

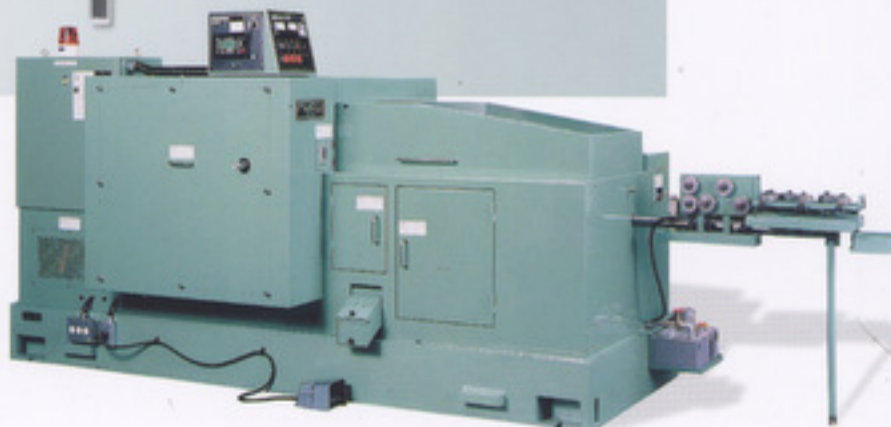


Nakashimada Engineering Works, Ltd.

1 Die 2 Blow Headers



NS Series





Nakashimada Engineering Works, Ltd.

Introduction

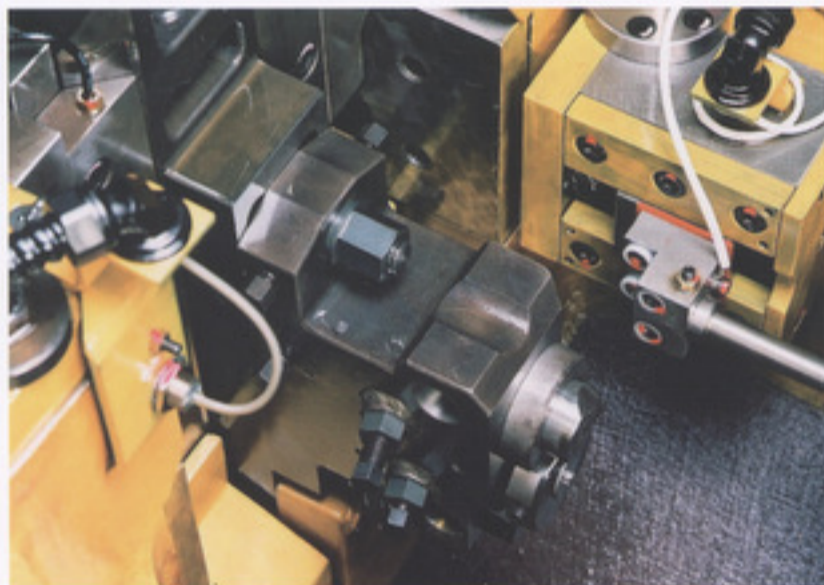
The Nakashimada NS series of 1 Die / 2 Blow Cold Headers are developed for high precision component manufacture. With 40 years of evolutionary history and 6000 machines delivered, the NS Series is an established production unit used by major screw and rivet manufactures worldwide.

Newly designed solid body ensures greater stability at high speed, giving longer machine life and enhanced performance. Available from 4.0 mm to 12.0 mm in wire diameter and up to 200mm in shank length, the NS series presents a flexible choice for the manufacture of a wide variety of precision components.

The NS series utilizes a precision guided, counter balanced heading slide to enable stable high speed production. A vertical punch shift mechanism combines extreme accuracy and precision with simple maintenance and set up. The punches are positively locked during the forming operation. These features deliver repeatable, accurate high speed production, with exceptional tool life.

Ergonomically designed adjustment mechanisms ensure that complete changeovers can be achieved in less than half an hour, with length changes taking only minutes. In addition, with adjustable die kickout relief and fixed timed punch kickout, the NS series enables precision forming of more complex parts.

A variety of optional equipment is also available to enhance the performance of the NS Range.



Vertical Punch Shift



Ergonomic Controls



Variety of applications



Different shank length available

Major Features

Bush Cutter

Bush cutter and heavy duty shearing cam provide a clean, square cut-off, avoiding burrs and irregularities.

Precision Vertical Punch Slider

The punch blocks are independently adjustable and securely mounted on a vertical punch slider. The punches are positively locked during the forming operation. The vertical punch shift mechanism combines extreme accuracy and precision with simple maintenance and set up, ensuring accurate and concentric part production.

