

**To Our Customers
Communicating
Around The
Globe**



Briefly Speaking

**Facts About Hetran
Bar Turners**



**Hetran
Core
Products**

**Quarterly
Bulletin**

Corporate Headquarters:

Hetran Inc.
70 Pinedale Industrial Rd
Orwigsburg, PA 17922
USA
Phone: 570.366.1411
Fax: 570.366.1829
Email:
Hetran@hetraninc.com
Website:
www.hetraninc.com

Inside this issue:

To Our Customers	2
Hetran Core Products	2
Latest Machine Builds	3
Feature Story	4
Briefly Speaking	5
Going Forward— Future Issues	5
How to Reach Us	6

Page 1

July 2008



HETRAN
WORLDWIDE ENGINEERS AND MANUFACTURERS



**Feature Story:
Improving Large Bar Turning
Machine Performance**

To Our Customers: Communicating Around The Globe



For nearly forty years, we have worked closely with metals producers to develop high performance equipment for converting “black” bar and wire rod into “bright” products for all types of metals and sizes. Customers continue to see good value in our products and reward us with their business.

Good communications with customers is essential to our business. One of the goals of this quarterly bulletin is to keep our customers informed about the ongoing work within Hetran to develop new products, to improve existing machine designs, and to expand our technical and sales support network worldwide.

We have included a feature article that highlights several key design changes that have improved the performance of our large centerless bar turners. Other feature articles will follow in each quarterly bulletin.

We have grown. Our product mix and global market reach has expanded and our prospect for business is bright. You have our commitment that we will continuously improve our responsiveness to the fast paced global metals market that demands innovation, high performance, cost effectiveness and reliability. We would be pleased to meet with you to provide more details about our company and our products.

Best regards,

Helmut Oertmann, President



Hetran's Core Products ... Machines To Meet Your Processing Needs:



- Centerless Bar Turners
- Coil Shavers (rotary and die)
- Coil-to-Bar (turn) Lines
- Bar, Tube and Coil Belt Polishing Systems
- Belt Polishing Systems for Super-Finishing Bars Prior to Plating
- Two-Roll Vertical Straighteners/Burnishers
- High Speed, Dry Abrasive Saws
- Horizontal Press Straighteners
- Chamfering, Facing and Deburring Machines
- Bar End Stamping, Engraving Systems
- Bar and Coil End Turn Pointers
- Handling Tables For All Types of Processing Equipment
- Custom Designed Bar and Coil Processing Lines
- Integration of Eddy Current and Sonic, and Related NDE Technologies
- Cell Configurations For In-Line Continuous Processing

Hetran also has strong working relationships with producers of related process equipment and regularly integrates these into projects: laser size measurement systems, precision centerless grinding machines, weighing equipment, coolant reclamation systems, turnings conveyors, coil-to-bar drawing lines and multi-roll bar straightening machines.

Latest Machine Builds



BT3 (75mm) bar turner for peeling niobium-titanium and other exotic metals.

A three head, planetary belt polishing system for titanium bars up to 45mm (1.770") to be installed in-line with a recently commissioned Hetran BT2 bar turner.



A three head belt polishing system for bearing, tool and alloy steel bars up to 100mm (4") to be installed in-line with an existing Hetran BT4 bar turner and burnisher.



Feature Story

Six Design Changes That Significantly Improve Large Centerless Bar Turner (CBT) Performance

By continuously analyzing customer service requests and benchmarking emerging technologies, Hetran's engineering teams implemented many design changes that are proven to significantly increase the productivity and reliability of large CBT's. Six of these are described below.

These newest technology AC motors

1. AC Inverter Controlled Gear Motors To Drive Infeed Rolls

provide exceptionally high torque and speed control. Bar feed rates are very consistent despite the varying forces required to drive a typically rough and somewhat irregular diameter forged bar through the entry guide and turning head. Feed rates can be set to achieve the optimum chip load for the alloy to be peeled. Cutting tool wear life is improved. Because the feed rate is consistent, the spindle motor amp draw is very uniform and increases slowly as the cutting tool edges wear. Operators can readily interpret when to re-index the cutting tools before they are excessively worn and fracture. This reduces cutting tool costs.

