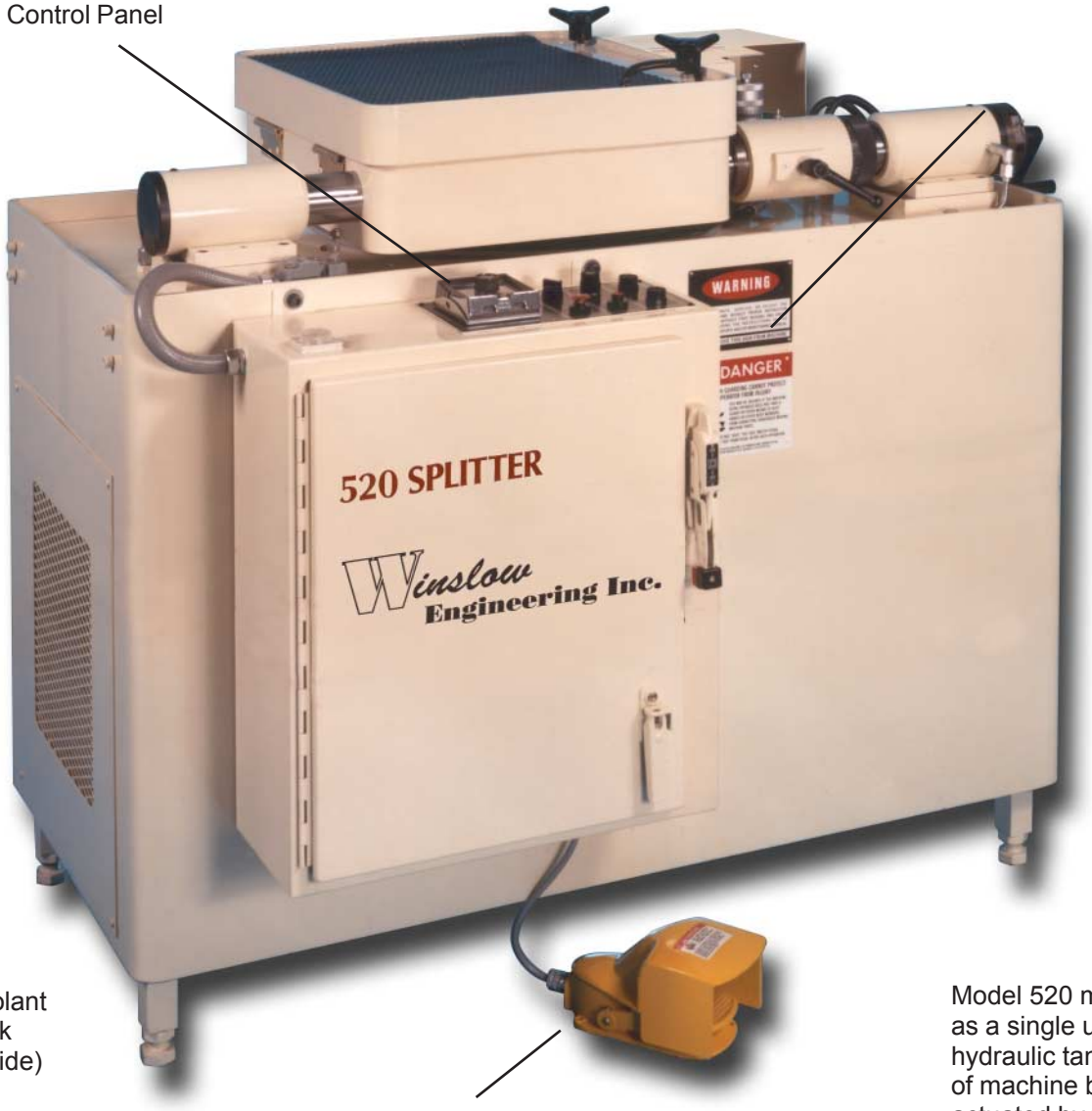
Winslow® 520

Semi-Automatic Drill Point Split/Notch Grinder

Winslow Engineering Inc.

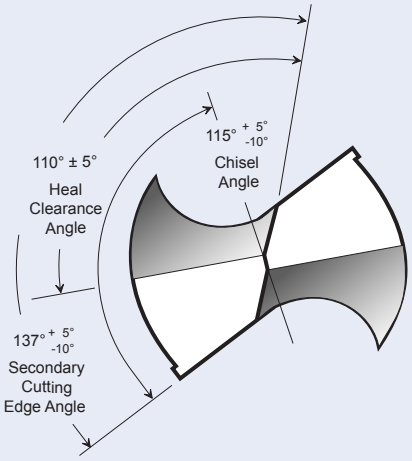
Model 520 Semi-Automatic Drill Point Split/Notch Grinder



Model 520 machine is complete as a single unit. Coolant and hydraulic tanks are located inside of machine base. Cycle is actuated by foot switch.

