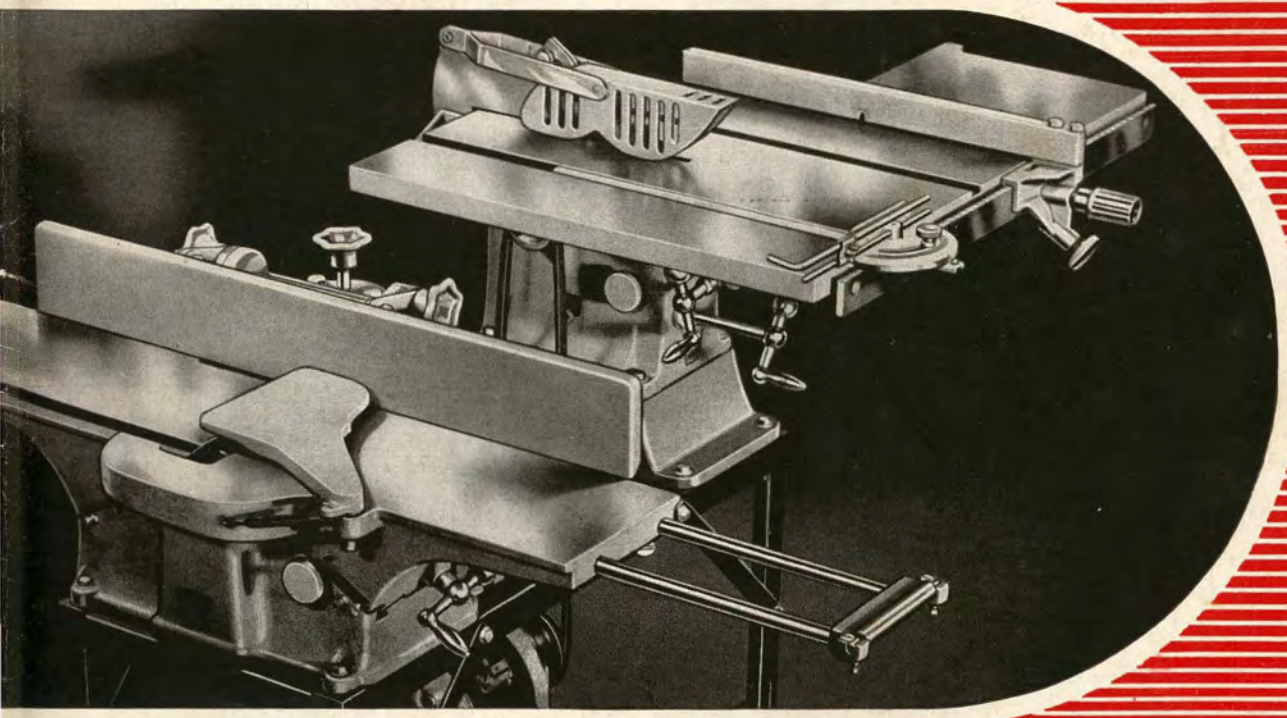
DURO

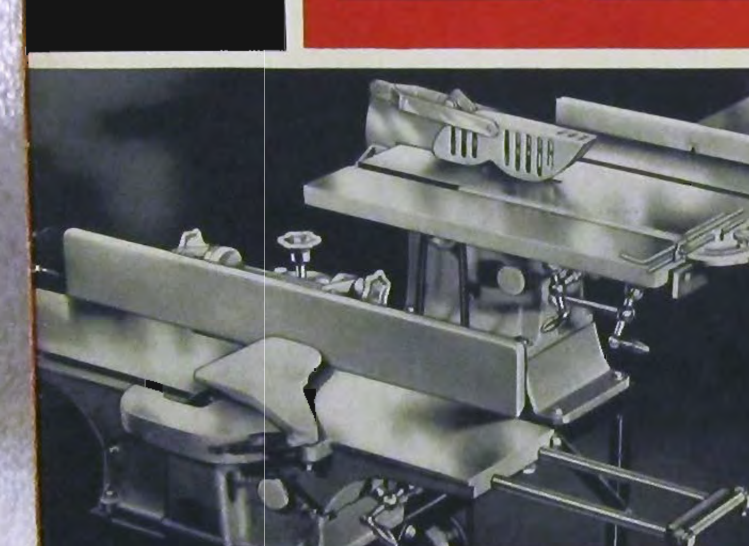


CATALOG E-39A

POWER DRIVEN MACHINERY

TOOLS OF PROGRESS

DURO



CATALOG E-39A

POWER DRIVEN MACHINERY

TOOLS OF PROGRESS

MODERN METHODS – MASS PRODUCTION – GIVE YOU GREATER VALUES

THE ORGANIZATION

Founded in 1917 to make precision tools and machinery. Throughout the years of its existence it has shown a continuous and steady growth. Today we are leaders in our field. This has been accomplished by strict adherence to the principle that only the finest in each class must be manufactured, yet sold at the lowest possible price. Five years ago we entered the Woodworking Machinery field—today we are one of the foremost in the field. Many claims have been put forth by our contemporaries, but check the records on this fact—Since Duro entered the field five years ago there have been more machines developed and more major improvements made than in the previous fifteen years—new machines had to be developed and improvements made to keep in line with Duro's Tools of Progress.

MODERN METHODS AND DESIGNS

In order to offer the public Superior Construction, Machinery and Accessories it was necessary to install the most modern machines and for our engineers to develop methods of producing the component parts at the least possible cost. No expense has been spared and our engineers are working unceasingly to develop new methods for producing better machinery, for we realize that regardless of the price range, the public wants and expects the manufacturer to produce the best that it is possible to obtain.

Note: Duro designs are original and all developed within their own organization, and while they hold a large number of patents, with others pending, do not list them as the numbers are of little interest to the public.

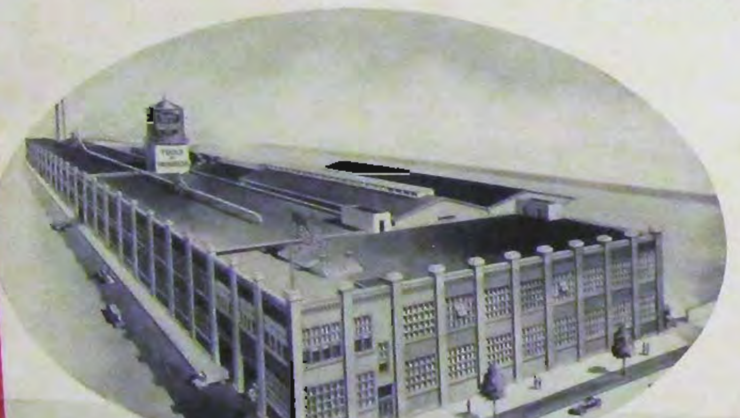
MASS PRODUCTION

Full realization of the marvelous work that the automobile industry has done in the last 20 years in giving to the public a better automobile for $1000.00 than they could have formerly bought for $2500.00 has led us to study and adapt to our own particular requirements similar methods of mass production with the object in mind of giving the same relative values. Line production of all assembly work, the use of skilled men to make one tool and one tool only, and the fact that we do all processing within our own plants and do not have to pay an extra profit on die castings, plating, heat treating, forgings, and screw machine parts has made it possible to put better materials, workmanship and design into our tools.

BUYING POWER

The large volume of business done by Duro, both in their Automotive and Woodworking Divisions, makes it possible for the manufacturers of raw materials and special parts to co-operate very closely with us and pass on savings that are obtained by making production runs on the large orders that Duro is able to place. A very good idea of this fact can be realized by the knowledge that it takes three carloads of steel per day to keep our Automatic Screw Machine Department up to full production.

Where it is necessary to purchase outside materials, Duro uses only standard brands, such as General Electric Motor parts, New Departure Precision Ball Bearings, Jacob's Chucks, and Cutler Hammer Switches. This is in conformity with our policy of using only the finest materials.



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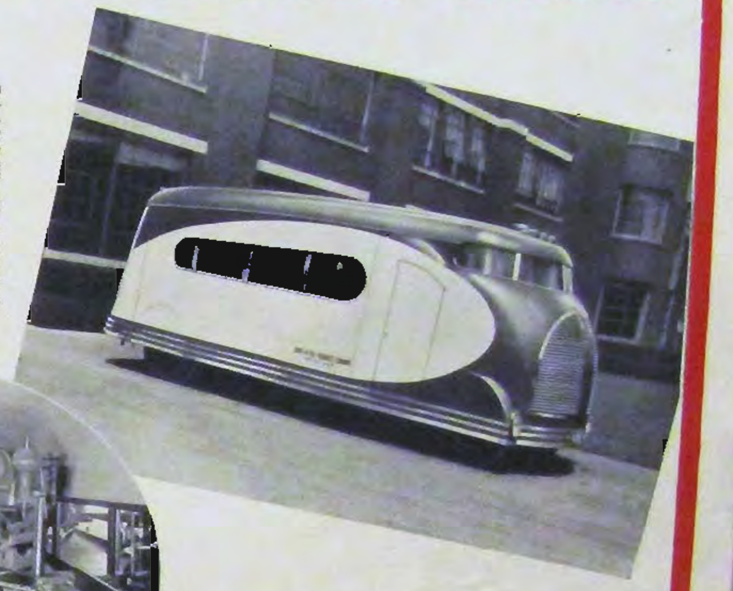
On the left is Plant No. 3 which contains approximately 175,000 square feet, 50,000 of which has been added this year. The above-mentioned continuous expansion is due to the superior construction and design of Duro Woodworking Machinery and the consequent increasing public demand. Below are shown the offices and Plant No. 1, containing the automatic screw machine department and several other manufacturing activities. It requires over 2200 H.P. to operate the various machines in our plants.

FIRST WITH Non-Marring Safety Kick Back

PUBLIC INTEREST

Our activities do not end with production of the machinery. Our factory representatives are all practical men with a real knowledge of woodworking. In each territory they have under their charge a completely equipped trailer showing our complete line that not only helps train the distributors' men, but that is always willing to call on homecraft clubs, schools and industrials for educational purposes. This is an increasingly useful project originated by Duro because the more that is known of the uses of woodworking machinery the greater value it is to the general public, both from a point of view of profit for industry and pleasure for the home shop owner and model builder.



Above and to the right is shown an interior and exterior view of one of our display busses. It is the first streamlined, cab over engine, bus designed with a self contained, electrically operated air conditioning unit and an automatic electric power plant. It was designed and the construction supervised by Duro Engineers. It is operated by a standard V8 motor, every other part is specially built.

PRECISION

Over twenty years experience in manufacturing high grade machinery and tools has taught us the value of using automatically controlled equipment wherever possible when precision finishes are required as it reduces the human element of error. No expense has been spared in equipping our different departments. For example—our Heat Treating Department is completely controlled by automatic electric pyrometers. Our die casting machines are of the most modern design with full automatic control. Likewise, we have developed automatically controlled jigs and fixtures for various operations, such as drilling, boring, and grinding. We also have a fully equipped laboratory and rigid tests are run to insure uniformity of products. The maxim of our entire executive force is—make it as low in cost as possible but do not sacrifice quality in workmanship and materials under any circumstances. Constant endeavor is made to improve our products by producing more precise methods of operation.

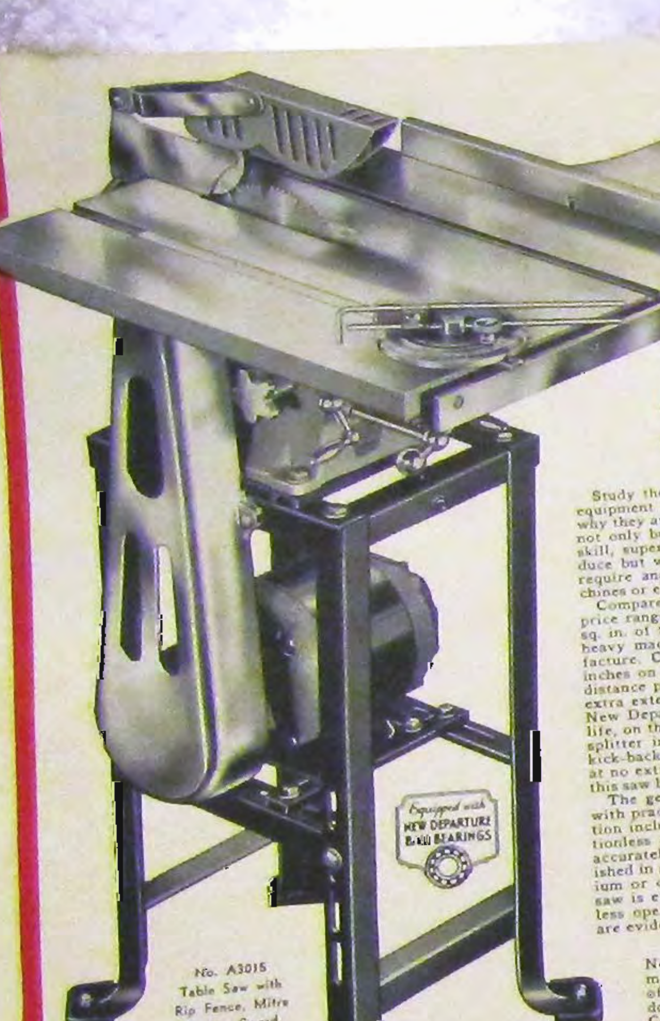
GREATER VALUES

Values are relative—Because a given machine is higher in price does not mean that it is necessarily better—Because it is lower in price does not mean that it is invariably of inferior quality—Some of our like machines are lower in price, some are higher, but always there is a reason.

Every machine that Duro builds has value built into it and is worth the established price in comparison with any machine made by any manufacturer. We do not claim to make all the good machinery, but we do state that whatever we do make is the best that can be purchased at that price. Furthermore, if we were all making identical machines—That Duro would build any and all machines and sell them at a price that would reflect favorably on Duro's claim of GREATER VALUES. We have all the necessary facilities—Executive ability, and experience; Modern plant and equipment; Buying power and Mass production. Plus the fact we are an entirely self-contained organization that is not forced to pay a second profit on a great many parts as others do because of a lack of facilities or a limited production.

However, Duro machines are individual—their merit lies in the fact that they are primarily practical not only in design and construction, but that the adjustments are simple, effective and of a practical type that you would expect to find on a production machine. These are made possible because we have experienced Executives, Engineers and Designers and a thorough knowledge of what the public requires.

Quality materials, precision workmanship and practical designs are your assurance that when you go through this catalogue you will find machines of superior construction, design and practical adjustments. They are more convenient to use, will wear longer and stand harder usage with less repairs than other machines in the same field—GREATER VALUES—



No. A3015 Table Saw with Rip Fence, Mitre Gauge, Guard, Splitter, Anti Kick-Back and 20"x16" Table.

$39.95

DURO PRODUCTION TABLE SAW

Study the specifications and the parts supplied as standard equipment with either of these Bench Saws and you will see why they are the greatest dollar value on the market. We have not only built the finest piece of machinery that engineering skill, superior materials and precision manufacture can produce but we have added those extra features that craftsmen require and appreciate—features not available on other machines or else available only at extra expense.

Compare the size of the tables with other bench saws in this price range. No. A3015 has 320 sq. in. and No. B3015 has 414 sq. in. of table surface. Each additional square inch of these heavy machined tables adds materially to the cost of manufacture. Compare the 9¼ inches of table *ahead* of the saw (12 inches on No. B3015) with competitive machines. This extra distance permits cross-cutting wide boards without buying an extra extension for front of table. Notice the use of genuine New Departure ball bearings grease sealed and lubricated for life, on the spindle mounting. Note the clear vision guard and splitter included at no extra cost, also the non-marring anti kick-back device, an important safety feature, also furnished at no extra cost. These are some of the plus values built into this saw by experienced designers for your greater satisfaction.

The general design of this saw is one of sturdy simplicity with practical mechanical adjustments. The general construction includes heavy seasoned gray iron frame for solid vibrationless operation with highest quality fittings and all parts accurately machined to close tolerances. It is handsomely finished in gray corduroy enamel with exposed steel parts chromium or cadmium plated. Care in designing and building this saw is evidenced in its precision work and smooth vibrationless operation. Superior materials and accurate construction are evidenced in its stamina and durability.

SPECIFICATIONS

New Departure Permanently Sealed Ball Bearings are mounted in machined cast iron housings which are part of the main frame. Table mounted on two machined double trunnions.

Combination Rip and Cross Cut Saw Blade	8"
B3015 Table size	23 x 18"
Table space in front of Saw Blade	12"
A3015 Table size	20 x 16"
Table space in front of Saw Blade	9¼"
Dado Head, maximum capacity	[illegible] x 6"
Heavy alloy steel arbor, Diameter	⅝"
Use ⅓ H.P. 1750 R.P.M. Motor. 5" Motor Pulley. Size of V Belt for use with No. 301583 stand	48"

CAPACITY—SAW BLADES

A full 2¾" cut can be made with this production Bench Saw due to skillful designing of the table bracket. It telescopes over the spindle, giving the whole unit more compactness, better balance and greater capacity. No. A3015 Bench Saw with the table extension will rip to the center of a 40 inch panel; No. B3015 to the center of a 44 inch panel.

The 8" saw blade with ⅝" arbor hole (standard equipment) is a double purpose blade that rips and cross-cuts equally well. Blades are made of high grade alloy steel, correctly tempered and built for production work. Our saw blades are hand hammered, filed and set to pass the most rigid inspection and are not to be confused with the usual type of blade sold for the home workshop.

Note the removable aluminum insert that permits using up to ⅝ x 6" Dado Heads. Blades are guarded in the base and are protected above the table by a clear vision steel guard. For added safety we supply the splitter and safety kick-back at no extra cost. See page 43 for other saw blades.

DURO For Convenient Adjustment

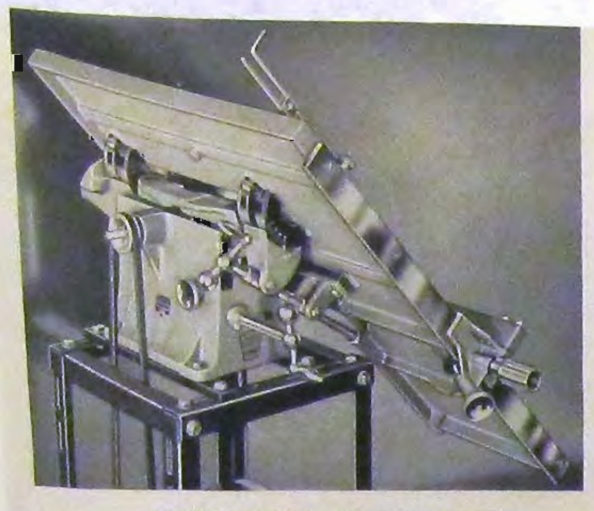


TABLE BRACKET—TABLE MOUNTING

Note the large extra heavy cast iron table bracket that carries the table. Ways are milled in the front and rear of the bracket to support the table trunnions. The bracket is equipped with two large 1¼ inch steel posts with a fine tooth rack cut in each post. The posts operate in 3-inch long bearing supports which are an integral part of the frame. A double pinion turned by the ball crank handle operates the gear racks, lowering or raising the table, with ease. With a double pinion and gear rack on both front and rear posts and with the weight of the table thus evenly distributed there is absolutely smooth action and no possibility of cramping. Additional ease of operation is obtained by counter balancing the weight of the table and table bracket with raising springs.

