

# Winslow<sup>®</sup> 525

Automatic Drill Point Split/Notch Grinder



**W**inslow  
Engineering Inc.

# Winslow Model 525 Drill Splitting And Notching Machine



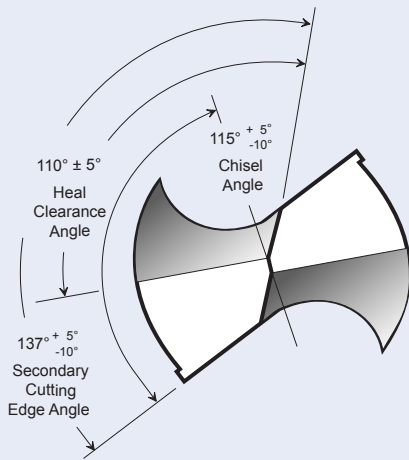
Model 525 machine features include calibrated dials to control rake angle, notch angle, secondary cutting angle and work height.

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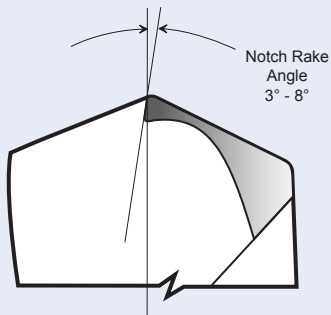
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# Specifications and Features

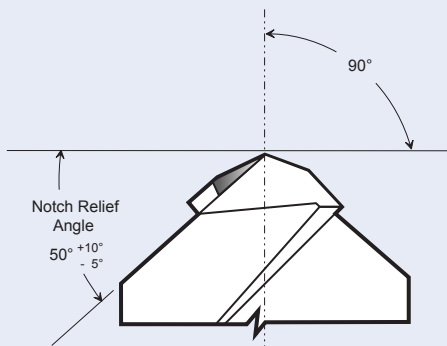
## Split Point



Split Point (end view)

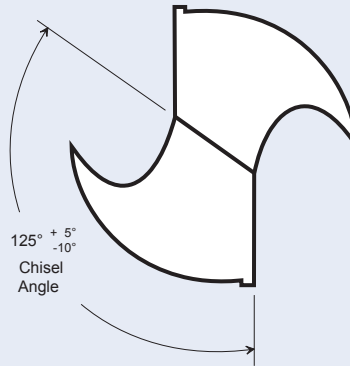


Split Point (profile view)

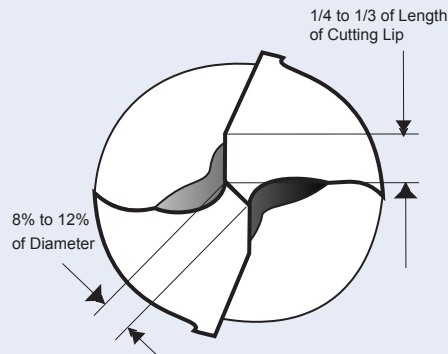


Split Point (profile view)

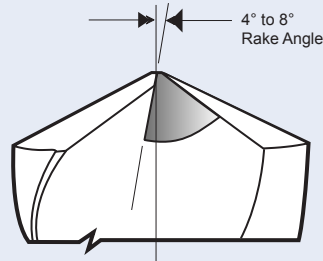
## Notch Point



Conventional Point (end view)  
prior to splitting or notching



Notch Point (end view)



Notch Point (profile view)

## Maximum Hourly Production Rate:

300 drills of 5/16" (8 mm) diameter, 2-flute, right-hand spiral

## Adjustments:

Notch relief angle: 30° to 60°  
Notch rake angle: -9° to + 10°

## Split Capacity:

1/16" to 1" (1.50 to 25.6 mm)

## Notch Capacity:

5/16" to 1" (8.0 to 25.6 mm)

## Grinding Wheel:

Horizontally mounted; 12" (305 mm) diameter

## Spindle Power:

2 HP (1.5 kW), 2200 RPM

## Floor Space:

37" x 53" (.94 x 1.35 m) machine;  
20" x 41.5" (.5 x 1.05 m) coolant tank

## Weight:

1,350 lbs. (600 kg)

## Features:

- Computer-controlled servo feed
- 360° workhead clamping of drill during grinding
- Automatic 180° workhead indexing of drill ±15'
- Automatic, self-compensating, tracer-type dresser duplicates dresser cam form onto wheel
- Meets or exceeds NAS 907 specifications

# Model 525 Automatic Drill Point Splitting/Notching Machine Offers Highest Accuracy and Uniformity

## Computerized Control of Machine Logic and Servo Motion Makes Splitting and Notching More Accurate, Predictable, Repeatable

A Giddings & Lewis PiC900™ Programmable Industrial Computer controls all machine logic and servo motion of the Model 525 Drill Point Splitter. Coupled with the Giddings & Lewis Centurion™ AC electric servo drive and motor on the spindle slide, the PiC900 controls:

- wheel positioning
- grinding feedrate
- grind/dress stock removal

The brushless, totally enclosed motors have lifetime-lubricated bearings. They include an integral optical encoder for feedback.