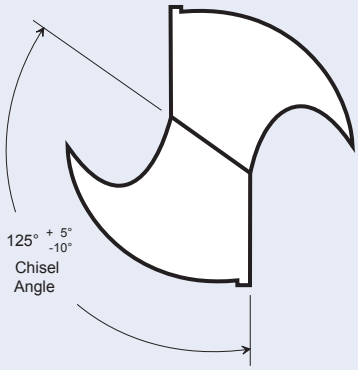
Specifications and Features

Split Point

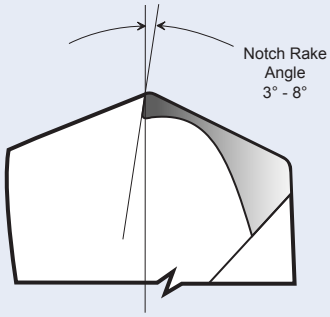


Split Point (end view)

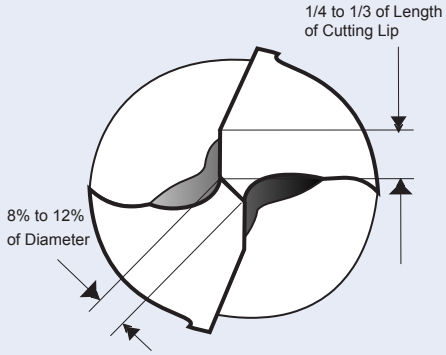
Notch Point



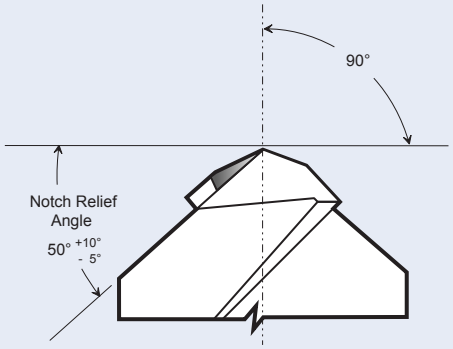
Conventional Point (end view) prior to splitting or notching



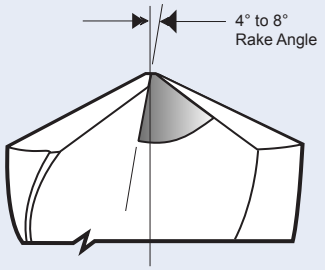
Split Point (profile view)



Notch Point (end view)



Split Point (profile view)



Notch Point (profile view)

Maximum Hourly Production Rate

400 drills of 5/16” (8 mm) diameter, right-hand spiral

Adjustments

Notch relief angle: 35° to 65°
Notch rake angle: -10° to + 8°

Split Capacity:

3/32” to 1/2” (2.4 to 12.5 mm)

Notch Capacity:

5/16” to 3/4” (8.0 to 19.0 mm)

Grinding Wheel:

Horizontally mounted; 20” (510 mm) diameter

Spindle Power:

2 HP (1.5 kW), 1800 RPM

Floor Space:

52” x 36” (1.32 x .91 m)

Weight:

1,500 lbs. (675 kg)

Features:

- Quick setup; simple design; hydraulic feed
- Bushing supports drill during grinding
- Manual index of drill against timing pins
- Automatic, self-compensating, tracer-type dresser duplicates dresser cam form onto wheel
- Meets or exceeds NAS 907 specifications

Model 520 Semi-Automatic Drill Point Splitting/Notching Machine Offers Speed With Simplicity

Quick Setup...
Simple Design...
Hydraulic Feed...
Bushing Support Of Drill During The Grind. All Work Together For High Productivity With Consistent Quality

Grind Cycle Operation

The drill is inserted into the bushing until it engages a stop. It is then rotated clockwise to engage a timing pin in the flute. While holding the drill manually, the grind cycle is initiated with a foot switch. The drill is withdrawn, rotated 180°, inserted against the stops and the grind cycle then is repeated to complete one drill.