The table is rigidly mounted, front and rear, on two sets of wide trunnions with double ways. This design permits the table to tilt on an axis running in line with the saw blade and even with the TOP of the table. Consequently there is no travel of the slot to right or left when the table is tilted. This permits a very narrow table slot —a great advantage in convenience and safety for thin or narrow work. A removable throat provides ready access to the blade or additional space for dado saws.

MECHANICAL ADJUSTMENTS PRACTICAL—SIMPLE—ACCURATE

The illustration above shows the simplicity in design of the various adjustments. We believe you, like thousands of others, will agree that these adjustments are by far the most efficient on any table saw built, regardless of price. When it becomes necessary to tighten a lot of hand screws and clamps to obtain an adjustment, such adjustments become impractical "gadgets." The adjustments on the Duro Production Bench Saw are accurate, are easily and quickly made and in actual use have proved to be practical.

The rip fence is made of steel with all parts machined to fit and hold it rigid. A quarter turn of the locking handle releases it. The friction drive knob turns and moves the fence to the desired position with micrometer accuracy—always parallel to saw blade. By pressing on the knob the friction drive is released and the fence may be quickly moved across the table.

A ball crank handle turns to tilt the table to the required position where it will remain without the necessity of adjusting and then clamping it into position. The table raises and lowers quickly and accurately. Two complete turns of the ball crank will raise or lower the table and ¼ turn of the handwheel locks it in position. The weight of the table is counter balanced by raising springs in order to adjust the table for depth of cut with the minimum effort. Both the tilting and table raising mechanism are accurately machined to operate without play or backlash.

A mitre gauge graduated to 60° in both directions, with extension stop bars for duplicate cutting, is supplied as standard equipment. Grooves carefully machined in table accommodate the use of the mitre gauge on either side of the blade. Guide bar is made to fit in the grooves snugly yet to permit smooth, easy movement.

FRICTION DRIVE RIP FENCE

A composition friction roller operating against the guide bar permits micrometer adjustment, [illegible]

PRICE INFORMATION

A3015—Bench Saw only, with 20" x 16" table; complete with guard, splitter, safety kick-back, mitre gauge, rip fence and 2" spindle pulley ... $39.95

[illegible]

DE LUXE MITRE GAUGE

[illegible]

GUARD, SPLITTER AND ANTI KICK-BACK

[illegible]

No. C3031 JOINTER ONLY WITH BLADE GUARDS LESS EXTENSIONS

$54.95

DURO PRODUCTION JOINTER

The Duro Production Jointer gives more for your money than any other 6 inch Jointer on the market today. Here's why:—

It has a real One Piece Solid Steel Cutterhead and Shaft—no inserted chip breakers that might fly loose on a production jointer of this capacity.

The Rear Guard—not available on some jointers, costs extra on others—is included as original equipment in the regular price of this machine.

It is equipped to take the Duro patented Roller Extensions that provide table length up to 60 inches—an exclusive Duro feature.

Production fence moves across table with rack and pinion, swivels, tilts, and eliminates dangerous gap between fence and rear table.

Duro grinds front and rear table AFTER assembly to insure perfect alignment—an extra refinement in manufacture.

To obtain vibrationless performance and rugged durability Duro has built the base and table of this jointer of larger, more massive castings than any competitive jointer on the market.

These are some of the exclusive Plus Values included with the Duro 6 inch Jointer. In addition the general construction includes only the finest in design, materials and workmanship.

The castings are high quality gray iron, machined to precision limits. The massive base insures solidity and also provides steady substantial mountings for the shaft which runs smoothly in New Departure sealed ball bearings.

The one piece solid alloy steel cutting head and shaft is costly construction that gives strength and extra safety. On a machine of this large capacity the elimination of inserted chip breakers is a highly desirable safety feature. Careful machining and balancing combine to make this the most satisfactory cutterhead assembly from the standpoint of accuracy, strength and safety.

Both front and rear tables are raised or lowered by means of ball crank handles. The front table is fitted with a rabbeting arm and the rear table with a rabbeting ledge. The guard is easily detached when doing rabbeting work. The tables slide smoothly on machined dovetailed ways, and are locked in position by knurled knobs located on side of base. The dovetailed ways are fitted with adjustable gibs to take-up wear. A graduated depth gauge indicates the depth of cut.

The patented extension rods increase the table length to 60 inches overall. Long pieces are properly supported and pass easily over the Jointer. The extensions may be closed by loosening thumb screws. Rollers are adjustable to align with tables.

PRICE INFORMATION

C3031—Same as A3031 less extensions but machined for extensions ... $54.95

[illegible] ... $59.90

[illegible]

FENCE MECHANISM

[illegible]

FIRST [illegible]

DURO-PRODUCTION COMBINATION JOINTER AND TABLE SAW

Cabinet Shops! Pattern Shops! Home Work Shops! Building Contractors! Schools! Factories!

Here is an ideal combination of the Duro Production Jointer and Bench Saw mounted on a single steel stand in one compact unit. One motor operates both tools from any light socket. Portable enough to be easily loaded on a truck and moved from one job to another. A unit of this type will pay for itself on one construction job in time and labor saved.

This combination is practical and convenient and will handle the majority of woodworking operations, such as ripping, crosscutting, dadoing, tenoning, mitering, jointing, etc. There is also the advantage of being able to run both tools at one time or individually as may be desired. You will note that this combination is compact and requires little space. Yet neither machine interferes with the other, even with full capacity work. The motor is centered directly below both tools with the belts running in a straight line to the tools. This prevents loss of power and greatly adds to the safety.

The outfit consists of our No. B3015 Production Saw described on Page 3, including the larger table, table extension, splitter, guard and kick-back. Also our No. A3031 Production Jointer with roller extension fully described on Page 5. Both tools are mounted on a rigid, well braced all-steel stand that includes motor supports. Note the extra base under the table saw that raises the table sufficiently to clear the Jointer when cross-cutting extra long and wide lumber. Proper size pulleys and belts are also included.

SPECIFICATIONS

[illegible]

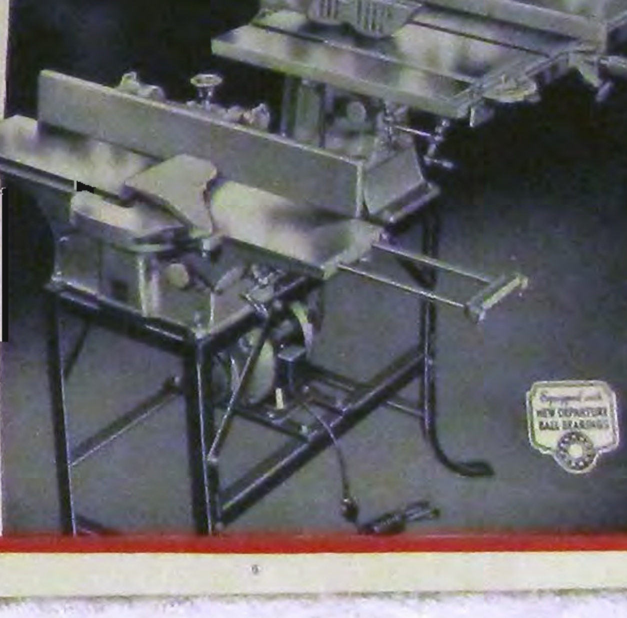
PRICE INFORMATION

3036—Complete Combination Outfit less motor ... $123.75

[illegible]

No. 3036 OUTFIT COMPLETE LESS MOTOR

$123.75



MODERN METHODS – MASS PRODUCT

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On the left is Plant No. 3 which contains approximately 175,000 square feet, 50,000 of which has been added this year. The above-mentioned continuous expansion is due to the superior construction and design of Duro Woodworking Machinery and the consequent increasing public demand. Below are shown the offices and Plant No. 1, containing the automatic screw machine department and several other manufacturing activities. It requires over 2200 H.P. to operate the various machines in our plants.

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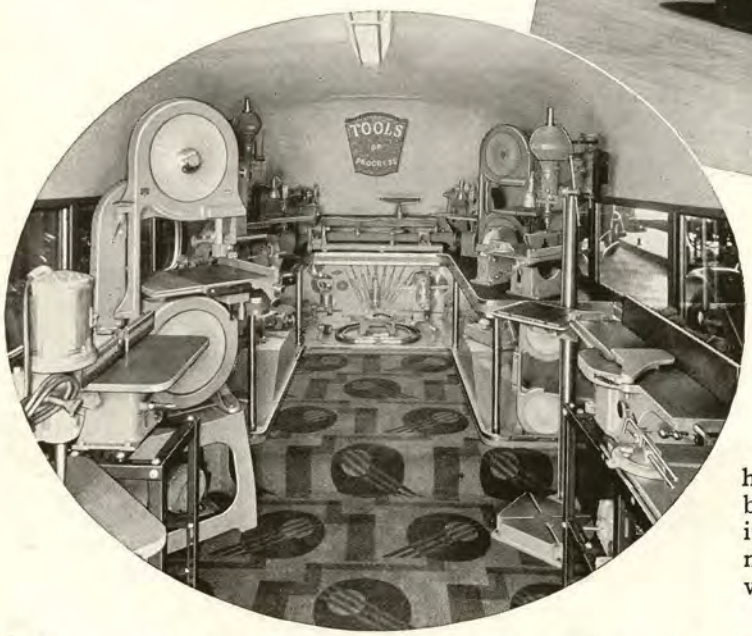

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No. A3015
Table Saw with
Rip Fence, Mitre
Gauge, Guard,
Splitter, Anti Kick-
Back and 20"x16"
Table.

$39.95

DURO PRODUCTION TABLE SAW

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Compare the size of the tables with other bench saws in this price range. No. A3015 has 320 sq. in. and No. B3015 has 414 sq. in. of table surface. Each additional square inch of these heavy machined tables adds materially to the cost of manufacture. Compare the 9¼ inches of table *ahead* of the saw (12 inches on No. B3015) with competitive machines. This extra distance permits cross-cutting wide boards without buying an extra extension for front of table. Notice the use of genuine New Departure ball bearings grease sealed and lubricated for life, on the spindle mounting. Note the clear vision guard and splitter included at no extra cost, also the non-marring anti kick-back device, an important safety feature, also furnished at no extra cost. These are some of the plus values built into this saw by experienced designers for your greater satisfaction.

The general design of this saw is one of sturdy simplicity with practical mechanical adjustments. The general construction includes heavy seasoned gray iron frame for solid vibrationless operation with highest quality fittings and all parts accurately machined to close tolerances. It is handsomely finished in gray corduroy enamel with exposed steel parts chromium or cadmium plated. Care in designing and building this saw is evidenced in its precision work and smooth vibrationless operation. Superior materials and accurate construction are evidenced in its stamina and durability.

SPECIFICATIONS

New Departure Permanently Sealed Ball Bearings are mounted in machined cast iron housings which are part of the main frame. Table mounted on two machined double trunnions.

Combination Rip and Cross Cut Saw Blade	8"
B3015 Table size	23 x 18"
Table space in front of Saw Blade	12"
A3015 Table size	20 x 16"
Table space in front of Saw Blade	9¼"
Dado Head, maximum capacity	13/16 x 6"
Heavy alloy steel arbor, Diameter	5/8"
Use ½ H.P. 1750 R.P.M. Motor. 5" Motor Pulley.	
Size of V Belt for use with No. 301585 stand	48"

CAPACITY—SAW BLADES

A full 2⅜" cut can be made with this production Bench Saw due to skillful designing of the table bracket. It telescopes over the spindle, giving the whole unit more compactness, better balance and greater capacity. No. A3015 Bench Saw with the table extension will rip to the center of a 40 inch panel; No. B3015 to the center of a 44 inch panel.

The 8" saw blade with 5/8" arbor hole (standard equipment) is a double purpose blade that rips and cross-cuts equally well. Blades are made of high grade alloy steel, correctly tempered and built for production work. Our saw blades are hand hammered, filed and set to pass the most rigid inspection and are not to be confused with the usual type of blade sold for the home workshop.

Note the removable aluminum insert that permits using up to 13/16 x 6" Dado Heads. Blades are guarded in the base and are protected above the table by a clear vision steel guard. For added safety we supply the splitter and safety kick-back at no extra cost. See page 43 for other saw blades.

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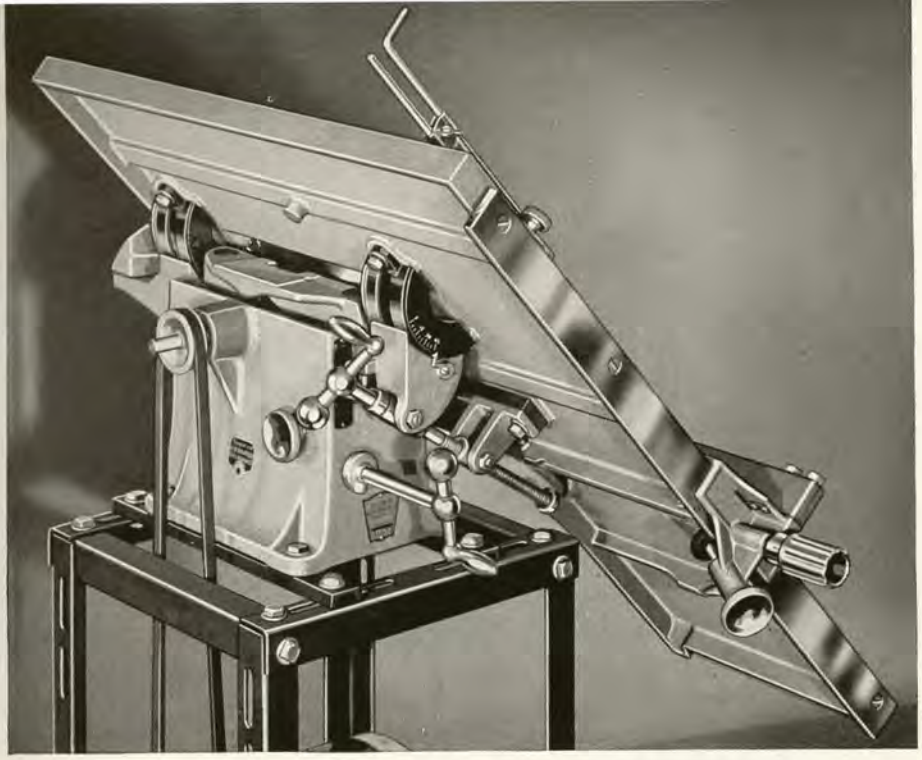


TABLE BRACKET — TABLE MOUNTING

Note the large extra heavy cast iron table bracket that carries the table. Ways are milled in the front and rear of the bracket to support the table trunnions. The bracket is equipped with two large 1⅛ inch steel posts with a fine tooth rack cut in each post. The posts operate in 3-inch long bearing supports which are an integral part of the frame. A double pinion turned by the ball crank handle operates the gear racks, lowering or raising the table, with ease. With a double pinion and gear rack on both front and rear posts and with the weight of the table thus evenly distributed there is absolutely smooth action and no possibility of cramping. Additional ease of operation is obtained by counter balancing the weight of the table and table bracket with raising springs.

The table is rigidly mounted, front and rear, on two sets of wide trunnions with double ways. This design permits the table to tilt on an axis running in line with the saw blade and even with the TOP of the table. Consequently there is no travel of the slot to right or left when the table is tilted. This permits a very narrow table slot —a great advantage in convenience and safety for thin or narrow work. A removable throat provides ready access to the blade or additional space for dado saws.

MECHANICAL ADJUSTMENTS PRACTICAL — SIMPLE — ACCURATE

The illustration above shows the simplicity in design of the various adjustments. We believe you, like thousands of others, will agree that these adjustments are by far the most efficient on any table saw built, regardless of price. When it becomes necessary to tighten a lot of hand screws and clamps to obtain an adjustment, such adjustments become impractical "gadgets." The adjustments on the Duro Production Bench Saw are accurate, are easily and quickly made and in actual use have proved to be practical.

The rip fence is made of steel with all parts machined to fit and hold it rigid. A quarter turn of the locking handle releases it. The friction drive knob turns and moves the fence to the desired position with micrometer accuracy—always parallel to saw blade. By pressing on the knob the friction drive is released and the fence may be quickly moved across the table.

A ball crank handle turns to tilt the table to the required position where it will remain without the necessity of adjusting and then clamping it into position. The table raises and lowers quickly and accurately. Two complete turns of the ball crank will raise or lower the table and ¼ turn of the handwheel locks it in position. The weight of the table is counter balanced by raising springs in order to adjust the table for depth of cut with the minimum effort. Both the tilting and table raising mechanism are accurately machined to operate without play or backlash.

A mitre gauge graduated to 60° in both directions, with extension stop bars for duplicate cutting, is supplied as standard equipment. Grooves carefully machined in table accommodate the use of the mitre gauge on either side of the blade. Guide bar is made to fit in the grooves snugly yet to permit smooth, easy movement.

FRICTION DRIVE RIP FENCE

A composition friction roller operating against the guide bar permits micrometer adjustment, impossible with gear teeth and rack. Roller may be released, by pressure against turning knob, and fence moved quickly across table. Sliding bracket, precision machined, enables the rip fence to move across the table parallel with the saw blade without binding. Handle locks the fence securely in position. Guide Bar is graduated in ⅛ in.

