

BT/BTX SERIES

ENGLISH

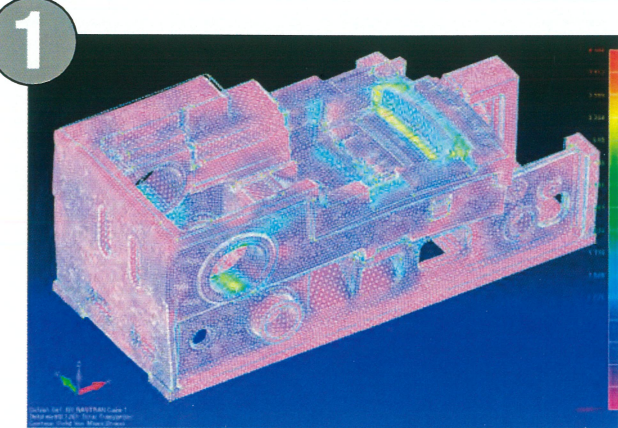
BOLT FORMERS - PART FORMERS



Nakashimada Engineering Works, Ltd.

BT/BTX SERIES BOLT FORMERS - PART FORMERS

Nakashimada BT/BTX Series are developed with the aim of becoming the world's standard for "Bolt Formers / Part Formers". Durability, precision and productivity are enhanced without compromising ease of operation and environmental issues. Our standard BT (Bolt Formers) Series covers from 2D2B to 3D3B, while the BTX (Part Formers) Series covers from 4D4B to 5D5B.

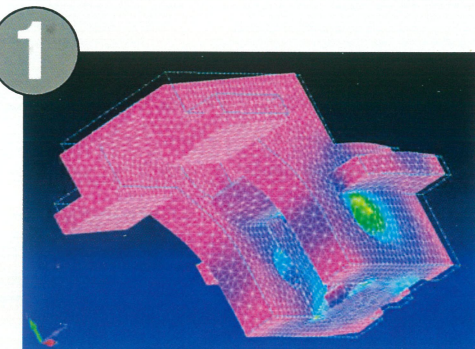
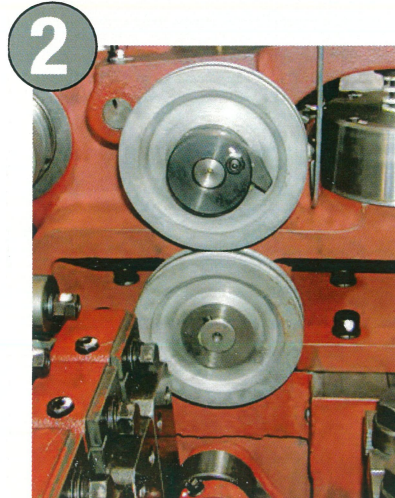
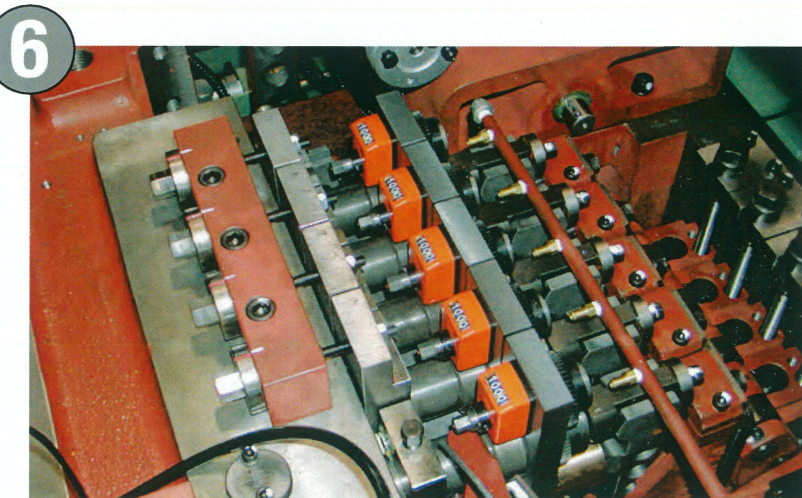
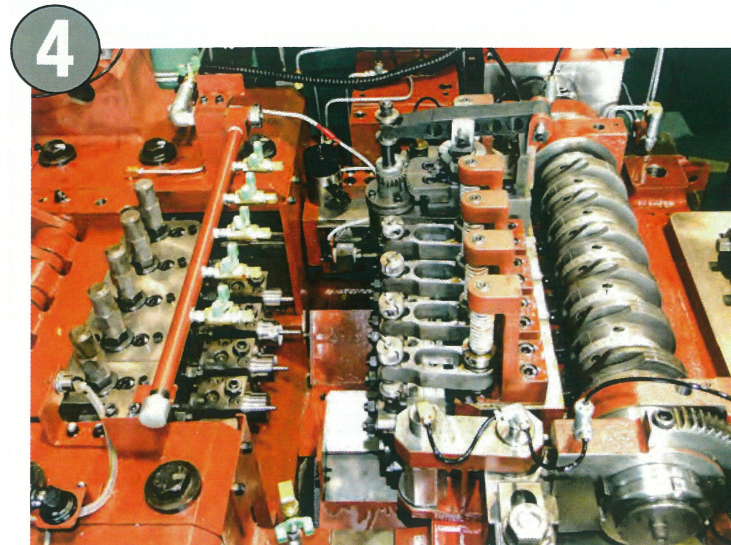
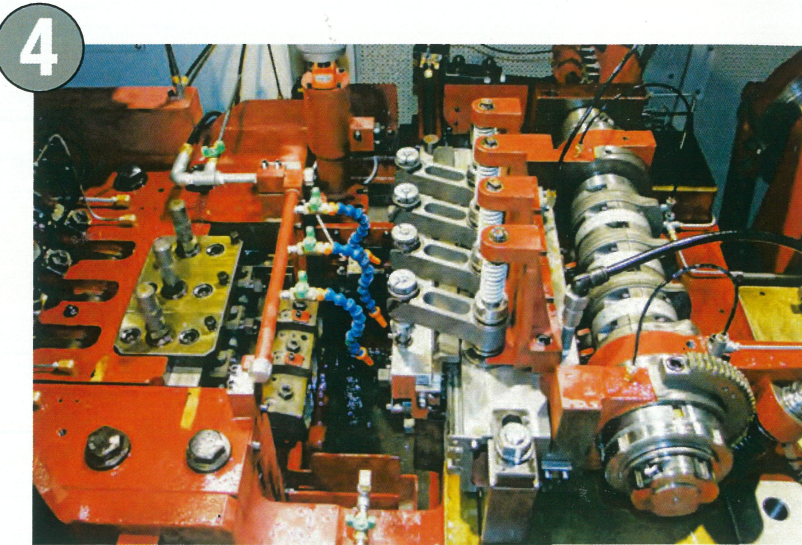


