



DELTA
MILWAUKEE

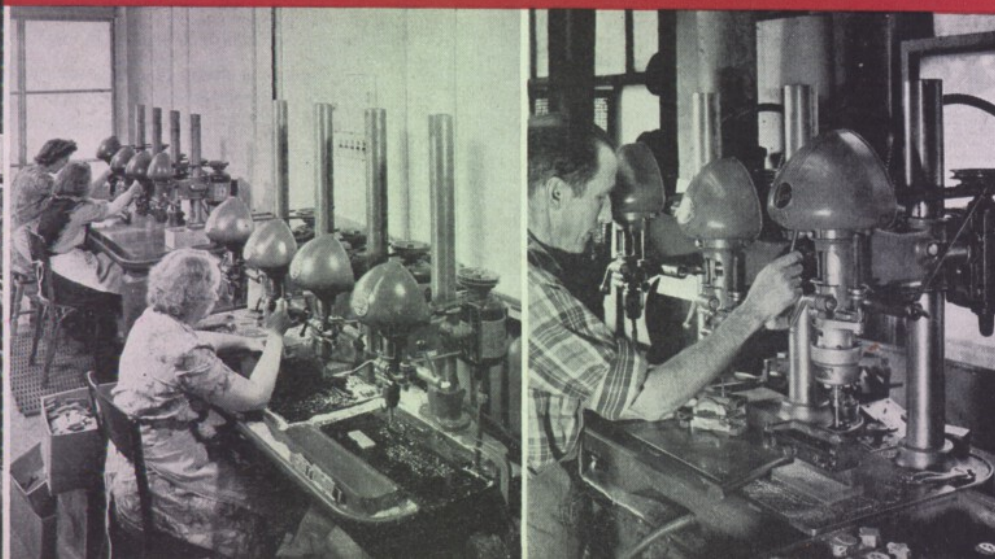
MACHINE TOOLS

14 INCH
DRILL PRESSES

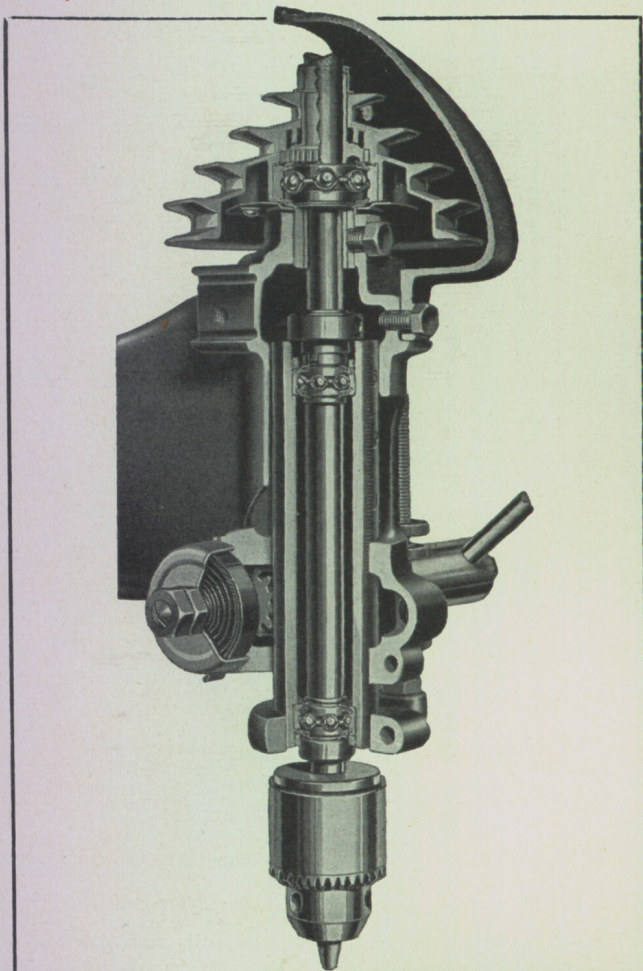
BULLETIN A-14



THE DELTA MANUFACTURING COMPANY
600 E. VIENNA AVE. MILWAUKEE 1, WISCONSIN



14-inch Drill Press Has Free-Floating, Self-Aligning Drive



WITH the latest and most modern machine equipment, including precision boring machines as used in our shops, it is an easy matter to bore drill-press bearing housings, quill seats, etc., to close tolerances. But the design of a high-speed telescoping drill-press spindle drive requires more than precision machining—it requires a design that will stay in alignment. And there are a number of factors which make this problem more difficult than it looks.

First, the comparatively long range of telescoping of the spindle and quill; second, the high speed at which the spindle rotates; third, the fact that the quill and spindle must be locked or clamped in various locations; fourth, the fact that the spindle is often subjected to severe side thrusts, and so on. When all these factors are considered, it is obvious that the slightest variation in alignment is likely to produce difficulties.

The mis-alignment encountered in service may be small—perhaps not more than .002"—but we consider that even this slight amount is sufficient to cause trouble in high-speed spindles, and it is this trouble that our patented type of drive is designed to prevent.

The Spindle Drive STAYS Aligned!

From the outside, our spindle pulley looks like any other simple pulley. But, as the photos show, it is actually radically different. The pulley itself is balanced and is carried on a huge sealed-for-life ball bearing, of special deep-groove tight-fitting design, with enormous reserve capacity above that required to take the belt pull, and requiring no lubrication or other attention. This bearing is mounted by means of a special extension of the inner race so that it cannot be sprung. This is very important.

The actual drive of the pulley is transmitted to the spindle through a floating sleeve, with spur-gear teeth cut around its hub. These teeth mesh with an internal gear in the pulley so that the sleeve can "float" in all directions except the driving direction. This floating sleeve drives the spindle through splines fully $3\frac{1}{4}$ " long. The under-side of the pulley is covered with a heavy pressed-steel plate, which not only secures the bearing in the pulley, but which also covers the pulley ribs and prevents power-wasting "fan action" and keeps out dirt when the drill head is operated upside-down.

Study the action of the floating sleeve and you will see that you not only get a true "free-floating" drive, but that you also get complete freedom from misalignment troubles due to wear or any other service conditions. This drive stays aligned!

Construction and Assembly of the Spindle Pulley

A. Shows the spindle pulley with its internal gear, the floating sleeve with its spur gear, the huge ball bearing that carries the pulley and the lower cover plate.

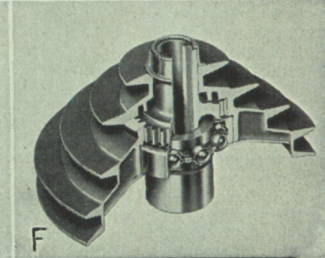
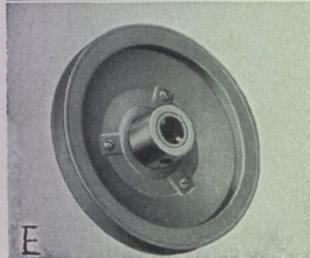
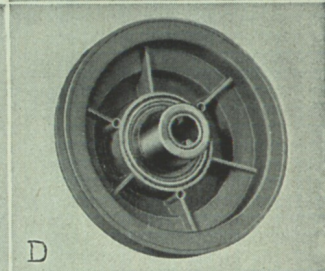
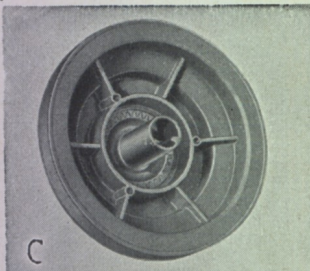
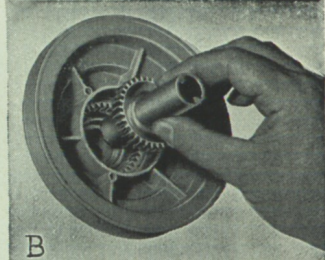
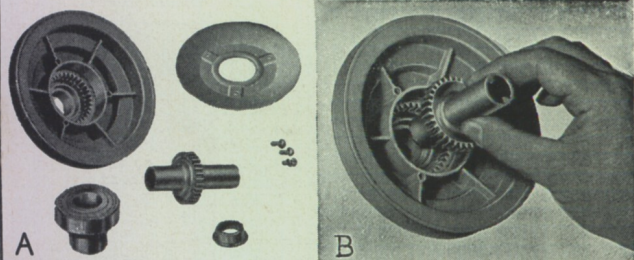
B. How the floating sleeve is engaged with the internal gear in the pulley is shown here. This forms a clutch which permits the sleeve to float in all directions but one.