PRICE INFORMATION

A3015—Bench Saw only, with 20″ x 16″ table; complete with guard, splitter, safety kick-back, mitre gauge, 8 in. combination blade, rip fence and 2″ spindle pulley. Shipping weight 105 lbs.	**$39.95**
B3015—Same Bench Saw with 23″ x 18″ table. Shipping weight 120 lbs.	$43.50
301553—Extension Table complete with graduated slide bar to match table bar on Bench Saw. Table size 13 x 13½ in. Specify whether for A or B3015. Shipping weight 12 lbs.	$ 4.95
301557—Anti Kick-Back Attachment only	$ 1.00
301558—Guard and Splitter only	$ 2.95
301585—Steel Stand for Bench Saw. Shipping Weight 33 lbs.	$ 7.45
301586—Remote Control Switch for motor. Fits on front bar of steel Stand	$ 2.50
301588—Rubber Feet for Steel Stand. Shipping weight per set 1 lb. Set of four	$ .95
301590—Belt and Pulley Guard. Shipping weight 8 lbs.	$ 6.75
301595—DeLuxe Mitre Gauge	$ 4.95

DE LUXE MITRE GAUGE

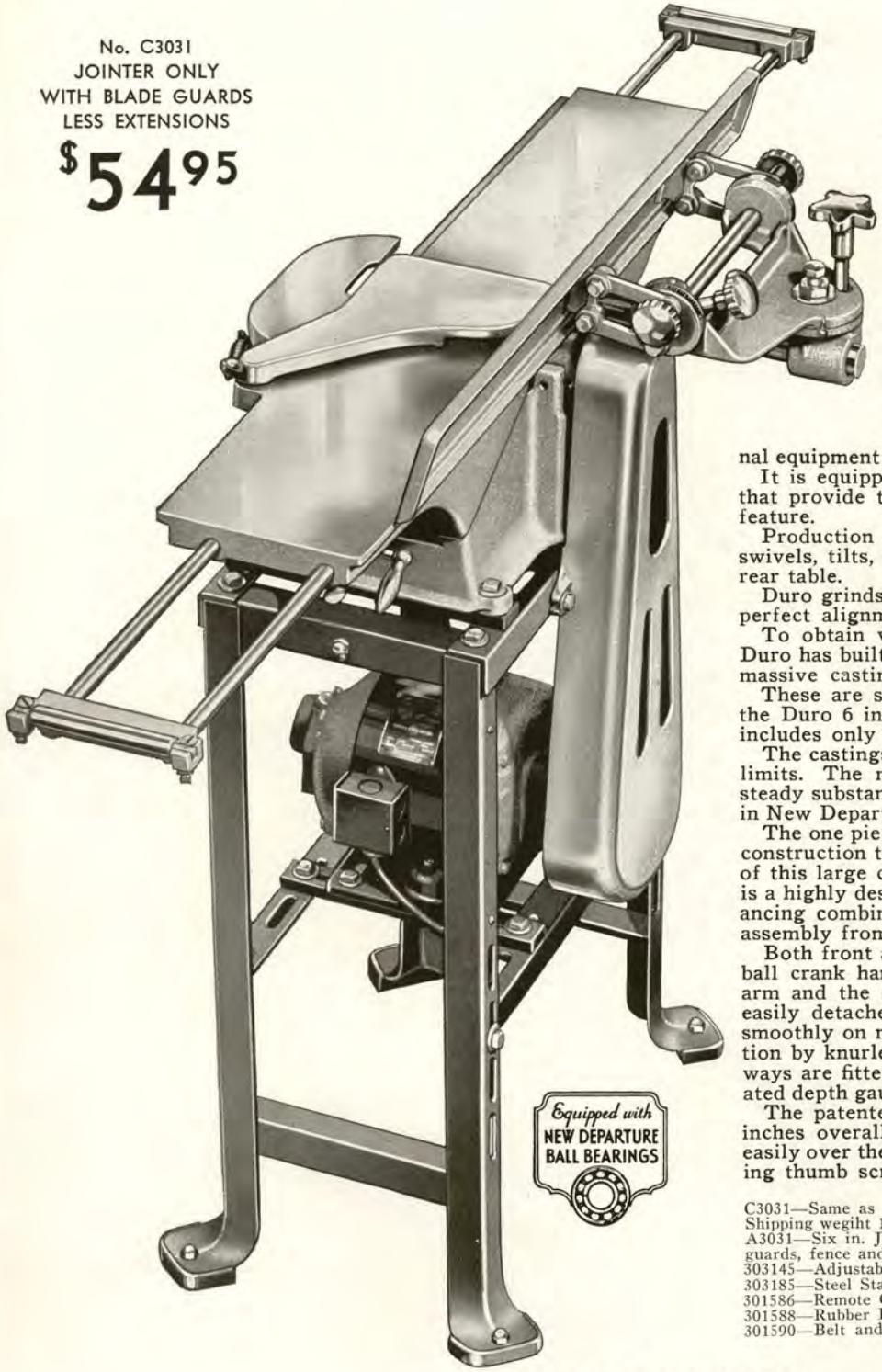
The first Gauge to have adequate bearing surface, to revolve easily and lock on its own axis. Positively eliminates crawling from the set position while being locked. It swings 60° in either direction. Two adjustable stops, one on each side of 90° can be set at any desired position. Another feature is the adjustable support bar, 14″ wide giving full support to work being mitered—compare this with the usual 6″ width. The support bar is connected to the gauge proper and held by two heavy tension springs. Bar may be moved for use on either side of the blade to retain the 14″ support feature. Adjustable extension rods provided for duplicate cut-off work. Top of support bar is marked in ⅛″.

GUARD, SPLITTER AND ANTI KICK-BACK

Splitter in back of saw blade prevents binding. Anti Kick-Back is made of moulded rubber and steel. Rubber grips all work from finest to capacity of saw instantaneously—no steel teeth to mar surfaces. Guard is clear vision type. These units meet all safety requirements.

No. C3031
JOINTER ONLY
WITH BLADE GUARDS
LESS EXTENSIONS

$54.95



DURO PRODUCTION JOINTER

The Duro Production Jointer gives more for your money than any other 6 inch Jointer on the market today. Here's why:—

It has a real One Piece Solid Steel Cutterhead and Shaft—no inserted chip breakers that might fly loose on a production jointer of this capacity.

The Rear Guard—not available on some jointers, costs extra on others—is included as original equipment in the regular price of this machine.

It is equipped to take the Duro patented Roller Extensions that provide table length up to 60 inches—an exclusive Duro feature.

Production fence moves across table with rack and pinion, swivels, tilts, and eliminates dangerous gap between fence and rear table.

Duro grinds front and rear table AFTER assembly to insure perfect alignment—an extra refinement in manufacture.

To obtain vibrationless performance and rugged durability Duro has built the base and table of this jointer of larger, more massive castings than any competitive jointer on the market.

These are some of the exclusive Plus Values included with the Duro 6 inch Jointer. In addition the general construction includes only the finest in design, materials and workmanship.

The castings are high quality gray iron, machined to precision limits. The massive base insures solidity and also provides steady substantial mountings for the shaft which runs smoothly in New Departure sealed ball bearings.

The one piece solid alloy steel cutting head and shaft is costly construction that gives strength and extra safety. On a machine of this large capacity the elimination of inserted chip breakers is a highly desirable safety feature. Careful machining and balancing combine to make this the most satisfactory cutterhead assembly from the standpoint of accuracy, strength and safety.

Both front and rear tables are raised or lowered by means of ball crank handles. The front table is fitted with a rabbeting arm and the rear table with a rabbeting ledge. The guard is easily detached when doing rabbeting work. The tables slide smoothly on machined dovetailed ways, and are locked in position by knurled knobs located on side of base. The dovetailed ways are fitted with adjustable gibs to take-up wear. A graduated depth gauge indicates the depth of cut.

The patented extension rods increase the table length to 60 inches overall. Long pieces are properly supported and pass easily over the Jointer. The extensions may be closed by loosening thumb screws. Rollers are adjustable to align with tables.

PRICE INFORMATION

C3031—Same as A3031 less extensions but machined for extension Shipping weight 142 lbs..... **$54.95**

A3031—Six in. Jointer with roller extensions, front and rear blade guards, fence and 2 inch spindle pulley. Shipping weight 150 lbs.. **$59.90**

303145—Adjustable Extensions. Shipping weight 8 lbs.....Per Pair....$ 4.95
303185—Steel Stand for Jointer. Shipping weight 37 lbs.....$ 7.85
301586—Remote Control Switch.....$ 2.50
301588—Rubber Feet for Steel Stand. Ship. Wt. per set 1 lb. Set of 4...$ .95
301590—Belt and Pulley Guard. Shipping Weight 8 lbs.....$ 6.75

New Departure Precision Totally Sealed Ball Bearings.
One Piece Cutter Head—no inserted chip breakers. Statically and dynamically balanced.
Three 6″ High Speed Steel Blades.
Fence tilts to 45° in both directions.
Gear Rack for moving fence across tables.
Blade guards are standard equipment.
Capacity.....½″ x 6″
Rabbeting Ledge.....1″.
Size Front Table.....16″ x 7½″
Size Rear Table.....17″ x 7½″
Length of Table Surface.....34½″
Overall length with extension.....60″
Overall width.....20″
Overall height.....13″
Use 5 inch Pulley on 1750 R.P.M. ½ H. P. Motor to give you a speed of 4500 R.P.M. Use 50 inch V Belt with 303185 Steel Stand.
Shipping weight.....150 Lbs.

FENCE MECHANISM

The exclusive Duro production safety fence is included as standard equipment. The fence is fastened to the back table, not the front, thereby eliminating the gap between the fence and the rear table, the point where lumber might catch. Clearance under the front of the fence is only equal to the depth of cut and is always less than the thickness of the stock. This is an important safety feature in working with thin stock. The fence is moved across the table by a rack and pinion operated by a convenient handwheel and is adjusted readily and accurately to the desired position. When the fence is moved across the table the part of the blades to the right of the fence is guarded by the rear guard attached to the fence —a Duro feature for added safety.

The fence may also be swiveled to an angle allowing the operator to make a shearing cut—another exclusive Duro feature. A shearing cut prevents cupping and a tendency for the grain to lift on certain woods. Also a shearing cut prolongs the life of the blade when working on glued up stock. The fence may also be tilted to 45° in either direction and locked in position by a handwheel. The degree of tilt is indicated by a pointer on a graduated scale.

DURO - PRODUCTION
COMBINATION JOINTER AND TABLE SAW

Cabinet Shops! Pattern Shops! Home Work Shops! Building Contractors! Schools! Factories!

Here is an ideal combination of the Duro Production Jointer and Bench Saw mounted on a single steel stand in one compact unit. One motor operates both tools from any light socket. Portable enough to be easily loaded on a truck and moved from one job to another. A unit of this type will pay for itself on one construction job in time and labor saved.

This combination is practical and convenient and will handle the majority of woodworking operations, such as ripping, crosscutting, dadoing, tenoning, mitering, jointing, etc. There is also the advantage of being able to run both tools at one time or individually as may be desired. You will note that this combination is compact and requires little space. Yet neither machine interferes with the other, even with full capacity work. The motor is centered directly below both tools, with the belts running in a straight line to the tools. This prevents loss of power and greatly adds to the safety.

The outfit consists of our No. B3015 Production Saw described on Page 3, including the larger table; table extension; splitter, guard and kick-back. Also our No. A3031 Production Jointer with roller extension fully described on Page 5. Both tools are mounted on a rigid, well braced all-steel stand that includes motor supports. Note the extra base under the table saw that raises the table sufficiently to clear the Jointer when cross-cutting extra long and wide lumber. Proper size pulleys and belts are also included.

SPECIFICATIONS

Overall width	4 ft. 6 in.
Overall depth	3 ft. 2 in.
Overall height	3 ft. 8 in.
Capacity of Saw	2⅜ in.
Dado Head, maximum size	⅛ x 6 in.
Capacity of Jointer	½ x 6 in.
Table space in front of saw blade	12 in.
Length of Jointer tables with extensions	60 in.

With 1750 RPM Motor use 5 in. pulleys. With 3450 RPM Motor use 3″ pulley on Jointer, 2½″ on Saw. 40″ and 48″ Belts with both motors.

PRICE INFORMATION

3036—Complete Combination Outfit less motor. Ship. wt. 310 lbs. **$123.75**

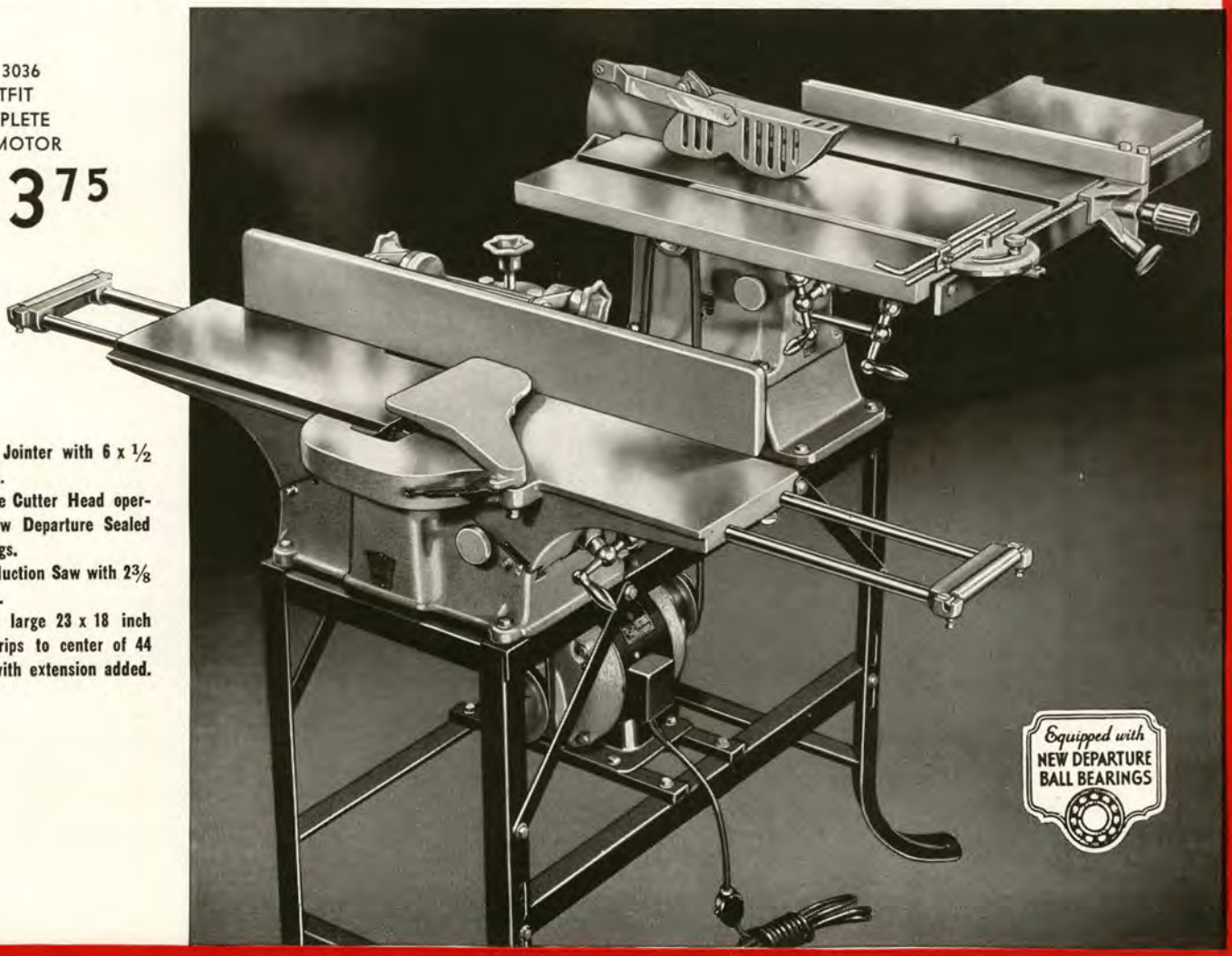
303685—Steel Stand only for Combination Outfit. Ship. wt. 32 lbs. $ 9.85

301575—Sub-base only; fits A or B3015 Saw. Ship. wt. 13 lbs. $ 3.50

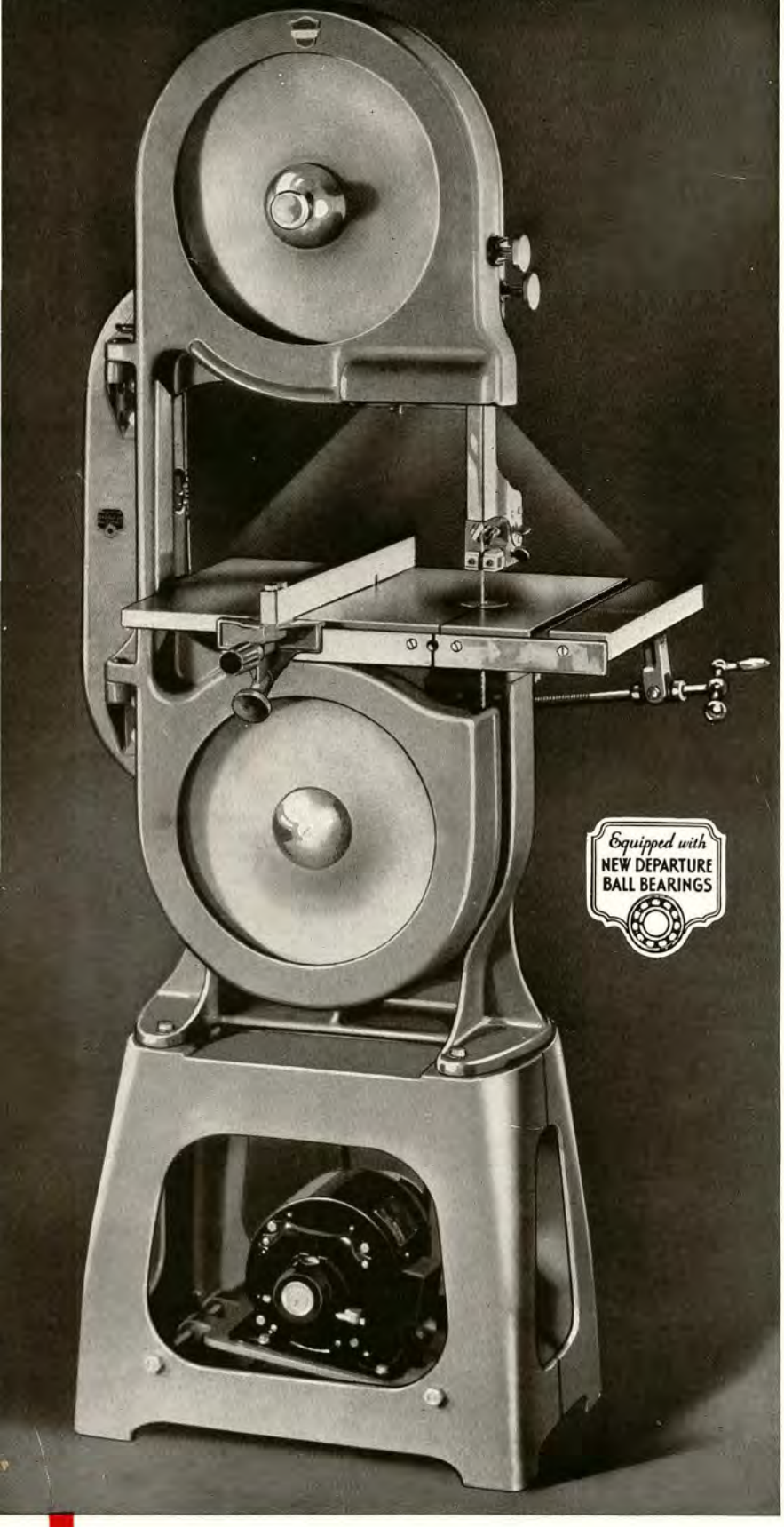
301586—Remote Control Switch $ 2.50

301588—Rubber Feet for Stand. Ship. wt. 1 lb. Set of 4. $ .95

No. 3036
OUTFIT
COMPLETE
LESS MOTOR
$123.75



- **Production Jointer with 6 x ½ in. capacity.**
- **Three Blade Cutter Head operates on New Departure Sealed Ball-Bearings.**
- **8 inch Production Saw with 2⅜ in. capacity.**
- **Saw has a large 23 x 18 inch table and rips to center of 44 in. panel with extension added.**



No. 3023
BAND SAW ONLY
$127.50
LESS BASE & MOTOR

DURO PRODUCTION

16-INCH BAND SAW

This saw was not built to meet price competition but was built to the highest possible standards for the Production Shop, the Super-craftsman or anyone who wants the finest in performance, quality and value that money can buy—A 16″ Saw that stands in a class by itself on which both finer and heavier work can be accomplished that is not possible on smaller capacity or lighter Band Saws.

Massive Oversize Construction. The entire frame, the wheel guards and the table are made of heavy seasoned gray iron castings, the frame being a one piece casting of box type and channel design. There is no substitute for large heavy castings in the underlying construction of a machine. More actual strength is built into this machine than is necessary for even heavy production work but it is this extra strength that gives rigidity, accuracy and vibration free performance.