A Giddings & Lewis PiC MicroTerm™ computer access terminal provides the interface between control and machine operating parameters. The machine operator monitors:

- peck grinding cycle (if desired)
- load time between cycles
- grinds between wheel dresses
- dresser stock removal
- grinding feedrates
- dwell time at end of feed
- depth of grind/retract
- machine status/faults

## Automatic Tool Clamping and indexing

The Model 525 workhead utilizes a unique conical-shaped collet that supports the drill to its tip. The collet automatically clamps the drill at the start of a grind cycle, and retains full clamping pressure until the cycle is complete.

After the drill is split or notched on one side, the work-head automatically indexes the drill 180° to split or notch the opposite side. Because indexing is entirely independent of the drill's flute grind, a repeatable accurate grind is assured.

The Model 525 uses two workheads: M1 for drill diameters 1/16" (1.5 mm) through 9/16" (14.4 mm); M2 for 1/2" (12.0 mm) through 1" (25.6 mm).

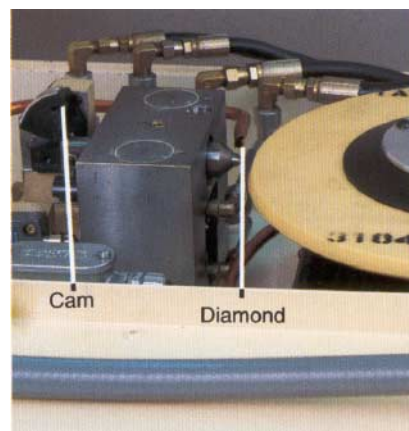
## Automatic Wheel Dressing

A cam-operated, single-diamond profile dresser ensures repeatable dress for splitting or web notching. This eliminates the need to blend dress motions found with two-diamond dress systems. The PiC900 control offers:

- programmable stock removal
- frequency of dress
- automatic compensation

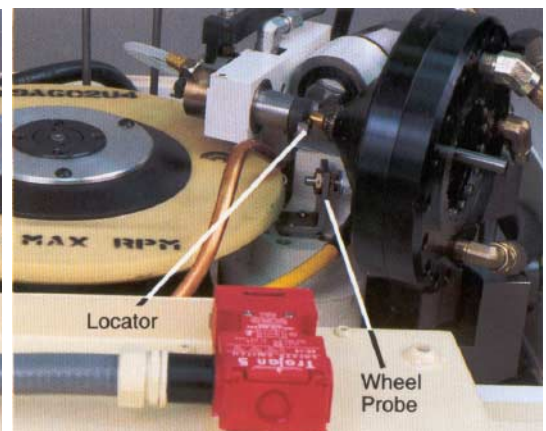
A continuous cycle is provided for roughing in the profile on new wheels.

### Wheel Dressing Area



Automatic wheel dressing operates on a cam tracer principle. A single-point diamond handles all wheel profiles required. Guards removed for clarity.

### Workhead Area



A conical-shaped collet clamps drill during entire cycle. Drill is timed using a retractable locator. Grinding wheel probe measures the wheel size each time it is changed.

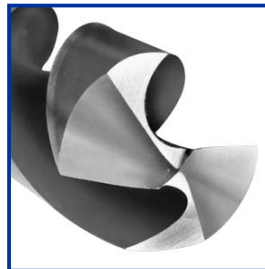
\*Safety equipment may have been removed or opened to illustrate the product clearly. Prior to operation, safety equipment must be in place.



Simple and convenient operator pushbutton station includes Giddings & Lewis PiC MicroTerm computer access terminal.



Operator inserts drill to be ground into the Workhead. There is no need to manually hold the drill during the grind cycle.



**Split/Notched -**

Creates secondary cutting edge in chisel. Helps drill centering, chip and coolant flow. Advantageous where drill feed cannot be controlled.

# 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 60° to 160°. Generates conventional, Winslow-Helical, Racon®, Bickford Point® and split points.



## Model 520 Drill Point Splitter

Automatic wheel dressing and infeed cycle permits accurate splitting at a rate up to 350 per hour. Splits drills from 3/32" (2.4 mm) to 1/2" (12.5 mm); web thins drills from 5/16" (8.0 mm) to 3/4" (19.0 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 60° to 160°. 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 90° to 140° 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.



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