C. The floating sleeve engaged with the pulley. This forms a positive driving medium for the spindle, but at the same time takes up any minute variations in alignment that may occur in service.

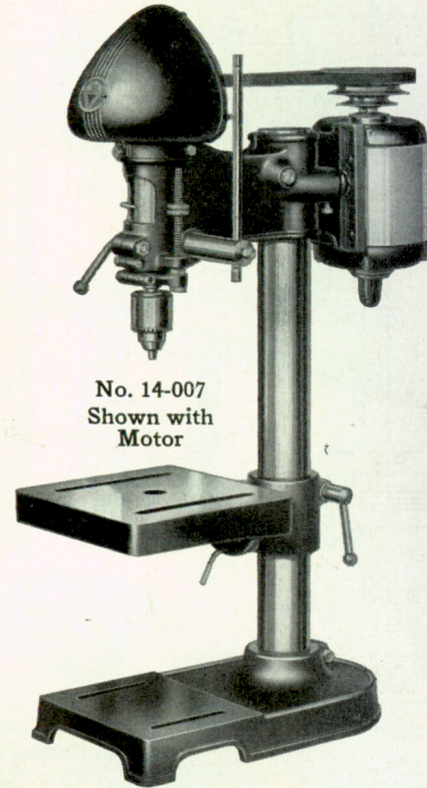
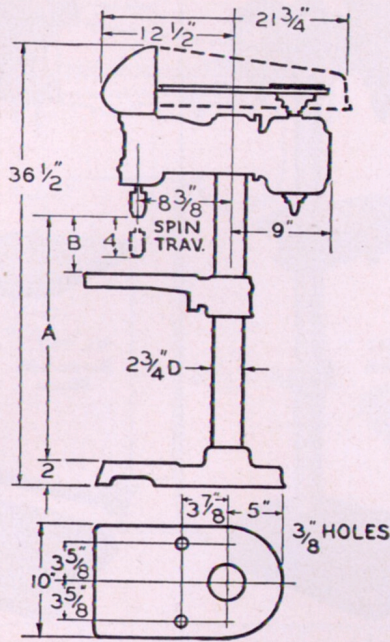
D. The pulley is carried on a large sealed-for-life ball bearing, requiring no lubrication, and with a load capacity far in excess of any pull ever placed on it by the belt.

E. There is no power-wasting fan action in this pulley, because the plate that secures the bearing in place also completely covers the pulley ribs—the final detail of a high-grade design.

F. This photo shows a section through the complete spindle pulley assembly.



14-inch Bench Type Single Spindle Drill Presses



No. 14-007
Shown with
Motor

These Drill Presses have become extremely popular in shops where low cost, low maintenance and portability are of importance. Having a capacity of $\frac{3}{8}$ " in cast iron there are dozens of places where this drill press will quickly pay for itself. Not only does it combine all the best features of drill presses of this kind but it has additional advantages which make it the favorite wherever used. Its self-aligning drive and free-floating spindle, its sturdy quill design and construction, its ease of operation, its lubricated-for-life ball bearings—these are but a few of the "plus" values you receive in these fine accurate drill presses.

| Type | Standard Tilting Table | |
|-------|------------------------|------------|
| Model | Slo-Speed | High Speed |

WITH NO. 1 MORSE TAPER SPINDLE

| Machine No. | 14-005 | 14-006 |
|-------------------------|--------------------|--------------------|
| Table Working Surface | 10" x 10" | 10" x 10" |
| Spin. to Table (B) Max. | 15 $\frac{1}{4}$ " | 15 $\frac{1}{4}$ " |
| Spin. to Base (A) Max. | 18 $\frac{3}{4}$ " | 18 $\frac{3}{4}$ " |
| Ship. Wt. Lbs. | 106 | 100 |
| Code Word | SLOBF | BENMT |

WITH $\frac{1}{2}$ INCH JACOBS CHUCK SPINDLE

| Machine No. | 14-007 | 14-008 |
|-------------------------|--------------------|--------------------|
| Table Working Surface | 10" x 10" | 10" x 10" |
| Spin. to Table (B) Max. | 15 $\frac{1}{4}$ " | 15 $\frac{1}{4}$ " |
| Spin. to Base (A) Max. | 18 $\frac{3}{4}$ " | 18 $\frac{3}{4}$ " |
| Ship. Wt. Lbs. | 106 | 100 |
| Code Word | SLOBG | BENJC |

MOTOR AND SWITCH NOT INCLUDED, MUST BE ORDERED SEPARATELY.

There are four standard machines supplied in this group.

Capacity: $\frac{1}{2}$ " in cast iron, $\frac{3}{8}$ " in steel.

Machines include:

- Built in depth gage.
- Depth scale on quill.
- Pulley guard.
- Quill has 4 inch stroke or travel.

High speed models have speeds of 680, 1250, 2400 and 4600 RPM and include No. 387 V-belt and No. 985 motor pulley.

Slo-speed models have speeds of 470, 780, 1300 and 1950 RPM and include No. 430 V-belt and No. 985 motor pulley.

Order Jacobs Chuck spindle machines where straight shank drills only are to be used. This chuck will take drills from No. 60 to full $\frac{1}{2}$ ".

Order No. 1 Morse taper spindle machines where taper shank drills only are to be used.

Spindles in these machines are easily changed. See complete listing below. For individual parts for special set-ups and for accessories, see pages 7 and 8.

Coolant arrangements cannot be used on these machines.

Motors recommended:

- LIGHT DUTY:** 60-310— $\frac{1}{8}$ H.P., Split Phase A.C., 115 V. 60 Cy.
62-110— $\frac{1}{8}$ H.P., Cap. A.C. 115/230 V. 60 Cy.
66-110— $\frac{1}{8}$ H.P., 3 Ph. A.C. 220 V. 50/60 Cy.
- MEDIUM DUTY:** 62-110— $\frac{1}{8}$ H.P., Cap. A.C. 115/230 V. 60 Cy.
66-320— $\frac{1}{8}$ H.P., 3 Ph. A.C. 220/440 V. 50/60 Cy.
- HEAVY DUTY:** 62-610— $\frac{1}{4}$ H.P., Cap. A.C. 115/230 V. 60 Cy.
66-320— $\frac{1}{4}$ H.P., 3 Ph. A.C. 220/440 V. 50/60 Cy.

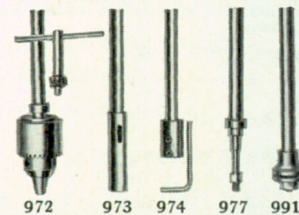
For 3 Ph. motors use No. 1320 3 Phase Manual Starter, or Magnetic Starters No. 1329 or No. 1321, with No. 1322 Mounting Parts.

Use No. 1331 Switch Rod for all Single Phase Motors.

See Page 8 for Motors and Switch Parts.

INTERCHANGEABLE SPINDLES FOR 14" DRILL PRESSES

One of the many outstanding advantages of the 14" drill press is the fact that the spindles are readily interchangeable. This means that the application of the machine is increased many times. All chucks are balanced for high-speed work. Spindles have deep splines which insure proper balance and long wear.