The uniform feed rate provides constant and higher use of the spindle power that is available. Tool life and productivity are significantly improved. After making these machine upgrades, one customer experienced more than double the tool life and nearly twice the through-put when processing a common super alloy, plus the turned bar surface finishes were more uniform.



Hetran's Engineering Review Team Leaders, from left: John Pothering (Mechanical), Ben Houser (Director), John Ruben (Automation & Control), Ron Matlock (Manufacturing), Bruce Bensinger (Manufacturing), Rich Fisher (Product Development) Not Pictured: Vince Baiocco (Electrical), Gerhard Wachtel (Design) and Joe Mattera (Installation & Service)

2. AC Spindle Drive Motors

Large Kw AC motor and control technology have evolved. The speed control and constant torque available from today's large AC motors provide results that were previously attained only from DC systems, but at a lower cost and with fewer maintenance concerns. AC motors do not have brushes and commutators, which typically require repair on DC motors. Also, AC motors are more readily available.

DC spindle drive systems will continue to be available, as an option.



Ben Houser
Director, Engineering

"The focus of our Engineering Review Team is to find ways to improve both the reliability and productivity of our machines."

3. Rack and Pinion Drives For Bar Clamp/Pullout System

The mechanical advantage from the new rack and pinion system provides more torque and a steadier travel speed to the clamping carriage when it pulls the bar as it leaves the in-feed rolls. The design is less susceptible to damage by dirt and has longer life than screw systems. The travel speed can be matched to the in-feed line speed and because it is steady, this translates to less

size variation and more uniform machined surface finishes along the length of the bar. The smooth, low shock pull-out of the last bar end also improves cutting tool life.

4. Precision Machined Mating Surfaces, Dowel Pins

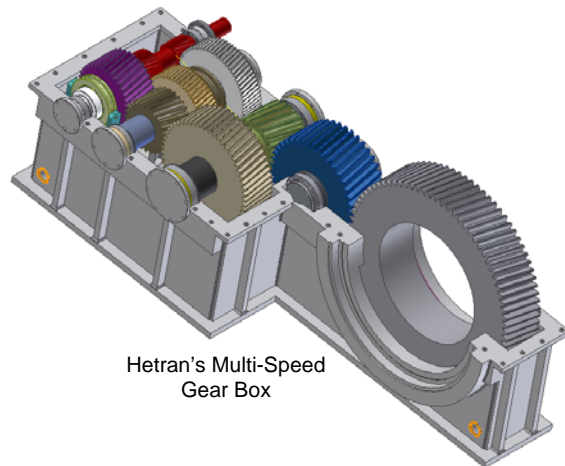
Mounting surfaces of the turning head base and the mating surface of major components, including the spindle, entry and exit guide assemblies, and the in-feed assembly are precision machined prior to assembly. After assembly and precision aligning the components, dowel-pin holes are reamed and pins inserted to maintain alignment.

The results are reduced vibration, minimal use of shims, reduced alignment maintenance, even if components are removed then reinstalled, and improved product quality.

5. Turning Heads That Include Heavier Duty, Multiple Speed, Integral Gear Boxes

Although Hetran spindle drive gearboxes for large CBT's are known to provide high reliability and long life, Hetran has further enhanced the existing rugged design to include more gear ratio selections to deliver high torque for turning super alloys and titanium at low surface speeds, yet quickly enable the operator to select higher spindle speeds for free-machining metals.

This new gear box design reliably delivers high torque and horsepower to the spindle required for deep cutting depths on the largest bars, low surface speeds for super alloys and titanium, and high RPM's for free machining materials under sustained high feed rates.



Hetran's Multi-Speed
Gear Box

6. Three Jaw Entry Guide

In the centerless turning process, the bar OD is the reference surface for guiding the bar through the entry guide and into the cutting tools. However, large bars often are forged and contain rough, somewhat irregular surfaces. Bar roundness often varies. These common bar conditions can compromise bar centering and stabilization.