Cast Aluminum Disc Wheels. There is no better type wheel than the cast aluminum construction which we are using. This wheel is accurately balanced and strong but light in weight—an important feature on a band saw. Each wheel is mounted on two large New Departure Ball Bearings. Wheels are rubber tired, and dynamically and statically balanced to prevent vibration.

One Piece Cast Iron Guard. The Duro wheel guard is a one piece casting, hinged to swing open and fastened shut with a single knob. The guard can be quickly opened with one hand to check blade tension or to change blades. Compare the sturdiness, simplicity and convenience of this construction with guards of less solid material made of several pieces with a large number of fasteners.

Upper Wheel Mounting. The upper wheel mounting is an important and vital point on a band saw. Duro has designed a mounting unit with a husky gray iron box frame casting as a base—not a die casting. Dovetailed ways gibbed for take up, assure accuracy and long life. Two extra large ball bearings, shock spring and large handwheel adjustments make it the finest mechanism that can be built.

All Adjustments Made From the Front. Notice the blade alignment adjustment knob in the center of the upper wheel that operates through an oversize hollow spindle. The blade tension adjustment handwheel is also reached from the front. Note that the table tilting adjustment, the fence adjustment and the adjustment of the saw blade guide and guard are made from the front of the saw. Forethought and skillful design save time and inconvenience for the owner of the Duro Saw.

Production Table. The polished cast iron table with auxiliary wood table gives an overall working surface 24″ x 16″. The table is mounted on an oversize double trunnion with machined ways and is tilted with a ball crank. The degree of tilt is shown on a scale on the frame arm above the table in plain view. The fence is equipped with a micrometer adjustment and positive lock. An aluminum insert in the table protects the saw blade. A miter gauge slot also is provided. Finest quality construction with every worth while convenience included.

Exclusive Improved Roller Guides. Duro roller guides are ball bearing mounted with a concave face that is set at an angle to the blade. This construction prevents grooving, sticking, and blade crystallization at the same time giving perfect support to the blade.

Built in Electric Light is an additional Duro feature. Built into the wheel guard to give light at the right place for perfect visibility.

PRICE INFORMATION

3023—Band Saw only, less base, motor, belt and pulley. Shipping weight 293 lbs.....	**$127.50**
302349—Base complete. Ship. wt. 125 lbs.....	$ 19.85
302375—Mitre Gauge Assembly to fit slot in table..	$ 1.95
302480—Metal cutting attachment. Ship. wt. 50 lbs..	$ 16.95
302485—Belt and Pulley Guard.....	$ 9.75
302470—Remote Control Switch.....	$ 1.95
340400—Motor Pulley ¾″ bore.....	$ .51
360260—60″ V-Belt	$ .91
3766—Electric Bulb to fit in guard.....	$ .35

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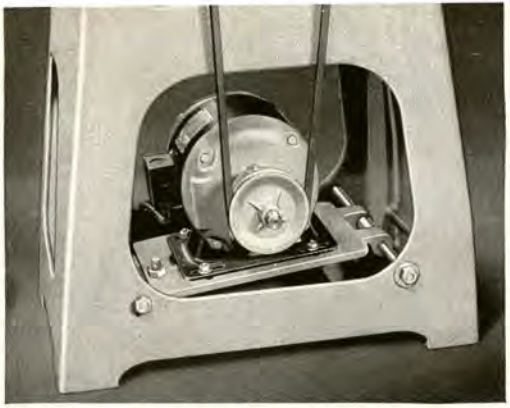
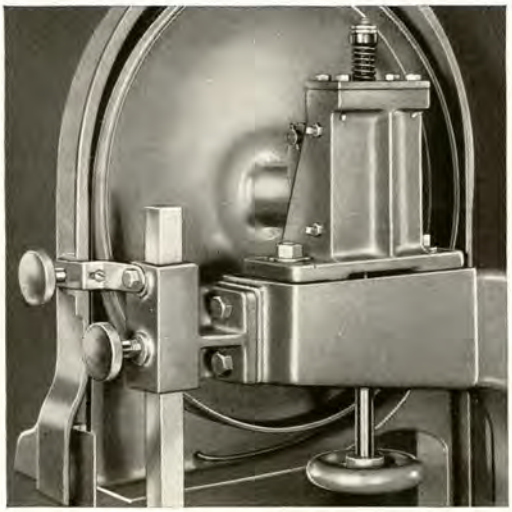


FLOATING MOTOR GIVES PROPER BELT TENSION

The base for the band saw includes an unusually efficient motor mounting. The motor is mounted in a protected position inside the base on a hinged plate. Opposite the hinged side of the plate is an adjustment screw by means of which belt tension is readily regulated. The motor mounting plate is made of cast iron and is provided with slots properly designed to accommodate all standard makes of motors.

The base itself is a heavy casting finished in gray corduroy enamel to match the saw. It is so designed that the unit is the right height for the average user. Bolt holes are conveniently located on the inside of the frame so that the unit may be bolted to the floor if desired. This however, will not be found necessary in most instances due to the well balanced and rigid design. Mounted on the base, with its own motor and electric light, this unit is entirely independent and may be used anywhere in the shop or outside where electric current is available. Use ½ H.P. 1750 R.P.M. Motor.



UPPER WHEEL ASSEMBLY

The importance of the upper-wheel mounting cannot be over-emphasized. True running wheels, a shock spring and tensioning and aligning adjustments all must be provided. Also a rigid, yet adjustable support for mounting the upper wheel. The upper wheel spindle is larger than the usual solid spindle; The New Departure Ball Bearings are heavier and note the heavy cast iron box frame which forms a rigid base for the assembly. The frame is machined accurately and provided with dovetailed ways with gib take up. It is rigidly mounted on the arm and adjustable for perfect alignment.

This is the finest and most accurate upper wheel mounting on the market.

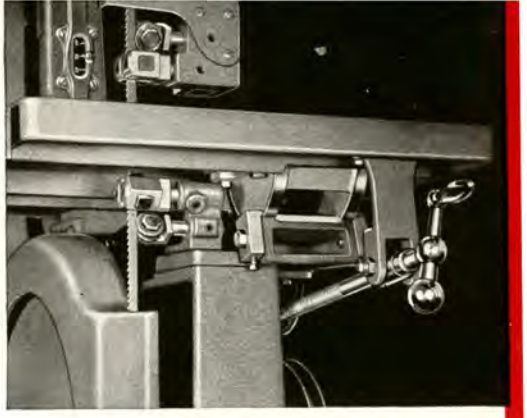
BLADE GUIDES AND TRUNNIONS

Note that the lower blade guide is set close to the underside of the table. The upper guide is adjustable so that it may also be set close to the top of the work. This prevents dislocation of the blade and makes it easy to cut accurately. Both the upper and lower rollers are hardened and ground and are mounted on ball bearings. The rollers have a concave face and are set at an angle so that the blade contacts the entire face of the roller. The ball bearing guides rotate in same direction as saw blades to eliminate friction. This prevents grooving and greatly increases blade life. The adjustable rollers, and guides support and hold in line all blades from ⅛" to 1" in width.

The table is supported and tilted on an extra large cast iron trunnion with machined double ways. This sturdy mounting supports the table yet permits free access to the lower guides.

ADJUSTMENTS EASILY MADE FROM FRONT

Not only the highest quality construction but also the greatest possible convenience of operation is built into the Duro 16 inch Band Saw. What other saw can be operated and adjusted from one position in front of the machine? Notice the exclusive blade alignment adjustment knob in the center of the upper wheel that operates through the center of the oversize hollow spindle. The blade tension adjustment handwheel is reached under the upper wheel from the front of the machine. The ball crank that tilts the table is adjusted from in front and the degree of tilt is easily read above the table from the operating position. Also the saw blade guides and guard are set from the front. Such features are the plus values built into the Duro saw.



TILTING MECHANISM

Table is tilted with a ball crank and held in any position without locking. Table tilts up to 45° in one direction and may be tilted to 5° in the other direction by releasing stop for square. Degree of tilt is easily read on a scale in frame arm above the table. An exclusive Duro feature.

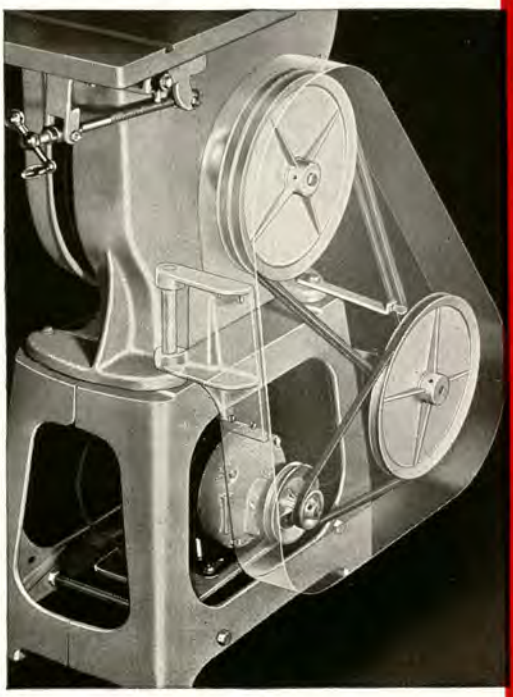
SLOW-SPEED ATTACHMENT FOR METAL CUTTING

The Duro 16" Band Saw when equipped with the speed reducing attachment is ideal for use in cutting metals or plastics. Foundries, machine shops, sheet metal shops and experimental shops are using the machine daily for such a large variety of uses, it is impossible to list them here.

The attachment provides a Jack Shaft through which the motor drives the saw, reducing the speed of the cutting blade from 2900 ft. per minute as used for woodworking to 285 ft. per minute for metal. The tempered steel speed reducer shaft is mounted on a double row of sealed New Departure Ball Bearings. Shaft may be adjusted accurately for correct tension on the V belt drives. The Motor Pulley is 2½" in diameter, the large speed reducer pulley 12" in diameter, small speed reducer pulley 2½" in diameter. 50 in. and 68 in. V belts are furnished. An additional motor pulley 5" in diameter is furnished so that saw may be driven direct from motor for woodworking.

The speed reducing assembly may be protected by 302485 Guard that houses both the speed reduction attachment and the belt drive to the machine.

The guard is hinged on the frame of the base and may be swung open by releasing a single thumb screw. Blades for metal cutting are listed on page 43.



Shaping

Speed, Power Output and Vibrationless performance are the chief contributing factors to efficient shaping operations. All are provided in this unit with the result that heavy or light work can be handled with equal facility.

Speed—The spindle on this unit turns approximately 20,000 R.P.M.—60,000 cuts per minute using the average three blade cutter.

Power—The General Electric Universal motor operating on 110 volt AC or DC, 60 cycle or less develops 1200 watts at the spindle (746 watts equal 1 H.P.). This power plus the high speed makes it possible to do any type of shaping most efficiently.

Vibrationless Performance—Careful designing and precision workmanship, assure the very finest performance and long life. The chuck, a part of the spindle, holds shaping adaptor close to the front bearing giving support required for smooth accurate cuts.

To convert this unit to a shaper, loosen one set screw, remove thread protector on spindle housing, screw motor into lower part of table. To raise or lower cutter, turn motor to right or left and lock with conveniently located screw.

Included are adaptors for ⅛" and ½" shaper cutters, guide pin for circular work, and a heavy accurately machined adjustable guide fence. See page 41 for shaping cutters.

Routing

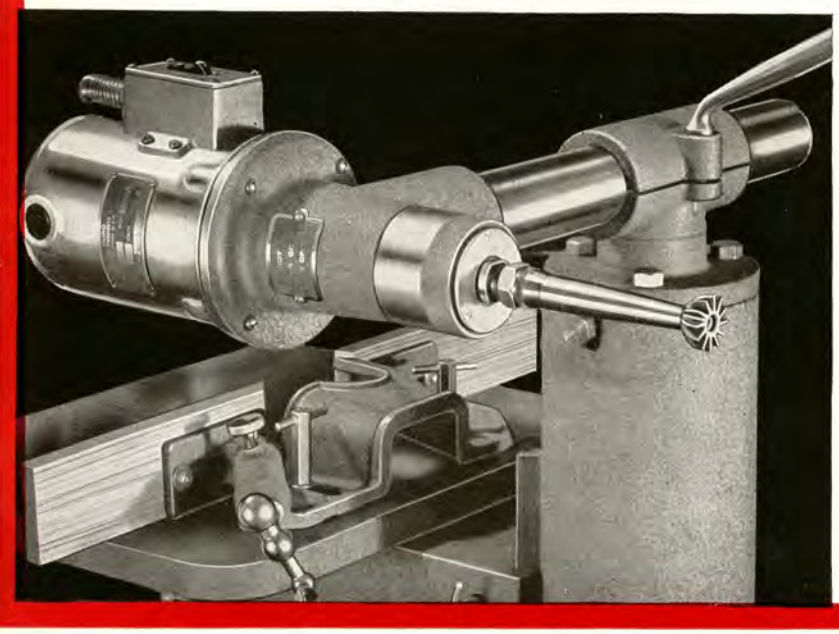
Routing requires high speed and power. You get both on the Duro combination unit. 20,000 R.P.M. and 1200 watts output (746 watts to the horse power) enables you to rout with speed, accuracy and smoothness with a low investment and minimum operating cost.

The high speed of the powerful motor—20,000 R.P.M., with over 1200 watt output, careful design of the spindle and chuck to enable router bits to be held close to the front bearing, plus the weight and rigidity of this unit assures smooth cuts and clean work at a high rate of speed. Note position of the chuck on the large illustration at the right. The shank of the router bit enters the hollow spindle bringing the cutters close to the front bearing thereby eliminating vibration and chatter. The chuck holds ½ inch shanks. Additional collets furnished permit the use of ¼, ⅛ and ⅜ inch shank bits. Use large shank bits for heavy cuts and smaller sizes for fine work.

Another feature which reduces fatigue to the operator, increases the efficiency of the unit and speeds up production is the positive lock situated on the right side of the pedal slot. The table can be adjusted to the required height when the foot pedal is depressed. The operator pushes downward and to the right to positively lock table. This allows more freedom of movement to the operator as it eliminates the necessity of holding the pedal with the foot. To release just push downward and to the left.

To use as a router the head is released by handle at the extreme right, swiveled until the spindle is directly over the guide pin and locked there.

A set of six guide pins are included for duplicate routing or veining. Duplicate cuts can be made by jig sawing a relief pattern, putting a frame around the pattern, then placing it over the guide pin and putting the wood which is to be routed or veined in the frame. This enables you to turn out any number of duplicate pieces on a production basis with a minimum amount of effort. See page 41 for routing bits.



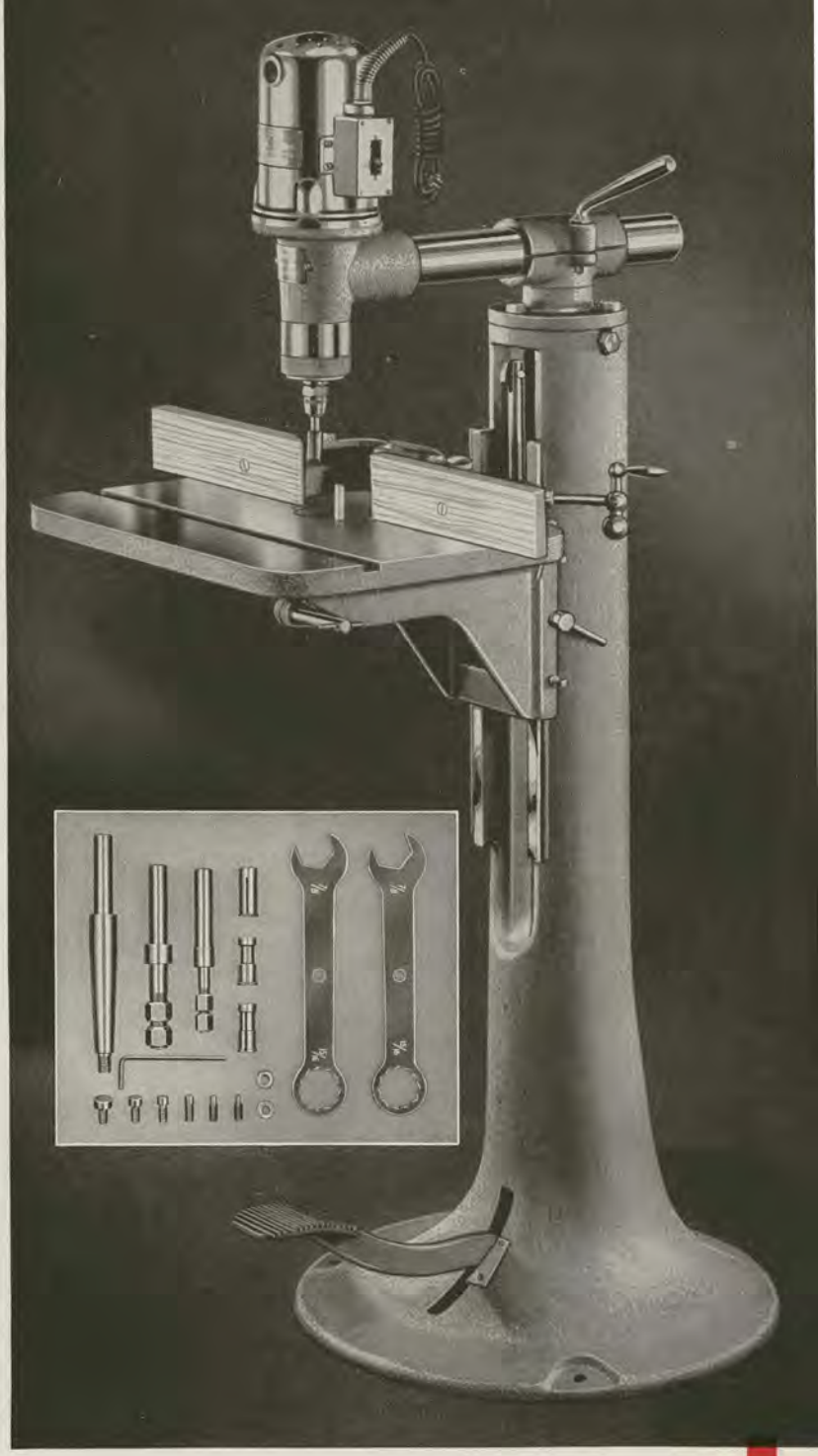
Spindle Carving

Because of its power and speed this unit is more efficient up to the limits of its capacity than any other tool on the market today. All spindle carving can be quickly and accurately done on the Duro Carver. Consider that you get a three purpose unit for less than the price of one machine that will do equal work. Visualize the speed and smoothness with which carving is done on this tool. Spindle travels 20,000 R.P.M. The average cutter having from 6 to 14 cutting edges produces up to 280,000 cuts per minute. Creates a filing action and makes it possible to carve the lightest materials as well as heavy stock. 1200 watts output is ample power to maintain the necessary high speed. This extreme speed is impossible to attain for continuous operation on belt driven spindles such as are usually used for carving. The power and speed developed at an extremely low operating cost makes it more economical to use a Duro carver.

To set up for carving, loosen lock screw on top right side of frame, and turn motor to allow complete freedom of movement. Loosen swivel handle to turn motor to horizontal position.