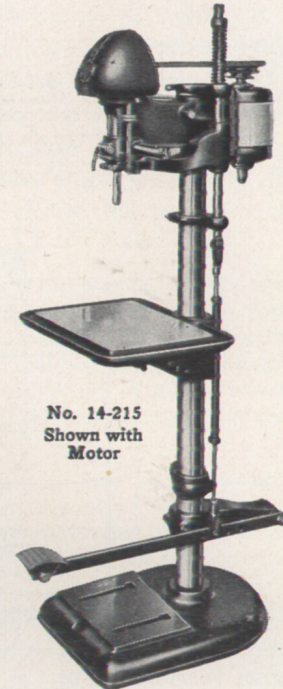
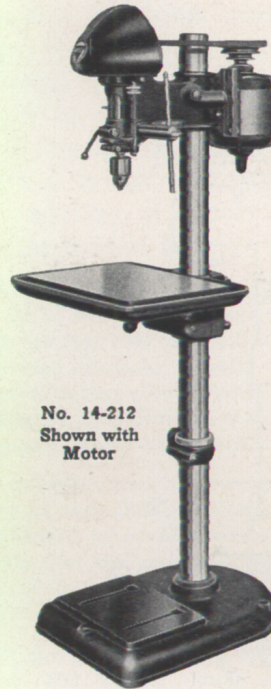
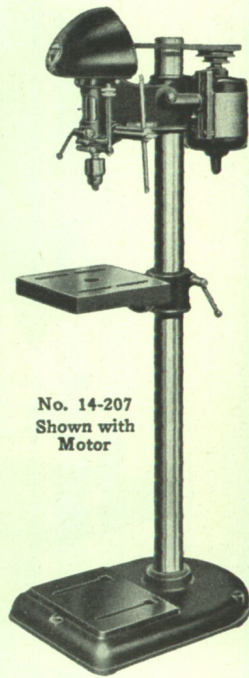
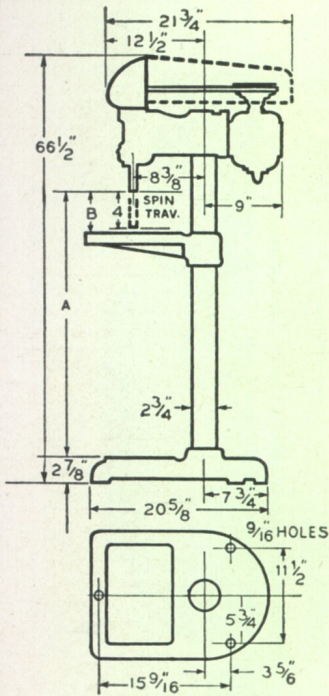


| Cat. No. | Description of Spindle | Wt. Lbs. | Code Word |
|----------|---|-----------------|-----------|
| 972 | Jacobs Chuck—Cap. No. 60— $\frac{1}{2}$ " | 3 $\frac{1}{2}$ | NESPB |
| 973 | No. 1 Morse Taper | 2 | NESPC |
| 974 | With $\frac{1}{2}$ " Hole for Router Bits | 2 $\frac{1}{2}$ | NESPD |
| 977 | For Shaper Cutters with $\frac{5}{16}$ " Hole | 2 | NESPF |
| 991 | For Cup Grinding Wheels | 2 | NESPG |

(FOR PRICES SEE ATTACHED PRICE SHEET)



14-inch Floor Type Single Spindle Drill Presses



| Type | Standard Tilting Table | | Production Table | | Prod. Table and Foot Feed | |
|------------------------------------|---|------------|------------------|-------------|---------------------------|-------------|
| | Slo-Speed | High Speed | Slo-Speed | High Speed | Slo-Speed | High Speed |
| Model | | | | | | |
| | WITH NO. 1 MORSE TAPER SPINDLE | | | | | |
| Machine No..... | 14-205 | 14-206 | 14-210 | 14-211 | 14-215 | 14-216 |
| Table Working Surface..... | 10" x 10" | 10" x 10" | 11" x 16" | 11" x 16" | 11" x 16" | 11" x 16" |
| Spin. to Table (B) Max..... | 41 1/4" | 41 1/4" | 40 1/4" | 40 1/4" | 33 1/4" | 33 1/4" |
| Spin. to Base (A) Max..... | 46 3/4" | 46 3/4" | 46 3/4" | 46 3/4" | 44 3/4" | 44 3/4" |
| Ship. Wt. Lbs..... | 176 | 170 | 237 | 211 | 258 | 258 |
| Code Word..... | SLOFB | NEWMT | SLOBH | NEWAE | SLOBI | NEWAF |
| Cat. No. of Coolant Piping..... | | | 17-805 | 17-805 | 17-805 | 17-805 |
| Type of Coolant Pump Required..... | | | Model No. 1 | Model No. 1 | Model No. 1 | Model No. 1 |
| | WITH 1/2 INCH JACOBS CHUCK SPINDLE | | | | | |
| Machine No..... | 14-207 | 14-208 | 14-212 | 14-213 | 14-217 | 14-218 |
| Table Working Surface..... | 10" x 10" | 10" x 10" | 11" x 16" | 11" x 16" | 11" x 16" | 11" x 16" |
| Spin. to Table (B) Max..... | 41" | 41" | 40" | 40" | 33" | 33" |
| Spin. to Base (A) Max..... | 46 1/2" | 46 1/2" | 46 1/2" | 46 1/2" | 44 1/2" | 44 1/2" |
| Ship. Wt. Lbs..... | 176 | 170 | 220 | 220 | 258 | 258 |
| Code Word..... | SLOFC | NEWJC | SLOBK | NEWAH | SLOBL | NEWAJ |
| Cat. No. of Coolant Piping..... | | | 17-805 | 17-805 | 17-805 | 17-805 |
| Type of Coolant Pump Required..... | | | Model No. 1 | Model No. 1 | Model No. 1 | Model No. 1 |

MOTORS, SWITCHES, COOLANT PUMP AND PIPING NOT INCLUDED WITH MACHINE. MUST BE ORDERED SEPARATELY

These 14 inch drill presses are supplied in twelve standard machines as listed and illustrated above.

Capacity: 1/2" in cast iron, 3/8" in steel.

Machines include:

- Built-in depth gage.
- Depth scale on quill.
- Pulley guard.
- Quill has 4 inch stroke or travel.

Speeds:

- High Speed Models—680, 1250, 2400 and 4600 RPM.
- Slo-Speed Models—470, 780, 1300 and 1950 RPM.

High speed models include No. 387 V-belt and No. 985 motor pulley.

Slo-speed models include No. 430 V-belt and No. 985 motor pulley.

Order Jacobs spindle machines where straight shank drills only are to be used. This chuck will take drills from No. 60 to full 1/2".

Order No. 1 Morse taper spindle machines where taper shank drills only are to be used.

Spindles in these machines are easily changed. See complete listing on page 3.

For individual parts for special set-ups and for accessories, see pages 7 and 8.

For coolant piping and pump see page 8.

Motors recommended:

- LIGHT DUTY:** 60-310—1/3 H.P., Split Phase A.C., 115 V. 60 Cy.
 62-110—1/3 H.P., Cap. A.C. 115/230 V. 60 Cy.
 66-110—1/3 H.P., 3 Ph. A.C. 220 V. 50/60 Cy.
- MEDIUM DUTY:** 62-110—1/3 H.P., Cap. A.C. 115/230 V. 60 Cy.
 66-320—1/2 H.P., 3 Ph. A.C. 220/440 V. 50/60 Cy.
- HEAVY DUTY:** 62-610—1/2 H.P., Cap. A.C. 115/230 V. 60 Cy.
 66-320—1/2 H.P., 3 Ph. A.C. 220/440 V. 50/60 Cy.

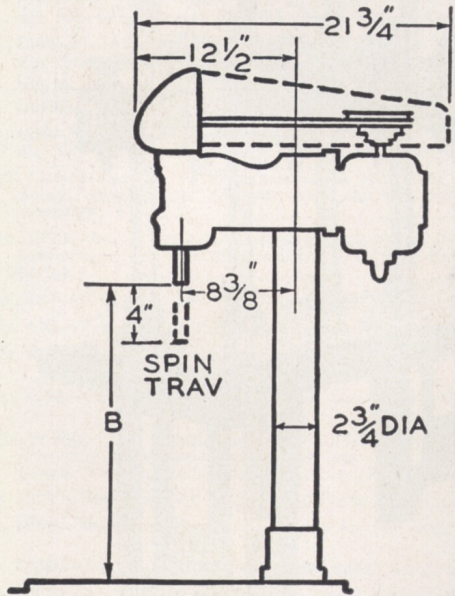
For 3 Ph. motors use No. 1320 3 Phase Manual Starter, or Magnetic Starters No. 1329 or No. 1321, with No. 1322 Mounting Parts.

Use No. 1331 Switch Rod for all Single Phase Motors.

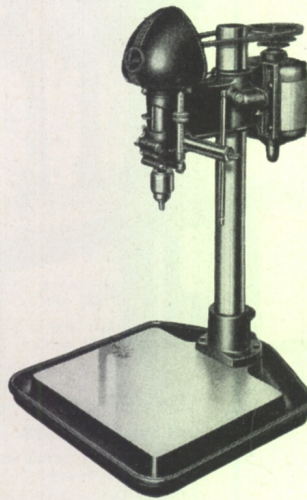
See page 8 for Motors and Switch Parts.