Entry guide assemblies had four guide pads, each mounted on one of the four self centering jaws which are mechanically linked and close equally to guide and stabilize the bar as it is driven by the in-feed rolls.

Hetran engineers confirmed that a three jaw design improves bar centering and stability because the three pads are not directly opposed like in the four jaw system, and the three larger guide pads provide constant surface contact and guiding against the forged bar surface, much like a three legged stool provides stability on an irregular surface more effectively than does a four legged stool.



A close up view of Hetran's three jaw entry guide, showing the jaws in the closed position.

This article is focused on large bar turners. Hetran has made many additional design improvements. We are committed to continuously improve the reliability and productivity of all our machines and services. We would be pleased to provide more information about our technology improvement activities. Contact us.

Briefly Speaking

Did You Know ... These Facts About Hetran Bar Turners?

- Hetran's first centerless bar turner (CBT) was a BT2 (40mm) built in 1969. It continues to be used daily for peeling super alloys and high performance stainless alloys.
- Hetran built its first large CBT in 1983; a BT10 (250mm) turner for peeling stainless and super-alloy forged bars.
- Typically, a large CBT produces as much as ten lathes, plus improves yields, tolerances and surface finishes.
- To date, Hetran has built 31 large CBT's, from 150mm (6") to 400mm (16").
- 80% of Hetran's large CBT customers also purchased Hetran large bar belt polishing systems to complement the turners.
- Two additional large CBT's are currently being fabricated.
- All the large CBT's built by Hetran continue to be used by the customers in a regular production mode.
- More than 80% of Hetran's large CBT customers process stainless steels, super alloys, and/or titanium.
- Hetran also has completed the design details to fabricate the largest, modern CBT: a 500mm (20") turner. Commissioning is expected in late 2009. Larger sized machines are available.
- Hetran's turning machine designs do not require special foundations or coolant pits. Only a flat 500mm thick concrete floor is required for the largest CBT's.
- Installation costs are reduced and machine relocation is easy.



- Because coolant pits are not needed, environmental risk from coolant pit seepage and an OSHA defined confined space hazard are eliminated.
- Hetran has commissioned more than 160 bar processing installations worldwide, with a size capability from 6mm to 400mm (.236" to 16").

Going Forward

Future bulletins will include a variety of informative topics and in-depth feature articles, from the following:

- Hetran's global growth; including the countries, Sales and Engineering staffs that support this business.
- Hetran's rotary wire shaving and polishing lines; why these shaving and polishing machines are the leading preference for producing precision tolerance coils of super-alloys, titanium, and other specialty metals.
- Hetran's prototype automatic size compensation for large CBT turning heads; how it dramatically reduces setup and tool change time, requires fewer and lighter weight components to be handled by the operator, increases feed rates.
- Hetran's cell configurations; combining processing steps to create continuous process technology that is space efficient, reduces processing lead time and costs.

Next bulletin - October 2008

How To Reach Us



NORTH & SOUTH AMERICA

CORPORATE MANAGEMENT

HETRAN INC.*

70 Pinedale Industrial Road
Orwigsburg, PA 17961, U.S.A.
Phone: + 1 570-366-1411
Fax: + 1 570-366-1829
E-Mail: hetran@hetraninc.com
Web site: www.hetraninc.com
Engineering: Mr. Benjamin P. Houser
Inside Sales: Ms. Nicole G. Oertmann

HETRAN INC.

4061 Wyncote Road
So. Euclid, OH 44121, U.S.A.
Cell: + 1 216-533-2794
Fax: + 1 216-291-4950
E-mail: martystrayer@hetraninc.com
Contact: Mr. Martin L. Strayer

SOUTH, CENTRAL AMERICA AND MEXICO

HETRAN INC.*

Rua das Acácias nº 1966
Bairro Horto Florestal Jacyrá
Americana – S.P. – Brazil
Phone/Fax: + 55 19-3407-7220
Cell: + 55 19-9289-7717
E-mail: pauloamaral@hetraninc.com
Contact: Mr. Paulo Sérgio do Amaral
Chief Technical Specialist-
Specialty Steels
Territory Manager

ASIA

HETRAN INC.