Carving cutter adaptor is ground and balanced, statically and dynamically, to insure true running —necessary for this type work. Threaded ⅜"-24 to fit all standard carving cutters.

DURO HIGH SPEED PRODUCTION ROUTER CARVER - SHAPER



Three tools in one—Router, Carver and Shaper. Three assets incorporated into one machine—Power, High Speed and Vibrationless Performance. Three values that can be purchased for less than the price of a single machine that will do equal work.

Usefulness of this unit is of utmost importance to anyone who must do Routing, Carving or Shaping with speed and accuracy. Any of these operations can be done on this machine with ease and precision that is without parallel in any other unit on the market today. In addition to its adaptability it has—

Power to handle work up to its extreme capacity with ease. The specially designed General Electric Universal Motor develops 1200 watts at the spindle (746 watts equal 1 H.P.). Insures plenty of reserve for heavy cuts. The power developed plus the extreme high—

Speed of the spindle, which turns approximately 20,000 R.P.M., provides smooth, vibrationless cutting. Power, speed and the heavy—

Construction of this unit makes it a production tool built to factory requirements. Frame and table of heavy gray iron castings, specially designed General Electric Universal Motor, heavy duty New Departure Sealed, Precision Ball Bearings and precision machining of all parts throughout the tool produces a unit capable of handling the heaviest or the most delicate cuts with equal facility at an exceptionally low operating cost.

The specially designed General Electric Motor operates on AC or DC current, 60 cycles or less, and develops 1200 watts at the spindle (746 watts equal 1 H.P.). Motor and spindle are ground together and statically and dynamically balanced to insure true running. Motor is designed to run continuously without overheating. A propeller fan pulls a large volume of air over the working parts to insure cool operation. Armature and spindle are supported on four heavy duty New Departure Sealed, Precision Ball Bearings and are connected together by a flexible coupling. This method of construction completely absorbs and prevents any shock being transmitted from the spindle to the motor when making heavy cuts while routing, carving or shaping. The chuck is an integral part of the spindle and holds adaptor and cutter extremely close to the front bearing providing rigid support for smooth cutting. Motor is mounted on the end of a 2 inch ground tube and may be swiveled in any direction to meet the operators convenience.

The main frame and table are made of high grade gray iron. Every part is carefully and accurately machined to precision limits. Table is ground insuring a true working surface; also has a machined slot for using a mitre gauge. Foot pedal provided for raising or lowering table on adjustable machined dovetailed ways. Lock on pedal slot is provided to hold table in a raised position for routing. Lock on right side of frame prevents table from moving while shaping.

Standard equipment includes all necessary adaptors, guide pins, wrenches, etc. as pictured in the illustration.

GENERAL SPECIFICATIONS

Watt output	1200
Spindle R.P.M. approximately	20,000
Length of adjustable arm	14″
Size of table	18 x 14″
Chuck capacity	¼″, 5/16″, 3/8″ & ½″
Overall height	48″
Overall width	20½″
Shipping weight	225 lbs.

PRICE INFORMATION

3100—Router, Carver, Shaper complete, less cutters. Ship. wt. 225 lbs.. **$137.50**

310060—Motor only with 2″x14″ arm, carving adaptor and wrenches. Ship. wt. 30 lbs.. **56.00**

302375—Mitre Gauge 1.95

Complete information and prices on Carving, Routing and Shaping cutters listed on page 41.

MOTOR MANUFACTURED BY GENERAL ELECTRIC COMPANY U.S.A.

No. 3100

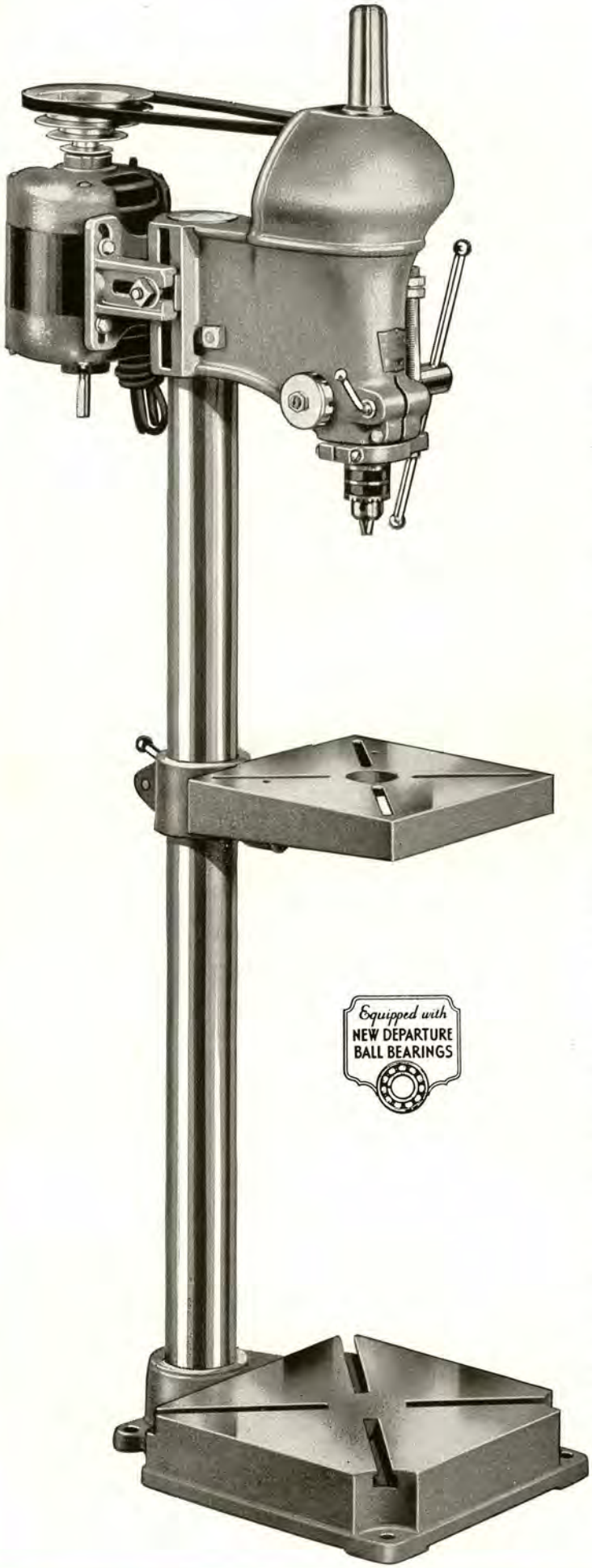
$137.50

COMPLETE AS PICTURED

Less Cutters

Equipped with NEW DEPARTURE BALL BEARINGS

RST ITH less Non ing Band guides



DURO - PR

BALL-BEARING

FLOOR MODEL

No. H-3081

$46.95 LESS MOTOR

The Duro Drill Presses have set new standards of value in this f into these units, regardless of the type of work you wish to perfo and a smooth running, sensitive drill for light, fast work without v construction is heavier and more substantial than the usual Drill P ally close limits of the finest possible materials, the ball bearings, consideration of the needs of the average user. A careful examina Duro Drill Presses than any other on the market at the present tim no finer Drill Press has ever been made at any price.

THE FLOOR MODEL DRILL PRESS

The illustration on the left shows the H-3081 Floor Model Drill Press with standard equipment. The head is heavier and the mechanism more substantially constructed than the usual Drill Press. The table and support is made of high quality gray iron with extra weight and ribs to withstand heavy loads. The base is larger, with accurately ground surface and provided with "T" slots for fastening jigs and fixtures. The motor bracket is substantial and is easily adjusted. The 0-½ inch Jacobs Key Chuck is ground and balanced to insure true operation.

A special production base with "T" slots and oil reservoir, a large production table with "T" slots and oil trough, and the hinged motor bracket for quick belt change shown on Pages 13 and 14 can be used to replace the standard equipment and make an extra heavy Drill Press.

HEAD AND OPERATING MECHANISM

The head mechanism has a six spline spindle of tough, hard alloy steel. The four step pulley is mounted separately from the spindle on a pulley sleeve that runs on two New Departure Ball Bearings thereby preventing the belt tension from being transmitted to the spindle. The spindle is mounted within the quill on two New Departure Ball Bearings that take both the radial and thrust load. This construction, with a total of four Ball Bearings, is strong, free-running and insures accurate work.

The head casting is heavy, close-grained gray iron with a streamlined pulley guard and a cap that encloses the upper end of the spindle. The motor mounting is adjustable both vertically and horizontally and the entire head is locked to the column in the desired position with a lever lock. The spindle is threaded to fit No. 2 Morse Taper attachment or Jacobs Key Chuck and has a maximum travel of 4". The distance from center line of drill to the column is 7" making it possible to drill to the center of 14 inch stock. A graduated depth gauge with a positive stop lock and an adjustable depth gauge with a pointer to indicate depth of hole being drilled are standard equipment. The adjustable depth gauge is graduated in ⅛" and may be set at 0" regardless of the position of the quill. The scale will then indicate the depth of the drill point at all times during the drilling operation. The head is fitted with spiral coil spring for returning quill to raised position and with a lever lock for locking quill when routing.

COLUMN TABLE AND BASE

The hollow steel column, 2¾" in diameter, is accurately ground to form a rigid and accurate support for this Drill Press. The table and support made of high grade gray iron is machined and ground to a smooth finish, slots are provided for holding fixtures and tapped holes are provided for holding the shaper guard and guide and the mortising hold down. The ground surface is 10" x 11", and the table may be tilted to 45° in either direction. The base is made of close grained gray iron. It is 12½" x 16½" overall, with a machined and ground surface of 12" x 12" and "T" slots for attaching jigs and fixtures. These two features are not usually found in other Drill Presses.

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RODUCTION
DRILL PRESSES

BENCH MODEL

No. H-3080

$41.95 LESS MOTOR

s field. You will find every conceivable requirement designed and built form. Strength, rigidity and total lack of vibration under heavy loads t vibration at high speeds are two of its many attributes. The general Press in this field. The mechanism is stronger and built to exception- s, four of them, are larger and the tables and bases are built with the nation will convince you that there is more dollar value built into the ime and its performance will prove to your complete satisfaction that

THE BENCH MODEL DRILL PRESS

The illustration at the right shows the new improved Ball Bearing Bench Model Drill Press No. H-3080. It is massive and heavy in construction with built-in durability capable of daily production service. Not only heavy duty work but fine work requiring accuracy and precision can be performed that will meet the most exacting standards.

The exceptional performance of this drill is a direct result of the skill in design and the care taken in manufacture. Capable designing has produced the most practical and most efficient machine within many dollars of its price. Using only the best of materials and holding those materials to close limits in manufacturing has produced an accurate and durable tool. Considering utility, construction and price, we believe you will agree that Duro offers value in this Drill that is unequalled in its field.

HEAD AND OPERATING MECHANISM

The head construction of Bench Model Drill No. H-3080 is identical to that of the Floor Model Drill No. H-3081 shown on Page 11. Note on either machine that in addition to the four regular speeds, it is possible to obtain a total of thirteen speeds by adjusting the position of the motor on the bracket. It is not necessary to remove the pulley guard to change steps on the drill pulley. The maximum distance from the jaws of the chuck to the table on the Bench Model is 12 inches and to the base is 17½ inches—large enough capacity for all jobs.

COLUMN TABLE AND BASE

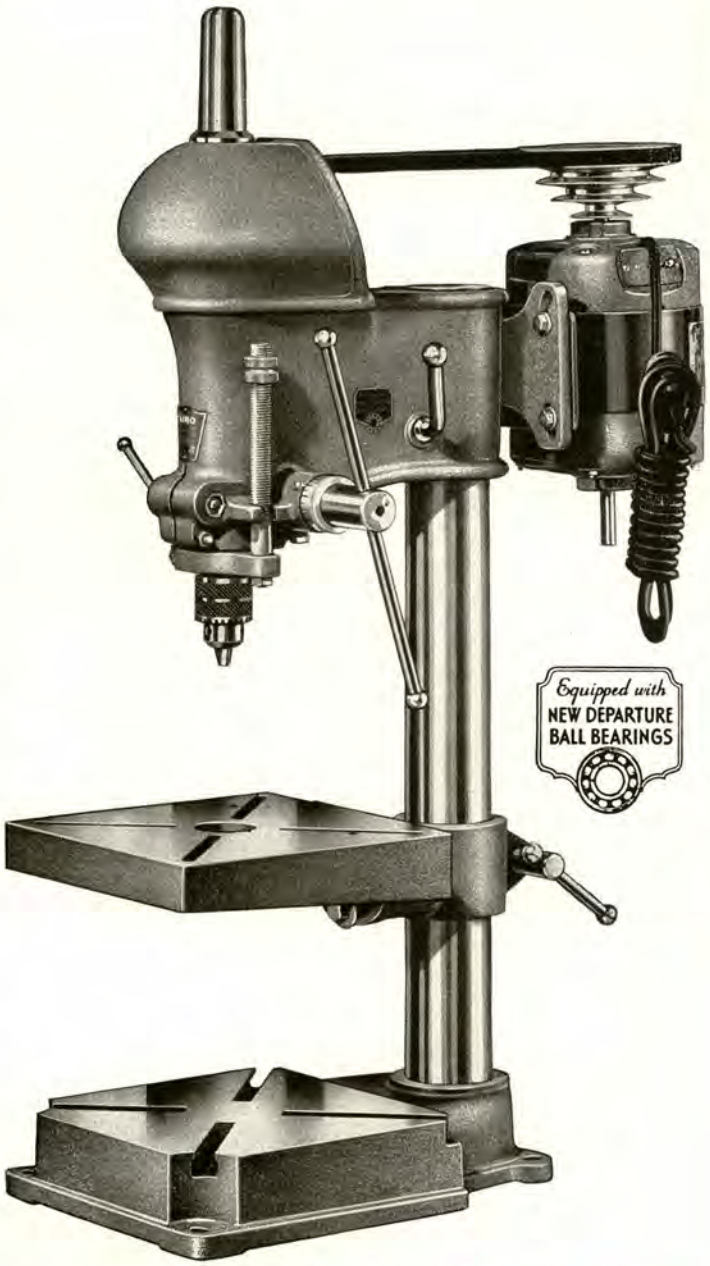
The column of the Bench Model is accurately ground to 2¾" dia. The table and bracket are duplicates of the ones used on the Floor Model Drill Press. The heavy gray iron base casting is 10½ by 15½ inches overall with a machined ground working surface 10½ by 10 inches. In handling work of unusual size or shape the table may be swung out of the way and the base used as an auxiliary table. The base is fitted with "T" slots to hold the head of bolts used in attaching fixtures and is also provided with holes for bolting the drill to the bench.

SPINDLE CONSTRUCTION

A most important feature of the Duro Drill Presses is the spindle construction. The end of the spindle is threaded ⅝—16 threads to the inch. The chucks and accessories screw on to the end of the spindle. Only one spindle is required, which is a very definite saving in the initial cost of an all-purpose Drill Press. Chucks and other accessories hold much more securely when screwed on to the spindle as tapers have a tendency to slip under heavy load. Greater accuracy and longer life are also obtainable. Practically every expensive Electric Drill manufactured uses threaded chucks today, whereas they formerly used tapers.

DRILL PRESS ACCESSORIES

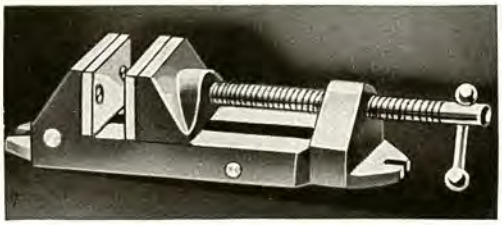
The versatility and utility of the Drill Press is greatly increased with the full line of accessories available. Drilling, boring, carving, shaping, routing, mortising and many other operations can be accomplished because the Duro Drill Presses are rigidly built to withstand hard work and maintain high speeds without vibration. A full line of accessories are shown on pages 41 and 45.



SPECIFICATIONS AND PRICE INFORMATION

	No. H-3080	No. H-3081
Style of Drill	Bench Model	Floor Model
Capacity in Steel	⅝"	⅝"
New Departure Ball Bearings	4	4
Speed Range	590, to 5000	590, to 5000
6 Spline Spindle	⅝" diam.	⅝" diam.
Distance of Spindle Travel	4"	4"
Drills to Center of Circle	14"	14"
Max. Dist. from base to chuck	17½"	47½"
Max. Dist. from table to chuck	12"	40½"
Overall Height	39"	69"
Overall Width	11½"	13¾"
Size Table Machined Surface	10"x11"	10"x11"
Size Base Overall	10½"x15½"	12½"x16½"
Size Machined Surface	10½"x10"	12"x12"
Diameter of Steel Column	2¾"	2¾"
Shipping weight	118 lbs.	159 lbs.
Price with 0"-½" Ground and balanced Jacobs Key Chuck, motor pulley and belt, less motor.....	**$41.95**	**$46.95**

Use 3710DEB—⅓ H.P. 1750 R.P.M. Ball Bearing Motor.
DP34B—0"-½" Ground and Balanced Jacobs Key Chuck..$7.50
DP3B—⅝" Balanced Jacobs Key Chuck.....$8.75
C-308111—No. 2 Morse Taper Attachment.....$2.75



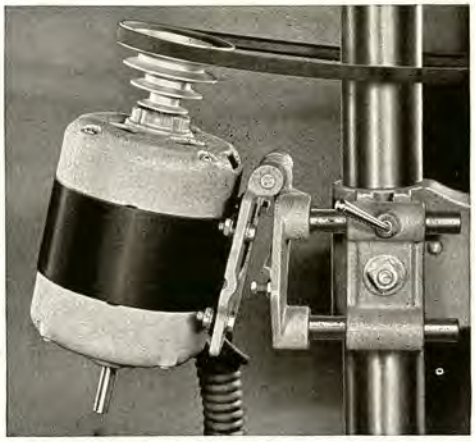
DRILL PRESS VISE

The Duro Drill Press Vise is an important and valuable accessory. It grips the work firmly and is of special value when it is necessary to drill tapered pieces or other irregular shapes that are hard to hold.

The vise is made of a heavy casting that is well ribbed to provide strength. The sturdy screw is operated by a sliding bar handle. Jaws are 2¾" wide and open to 3". Two extra jaws for holding irregular or tapered pieces are also included. The vise is so designed that it can be bolted to the grooves in drill press tables or base. Shipping weight 5 lbs.

3190-Drill Press Vise Each.....$2.50

DURO HINGED MOTOR MOUNTING



The illustration at the right shows the exclusive Duro hinged motor mounting which gives extra accurate adjustment and extra convenience. The motor is bolted to the cast iron motor mounting plate which is hinged to the bracket. The bracket is adjustable horizontally and vertically and has an adjustable stud that acts as a stop for the hinged plate.

By loosening the nut on the bracket, vertical adjustment for alignment of the pulleys is made. Adjustment for belt length is regulated by loosening the lever lock and sliding the bracket in or out. With this ingenious mounting it is not necessary to pry the belt from step to step in changing speeds. By merely tilting the motor on the hinged bracket the tension is released and belt change is readily made. The weight of the motor exerts the correct tension in the belt, the degree of tension being exactly controlled by the adjustable stud. (Note it is not necessary to remove pulley guard on the head of the drill to change speeds.)