FOR PRICES SEE ATTACHED PRICE LIST.

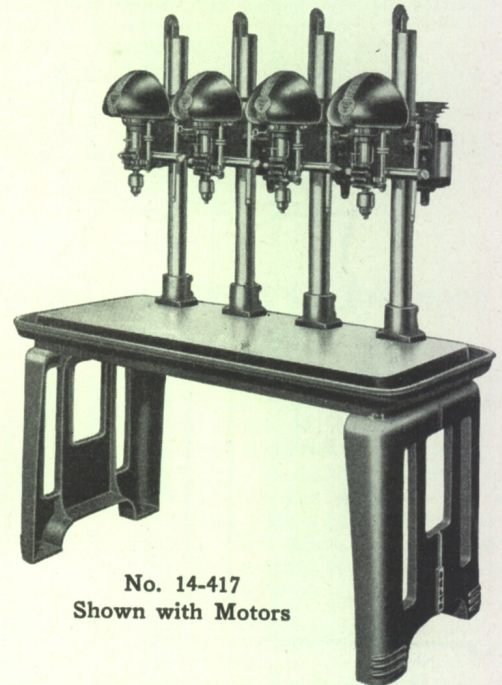
14-inch Bench and Floor Type, 1, 2, 3 and 4 Spindle Drill Presses



One Piece Tables



No. 14-308
Shown with Motor



No. 14-417
Shown with Motors

| Type | 1 Spin. Bench Type | | 2 Spin. Floor Type | | 3 Spin. Floor Type | | 4 Spin. Floor Type | |
|---|--------------------|-------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|
| | | | | | | | | |
| Model | Slo-Speed | High Speed | Slo-Speed | High Speed | Slo-Speed | High Speed | Slo-Speed | High Speed |
| WITH NO. 1 MORSE TAPER SPINDLE | | | | | | | | |
| Machine No. | 14-305 | 14-306 | 14-405 | 14-406 | 14-410 | 14-411 | 14-415 | 14-416 |
| Table Working Surface ... | 14" x 16" | 14" x 16" | 14 1/2" x 28" | 14 1/2" x 28" | 16 1/2" x 51" | 16 1/2" x 51" | 16 1/2" x 51" | 16 1/2" x 51" |
| Spin. to Table (B) Max. ... | 19 1/8" | 19 1/8" | 19 1/8" | 19 1/8" | 19 1/8" | 19 1/8" | 19 1/8" | 19 1/8" |
| Spindle Spacing ... | 19" | 19" | 19" | 19" | 19" | 19" | 19" | 19" |
| Ship. Wt. Lbs. | 216 | 205 | 12 | 12 | 15 | 15 | 11 1/2" | 11 1/2" |
| Code Word | PRODD | PRODC | TWOSD | TWOSB | TRISI | TRISJ | FOURH | FOURF |
| Cat. No. Coolant Piping .. | 17-805 | 17-805 | 14-805 | 14-805 | 14-806 | 14-806 | 14-807 | 14-807 |
| Type of Cool. Pump Req. . | Model No. 1 | Model No. 1 | Model No. 2 | Model No. 2 | Model No. 2 | Model No. 2 | Model No. 2 | Model No. 2 |
| WITH 1/2 INCH JACOBS CHUCK SPINDLE | | | | | | | | |
| Machine No. | 14-307 | 14-308 | 14-407 | 14-408 | 14-412 | 14-413 | 14-417 | 14-418 |
| Table Working Surface ... | 14" x 16" | 14" x 16" | 14 1/2" x 28" | 14 1/2" x 28" | 16 1/2" x 51" | 16 1/2" x 51" | 16 1/2" x 51" | 16 1/2" x 51" |
| Spin. to Table (B) Max. ... | 19" | 19" | 19" | 19" | 19" | 19" | 19" | 19" |
| Spindle Spacing ... | 19" | 19" | 19" | 19" | 19" | 19" | 19" | 19" |
| Ship. Wt. Lbs. | 205 | 205 | 12 | 12 | 15 | 15 | 11 1/2" | 11 1/2" |
| Code Word | PRODB | PRODA | TWOSC | TWOSA | TRISK | TRISL | FOURG | FOURE |
| Cat. No. Coolant Piping .. | 17-805 | 17-805 | 14-805 | 14-805 | 14-806 | 14-806 | 14-807 | 14-807 |
| Type of Cool. Pump Req. . | Model No. 1 | Model No. 1 | Model No. 2 | Model No. 2 | Model No. 2 | Model No. 2 | Model No. 2 | Model No. 2 |

MOTORS, SWITCHES, COOLANT PUMP AND PIPING NOT INCLUDED WITH MACHINE. MUST BE ORDERED SEPARATELY.

These 14 inch drill presses are all furnished with a one-piece table in sizes as shown by the dimensional drawings in the table above. The single spindle machines are available as bench types only—the two, three and four spindle machines are floor types and are furnished with a set of cast iron legs as illustrated. With these legs, the working surface of the machine is 32" from the floor. The table has a 1 1/2" oil trough all around and tapped for 1/2" drain.

Capacity: 1/2" in cast iron, 3/8" in steel.
Machines include: Built-in depth gauge. Depth scale on quill. Pulley guard. Quill has 4 inch stroke or travel. Floor type models include counter balance.

Speeds: High Speed Models—680, 1250, 2400 and 4600 RPM.
Slo-Speed Models—470, 780, 1300 and 1950 RPM.

High speed models include No. 387 V-belt and No. 985 motor pulley.
Slo-speed models include No. 430 V-belt and No. 985 motor pulley.
Order Jacobs spindle machines where straight shank drills only are to be used. This chuck will take drills from No. 60 to full 1/2".
Order No. 1 Morse taper spindle machines where taper shank drills only are to be used.

Spindles in these machines are easily changed. See complete listing on page 3.
For individual parts for special set-ups and for accessories, see pages 7 and 8.

For coolant piping and pump see page 8.

Motors recommended:

- LIGHT DUTY:** 60-310 1/3 H.P. Split Phase A.C. 115 V. 60 Cy.
62-110 1/3 H.P. Cap. A.C. 115/230 V. 60 Cy.
66-110 1/3 H.P. 3 Phase A.C. 220 V. 50/60 Cy.
- MEDIUM DUTY:** 62-110 1/2 H.P. Cap. A.C. 115/230 V. 60 Cy.
66-320 1/2 H.P. 3 Phase A.C. 220/440 V. 50/60 Cy.
- HEAVY DUTY:** 62-610 1/2 H.P. Cap. A.C. 115/230 V. 60 Cy.
66-320 1/2 H.P. 3 Phase A.C. 220/440 V. 50/60 Cy.

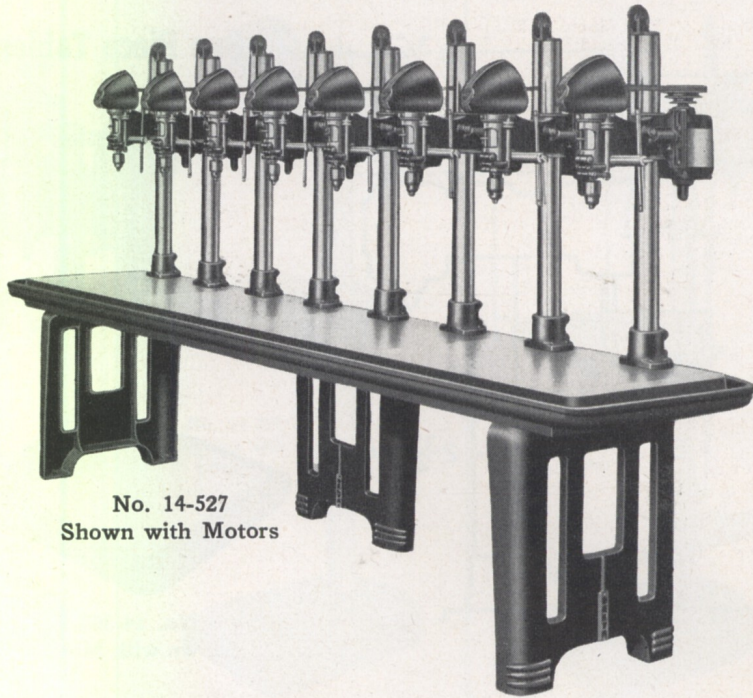
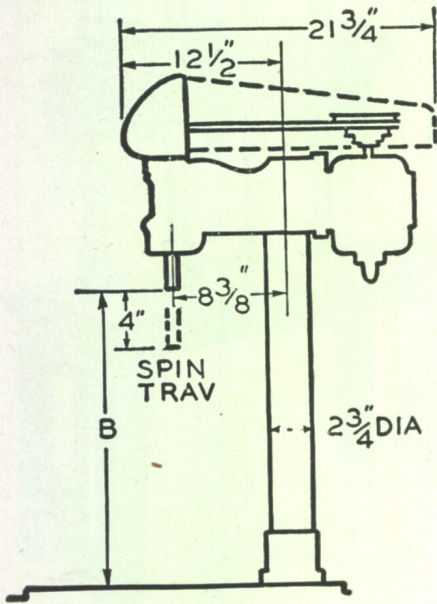
For 3 Ph. Motors Use No. 1320 3 Phase Manual Starter, or Magnetic Starters No. 1329 or No. 1321, with No. 1322 Mounting Parts.
Use No. 1331 Switch Rod for All Single Phase Motors.