Complete Adjustments

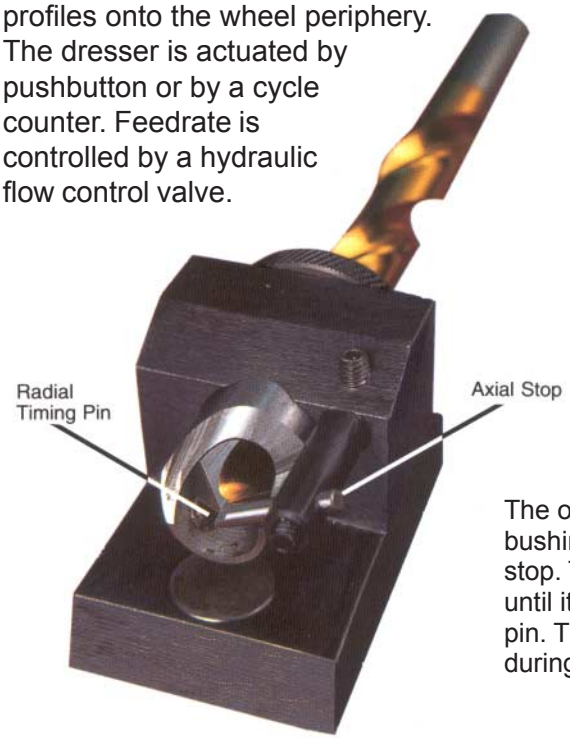
The notch rake angle and notch relief angle are controlled by scale settings on the tool carriage. Depth of grind and alignment of cutting edges are controlled by micrometer dials. Feedrate is controlled with a hydraulic flow control valve. An electronic timer allows up to 5-second dwell at end of feed stroke.

Automatic Wheel Dressing

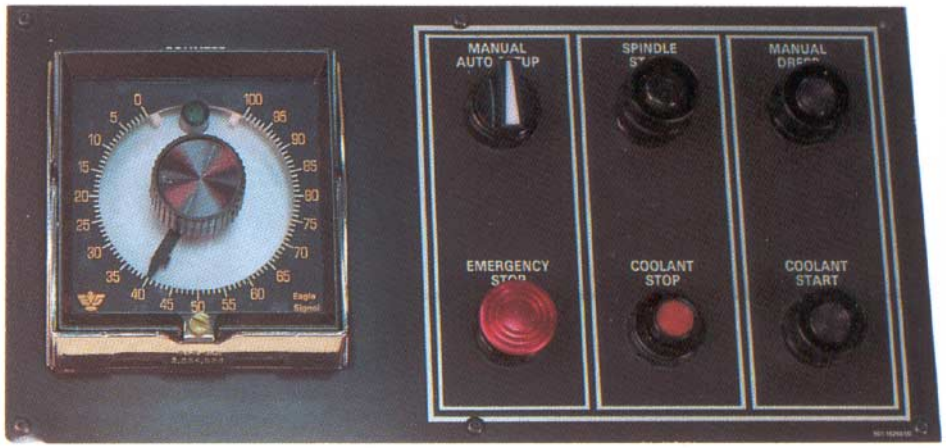
The dual diamond dresser is hydraulically powered. One diamond dresses a 20° angle on the bottom edge for secondary cutting edge grinding. The second diamond duplicates angular or radial cam profiles onto the wheel periphery. The dresser is actuated by pushbutton or by a cycle counter. Feedrate is controlled by a hydraulic flow control valve.

Automatic Wheel Compensation

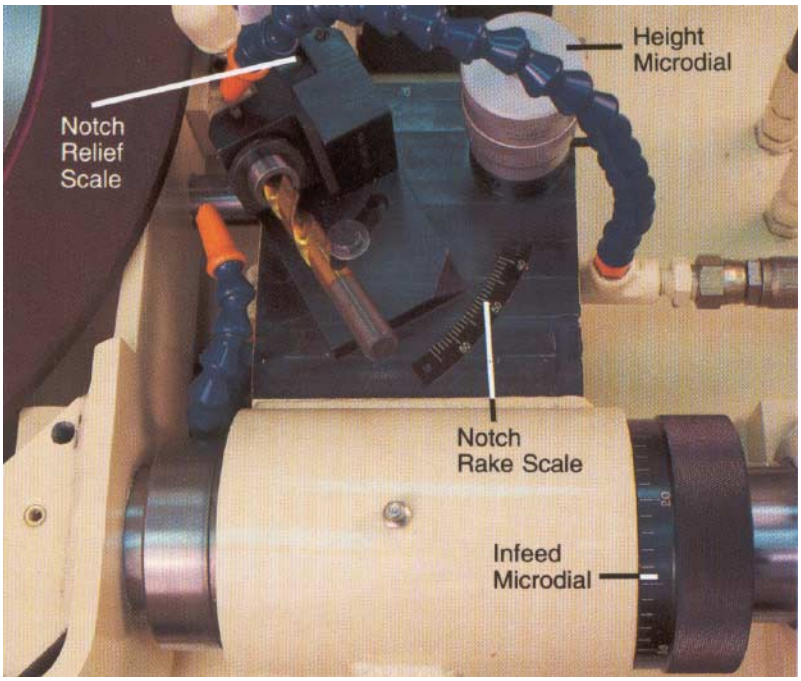
At the start of a dress cycle, a ratchet feed device advances the tool carriage and wheel dressing diamonds simultaneously. After dressing, the tool carriage retains its relationship to the grinding wheel, compensated for stock removed.