This mounting is more convenient, saves time and permits more accurate adjustments thus increasing life of the belt. Allowance of $1.25 made for regular motor mounting if Hinged Mounting is ordered with either Drill Press.

308115—Hinged Motor Mounting. Ship. wt. 12 lbs.....$4.50

NEW DEPARTURE BALL BEARING SPINDLE MOUNTING

The photograph at the left clearly illustrates the fundamental features that must be built into a drill press head to give complete satisfactoin under all conditions—namely, rigid construction and plenty of weight in the head casting to stand up under heavy duty work and, at the same time, withstand vibration. The working parts must likewise be heavy enough to withstand stresses and strains and still be precision machined and finely balanced to insure a free running spindle from which all friction has been eliminated in order to stand up under the high speeds that are necessary for certain operations. These features in the H-3080 and H-3081 Drill Presses are your guarantee of a long life of trouble-free service.

HEAD CASTING

The main head casting is made of high quality, close-grained gray iron. It is not only heavier than the castings usually found in Drill Presses of this type, but is better ribbed to give greater strength. The cast iron pulley guard not only furnishes protection from the revolving belt and pulley, but also completes the handsome streamlined lines of the head. It is not necessary to dismount the pulley guard when changing speeds.

UPPER HEAD MECHANISM

The cast iron housing in which the pulley assembly is mounted is an integral part of the main head casting. The one piece spindle, made of alloy steel ⅝ inch in diameter, has six splines in the upper end. The spindle is driven by a balanced four-step pulley mounted on a sleeve. This precision ground sleeve is mounted and rotates on two large New Departure Ball Bearings totally sealed for life. The ball bearings are mounted in the cast iron housing and it should be particularly noted that the upper bearing is in a position close to the center line of the pulley. The two heavy bearings, the strong sleeve and their position relative to the pulley eliminate all possibility of strain and friction on the spindle.

OPERATING MECHANISM

Strength for heavy work, precision machining and perfect balance for high speeds are built into these parts. The quill is 2 inches in diameter—larger than usual—and precision machined. The head is milled and adjustable take up provided for any wear that may occur between quill and head castings. The two New Departure Ball Bearings, prelubricated and sealed for life, are specially selected to withstand high speeds. The spindle, mounted on the ball bearings, is ground and polished. The lower portion of the spindle and the bearings are housed within the quill and held in position by collars at each end. Lower end of spindle is ground and thread milled. (See Spindle Construction Page 12.)

A lever feed actuates a spur gear pinion which engages a rack cut in the quill thereby producing the vertical movement in the quill and the spindle within the quill. The accurately cut gear and rack operate smoothly without play or backlash.

A special spring on the end of the lever feed shaft returns the quill to the raised position with a smooth, even tension that permits a delicate touch in drilling and prevents an abrupt snap back. The quill may be locked in any desired position by a lever lock on the front of the head.

DURO PRODUCTION MULTIPLE SPINDLE DRILL PRESSES

Supplied in two or four spindles for industrial work. These heads are identical to the H-3080 heads described on the opposite page and, therefore, strong enough for the heaviest work and sensitive enough for high speed operations. Drilling and tapping operations can be performed on these machines just as speedily as on heavy multiple spindle presses and much more economically. The initial cost is just a fraction of the heavier presses and the power consumption and maintenance costs are negligible.

The spindle construction is exactly the same as used on the H-3080 and H-3081 Drill Presses. A superior and much more economical construction because it is not necessary to purchase additional spindles. Chucks or Morse Taper fittings are instantly interchangeable with the added advantage that the heads do not have to be partially dismantled to change from one type of drill holder to another. Jacobs Chucks 1/2" or 5/8" capacity, No. 1 or No. 2 Morse Taper units may be used on these heads. The heads have counterweight attachments for fast, easy adjustments.

The tables are ground to a smooth accurate finish after being rough machined and seasoned. The table surfaces, dimensions shown in specifications, are adequate for production work. Oil troughs completely surround tables and are drilled and tapped for drain pipes to carry off coolants.

SPECIFICATIONS AND PRICE INFORMATION

Two-spindle dimensions: Table surface 17" x 29". Oil troughs 1½" x 1¾", drilled and tapped for ½" drain plug. Overall height 37". Drills to center of 14" circle. Maximum distance from chuck to table 26". Center distance between spindles 12". Speeds—590, 1275, 2450 and 5000 R.P.M. 0-½" Jacobs Chuck.

Four spindle dimensions: Table surface 21" x 51". Oil troughs 2" x 1¾", drilled and tapped for ½" drain plug. Overall height 37". Drills to center of 14" circle. Maximum distance from chuck to table 26". Center distance between spindles 12". Speeds—590, 1275, 2450 and 5000 R.P.M. 0-½" Jacobs Chuck.

Special prices on heads, columns and counterweights complete with pulleys and belts quoted upon request.

2H-3080 Two-spindle Drill Press, 0-½" Jacobs Chuck, counterweights, less motors. Ship. wt., 480 lbs. **$124.95**

4H-3080 Four-spindle Drill Press, 0-½" Jacobs Chuck, counterweights, less motors. Ship. wt., 1008 lbs. **$259.00**

PRODUCTION TABLE FOR DRILL PRESSES

This table can be used on either the H-3080 or H-3081 Drill Press. Certain types of production work require large tables so we designed one to meet these needs. It not only has a large working surface but is equipped with "T" slots to take 3/8" square head bolts for holding jigs, fixtures and vises. The table, frame and column supports are of unusually massive design to support heavy weight and withstand the stresses and strains of production work. Table is made of high quality gray iron, machined and ground. Overall dimension 13¾" x 16¾". Oil trough 1" with drilled and tapped drain plug. Ground table surface 11" x 14".

An allowance of $5.45 will be made for regular table if Production Table is ordered with either H-3080 or H-3081 Drill Press.

H-308139 Production Table with Bracket. Ship. wt., 38 lbs. $12.95

PRODUCTION BASE

An exceptionally heavy and well proportioned gray iron base with a large ground surface for those requiring extra working space. The overall dimensions are 26 inches by 18 inches. An accurately ground working surface, 12 inches by 12 inches, provides adequate support for extra large work. It is equipped with "T" slots to take 3/8 inch square head bolts—an invaluable feature as it permits holding jigs, fixtures and vises more securely. A large oil trough completely encircles the table for carrying off coolants.

May be used with either H3080 Bench Model or H3081 Floor Model Drill Presses. An allowance of $5.55 for regular H3080 base or $6.50 for regular H3081 base will be made if Production Base is ordered with the Drill Press at time of original purchase.

F-308101 Production Base. Ship. wt. 70 lbs. $16.95

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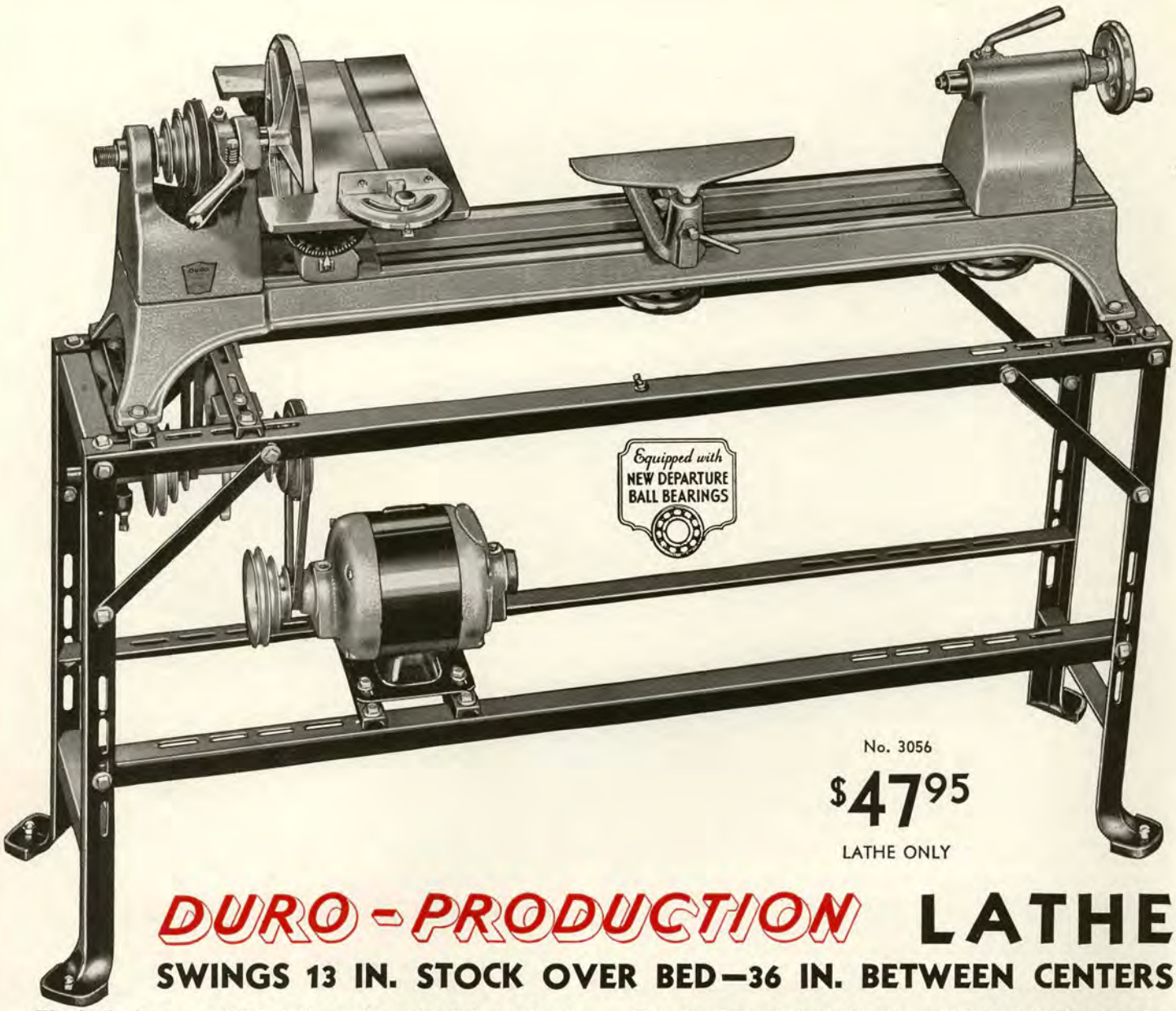

No. 3056

$47.95

LATHE ONLY

DURO-PRODUCTION LATHE

SWINGS 13 IN. STOCK OVER BED—36 IN. BETWEEN CENTERS

The basic features of this lathe such as clutch in head and cast iron bed, with "V" and Flat ways have again been continued because they have proved to be the soundest construction and of greatest value to the woodworker.

The clutch, built into the headstock, adds dollars to the value of this lathe. It increases efficiency of the lathe and life of the motor. Starting strain on motor is relieved by allowing motor to gain speed before engaging clutch and applying the load. Use of the clutch eliminates constant stopping and starting the motor when inspecting or changing work.

"V" and flat way construction of bed, head and tailstock eliminates vibration by providing a wedging action when head and tailstock are clamped to the bed. The accurately machined "V" ways assure positive alignment of the tailstock with the head regardless of its position along the bed. This expensive construction cannot be obtained on other make woodworking lathes in this price field. This feature also makes it possible to convert the Duro Production lathe for metal cutting with assurance that the slide rest will be held in the same relative position to the spindles throughout the length of the bed. Only "V" way construction can guarantee this accuracy.

The bed is made of high quality gray iron, heavily ribbed for strength and rigidity. "V' and Flat ways are machined the entire length of the bed. Legs 3½ inches high, permit ample clearance for hand wheel adjustments and removal of shavings.

Hand wheels mean increased capacity. The use of Hand Wheels gives 1 to 2 inches more capacity over the tool rest base than other devices using locking methods above the base. Their convenience is another important advantage—easy to lock or unlock—eliminates necessity of wrenches. Used on both tool rest and tailstock for greater convenience.

The head stock is designed to withstand the hardest use. Made of high grade gray iron with "V" and flat ways machined to fit the bed. Cored to drive from below or in back. New Departure Sealed Ball Bearings, having high Radial and End Thrust capacity, mounted in seats machined in the casting eliminate any possibility of vibration. They carry the hollow spindle which has $\frac{9}{16}$" opening and No. 2 Morse Taper. The four step index pulley is mounted BETWEEN THE BEARINGS to afford proper distribution of Radial and Thrust load. No overhang on outside of headstock to cause cramping and strain on the bearings.

The tailstock is also designed to meet production requirements. A solid, one piece casting to provide rigidity when clamped to the bed. Accurately machined with "V" and Flat ways. Large quill with No. 2 Morse Taper operated by handwheel, ejects its center when back to the limit. Half turn of handle locks quill in any position.

Weight, well distributed, is an important part of the Duro Lathe. The heavy cast iron bed, head and tailstock have been designed to provide the strength to withstand the constant pressure of the cutting tool without vibration, strength to hold the centers in perfect alignment and strength to permit turning material up to extreme capacity with accuracy.

Pillar blocks can be added to increase the swing over the bed to 21 inches. Only "V" way construction makes this possible. Precision machining and the wedging action of the "V" ways assures perfect alignment—impossible with ordinary flat ways.

Standard Equipment includes 56" V Belt, Spur and Cup Center and 12 inch tool rest.

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SANDING DISC WITH ADJUSTABLE TABLE

Convert your Lathe into an efficient Disc Sander. Quickly attached to Lathe bed and held in place by tool rest bolt and hand wheel.

The large 10″ x 16″ table and base are made of heavy gray iron. Table rides on two graduated trunnions and is adjustable to tilt 45° in one direction and 15° in other. Table is ground to a smooth surface and has milled slot for using a mitre gauge. 10″ cast aluminum disc has machined face and is balanced to insure true running.

JACK SHAFT

Certain types of work, such as turning wood of extra large diameter, or metal cutting, require slower speeds than can be obtained with a single set of pulleys. Use of this easily attached Jack Shaft provides the necessary speeds (ranging from 325 to 9000 R.P.M.) to meet every requirement encountered in the use of this Lathe. By adding this Jack Shaft and the Compound Slide Rest, the Lathe is equipped for a wide variety of metal turning operations. The self-aligning hangers used are equipped with large self-lubricating bearings. Vertical adjustment of 1″ is provided to maintain the proper belt tension. Includes necessary belt, pulleys, shafting hangers and bolts for attaching.

STEEL STANDS

Mounting your Lathe on a Steel Stand increases efficiency, convenience of using and eliminates power loss through use of a line shaft. Driving direct from the motor mounted on this stand provides greater driving power and maximum adjustability of belts. Vertical adjustment is provided to allow the use of various length belts and to insure proper belt tension. Tools mounted on stands are easily moved to different locations or can be bolted to the floor.

Stand is made of high quality material, well braced for strength. Legs are welded to add to the rigidness of the unit.

SPECIFICATIONS

Capacity	Swings 13″ stock over the bed. 36″ between centers
Capacity with Pillar Blocks	21″ over the bed
Spindle Threaded 1″-16. Outboard end also threaded	1″-16
No. 2 Morse Taper on Head and Tailstock Spindles.	
Size of opening in Headstock Spindle	$\frac{9}{16}$″
Overal Length	54½″
Overall Width	10″
Overall Height	14″
Speed Range	740-4000
Speed Range with Jack Shaft. 16 Speeds	325-9000
Use ½ H. P. 1750 R.P.M. Motor.	
Shipping weight	140 lbs.

PRICE INFORMATION

3056—Lathe only with 56 in. V-belt, spur and cup centers and 12 in. tool rest. Shipping Weight 140 lbs. **$47.95**

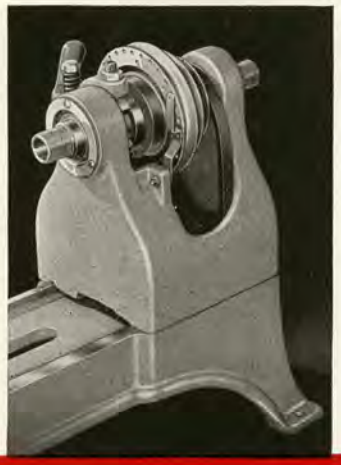
305617—Motor Pulley to match lathe pulley. State bore required	$ 1.15
305635—Pillar Blocks. Includes tool rest holder and bolts. Shipping weight 25 lbs.	$ 7.95
305667—Sanding Attachment less mitre gauge; with adjustable table and 10″ sanding disc. Shipping weight 26 lbs.	$12.50
305685—Steel Stand for Lathe. Shipping weight 56 lbs.	$10.75
305680—Jack Shaft Assembly, less motor pulley. Includes one 28″ and one 46″ V-belt two 5″ four step pulleys and necessary ¾″ shafting and two 3122 hangers	$ 8.25
301586—Remote Control Switch	$ 2.50
301588—Rubber Feet for Stand. Per set	$ .95
301221—Mitre Gauge to fit table of sanding attachment	$ 1.95
3265—10″ Sandpaper for 305667—Fine, medium or coarse, each	$ .15

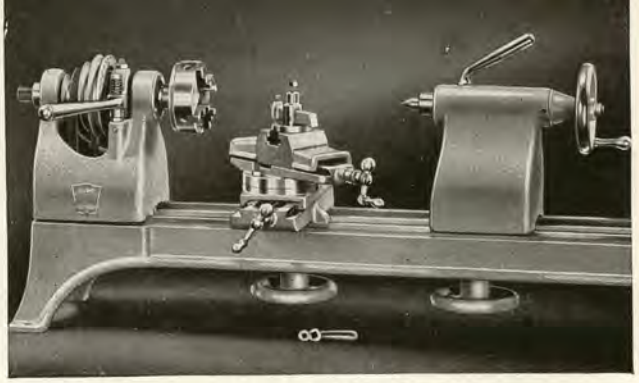
See Page 44 for Lathe accessories.

CLUTCH CONTROL

A valuable feature not obtainable on any other woodworking lathe. Adds to life of the motor as there is no starting load. Motor is permitted to gain speed, then clutch is engaged. Eliminates turning the motor on and off to inspect or change work. Quick acting; a three-quarter inch movement of the throw-out lever engages or disengages the clutch.

Carefully designed and precision machined for positive action. Clutch facing is of moulded composition having extraordinary wear-resisting qualities. Ground to within 2/10,000, facing and cone engage perfectly. Prevents any possibility of slipping. Clutch is keyed to the shaft. Clutch lever attached to clutch with heavy bronze segments. Pulley floats on self-lubricating bearings allowing work to stop the instant clutch is disengaged.