See page 8 for Motors and Switch Parts.

FOR PRICES SEE ATTACHED PRICE LIST.



14-inch Floor Type, 5, 6 and 8 Spindle Drill Presses. Sectional Tables



No. 14-527
Shown with Motors

| Type | 5 Spindle | | 6 Spindle | | 8 Spindle | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | | | | |
| Model | Slo-Speed | High Speed | Slo-Speed | High Speed | Slo-Speed | High Speed |
| WITH NO. 1 MORSE TAPER SPINDLE | | | | | | |
| Machine No. | 14-515 | 14-516 | 14-520 | 14-521 | 14-525 | 14-526 |
| Table Working Surface | 18" x 65" | 18" x 65" | 18" x 95" | 18" x 95" | 18" x 95" | 18" x 95" |
| Spin. to Table (B) Max. | 19 1/8" | 19 1/8" | 19 1/8" | 19 1/8" | 19 1/8" | 19 1/8" |
| Spindle Spacing | 12" | 12" | 15" | 15" | 11 1/2" | 11 1/2" |
| Ship. Wt. Lbs. | 1450 | 1450 | 1875 | 1875 | 2000 | 2000 |
| Code Word | PENTI | PENTJ | SIXAI | SIXAJ | OCTAI | OCTAJ |
| Cat. No. Coolant Piping | 14-808 | 14-808 | 17-812 | 17-812 | 14-809 | 14-809 |
| Type of Coolant Pump Required | Model No. 3 | Model No. 3 | Model No. 3 | Model No. 3 | Model No. 3 | Model No. 3 |
| WITH 1/2 INCH JACOBS CHUCK SPINDLE | | | | | | |
| Machine No. | 14-517 | 14-518 | 14-522 | 14-523 | 14-527 | 14-528 |
| Table Working Surface | 18" x 65" | 18" x 65" | 18" x 95" | 18" x 95" | 18" x 95" | 18" x 95" |
| Spin. to Table (B) Max. | 19" | 19" | 19" | 19" | 19" | 19" |
| Spindle Spacing | 12" | 12" | 15" | 15" | 11 1/2" | 11 1/2" |
| Ship. Wt. Lbs. | 1450 | 1450 | 1875 | 1875 | 2000 | 2000 |
| Code Word | PENTK | PENTL | SIXAK | SIXAL | OCTAK | OCTAL |
| Cat. No. Coolant Piping | 14-808 | 14-808 | 17-812 | 17-812 | 14-809 | 14-809 |
| Type of Coolant Pump Required | Model No. 3 | Model No. 3 | Model No. 3 | Model No. 3 | Model No. 3 | Model No. 3 |

MOTORS, SWITCHES, COOLANT PUMP AND PIPING NOT INCLUDED WITH MACHINE. MUST BE ORDERED SEPARATELY.

The 14 inch drill presses listed here are all furnished with sectional tables. These tables are made up of center sections to which end sections are bolted. This arrangement allows for a wide variety of combinations—and altho we show here the most popular production types of machines, many other units are available. The sectional table allows a drill press to be made of any desired length with spindles spaced at a minimum center to center distance of 11 1/2", or any greater distance as desired. The sections have a 1 1/2" trough and the end sections are tapped for 1/2" drain. Tables of three sections have three cast iron legs, other machines have two legs. Working surface is 32" from floor.
Capacity: 1/2" in cast iron, 3/8" in steel.
Machines include: Built-in depth gauge. Depth scale on quill. Pulley guard. Quill has 4 inch stroke or travel. Counter balance.

Speeds:
High Speed Models—680, 1250, 2400 and 4600 RPM.
Slo-Speed Models—470, 780, 1300 and 1950 RPM.
High speed models include No. 387 V-belt and No. 985 motor pulley.
Slo-speed models include No. 430 V-belt and No. 985 motor pulley.
Order Jacobs spindle machines where straight shank drills only are to be used. This chuck will take drills from No. 60 to full 1/2".

Order No. 1 Morse taper spindle machines where taper shank drills only are to be used.
Spindles in these machines are easily changed. See complete listing on page 3.

For individual parts for special set-ups and for accessories, see pages 7 and 8.
For coolant piping and pump see page 8.

Motors recommended:
LIGHT DUTY: 60-310 1/3 H.P. Split Phase A.C. 115 V. 60 Cy.
62-110 1/3 H.P. Cap. A.C. 115/230 V. 60 Cy.
66-110 1/3 H.P. 3 Phase A.C. 220 V. 50/60 Cy.
MEDIUM DUTY: 62-110 1/3 H.P. Cap. A.C. 115/230 V. 60 Cy.
66-320 1/2 H.P. 3 Phase A.C. 220/440 V. 50/60 Cy.
HEAVY DUTY: 62-610 1/2 H.P. Cap. A.C. 115/230 V. 60 Cy.
66-320 1/2 H.P. 3 Phase A.C. 220/440 V. 50/60 Cy.

For 3 Ph. Motors Use No. 1320 3 Phase Manual Starter, or Magnetic Starters No. 1329 or No. 1321, with No. 1322 Mounting Parts.
Use No. 1331 Switch Rod for All Single Phase Motors.
See page 8 for Motors and Switch Parts.

FOR PRICES SEE ATTACHED PRICE LIST.

Special Set-Ups Made Economically by Using Standard Drill Press Parts



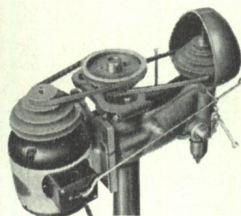
14" DRILL PRESS PARTS

- No. 970-B—14" High Speed Drill Press Head with 1/2" Jacobs Chuck Spindle, No. 387 Belt and No. 985 Motor Pulley. 42 lbs.Code HEADH
- No. 1289-A—14" Slo-Speed Drill Press Head with 1/2" Jacobs Chuck Spindle, No. 430 Belt and No. 985 Motor Pulley. 48 lbs.Code HEADL
- No. 970-C—14" High Speed Drill Press Head with No. 1 Morse Taper Spindle, No. 387 Belt and No. 985 Motor Pulley. 42 lbs.HEADI
- No. 1286-A—14" Slo-Speed Drill Press Head with No. 1 Morse Taper Spindle, No. 430 Belt and No. 985 Motor Pulley. 48 lbs.Code HEADK
- *No. 14-817—Set of Parts for changing Slo-Speed Drill Press to High-Speed, consisting of No. 387 Belt and No. DP-265-S Spindle Pulley Assembly. 13 lbs.Code CHANG
- *No. 1290—Set of Parts for changing High-Speed Drill Press to Slo-Speed, consisting of No. 430 Belt and No. DP-283-S Spindle Pulley Assembly. 13 lbs.Code SLOPU
- *No. 387—V-Belt for 14" High-Speed Drill Press. 1 lb.Code FORDP
- *No. 430—V-Belt for 14" Slo-Speed Drill Press. 1 lb.Code FORSL
- *No. 985—4-Step Motor Pulley for 14" Drill Press. Specify bore. 2 3/8 lbs. Code NEWPU
- *No. 1022—Complete Belt and Pulley Guard for 14" Drill Press. 21 lbs. Code PRODH
- *No. 14-803—Belt Guard. Same as No. 1022, without Spindle Pulley Guard. Use only when machine already has No. DP-257-S Spindle Pulley Guard. 9 lbs.Code PRODL
- No. 1010—Head Support Collar for Column. 2 lbs.Code NESCC
- No. 1019—Mounting Flange and Screws for 14" Drill Press Column. 10 lbs. Code PRODE
- No. 1020—Column for 14" Drill Press. 36 3/4" long. 13 lbs.Code PRODF
- No. 1006—Production Table for 14" Single Spindle Floor Type Drill Press complete with Rack, Raising Mechanism, Collar and Bearing. 61 lbs. Code NEWPT
- No. 1516—Single Spindle One Piece Table. Working space of 14"x 16" for 14" Drill Press Head. (This table cannot be mounted on the No. 1399 Cast Iron Legs.) 110 lbs.Code DRIAV
- No. 1517—2 Spindle One Piece Table. Working surface of 18 3/8"x 28" for 14" Drill Press Heads. 225 lbs.Code DRIAIV
- No. 1519—4 Spindle One Piece Table. Working surface of 21 1/4"x 51" for 14" Drill Press Heads. 460 lbs.Code DRIAY
- No. 1399—Cast Iron Legs (one pair) for mounting One Piece Tables Nos. 1517 and 1519 and all other Multiple Spindle Drill Presses. 163 lbs. Code PRODK