Built-in Quality

The heading slide is guided between hand-scraped liners for accuracy and precision. One liner is attached to the machine frame on

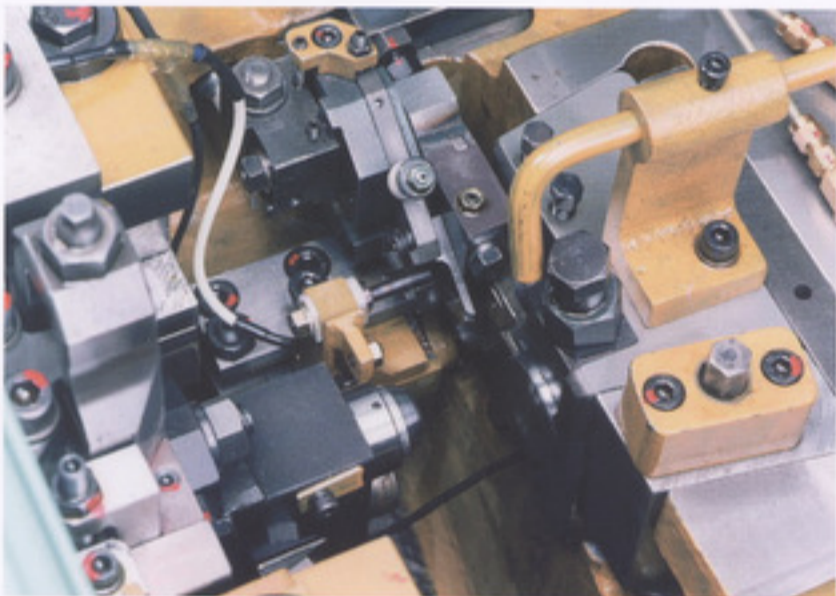
a tapered guide. When clearance adjustment is necessary, to enhance accuracy or to compensate for wear, this can be done simply and safely.

Easy Operation

Improved precision ensures repeatable accurate set-up. Ergonomic machine design provides set up adjustments within easy reach of the operator's position, ensuring efficient trouble-free fast change-overs.

Extended Tool Life

Precision in motion, stability and rigidity of body results in longer tool life, reducing downtime and increasing production efficiency.



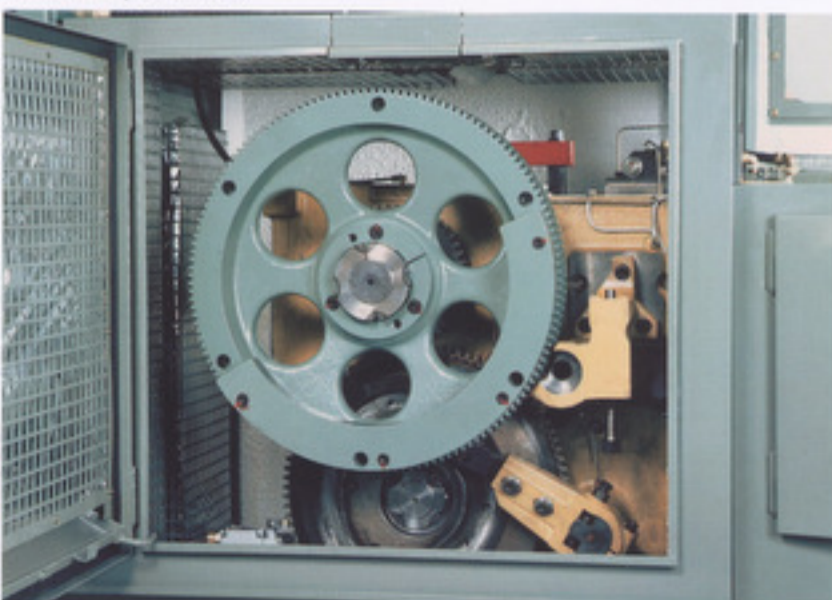
Precision Bush Cutter



Hand Scraped Liners



ISO 9001 certified



Flywheel Manual Operation



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Standard Equipment and Options

(These Features are Standard on most of NS models)

■ Fixed-Timed Punch Kickout

Punch kickout keeps the blank in the die after forging. The timing of the kickout is fixed but the stroke can be adjusted by cam change.

■ Out feed Wire Stopper

Micro switch placed between the machine and wire straightener, catches the end of wire and stops the machine automatically.

■ Automatic Wire Feeder

Easy operation switch placed on the control panel that turns on/off feeding.

■ Variable Speed Drive

Constant variable speed control using inverter. Equipped with a dial for handy operation.

■ Flywheel Manual Operation

Standard on most machines. Pneumatic two-hand, interlocked brake release and gear cut flywheel with ratchet, for easy, safe manual adjustment of machine position.

■ Short Feed Detector

Sensor on the Wire Stopper. When the wire does not touch the stopper, the machine stops immediately to avoid defects.

■ Electric Pre-set Counter

Counts the number of parts produced up to 6 Digits (999,999). When the parts production number is pre-set the machines stops automatically at that number.