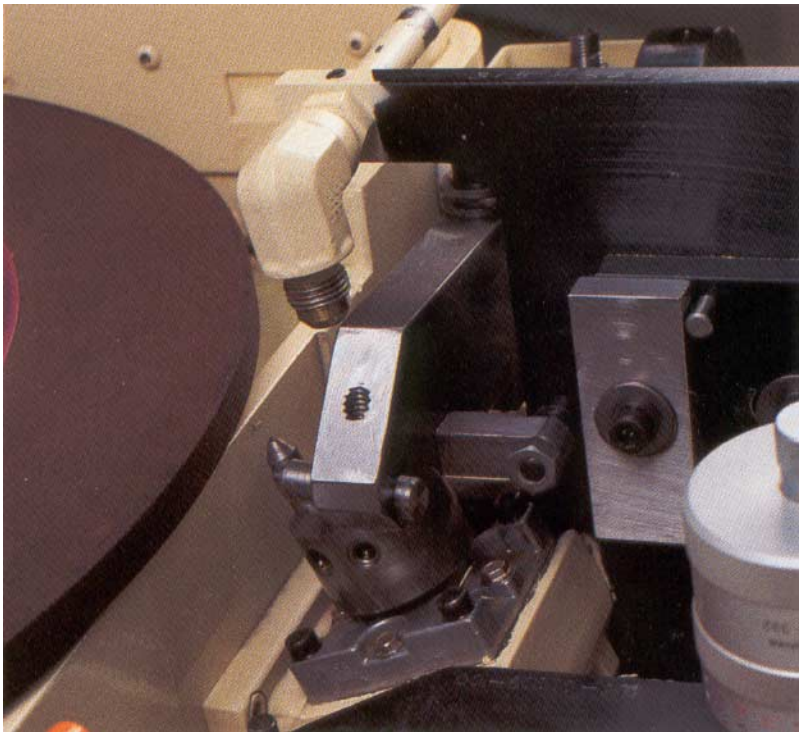
The operator inserts a drill into the bushing until it contacts the axial stop. The drill is turned clockwise until it contacts the radial timing pin. The operator holds the drill during grinding.



Simple control station is convenient to operator. Limit switch shuts off machine when grinding wheel is consumed.



Convenient adjustment knobs control point geometry.


Automatic wheel dressing operates on a cam tracer principle. Wheel periphery diamond duplicates shape of dresser cam onto wheel. Guard removed for clarity.

Winslow Engineering... for Every Drill Grinding Need

Model HR
Drill Point Grinder

Automatic cycle sharpens drills from 1/16” (1.55 mm) to 1-1/2” (38.0 mm) at a rate up to 120 per hour. Handles right-hand and left-hand drills, point angles from 60º to 160º. Generates conventional, Winslow-Helical, Racon®, Bickford Point® and split points.

Model 525
Drill Point Splitter

Automatic chucking and indexing of the drill permits precision splitting at up to a rate up to 400 per hour. Splits drills from 1/16” (1.55 mm) to 1” (25.5 mm); web thins drills from 1/8” (3.2 mm) to 1” (25.5 mm). Meets or exceeds all NAS 907 specifications.

Model HC
Drill Point Grinder

Extremely versatile, semi-automatic machine from 1/16” (1.55 mm) to 1-1/2” (38.0 mm) at a rate up to 100 per hour. Handles right-hand and left-hand drills, point angles from 60º to 160º. Capable of grinding conventional, Winslow-Helical, Racon®, Bickford Point®, four-facet and split points.

Model 100C & 1000CC
Drill Point Grinder

High production machines for grinding with high accuracy, including fully automatic cycle and wheel dresser. The 100C grinds drills from 1/16” (1.55 mm) to 1-1/2” (38.0 mm), point angles from 90º to 140º up to 500 units per hour. Point styles include conventional, Winslow-Helical, Racon®, Bickford Point®, core drills, step drills, taps and reamers. The hopper-feed 1000CC grinds jobber drills from 3/32” (2.4 mm) to 1/2” (13.0 mm), up to 600 units per hour. Point styles include conventional, Winslow-Helical and wide-web helical points. For drill manufacturers only.

Model FR200
Form Relief Grinder

High versatility for precision form relief grinding, OD and ID grinding and surface grinding of most cutting tools. Tool types include step drills, subland drills, taps, form tools, trepanning tools, reamers, center drills, boring tools, multi-flute cutters, punch inserts, porting tools and countersinks. Accommodates tools with 1 through 18 flutes.

Winslow Engineering Inc.
N7677 Peebles Lane
Fond du Lac, WI 54935

Phone: (920) 921-6404
Fax: (920) 921-6409
www.winsloweng.com

Winslow Engineering Inc.