- No. 1030—Spring Counterbalance Assembly for 14" Drill Presses. Consisting of Spring, Chain, Column Top Casting with Ball Bearing Roller and Screws. 8 lbs.Code TWOSR
- No. 1007—Foot Feed for Floor Type 14" Drill Press. 38 lbs.NEWFF
- No. 1009—Production Table for 14" Single Spindle Floor Type Drill Press. Same as No. 1006, without Rack, Raising Mechanism, Collar and Bearing. 52 lbs.Code NEWOP
- No. 1008—Table Raising Mechanism with Rack, Collar and Bearing. For No. 1009 Table. 9 lbs.Code NEWRA

*These parts cannot be used with Super-Hi-Speed Drill Press.

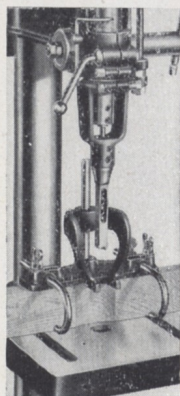
MULTI-SPEED ATTACHMENT FOR STANDARD 14" DRILL PRESS



This new attachment for Standard 14" Drill Presses only, provides a wide range of speeds on both the Slo and High-Speed models. It consists of a heavy casting, which mounts on the drill press column together with a cone pulley and two belts. Belt slack is taken up by turning casting so proper tension is always assured.

- No. 1028—Multi-Speed Attachment for Standard 14" High-Speed Drill Presses including column casting, cone pulley and two belts. Twelve speeds from 270 RPM to 11,000 RPM.Code MULTJ
- The 11,000 RPM speed should be used only for occasional work due to the excessive wear on the bearings which are designed for 5000 RPM.
- No. 1029—Multi-Speed Attachment for Standard 14" Slo-Speed Drill Presses including Column Casting, Cone Pulley and two belts. Twelve speeds from 185 RPM to 4825 RPM.Code MULTK
- No. 271—Motor Pulley Belt for No. 1028 or No. 1029 Multi-Speed. 1/2 lb. Code BELTQ
- No. 272—Spindle Pulley Belt for No. 1028 Multi-Speed. 1/2 lb.BELTR
- No. 273—Spindle Pulley Belt for No. 1029 Multi-Speed. 1/2 lb.BELTS

WOODWORKING ACCESSORIES



MORTISING ATTACHMENT

Using this simple, easily installed attachment the 14" drill press may be converted into an accurate mortising machine. Chisel holder replaces the regular stop-rod clamp. Has heavy fence bolted to table. Hook bolts hold work against fence, hold-down keeps work down on table.

No. 976—Mortising attachment, 7 lbs.NEMOR
Capacity 4 3/4" thick under hold-down, from hook bolts to fence 2 3/4". No. 974 spindle must be used.

| Hollow Chisels | | | Mort. Bits | | Bushings | |
|----------------|-------|--------|------------|-------|----------|-----------|
| No. | Size | Depth | No. | Size | No. | Hole Size |
| 504 | 1/4" | 1 1/8" | 514 | 1/4" | 524 | 3/16" |
| 505 | 5/16" | 1 1/8" | 515 | 5/16" | 525 | 1/4" |
| 506 | 3/8" | 2 3/4" | 516 | 3/8" | 526 | 19/64" |
| 508 | 1/2" | 3 1/4" | 518 | 1/2" | | |

Order proper bushings

Nos. 526 used with Nos. 516 and 518.

Machine Spur Bits



6 1/4" long, 1/2" shanks

| No. | Size |
|-----|-----------|
| 804 | 1/4" |
| 805 | 5/16" |
| 806 | 3/8" |
| 807 | 7/16" |
| 808 | 1/2" |
| 809 | 9/16" |
| 810 | 5/8" |
| 812 | 3/4" |
| 818 | comp. set |

Router Bits



Shank, 1/2"

| No. | Size |
|-----|-----------|
| 474 | 1/4" |
| 475 | 5/16" |
| 476 | 3/8" |
| 477 | 7/16" |
| 478 | 1/2" |
| 480 | comp. set |

Plug Cutters

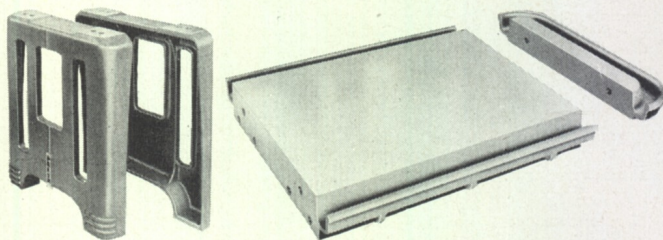


Shank, 1/2"

| No. | Size |
|-----|-----------|
| 814 | 3/8" |
| 815 | 1/2" |
| 816 | 5/8" |
| 817 | 3/4" |
| 819 | 1 |
| 822 | comp. set |

(FOR PRICES SEE ATTACHED PRICE LIST)

RIGID, SECTIONAL TABLES for DRILL PRESSES A Single Spindle — or a Drill Press a Block Long ... That Is What This New Drill Press Offers You!



The drill press is built upon a section table—each table section being 23 3/8" by 30" and with the addition of the end sections is increased to 35" long.

On these sections, any type of 17" or 14" head can be easily installed and on centers which meet your individual needs. This means that the maximum amount of flexibility is assured—you can have all 17" or 14" heads on one machine or a combination of both—you can have them spaced at any distance you desire—either close together or far apart.

Minimum center to center distances for columns: Super-Hi-Speed 14"-9"; Standard 14"-11 1/2"; Standard 17"-15"; Power Feed 17"-18".

CATALOG LISTING OF SECTIONS AND LEGS

- No. 1504—One End section. 55 lbs.Code DRIAD
- No. 1505—One Center section. 365 lbs.Code DRIAP
- IMPORTANT**—Give these specifications with your order: (1) number of drill press heads needed, (2) if 14" or 17" heads, (3) spacing between heads, (4) if table is to be completely assembled, (5) if table should be drilled and tapped for the drill press mounting flange.
- No. 1506—One only cast iron leg. 80 lbs.Code DRIAQ
- No. 1399—Cast iron legs. 1 pair. 163 lbs.Code PRODK



Six-Inch Frame Motors Ideally Suited For 14-Inch Drill Presses

EQUIPMENT FURNISHED:

Split Phase Motors—Equipped with heavy duty rubber covered cord and plug together with double pole switch. Ball bearing. Double shafts. One shaft guard.

Capacitor and Repulsion Induction Motors—Equipped with heavy duty rubber covered cord and plug together with double pole switch. Made for use on either 115 or 230 volt lines, they are normally supplied connected for 115 volts. Ball bearing. Double shafts. One shaft guard.

Direct Current Motors—Equipped with heavy duty rubber covered cord and plug together with double pole switch. Ball bearing. Double shafts. One shaft guard.

Three Phase Motors—Do not have switch, cord or plug as motor must be connected in conduit by an electrician. Ball bearing. Double shafts. One shaft guard.