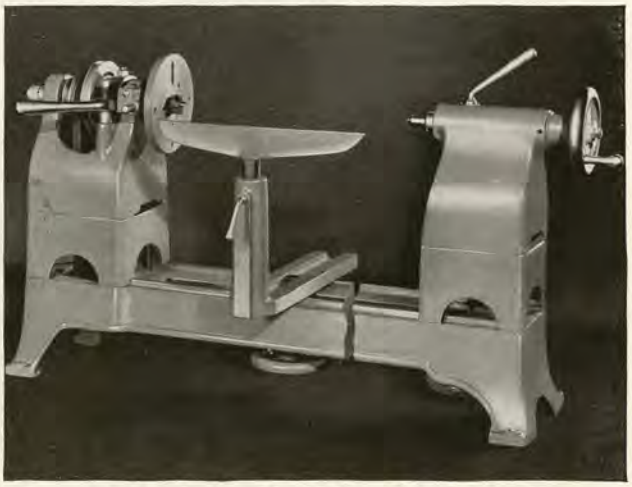




METAL CUTTING

Metal cutting can be done more accurately on the Duro Production Lathe. The "V" way on the bed is parallel to a line through the center of the head and tail stock. A "V" way machined in the Compound Slide Rest at right angles to the transverse feed gives positive assurance that cutting tool will remain in the same relative position to the center line regardless of its position along the bed. This construction—standard on large engine and turret lathes—is the only method known to guarantee accuracy. Extra heavy construction throughout this Lathe further increases its adaptability for efficient metal cutting. New Departure Ball Bearings having high Radial and End Thrust capacity are mounted in the headstock casting to hold the spindle in perfect alignment. The hollow spindle has $\frac{9}{16}$″ opening for long pieces.

Metal cutting requires reduced speeds. Use Jack Shaft Attachment described at left.



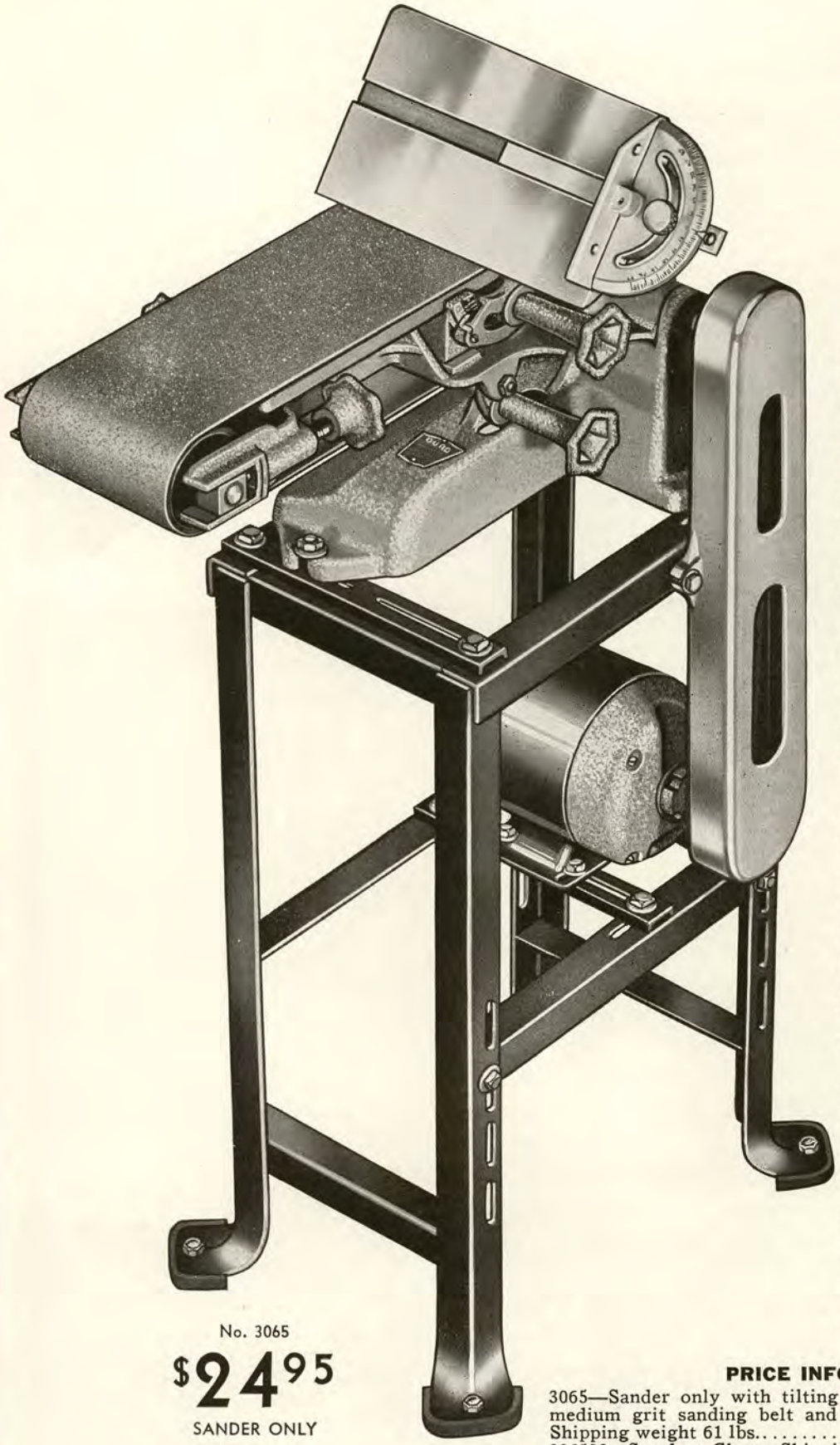
PILLAR BLOCKS FOR LARGE WORK

These Pillar Blocks are made of high grade gray iron. "V" and Flat ways are machined to match bed, head and tail stock—assures perfect alignment of spindles at all times. Increases the capacity of the No. 3056 Lathe to permit swinging pieces 21″ in diameter over the bed. Particularly adaptable to metal spinning and turning large pieces. The Production Lathe is designed and built with strength and rigidity to handle extra large work without vibration. The large New Departure Sealed Ball Bearings, having high Radial and End Thrust capacity absorb the load encountered in these operations. Proper support of the head stock spindle assures true running. High tool rest holder and necessary bolts are included.

TOOL REST

The phantom view at the right shows the hand wheel and method of holding tool rest to the bed. Increased capacity over the tool rest is obtainable due to the fact that the bolt head travels in a slot in the tool rest base and there is no washer and nut on top of the tool rest base to decrease the capacity as in all other types of construction. This increased capacity and rugged construction of the lathe means work can be done that could only be accomplished on other lathes with 1 or 2 inches greater capacity.

Convenience is the other great asset. No wrenches to use and nuts to loosen. Simply turn hand wheel to right or left to tighten or untighten and move tool rest or tailstock along the bed.



No. 3065

$24.95

SANDER ONLY

DURO PRODUCTION

BELT SANDER

The 6 inch Vertical and Horizontal Sander—first developed in this field by Duro—is the most practical, most useful and the greatest value sander on the market today. Study the advantages in design. Check the many types of sanding operations on woods, on metals or on plastics that can be performed on this unit. Consider the low initial price and the fact that there are no extras to buy in order to have a complete sander capable of all types of work. You will agree that real value is built into this machine.

Belt sanders are strongly recommended by authorities in woodworking as the most practical and best method of sanding. The Belt Sander has a uniform cutting speed across the entire face of the belt which gives a smooth even cut. On disc sanders the speed varies across the width of the disc causing fast cutting near the edges with practically no cutting at the center. Also a disc sander instead of sanding smoothly with the grain, as on a belt sander, sands in circles that cross the grain leaving scored marks plainly visible in the finished work.

Not only has Duro used the preferred belt type construction but they also have developed the most versatile unit in the field today for use in either the horizontal or vertical position. The table with miter gauge can be set square, tilted up to 45° in one direction, 15° in the other direction or may be removed. With these flexible adjustments long or short pieces may be sanded with the grain, butt sanding accomplished, straight and compound angles sanded and irregular pieces can be worked over the drum. This unit not only does all that any belt or disc sander in the field will do and does it better but combines the versatility of other machines into a single unit.

Heavy durable construction combined with precision manufacture makes the Duro 6 inch Belt Sander a true production machine. High grade gray iron castings are used with substantial ribbing to give rigidity and to prevent vibration. It has readily accessible adjustments. Self lubricating bronze bearings are used in this instance in preference to ball bearings. The drums are rubber tired to give added belt life and to permit using drums for sanding irregular work. And most important of all the design and construction of this machine has been tested in actual production work in thousands of shops and proved to be practical, versatile and durable.

PRICE INFORMATION

3065—Sander only with tilting table, mitre gauge, medium grit sanding belt and 2½" motor pulley. Shipping weight 61 lbs. **$24.95**

306532—Sawdust Chute. Shipping weight 5 lbs. ..... $ 2.95

306585—Steel Stand for Sander. Ship. wt. 35 lbs. ..... $ 7.45

306590—Belt and Pulley Guard. Ship. wt. 8 lbs. ..... $ 5.95

301586—Remote Control Switch ..... $ 2.50

301588—Rubber Feet for Stand ..... $ .95

See Page 45 for Complete Information on Rubber Feet and Remote Control Switch.

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FOR VERTICAL OR HORIZONTAL SANDING

Every detail of construction of the Duro 6 inch Belt Sander was carefully considered by our designing engineers before it was adopted. Working models were built and tested under actual shop conditions. Endurance tests were run. All the many kinds of sanding work of which this machine is capable on wood, metal and plastics were repeatedly performed. Only the most satisfactory features and only the best construction were retained with a resulting machine that we unconditionally recommend in every detail.

Belt Sander Type Design

The use of a belt type sander rather than a disc type sander was based on the acknowledged superiority of this design. The belt sander cuts evenly across the entire face of the belt whereas the cutting effect of a disc sander varies from a maximum at the outside edge down to practically nothing at the center. Belt sanders produce a smooth finish by sanding with the grain and eliminating surface marks on the finished work. We know of no work for which the disc sander is used which can not be done and done better on a belt sander.

Vertical and Horizontal Carriage Adjustments

The conventional horizontal belt on sanders was given new and greater usefulness and versatility when Duro introduced the adjustable carriage that permits vertical belt sanding. Now the same advantages that were obtained from the horizontal belt can be applied to butt sanding and to sanding straight and compound angles. This ingenious and practical contribution to sander design is another proof of the conscientious effort and engineering skill which has been applied to this machine.

Self Lubricating Bronze Bearings

Self lubricating bronze bearings were chosen in preference to ball bearings when designing this unit. Our first object is always to build the best possible machine and the second is to give the best at the lowest possible price. Careful study and test runs proved to our engineers that self lubricating bronze bearings were as satisfactory from every mechanical and practical point of view in this unit as ball bearings. Furthermore the use of self lubricating bronze bearings permits the machine to be produced and sold at a lower price. Three years of manufacturing this machine, thousands in the field and practically no replacement of worn bearings has proved our design is correct.

Rubber Covered Drums

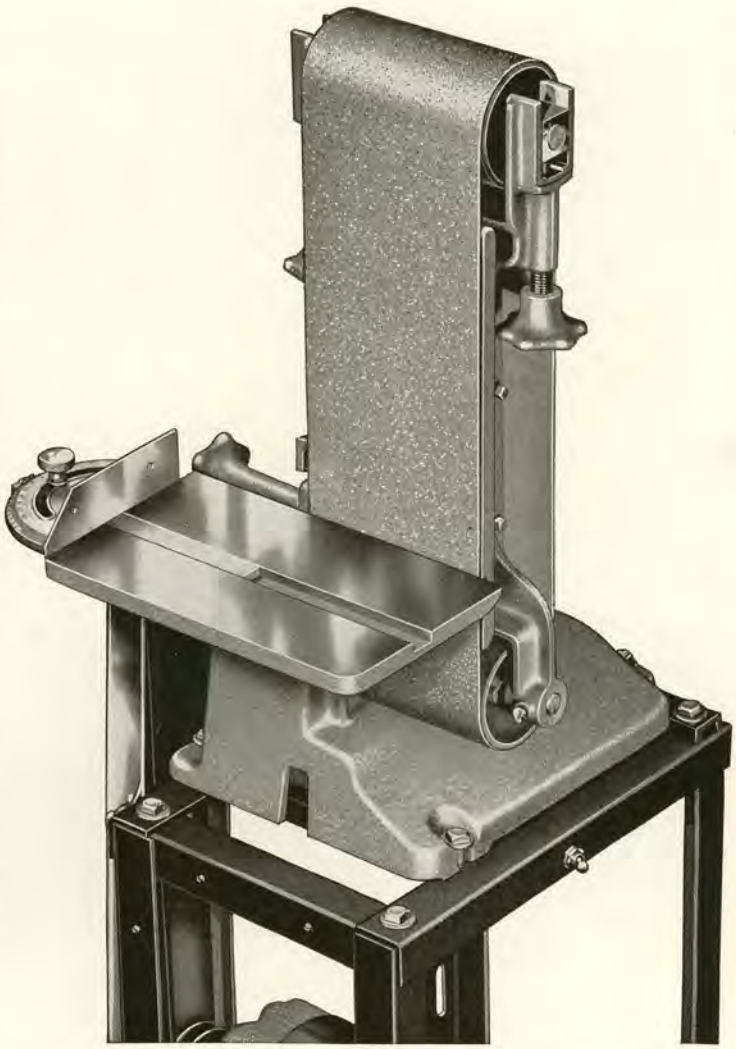
Duro uses rubber covered sanding drums on this machine. The drums are designed and manufactured so that the rubber adheres firmly to the drum with no possibility of its working loose or coming off. The rubber acts as a cushion to the belt, absorbing strain and materially increasing the life of the belt. This is important as sanding belts are the largest replacement item on a sander. Moreover, the use of a rubber covered drum permits using the drum for sanding irregular shapes—a valuable additional use of the machine. Woodworkers agree that it is not practical to sand on a metal sanding drum without having a cushion between the belt and the drum.

Open Construction for Maximum Utility

The 6″ Sander has three advantages by being left open at the ends. Long pieces may be passed over the work table; the sanding drum may be used for curved surfaces and the unsupported side of the belt may be used for sanding large irregular surfaces. These operations are employed constantly and can be accomplished without having to partially disassemble the machine. For the operator who wishes to sand only small pieces and requires a sawdust chute Duro supplies one as an accessory.

SPECIFICATIONS

Vertical or Horizontal Belt Sander.
Base, arms, main table and tilting table highest quality seasoned gray iron.
Balanced rubber covered drums.
Self lubricating bronze bearings with oil cups.
Overall dimensions:
Length, 22″.....Width, 15½″.....Height, 15″
Main Table.....6″ by 12½″
Tilting Table.....6½″ by 10″
Size Belt.....6″ by 44½″
Use 306585 Stand. Use 48″ belt, 2¼″ pulley.



The base, arm, main table and tilting table are highest quality seasoned gray iron. Drums are rubber covered and balanced to prevent vibration. Main table supporting the belt is surface ground, 6″ wide by 12½″ long and is rigidly supported on two steel uprights. Belt tension and belt alignment is easily and quickly adjusted by hand knob on each side of upper end of machine. Equipped with 2″ pulley. Use 2¼″ pulley on ⅓ H.P. 1750 R.P.M. motor. Length overall 22″ width 15½″ height 15″. Equipped with one 6 by 44½″ sanding belt, medium grit. For other grits, and belts, for metal work see Page 43.

MITER TABLE

View at the right shows the table tilting mechanism with graduated scale and pointer indicating the degree of tilt up to 45 degrees in one direction and up to 15 degrees in the other. One hand knob locks the table and the other knob locks the machine in the horizontal or vertical position. The tilting table is cast iron 6½ inches by 10 inches, surface ground and with miter gauge graduated to 60 degrees in either direction furnished as standard equipment. Equipped with self lubricating bronze bearings with oil reservoirs to renew lubrication.

No. A3007

$42.95

SCROLL SAW ONLY

DURO PRODUCTION

30-INCH SCROLL SAW

Revolutionary design—The first and only Scroll Saw with balanced power and coordinated working mechanism that eliminates all blade "whip." Many types of adjustable spring tensions have been designed in an attempt to obtain a perfect vertical up and down stroke at an even speed with same tension exerted on the blade at all times but the Duro patented spring tensioning device is the first and only one that accomplishes this purpose.

Synchronizing the balanced mechanism with the motor is another distinct accomplishment of the spring device with the consequent reduction of wear on the working parts.

Extra capacity has been built into this saw. It will cut to the center of a 60 inch panel, and if necessary, the upper arm may be removed to give unlimited capacity. The heavy cast iron base, the massive arm of box type construction insures rigidity and vibration free performance. The large cast iron table, 15″ x 15″ is machined and surface ground.

Precision machining of all parts characterizes this saw as it does all Duro tools. Driving mechanism balanced, and machined ground to the closest limits. Running parts, light in weight, do not produce the slightest strain even on the finest blades. Running in a bath of oil they perform smoothly and quietly. Crankshaft operates on New Departure Sealed Ball Bearings. Operating mechanism is as carefully designed and balanced as the crankshaft of a fine automobile.

Added convenience is also provided. Hardened steel, tight gripping chucks open at the front, allowing blades to be inserted easier and faster. Upper and lower adjustable guides with adjustable spring holddown foot on upper guide. Lower guide adjusts close to table for saber saw work. Positive piston type pump forces a continuous flow of air to blow saw dust from work. Quick adjusting hand lever lock for table tilt. Aluminum insert in table to protect blade. Adjustable light and drilling attachment available for further convenience.

SPECIFICATIONS

Capacity	30″
Crank Shaft Bearings	New Departure Ball Bearings
Tension Adjustment	On Upper and Lower Spindles
Blade Size	6″
Range of Speeds	650, 1000,1300 and 1750 R.P.M.
Table size	15″ x 15″
Overall length	43″
Overall width	15″
Overall height	21″
Shipping weight	155 lbs.

PRICE INFORMATION

A3007—30″ Scroll Saw only with 33 in. V Belt and 4 Step motor pulley; less adjustable light Shipping weight 155 lbs.	**$42.95**
A300785—Stand with 2″ wood top. Shipping weight 45 lbs.	$11.95
A300790—Belt and Pulley Guard. Shipping weight 8 lbs.	$ 6.95
301586—Remote Control Switch	$ 2.50
301588—Rubber Feet for Stand....Per Set	$ .95
3351—Drilling Attachment. Shipping weight 4 lbs.	$ 8.95
3765—Adjustable Electric Light	$ 1.25

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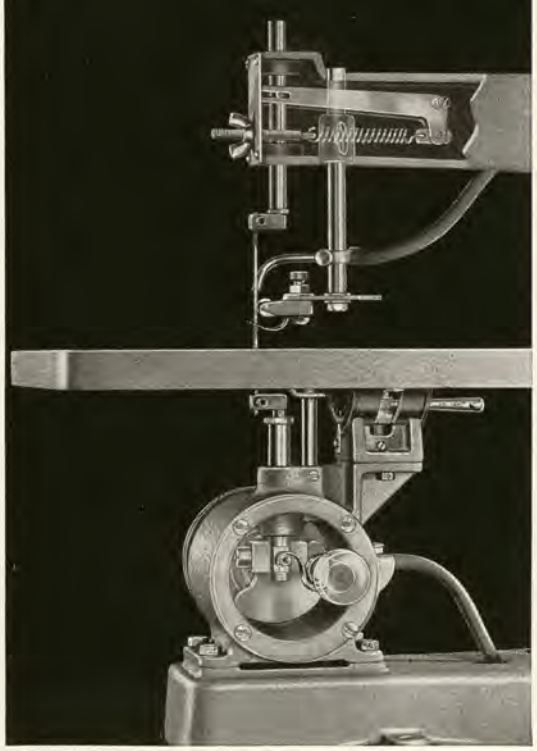
ADVANCED DESIGN OPERATING MECHANISM

The illustration at the right is a cutaway view of the operating mechanism of the Duro 30 inch Scroll Saw. In addition to the exceptionally fine general construction of this mechanism, the Duro patented blade tension balancing unit is an outstanding contribution to scroll saw design. No other improvement that we know of has added as much to scroll saw efficiency and operation.