14343 – 30 Avenue, Surrey
British Columbia V4P 1R3, CANADA
Phone: + 1 604-538-6397
Cell: + 1 778-888-8662
E-mail: wahsanichong@hetraninc.com
Contact: Mr. WahSan Chong, P.E.
Territory Manager – Asia

JAPAN

K. TECHNO CO., LTD.

No. 134-3, Sugi-cho, Yamato-Koriyama
Nara 639-1121 Japan
Phone: + 81-743-56-4931
Fax: + 81-743-56-4934
Email: e.asano@aktech.jp
Contact: Mr. E. Asano

CHINA

JAGON INTERNATIONAL LIMITED*

202, Beijing Shihua Hotel
No. 14 Xibahe Dongli Beisanhuan Donglu
Beijing 100028, China
Phone: + 86 10-84540026
Fax: + 86 10-84540025
E-mail: info@jagonbj.com
Contact: Mr. Jack Ju

INDIA

HETRAN INDIA PRIVATE LIMITED*

G-513, Phase-1
Riico Industrial Area
Bhiwadi, Rajasthan
301019 India
Phone: + 91-1493-510940
+ 91-1493-510941
Fax: + 91-1493-512515
E-mail: ceo@hetranindia.com

SB STEEL & ALLOYS INC.

17012 Sioux Lane
Gaithersburg, MD 20878, U.S.A.
Phone: + 1 301-526-2909
Fax: + 1 302-738-1153
E-mail: sk@sbsteelinc.com
Contact: Mr. Sunil Kapoor

SOUTH KOREA

EUROCA CORPORATION

820, Kumkang Livingstel, 400-1
Shindolim-Dong, Guro-Gu
Seoul, 152-887 KOREA
Phone: + 82 (2) 2676-0487
Fax: + 82 (2) 2676-4539
E-mail: eurocajik@hanmail.net
Contact: Mr. J.I. Kong

TAIWAN

GOOD POWER TRADING CO., LTD.

Room 310, No. 42 Sung Chiang Road
Taipei, Taiwan
Cell + 886 937-451504
Phone: + 886 (02) 25817102
Fax: + 886 (02) 25312801
E-mail: gp581710@ms7.hinet.net
Contact: Mr. Fu-Tong Pai

*SERVICE AVAILABLE

TURKEY

ENKOS ENGINEERING

Ankara, Turkey
Phone: + 0090-312-4735870
Cell: + 0090-546-4069875
Fax: + 0090-312-4735872
Contact: Mr. Fikret Abay
Company Manager &
Metallurgical Engineer

RUSSIA AND CIS TERRITORY

HETRAN REPRESENTATIVE OFFICE

Russia Moscow Region
Leninskiy District – Town of Vidnoe
Donbasskaya Street 2 142700
Office 912
Phone: + 7-495-223-61-67
Fax: + 7-495-223-61-67
E-Mail: alekseykabanov@hetraninc.com
Contact: Mr. Aleksey Kabanov

Contact: Mrs. Elena Druzhinina
Phone: + 7-496-579-06-05
Fax: + 7-496-579-06-05
E-Mail: elenadruzhinina@hetraninc.com

EUROPE

GERMANY

HETRAN GmbH*

Schelpmilser Weg 8
33609 Bielefeld, GERMANY
Phone: + 49 (0) 521-33873 & 33874
Fax: + 49 (0) 521-33875
E-mail: hetran@aol.com
Web site: www.hetraninc.com
Contact: Mr. Jörg Wiethüchter

U.K.

WIRE MACHINERY CONSULTANCY

5 Fernyhurst Avenue,
Rownhams, Southampton
Hampshire, UK SO16 8DR
Cell: + 44 (0) 7766 70 73 02
Phone: + 44 (0) 2380 73 76 34
Fax: + 44 (0) 2380 39 59 19
E-mail: ted.travers@hetraninc.com
Contact: Mr. Ted Travers

Contact us for additional information about our company and our products, to obtain a detailed proposal, or to schedule a processing trial of your material on our equipment.