Durability, Precision, Productivity, Environment

Our patented "Pulse Dial" and "Parts Discharge Finger" for prevention of scarring on parts are equipped as standard features in all models. Furthermore, we incorporate the state-of-the-art assembly technology used on our high-precision Micro Formers when building these machines. The BT/BTX Series, characterized by their compact design, user and environmental friendliness, will set new standards for the next generation of forming machines.

Superb Production Stability, Maneuverability, Low Running Costs

For affordability and ease of use, we have designed and built the BT Series with simpler features that require low running costs. Although simplified, the BT Series carries all the basic functions standard bolt formers need. Like their MST counterparts, the BTX machines are equipped with extra features like Reversed Chuck and Stripper Device to produce difficult parts as application requires.



SPECIFICATION COMPARISON			
Series	MST	BT	BTX
Application	Part Formers	Bolt Formers	Part Formers
Number of Station	5~7	2~3	4~5
Wire Feed	Grip Feed	Ratchet Feed Roller Feed (6 mm)	Ratchet Feed Roller Feed (6 mm)
Transfer Motion	Arc Type	Parallel Shift	Arc Type
NCS III (Automatic Numerical Control System)	Standard	Manual Adjustment	Manual Adjustment
Die Set Lift	Standard (8 mm~) Not applicable for 6 mm or below	Not Available	Not Available
Reversed Chuck	Option	Not Available	Option
Stripper Device	Option	Not Available	Option
Short Blank Support	Standard	Option	Standard
Trimming Device	Option	Option	Option
Pulse Dial	Standard	Standard	Standard

1 Highly rigid structure developed using Finite Element Analysis

Advanced CAD techniques were applied in the development of the BT/BTX Bolt Formers / Part Formers. The result is extremely high rigidity and reduced vibration that make it possible to forge precision components. The BT/BTX machines also feature compact design, lighter weight and greater energy efficiency.

2 Roller type wire feed

Traditional Ratchet Feed is adopted, which has received strong support, due to its durability and ease of maintenance. As customers have become more demanding in cutoff precision, we have introduced Roller Feed in the BT/BTX 6 mm machine Series.

3 Ram Slider

In order to maintain high accuracy in sliding movement, the ram slider is equipped with the tapered liner guide for clearance adjustment. In addition, all sliding parts are hand-scraped to micron level for high tolerance, durability and prevention of part wearing after long use.

4 Parallel Transfer (BT Series) Arc Transfer (BTX Series)

The BT Series Transfer Slide is equipped with a parallel shift transfer style specially designed for bolt making purposes. BTX Series is designed as both part formers and high-speed bolt formers and uses an arc motion shift. The coil spring used for opening/closing function of the fingers and chucking force, is independently placed so that fingers can be adjusted separately. Other features and mechanisms, such as wire cutoff, Punch Knock-out (PKO), driving mechanisms, etc. are adopted and based on our proven MST Series.