■ Warning Indicator

A series of indicators is available that assist the operator in pinpointing machine stoppage, such as, wire feed, oil pressure, production count, etc.

■ Patrol Light

Red light mounted on top of the machine to inform the operator that the machine has stopped. Three colour patrol light is available as an option.

■ Blank Wiper

For NS/NP Series. A mechanical wiper assists part ejection from the die into the good parts chute. Especially effective for long products.

Please see <Options and Accessories>

for following available options & details

- | | |
|--|------------------------------------|
| ■ Blank Pull-out Device | ■ Blank hold Punch |
| ■ Cam-operated Transfer Finger | ■ Cut-off Length Digital Indicator |
| ■ On-timing Machine Stop/Automatic Air-blow Stop | ■ Phillip Punch Checker |
| ■ Pulse Dial Device | ■ Total Counter |
| ■ DKO Relief | ■ Dead Point Checker (DM Monitor) |
| ■ Separate/Extra Forging Lubrication | ■ Defect Cutoff blank Separator |
| ■ Stripper Device | ■ Oil Micro Separator |
| | ■ Oil Mist |



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Easy adjustment for efficient change over.

Standard Equipment and Options are subject to change without notice.

NS 40 41 60 61

SPECIFICATIONS

Oct. 29, 2007 revised

| MODEL | NS40A | NS40E | NS41A | NS41E | NS60A | NS60E | NS60F | NS60G | NS60L | NS61A | NS61E |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Feeding Method | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll |
| Punch Shift | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Cutter | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush |
| Max. Cutoff Dia .(450N) (mm) | 5.0 | 5.0 | 5.0 | 5.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Max. Cutoff Dia (700N) (mm) | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Min. Cutoff Dia. (mm) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Max. Cutoff L. (mm) | 45 | 60 | 45 | 60 | 70 | 95 | 125 | 150 | 195 | 70 | 95 |
| Min. Cutoff L .(Std) (mm) | 15 | 15 | 20 | 20 | 15 | 15 | 15 | 15 | 15 | 25 | 25 |
| Min. Cutoff L .(Spl) (mm) | 10 | 10 | 10 | 10 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Max. Shank L. (mm) | 30 | 45 | 30 | 45 | 50 | 75 | 105 | 130 | 155(180) | 50 | 75 |
| Cutting Die (DxL) (mm) | 16×30 | 16×30 | 16×30 | 16×30 | 20×35 | 20×35 | 20×35 | 20×35 | 20×35 | 20×35 | 20×35 |
| #1 Die (DxL) (mm) | 40×80 | 40×80 | 40×80 | 40×80 | 45×105 | 45×105 | 45×160 | 45×160 | 45×200 | 45×105 | 45×105 |
| #1 Punch (DxL) (mm) | 26×49 | 26×49 | 26×49 | 26×49 | 28×57 | 28×57 | 28×57 | 28×57 | 28×57 | 28×57 | 28×57 |
| #2 Punch (DxL) (mm) | 28.5×75.5 | 28.5×75.5 | 28.5×75.5 | 28.5×75.5 | 40×64 | 40×64 | 40×64 | 40×64 | 40×64 | 40×64 | 40×64 |
| Die Relief Str. (Opt) (mm) | (10) | (10) | - | - | (10) | (10) | (10) | (10) | (10) | - | - |
| #1 DKO Stroke (mm) | 30 | 45 | 30 | 45 | 50 | 75 | 105 | 130 | 155 | 50 | 75 |
| #1 PKO Stroke (Opt) (mm) | 12 | 12 | (12) | (12) | 20 | 20 | 20 | 20 | 20 | (20) | (20) |
| #2 PKO Stroke (Opt) (mm) | 6 | 6 | (6) | (6) | 6 | 6 | 6 | 6 | 6 | (6) | (6) |
| Max. Speed (ppm) | 400/350 | 300/250 | 300/250 | 250/200 | 250/230 | 200/180 | 50-150 | 40-120 | 30-80 | 230/200 | 180/150 |
| Main Motor (kW) | 7.5 / 4P | 7.5 / 4P | 5.5 / 4P | 5.5 / 4P | 7.5 / 6P | 7.5 / 6P | 11 / 6P | 11 / 6P | 11 / 6P | 7.5 / 6P | 7.5 / 6P |
| Heading Tonnage (kN) | 150 | 150 | 150 | 150 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| Tank Capacity (L) | 40 | 40 | 40 | 40 | 60 | 60 | 60 | 60 | 60 | 50 | 50 |
| Dimension (LxWxH) (mm) | 2555×1130×1490 | 2555×1130×1490 | 1970×1075×1260 | 1970×1075×1260 | 2830×1370×1560 | 2830×1370×1560 | 3535×1420×1685 | 3535×1420×1685 | 3535×1420×1685 | 2600×1270×1585 | 2600×1270×1585 |
| Weight (Kg) | 3,800 | 3,800 | 2,600 | 2,600 | 4,800 | 4,800 | 5,500 | 5,500 | 6,500 | 3,800 | 3,800 |

Note: 1) All Specifications are subject to change without notice.