No. 1320—3 Phase Manual Starter for 1½ H.P. A.C. Motors. 6 lbs. SWIPH

No. 1329—3 Phase Across-the-Line Magnetic Starter with overload and underload protection. Rating, 2 H.P. 220 v. 60 cy. only.....SWIDT

| Cat. No. | Type | H.P. | Cur. | Voltage | Cycles | R.P.M. | Shaft Inches | Sh. Wt. Lbs. |
|----------|-------------|------|------|---------|--------|-----------|--------------|--------------|
| 60-310 | Split Phase | ½ | AC | 115 | 60 | 1725 | ½ | 29 |
| *60-325 | Split Phase | ½ | AC | 115 | 50 | 1425 | ½ | 29 |
| *60-350 | Split Phase | ½ | AC | 115 | 25 | 1425 | ½ | 29 |
| 62-110 | Capacitor | ½ | AC | 115/230 | 60 | 1725 | ½ | 35 |
| *62-120 | Capacitor | ½ | AC | 115/230 | 50 | 1425 | ½ | 35 |
| *62-140 | Capacitor | ½ | AC | 115/230 | 25 | 1425 | ½ | 38 |
| 66-110 | 3 Phase | ½ | AC | 220 | 50/60 | 1425/1725 | ½ | 26 |
| 66-320 | 3 Phase | ½ | AC | 220/440 | 50/60 | 1425/1725 | ½ | 31 |
| *66-362 | 3 Phase | ½ | AC | 220/440 | 25 | 1425 | ½ | 33 |
| *68-110 | Dir. Cir. | ½ | DC | 115 | | 1725 | ½ | 30 |
| *68-120 | Dir. Cir. | ½ | DC | 230 | | 1725 | ½ | 30 |
| 62-610 | Capacitor | ½ | AC | 115/230 | 60 | 1725 | ½ | 39 |
| *62-620 | Capacitor | ½ | AC | 115/230 | 50 | 1425 | ½ | 42 |

*Motors not carried in stock.

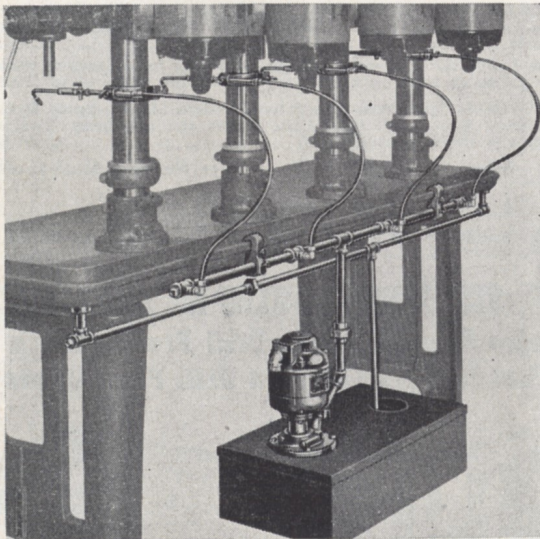
No. 1321—Same as No. 1329 but for 440 v. 60 cy. only.....SWITF

NOTE: On above Starters, specify H.P. of motor, voltage and frequency of Line.

No. 1322—Mounting parts for mounting above starters on drill presses. 2 lbs.SWIDR

No. 1331—Switch Rod for single phase and D.C. motors. 1½ lbs.....RODNB

Coolant Piping, Pump and Tank for 14-inch Drill Press Applications



The complete coolant system is made up of two parts. The first part consists of the coolant piping. The second consists of the pump with motor and tank. Each will be separately described.

THE COOLANT PIPING

The coolant piping consists of a nozzle, valve, column mounting clamp and flexible hose assembly for each spindle; a complete drain pipe assembly and a complete header pipe assembly with brackets for attaching. Nozzle brackets attach to columns without removal of drill press heads, and pipe header brackets clamp to oil trough rim without necessity for drilling or tapping. Piping, tubing, etc., is ready for installation, but shipped knocked down, as it is not practical to ship it assembled on the machine.

THE PUMP AND TANK

The pump is a centrifugal submerged type pump and is mounted integral with the tank so that no piping is required from the pump to the tank. The motor is mounted directly to the pump shaft as illustrated. Three models are available, each made up of the pump with motor and tank. Motors of different electrical characteristics are available as listed.

LISTING OF PUMP AND TANK

MODEL No. 1 delivers 10 gal. per minute at 5-ft. head. The tank has a 4-gal. capacity. This unit should be used for all single spindle drill presses. 1/10 H.P. motor.

No. 17-830 complete unit with 110 v. 60 cy. single phase motor.....PUMPA

No. 17-831 complete unit with 110 v. 50 cy. single phase motor.....PUMPB

No. 17-832 complete unit with 220 v. 60 cy. three phase motor.....PUMPC

No. 17-833 complete unit with 220 v. 50 cy. three phase motor.....PUMPD

MODEL No. 2 delivers 15 gal. per minute at 5-ft. head. The tank has an 11-gal. capacity. This unit should be used for all 2, 3 and 4 spindle drill presses. ¼ H.P. motor.

No. 17-840 complete unit with 110 v. 60 cy. single phase motor.....PUMPG

No. 17-841 complete unit with 110 v. 50 cy. single phase motor.....PUMPH

No. 17-842 complete unit with 220/440 v. 60 cy. 3 phase motor.....PUMPI

No. 17-843 complete unit with 220/440 v. 50 cy. 3 phase motor.....PUMPJ

MODEL No. 3 delivers 25 gal. per minute at 5-ft. head. The tank has a 32-gal. capacity. This unit should be used for all 5, 6 and 8 spindle drill presses. ½ H.P. motor.

No. 17-850 complete unit with 220/440 v. 60 cy. 3 phase motor.....PUMPK

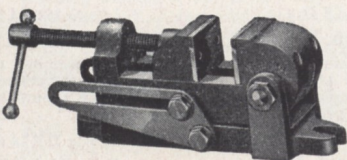
No. 17-851 complete unit with 220/440 v. 60 cy. 3 phase motor.....PUMPL

NOTE—Order proper coolant piping from table to left and pump and tank from above listing, using CATALOG NUMBER and not the model number.

LISTING OF COOLANT PIPING

| Cat. No. | Description of Drill Press | | | | Ship. Wt. Lbs. | Code Word |
|----------|----------------------------|--------------------|-----------------|---------------|----------------|-----------|
| | Size of Drill Press | No. of Spindles | Spindle Spacing | Type of Table | | |
| 14-805 | 14" | 2 | 12" | 1 Piece | 21 | COLAA |
| 14-806 | 14" | 3 | 15" | 1 Piece | 26 | COLAB |
| 14-807 | 14" | 4 | 11½" | 1 Piece | 31 | COLAC |
| 14-808 | 14" | 5 | 12" | Sectional | 44 | COLAD |
| 14-809 | 14" | 8 | 11½" | Sectional | 60 | COLAE |
| 17-805 | 14" and 17" | All single Spindle | | Production | 13 | COLAK |
| 17-812 | 14" and 17" | 6 | 15" | Sectional | 50 | COLAR |

Use These Husky Vises for Efficient Production Work



Of tested quality and usefulness, these vises are essentially a Drill Press, Milling Machine, Grinder and Bench Vise all in one. They can be used in the tool room—in the shop for bench and production work.

Merely raise the vise to the position desired. It may be locked by tightening the clamp screws. The side of the vise is accurately graduated for angle work.

| No. | Jaw Size | Opening | Lgth. Body | Wt. Lbs. | Code Word |
|-------|----------|---------|------------|----------|-----------|
| *1024 | 1½"x1" | 1⅝" | 4⅝" | 5 | WISEA |
| 1025 | 1½"x1" | 1⅝" | 4⅝" | 6½ | WISEB |
| 1026 | 2½"x1⅞" | 2½" | 6¼" | 10 | WISEC |

*Does not have raising feature.

(FOR PRICES SEE ATTACHED PRICE LIST)

THE DELTA MANUFACTURING COMPANY • MILWAUKEE, WIS.

PRICE LIST FOR DELTA-MILWAUKEE INDUSTRIAL BULLETIN A-14

Effective June 1, 1946

Prices shown in this list supersede those quoted previous to September 20, 1941. All prices subject to change without notice. The right is reserved to make changes in design or equipment at any time, without incurring any obligation to install these on machines previously sold. Any sales tax or other tax imposed subsequent to the publication of this price list will be additional to quoted prices. All prices are in accordance with O. P. A. regulations or less.