5 Pulse Dial / Variable Speed Drive / On-Timing Machine Stop

Our patented "Pulse Dial" is now a standard feature in all BT/BTX machines. It allows the operator to move the ram forward and backward simply and safely. By turning the dial manually, subtle alignment and job changeover can easily be performed. 6 mm machines come with a pendant style Pulse Dial for handheld operation. All BT/BTX machines are equipped with inverter-controlled "Variable Speed Drive". "On-Timing Machine Stop" is also a standard feature to prevent machine jam.

6 Ease of Operation (DKO Area)

We build our machines for the operators so that they can adapt quickly to the machine and operate with ease and efficiency. As such, all machines are equipped with easily adjustable, ergonomic mechanisms such as the "Mechanical Counter" for DKO stroke adjustment.

Major Standard Features

Wire Feed Auto ON/OFF Device

A switch on control panel to start or stop wire feed.

End of Coil Detector

Limit switch placed between the main machine and the wire straightener, detects the end of wire coil and stops the machine automatically.

Wire Short Feed Detector

When wire does not reach the sensor, machine stops immediately to avoid defects and mixing with good parts.

Vertical Wire Straightener

Pairing with horizontal straightener, it makes correction of wire more reliable for production. Roll positions can be adjusted by adjuster.

Wire Reel

Rotating table that holds and feeds the wire coil.

Variable Speed Drive (Inverter)

With the control by an inverter, speed of the main motor can easily be changed by simply turning a dial on the control panel.

Timed PKO

Timing type PKO device that reliably holds the blank on the die side during the forging process. Knock-out timing is fixed according to the movement of the machine. Stroke can also be adjusted by changing the PKO cam.

Preset Counter

An easy production management tool that counts the quantity of parts produced up to 6 digits. When total output reaches the preset amount, machine stops automatically.

Signal Tower

Error light mounted on top of the machine to inform the operator that an anomaly had occurred and the machine had stopped.

Disc Brake (BT206/306 only)

A brake plate is fixed to the flywheel of the crank shaft, and brake pads are operated by hydraulic power converted from air with intensifier to stop the machine effectively.

Air Clutch Brake

The pneumatic clutch not only provides positive torque transfer for jogging or continuous running of the ram, but also assures a quick and positive braking action.

Warning Light

Error indicator system warns of overloads, end of wire, short feed, low air pressure and other anomaly.

Parts Discharge Finger

Blank scarring is prevented by a special delivery chuck that picks up blanks from the last forging station and drops them into the discharge chute.

Pulse Dial

Ram can be moved back and forth by turning a small dial on the control panel. Useful and safe for critical timing adjustment and efficient, operator-friendly setup.

On-Timing Machine Stop

When anomaly occurs (such as out of material, oil pressure drop, etc.), machine can be stopped at a preset position (rear dead point of ram, etc.).

Cutoff Length Indicator

At-a-glance mechanical counter that shows the cutoff length.

Extra Forging Lubrication

When using dual oil for both forging operation and machine lubrication, a separate pump and filter to that of the main lubrication pump is installed for the forging lubrication oil.

Defect Blank Separator

Normal operation is for cutoff blanks to be transferred by finger to the first die. Defect Blank Separator can be used to open the first set of fingers to drop defective blanks due to wire damage, short feed, etc.

(Built-in) Conveyor (Ø6 mm only)

Parts will be discharged to a built-in conveyor to exit the machine. In case of error, machine stops immediately to prevent mixing of defective parts.

Wire Power Loader (Ø12 mm only)

Operated by a motor, powered rollers on the wire straightener feed wire automatically straighten and feed wire into the machine. Suitable for products using larger wire sizes.

Flywheel Manual Operation

Attach shaft on the flywheel and turn with a ratchet wrench, machine can be operated manually.

Short Blank Support (Standard for BTX only)

Supports short blanks as they are kicked from the die to allow time for transfer finger pick up. Prevent blank drop.

BT/BTX (Common Options)

Total Counter

Separate Lubrication with Tank

Dead Point Checker (DM Monitor)

Spare Finger Unit

Oil Micro Separator

Wire Reel for Carrier Base

Finger Modular Alignment Jig

Trimming Device

(BT series 3 station or above)
including Slug Separator and DKO Relief

Wire Cutter (Ø10 mm or above)

Vacuum Chute (Tubular Slug Separator)

[BT306/308/406/408 | BTX406/408 only]

Tubular Slug Separator

BT Series Only

Short Blank Support

BTX Series Only

Stripper Device

Reversed Chuck Device

Standard and optional accessories vary depending on machine model.
Please contact our Sales Rep for details.



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