NS 80 100 121

SPECIFICAITONS

Oct. 29, 2007 revised

| MODEL | NS80 | NS80A | NS80E | NS80F | NS80G | NS80L | NS100A | NS100F | NS100L | NS121A | NS121F | NS121L |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Feeding Method | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll | Feed Roll |
| Punch Shift | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical | Vertical |
| Cutter | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush | Bush |
| Max. Cutoff Dia .(450N) (mm) | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 12.0 | 12.0 | 12.0 | 14.0 | 14.0 | 14.0 |
| Max. Cutoff Dia (700N) (mm) | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 10.0 | 10.0 | 10.0 | 12.0 | 12.0 | 12.0 |
| Min. Cutoff Dia. (mm) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| Max. Cutoff L. (mm) | 105 | 130 | 155 | 180 | 205 | 230 | 130 | 180 | 230 | 130 | 180 | 230 |
| Min. Cutoff L. (Std) (mm) | 35 | 35 | 35 | 35 | 35 | 35 | 45 | 45 | 50 | 45 | 45 | 50 |
| Min. Cutoff L. (Spl) (mm) | 25 | 25 | 25 | 25 | 25 | 25 | 35 | 35 | 40 | 35 | 35 | 40 |
| Max. Shank L. (mm) | 75 | 100 | 125 | 150 | 175 | 205 | 100 | 150 | 175(200) | 100 | 150 | 175(200) |
| Cutting Die (DxL) (mm) | 30×50 | 30×50 | 30×50 | 30×50 | 30×50 | 30×50 | 35×60 | 35×60 | 35×60 | 45×90 | 45×90 | 45×90 |
| #1 Die (DxL) (mm) | 60×170 | 60×170 | 60×170 | 60×230 | 60×230 | 60×230 | 80×180 | 80×260 | 80×260 | 90×180 | 90×260 | 90×260 |
| #1 Punch (DxL) (mm) | 35×87.5 | 35×87.5 | 35×87.5 | 35×87.5 | 35×87.5 | 35×87.5 | 40×95 | 40×95 | 40×95 | 50×119 | 50×119 | 50×119 |
| #2 Punch (DxL) (mm) | 40×82.5 | 40×82.5 | 40×82.5 | 40×82.5 | 40×82.5 | 40×82.5 | 65×95 | 65×95 | 65×95 | 80×125.5 | 80×125.5 | 80×125.5 |
| Die Relief Str. (Opt) (mm) | (10) | (10) | (10) | (10) | (10) | (10) | (15) | (15) | (15) | (15) | (15) | (15) |
| #1 DKO Stroke (mm) | 75 | 100 | 125 | 150 | 175 | 175 | 100 | 150 | 175 | 100 | 150 | 175 |
| #1 PKO Stroke (Opt) (mm) | 30 | 30 | 30 | 30 | 30 | 30 | 35 | 35 | 35 | 40 | 40 | 40 |
| #2 PKO Stroke (Opt) (mm) | 10 | 10 | 10 | 10 | 10 | 10 | 15 | 15 | 15 | 20 | 20 | 20 |
| Max. Speed (ppm) | 60-180 | 60-160 | 50-140 | 40-120 | 40-100 | 30-80 | 50-140 | 40-100 | 30-60 | 50-120 | 40-90 | 30-60 |
| Main Motor (kW) | 11 / 4P | 11 / 4P | 11 / 4P | 11 / 6P | 11 / 6P | 11 / 6P | 22 / 4P | 22 / 4P | 22 / 4P | 22 / 4P | 22 / 4P | 22 / 4P |
| Heading Tonnage (kN) | 600 | 600 | 600 | 600 | 600 | 600 | 700 | 700 | 700 | 900 | 900 | 900 |
| Tank Capacity (L) | 80 | 80 | 80 | 100 | 100 | 100 | 120 | 120 | 120 | 120 | 120 | 120 |
| Dimension (LxWxH) (mm) | 3305×1535×1805 | 3305×1535×1805 | 3305×1535×1805 | 3705×1535×1805 | 3705×1535×1805 | 3705×1535×1805 | 4100×2145×2085 | 4230×2145×2085 | 4230×2145×2085 | 4700×2300×2180 | 5000×2300×2180 | 5000×2300×2180 |
| Weight (Kg) | 8,200 | 8,200 | 8,200 | 10,000 | 10,000 | 10,000 | 16,000 | 18,500 | 18,500 | 20,000 | 23,000 | 23,000 |

Note: 1) All Specifications are subject to change without notice.