Delta-Milwaukee machines and accessories are sold through authorized dealers only. If you do not know your Delta Dealer, we will send you a list, or consult the classified section of your local telephone book under TOOLS.
All prices f.o.b. Factory, Milwaukee, Wisconsin

| CATALOG No. | SELLING PRICE | CATALOG No. | SELLING PRICE | CATALOG No. | SELLING PRICE | CATALOG No. | SELLING PRICE | CATALOG No. | SELLING PRICE |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Page 3 | | Page 5 | | Page 6 | | Page 7 | | Page 8 | |
| 14-005..... | \$ 56.00 | 14-305..... | \$ 85.00 | Motors: | | 1028..... | \$ 8.35 | 60-310..... | \$ 21.25 |
| 14-006..... | 53.00 | 14-306..... | 82.00 | 60-310..... | \$ 21.25 | 1029..... | 8.35 | 60-325..... | 22.50 |
| 14-007..... | 61.00 | 14-307..... | 90.00 | 62-110..... | 29.75 | 271..... | .90 | 60-350..... | 28.75 |
| 14-008..... | 58.00 | 14-308..... | 87.00 | 66-110..... | 30.25 | 272..... | .90 | | |
| | | | | | | 273..... | .95 | 62-110..... | 29.75 |
| 972..... | 9.60 | 14-405..... | 252.00 | 62-110..... | 29.75 | 1504..... | 25.00 | 62-120..... | 31.00 |
| 973..... | 4.80 | 14-406..... | 246.00 | 66-320..... | 37.25 | 1505..... | 100.00 | 62-140..... | 44.00 |
| 974..... | 2.70 | 14-407..... | 262.00 | 62-610..... | 40.50 | 1506..... | 21.50 | | |
| 977..... | 2.70 | 14-408..... | 256.00 | 66-320..... | 37.25 | 1399..... | 43.00 | 66-110..... | 30.25 |
| 991..... | 2.70 | | | | | 976..... | 7.00 | 66-320..... | 37.25 |
| | | 14-410..... | 406.00 | | | | | 66-362..... | 51.75 |
| Motors: | | 14-411..... | 397.00 | | | 504..... | 5.50 | | |
| 60-310..... | 21.25 | 14-412..... | 420.00 | | | 505..... | 5.50 | 68-110..... | 37.75 |
| 62-110..... | 29.75 | 14-413..... | 411.00 | Page 7 | | 506..... | 6.90 | 68-120..... | 37.75 |
| 66-110..... | 30.25 | | | 970-B..... | 44.25 | 508..... | 7.50 | | |
| | | 14-415..... | 477.00 | 1289-A..... | 47.25 | | | 62-610..... | 40.50 |
| 62-110..... | 29.75 | 14-416..... | 465.00 | 970-C..... | 39.50 | 514..... | 1.85 | 62-620..... | 41.75 |
| 66-320..... | 37.25 | 14-417..... | 496.00 | 1286-A..... | 42.50 | 515..... | 1.85 | | |
| | | 14-418..... | 484.00 | 14-817..... | 7.55 | 516..... | 1.85 | 1320..... | 8.25 |
| 62-610..... | 40.50 | | | | | 518..... | 1.85 | 1329..... | 16.00 |
| 66-320..... | 37.25 | Motors: | | 1290..... | 9.60 | | | 1321..... | 16.00 |
| | | 60-310..... | 21.25 | 387..... | 1.10 | 524..... | .50 | 1322..... | 1.25 |
| | | 62-110..... | 29.75 | 430..... | 1.10 | 525..... | .50 | 1331..... | .55 |
| | | 66-110..... | 30.25 | 985..... | 1.85 | 526..... | .50 | | |
| | | | | 1022..... | 7.75 | | | 14-805..... | 28.00 |
| Page 4 | | 62-110..... | 29.75 | | | 804..... | 1.30 | 14-806..... | 38.00 |
| 14-205..... | 63.00 | 66-320..... | 37.25 | 14-803..... | 5.25 | 805..... | 1.35 | 14-807..... | 49.00 |
| 14-206..... | 60.00 | | | 1010..... | .90 | 806..... | 1.50 | 14-808..... | 64.00 |
| 14-207..... | 67.00 | 62-610..... | 40.50 | 1019..... | 5.25 | 807..... | 1.65 | 14-809..... | 96.00 |
| 14-208..... | 64.00 | 66-320..... | 37.25 | 1020..... | 5.25 | 808..... | 1.85 | | |
| | | | | 1006..... | 28.00 | 809..... | 2.10 | 17-805..... | 15.00 |
| 14-210..... | 86.00 | Page 6 | | 1516..... | 32.00 | 810..... | 2.60 | 17-812..... | 74.00 |
| 14-211..... | 83.00 | 14-515..... | 648.00 | 1517..... | 67.00 | 812..... | 3.00 | **17-830..... | Dis |
| 14-212..... | 91.00 | 14-516..... | 633.00 | 1519..... | 150.00 | 818..... | 15.35 | **17-831..... | Dis |
| 14-213..... | 88.00 | 14-517..... | 672.00 | 1399..... | 43.00 | | | **17-832..... | Dis |
| | | 14-518..... | 657.00 | | | 474..... | 1.15 | **17-833..... | Dis |
| 14-215..... | 105.00 | | | 1030..... | 18.00 | 475..... | 1.15 | | |
| 14-216..... | 102.00 | 14-520..... | 841.00 | 1007..... | 18.90 | 476..... | 1.20 | **17-840..... | Dis |
| 14-217..... | 110.00 | 14-521..... | 823.00 | 1009..... | 16.00 | 477..... | 1.25 | **17-841..... | Dis |
| 14-218..... | 107.00 | 14-522..... | 869.00 | 1008..... | 12.00 | 478..... | 1.25 | **17-842..... | Dis |
| Motors: | | 14-523..... | 851.00 | | | 480..... | 6.00 | **17-843..... | Dis |
| 60-310..... | 21.25 | | | | | | | | |
| 62-110..... | 29.75 | 14-525..... | 983.00 | | | 814..... | 4.20 | **17-850..... | Dis |
| 66-110..... | 30.25 | 14-526..... | 959.00 | | | 815..... | 4.20 | **17-851..... | Dis |
| | | 14-527..... | 1021.00 | | | 816..... | 4.95 | | |
| 62-110..... | 29.75 | 14-528..... | 997.00 | | | 817..... | 5.10 | 1024..... | 4.60 |
| 66-320..... | 37.25 | | | | | 819..... | 6.95 | 1025..... | 6.30 |
| | | | | | | 822..... | 25.40 | 1026..... | 10.20 |
| 62-610..... | 40.50 | | | | | | | | |
| 66-320..... | 37.25 | | | | | | | | |

THESE MACHINES ARE SOLD THROUGH AUTHORIZED DELTA DEALERS ONLY.

NOTE—It is not always possible to supply the type of motor specified and to fill your orders with the least possible delay we frequently must ship capacitor motors in place of Rep.-Ind. motors, and vice versa.

** Discontinued.

New Coolant Pumps and Tank are Announced as Follows:—

| | SELLING PRICE |
|---|---------------|
| 49610—1/4 HP 115 V 1 Ph 60 Cy 1725 RPM..... | \$54.00 |
| 49611—1/4 HP 230 V 1 Ph 60 Cy 1725 RPM..... | 54.00 |
| 49612—1/4 HP 115 V 1 Ph 50 Cy 1425 RPM..... | 54.00 |
| 49613—1/4 HP 230 V 1 Ph 50 Cy 1425 RPM..... | 54.00 |
| 49614—1/4 HP 220/440 V 3 Ph 50/60 Cy 1425/1750 RPM..... | 69.00 |
| 49615—1/4 HP 115 V 1725 RPM D.C..... | 71.00 |
| 49616—1/4 HP 230 V 1725 RPM D.C..... | 71.00 |
| 49618—Coolant Tank 16 gal. capacity required with any of the above pumps..... | 10.00 |



The Delta Manufacturing Company • Milwaukee 1, Wis.

A Subsidiary of ROCKWELL MANUFACTURING COMPANY

Form AD-354—June 1946

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