle of your dipper. The more abrasion resistance, the longer the life. **Hensley** dipper wear liner packages feature ripple liners and trip bars for superior wear protection. The shape of the ripple liners helps material roll rather than slide along the liner reducing wear. Trip bars are taller than the liner and also help material roll which protects the liners from excessive wear.



RIPPLE LINER PLUS™

- 500 Brinell + 700 Brinell inserts
- 1.5" - 4" thicknesses
- Up to 3 times greater wear life than standard AR500 plate with no added weight
- Sections for floor and corners
- Available for **Hensley** and OEM dippers

TRIP BAR PLUS™

- Manganese
- 600 Brinell + 700 Brinell inserts
- 4" - 4.5" thicknesses
- Longer wear life with no added weight
- Can be fitted to floor or sidewalls
- Available for **Hensley** and OEM dippers

Additional Liner Options

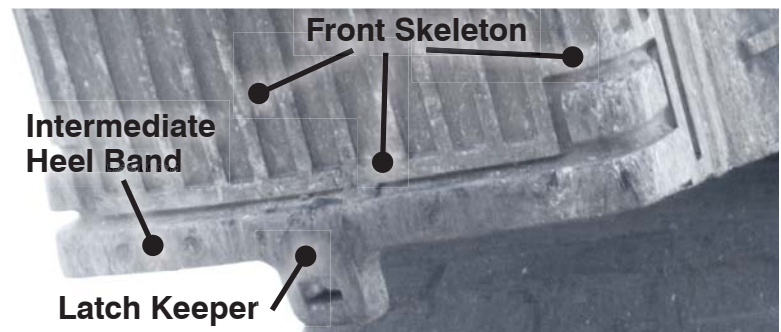
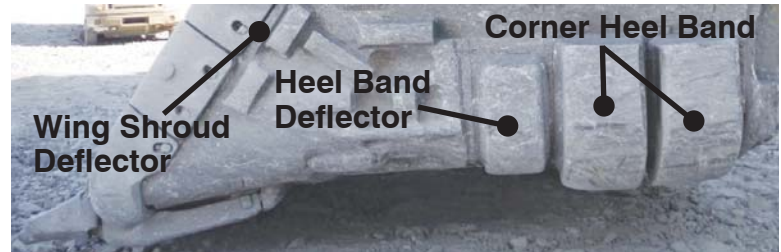
- Abrasion resistant plate (AR400, AR450 or AR500)
- Replaceable wear runners

WEAR LINER PACKAGES & WEAR PARTS

The Latch Keeper Deflector is a large manganese ramp welded in front of the latch keeper to push away rocks and muck that could jam the keeper. A ripple liner is then welded to the top of it to maximize its wear life.

External Wear Parts

- Wing shroud deflectors
- Heel band deflectors
- Corner heel bands (Manganese; single or multiple)
- Intermediate heel band (Manganese)
- Front skeleton - wear bars (underside protection)



GROUND ENGAGING TOOLS & SHROUDS



For quicker and safer change outs, **Hensley** dippers feature **Hensley's** hammerless teeth, adapters, lip and wing shrouds.

XSC12 Tooth System

Multiple tooth shapes designed to match your digging applications. Two styles to fit wear cap adapters and five styles for non wear cap adapters.



TS



S



SD



RMX



W12RMHL



RM



RMHL

XSC12 System Adapters

Available in WH-8, WH-10 and WH-12 sizes. The WH-10 and WH-12 sizes (shown) have styles with or without replaceable wear caps. A unique tooth pin remains in the adapter nose during tooth installation or removal.



reusable XSC12P pin



wear cap adapter



non wear cap adapter



J-BOLT LIP SHROUDS

Mechanically attached hammerless shrouds.



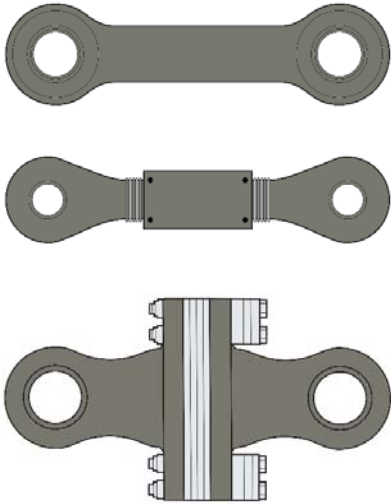
WING SHROUDS

Mechanically attached hammerless upper & lower wing shrouds.

MISCELLANEOUS PARTS

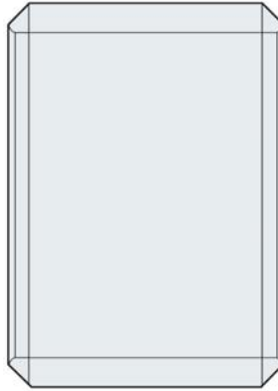
Pitch Braces

- Fixed length
- Variable length
 - Turnbuckle style
 - Shim style



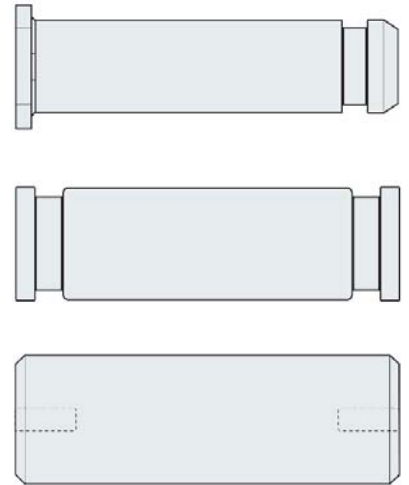
Bushings

- Long wear life (up to 15,000 hours)
- Manganese for friction or impact areas
- Hardened Steel for other areas



Pins

- Pin with head style
- Double groove style
- Pin with no head style



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Hensley Industries, Inc. has been manufacturing and marketing ground engaging tools, dippers and specialized attachments since 1947. We are committed to providing the best service and highest quality products in the world. Our dedication to excellence allows us to help those who use it in the field every day.

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