Correct blade tension is of the utmost importance for smooth scroll saw work and for long blade life. The Duro 30 inch Production Scroll Saw is the first and only Scroll Saw, that fully equalizes blade tension at all positions of the stroke. This is accomplished by adjusting blade tension from both TOP AND BOTTOM of the blade. Tension is first adjusted from above by the wing nut in the end of the upper arm according to the requirements of the work and size blade being used. Then the hand knob at the side of the crank case is adjusted to produce the correct tension on the blade from below. The action of this lower tension adjustment combined with the upper tension adjustment synchronizes all working parts producing an even tension on the saw blade at all positions of the stroke and resulting in a smooth even flow of power. This ingenious mechanism prevents all whip in the saw blades such as was produced by the old coil spring mounting thereby eliminating the principal cause for blade crystallization, breakage and excessive wear. The smallest and finest blades can be used as well as the heaviest with the assurance that best results will be obtained.

The complete driving mechanism is made up of precision parts, light in weight, machine ground to the closest limits and balanced to prevent vibration. The crank shaft is mounted on New Departure Ball Bearings and the entire mechanism is enclosed and operates in a bath of oil. Crankcase is provided with breather cap on rear of crankcase and has set screw on side of crankcase that is removable to fill with oil to proper level.

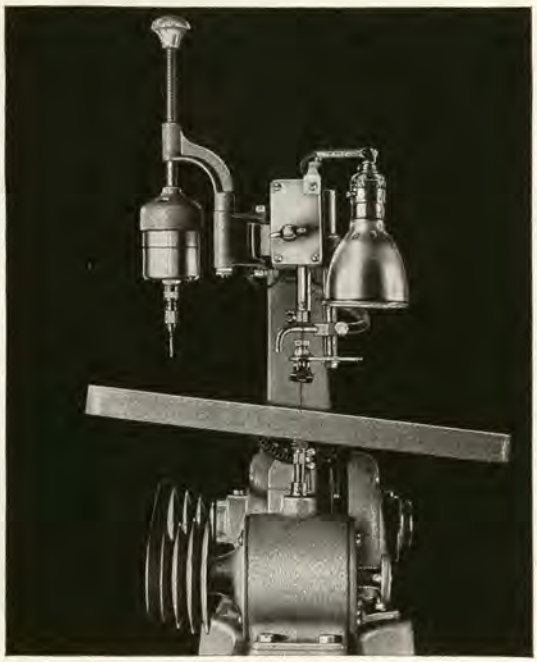


EVERY IMPROVEMENT AND EVERY CONVENIENCE

Extra utility and added convenience of operation have been built into this saw. Every improvement that will make it easier to operate, that will make it more flexible and that will produce more satisfactory work has been included in its construction.

An adjustable electric light may be attached to the upper arm so that it can be set to throw light at just the right angle for perfect visibility. A drilling attachment to drill scroll saw work right on the table of the saw is available (see page 26). The table tilts 45° in one direction, 30° in the other with the degree of tilt indicated on a graduated gauge and is locked in position with a quick adjusting hand lever. An aluminum insert in the table protects the saw blade. The sawdust blower has an adjustable nozzle that permits directing air on the work from various angles. Air pressure is developed by a positive piston pump. The upper blade tension adjustment located on the end of the upper arm and the lower blade tension adjustment on the side of the crank-case are conveniently reached from the operating position in front of the saw. The foot is equipped with a spring hold down that holds the work flat against the table. A roller guide on the foot backs up the blade to prevent springing it when work is fed. The foot can be adjusted for various thickness of work and various size blades and can also be set in position for cuts at right angles to the usual cutting position. A blade guide underneath the table adjusts close to the table for maximum support,—of particular value in saber saw work. The upper and lower chuck firmly grip all types of plain end blades and may be set at right angles to the usual position for cutting extra long work. Chucks have hardened steel jaws that are adjusted with socket head screws. A special chuck to fit the shanks of bench files is furnished. This insures perfect alignment of files for use on tool and die work. For extra blades and files see Page 43.

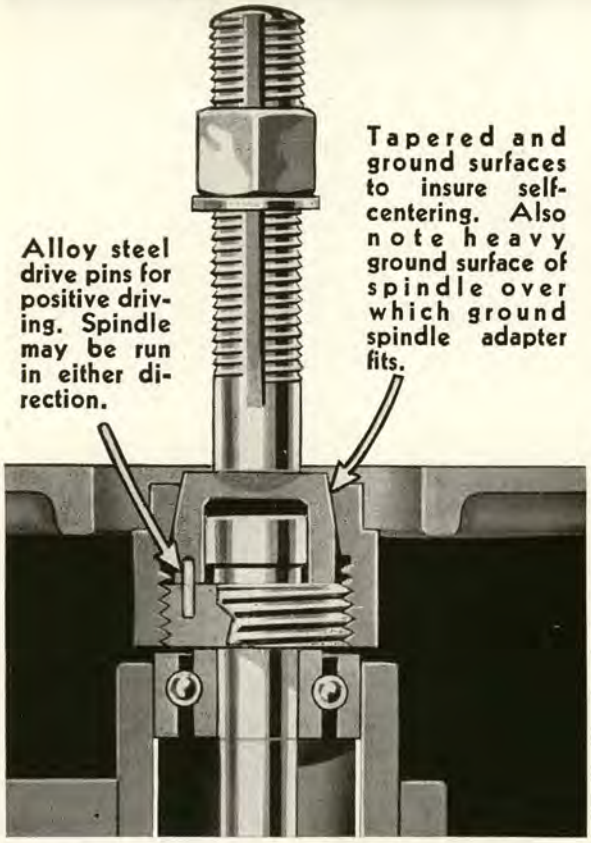
The four step pulley provides crank shaft speeds of 650, 1000, 1300, and 1750 R.P.M. to cover all types of work. One revolution of the crankshaft produces one complete stroke of the blade. Motor pulley and V belt are included. Use ¼ H.P. 1750 R.P.M. motor.



TRUNNION TABLE MOUNTING

The close-up illustration of the construction under the table as shown at the right clearly shows the sturdy design of this saw. Note the heavy cast iron table 15 inches by 15 inches with cross ribs for added strength. Table top is ground and polished to a mirror like finish. The table is mounted solidly on a large double way trunnion with a quick acting hand lever that locks it at the desired position. Table may be tilted 45° to the right and 30° to the left. Front face of the trunnion is graduated and pointer indicates the degree of tilt. The crankcase is firmly bolted to the heavy gray iron base that also carries the motor mounting and at the opposite end, the upper arm. Crankcase, motor, and arm are all rigidly held in alignment on the common base.

The illustration at the right shows the lower tension adjustment knob on the side of the crankcase. Also note the oil level set screw in the side of the crankcase and the breather cap on the back of the crankcase. The positive piston type pump for sawdust blower, with air tube that leads to the blower nozzle, is shown just in back of the breather cap. Note the lower blade guide that adjusts close to the underside of the table for the most effective blade support. Lower chuck is tightened with a socket head set screw and has hardened steel jaws that firmly grip all types of plain end blades. Scroll saw takes standard 6 inch blades. An extra chuck for holding files is supplied with original equipment. Wrench, four step motor pulley and V Belt are also included.



SELF-CENTERING, TAPERED SPINDLE ADAPTORS

Sectional view at the left shows our method of spindle mounting. The tapered self-centering method of holding several sizes of adaptors was first developed by Duro and though several different types of tapered adaptors have since been developed, a close study will convince the mechanical-minded that Duro construction is the most substantial and accurate yet devised.

The spindle is turned and ground on centers and that part above the milled centers over which the adaptors fit is likewise ground. The one piece adaptor also ground on centers fits securely over the top of the spindle causing perfect alignment of the spindle and adaptors. This method of construction provides interchangeability of adaptors with assurance of perfect alignment. The adaptor collar fitting over the adaptor is similarly tapered and also threaded. When fitted over the adaptor and screwed down the tapers come together, causing the ground face of the adaptor to be fitted against the ground faces of the spindle, holding them securely in perfect alignment.

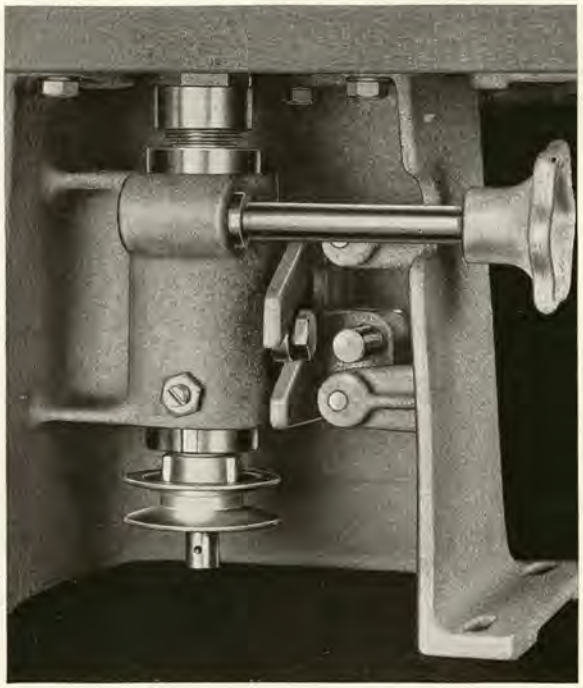
An alloy steel drive pin is seated in the spindle and fits into the adaptor to assure a positive drive without possibility of slippage. The adaptors are keyed and a special washer is used, making it impossible for the nut holding the shaper cutters and collars in position to back off, regardless of the direction in which the spindle shaper is driven.

This assembly is designed to produce a degree of accuracy in concentric operation that cannot be obtained in less precise and more fragile types of construction.

It will also be noted that this type of spindle mounting and adaptor assembly builds up and strengthens the complete unit at a point where the greatest amount of leverage is produced from operation of the cutters against the work.

Another point of importance to note is that the adaptor collar is larger in diameter than the upper Ball Bearing which is grease sealed for life, with the result that none of the waste from the material which is being cut can pack around the Ball Bearing and shaft.

The adaptors are also easily and quickly changed. $\frac{5}{16}$ and ½ inch adaptors are supplied as standard equipment to take the various cutters shown on Page 41. A wrench is provided to fit the adaptor collar for easy removal and is so designed that it is not necessary to get under the table to operate it.



CAM CONTROLLED OPERATING MECHANISM

The drawing on the left illustrates the operating mechanism of the Ball Bearing Shaper. The patented, cam actuated, raising and lowering mechanism is recognized as superior to anything yet developed as it is controlled by a screw feed that permits micrometer adjustments—Requiring 32 turns to the inch, minute adjustments can be made, for matching cuts, that could not be obtained if operated by hand. The danger of wear is also eliminated, likewise backlash due to worn parts.

The spindle, made of alloy steel and accurately ground, is mounted in a heavy quill and runs in two NEW DEPARTURE SEALED BALL BEARINGS lubricated for life. The bearings are spaced 4 inches apart, the pulley is immediately adjacent to the lower bearing and the adaptor to the upper bearing, thus giving perfect support to the working parts and insuring a free running spindle that is properly supported and from which all whip is eliminated.

Note that the quill is not bolted to the table, but is mounted in a heavy casting which is part of the main frame in order to secure a more rigid mounting and thus help eliminate vibration.

To raise or lower the quill the ball crank advances or retracts a member having a diagonal slot in which a roller bearing slides. The roller bearing is mounted on the quill. Motion of the quill is accurately maintained in a true vertical line by a stud which acts as a key in a keyway cut in the side of the quill. The total quill travel is ¾ of an inch. One turn of the ball crank located in the front of the base raises or lowers the quill and spindle $\frac{1}{32}$ of an inch. Quill is locked in the desired position by a hand knob located on the side of the base.

The frame or base is made of high grade gray iron enclosed on three sides and properly braced to support the working mechanism. Accuracy in construction, superior design and the use of only the finest materials has produced a machine of many advantages that is durable and capable of the finest work.

Equipped with a 2 inch pulley. Use of an 8 inch pulley on a 1750 R.P.M. motor produces the necessary high speed and due to the rigid precision type construction high speeds are practical for all types of shaping from the finest to the heaviest as all possibility of vibration is eliminated.

REVERSING SWITCH

Made specifically for the Duro Spindle Shaper to our specifications and standards. It is also invaluable for use with any units that are required to be driven in both directions. Three positions: Forward, Off and Reverse. May be used on any split phase, direct current or 3-phase motor up to ½ H.P. capacity. Repulsion-Induction motors are reversed by shifting the brushes. Ship. wt. 5 lbs.

3760 .....$2.95

SPECIFICATIONS

Spindle Mounting	New Departure, Sealed Ball Bearings
Table Size	14″ x 18″
Overall Width	19½″
Overall Height	11″
Overall Depth	Front to back 18″
Length of Fence	19½″
Diameter of Spindle	½″
Diameter of Quill	1⅝″
Spindle Capacity	$\frac{5}{16}$″ or ½″
Spindle Travel, up and down	¾″
Adaptors	Keyed to Spindle for operation in both directions
Use 8″ Pulley on 3710DEB ⅓ HP. 1750 RPM Ball Bearing Motor Mount on No. 309085 Steel Stand	Requires...37 in. V Belt

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DURO PRODUCTION
SPINDLE SHAPER

The Duro Ball Bearing Shaper incorporates features that make it an outstanding value from the standpoint of economy and practicability. Adaptors easily changed, heavy quill housed in main frame, positive micrometer adjustment for raising and lowering the spindle, fully sealed New Departure Ball Bearings spaced far enough apart to insure rigidity of the spindle, new and improved guard and guide and precision machining are factors contributing to the worth of this shaper.

It is essential for a shaper to maintain high speed without vibration to obtain clear smooth cuts free from ripples or cupping. The general rigidity of the machine and particularly the spindle mounting is of great importance in high speed vibrationless operation. The sectional view on Page 21 giving detailed information on Duro construction will conclusively show the thorough attention in designing that has been given to these points.

A solid base is fundamentally important in building a sturdy and rigid machine. It should be particularly noted that the housing for the quill is cast as an integral part of the base assuring solid support to the operating mechanism. This type of mounting is much more rigid and much more effective in eliminating vibration than a method of construction where the quill is not mounted in the frame or base.

The quill is raised or lowered by means of a ball crank on the front of the base. One complete turn of the ball crank moves the spindle only $\frac{1}{32}$ of an inch providing micrometer accuracy in adjustment. The spindle is mounted within the steel quill on two Sealed New Departure Ball Bearings that require no further lubrication for the life of the bearings. Note that the bearings are spaced far apart to give maximum support to the spindle.

The Duro adaptors fully described on Page 21 permit using either $\frac{5}{16}$ or $\frac{1}{2}$ inch bore shaper cutters with the special advantage of a strong accurate cutter-mounting that can be quickly and easily changed. The design of spindle and adaptor permits running in either direction.

The table made of high grade gray iron is rough machined, then seasoned before being ground. This eliminates warpage and provides a true even surface. The table is slotted for mitre gauge and drilled and tapped to take starting pins. The fence guide has two parallel parts, both parts being adjustable and always on a parallel plane. A micrometer screw feed adjustment actuates one side of the fence. It is only necessary to make one adjustment, namely, set the fence with both sides in a straight line, then place on table and lay straight edge on table and line edge of cutter up with fence and use screw feed to determine depth of cut.

First on the market with quick change adaptor and cam action raising mechanism—it has been widely copied but its popularity and usefulness is attested by the fact that there are many hundreds in use and the mechanic that really knows prefers the Duro Shaper.

No. 3091

$24.95

SHAPER ONLY

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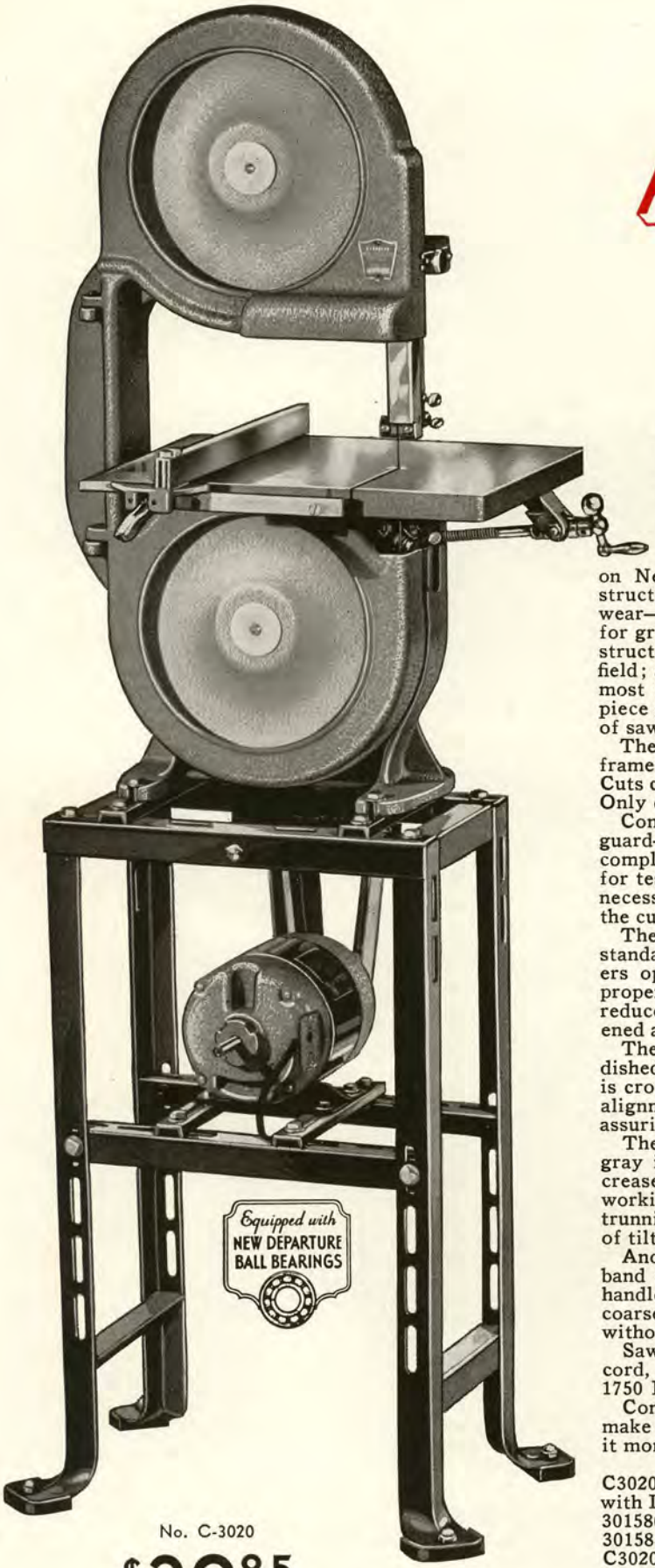
PRICE INFORMATION

3091—Shaper only, with fence; two adaptors and starting pin and necessary wrenches. Shipping wight 61 lbs.	**$24.95**
309030—Belt and Pulley Guard. Shipping weight 3 lbs.	$4.50
309085—Steel Stand for Shaper. Shipping weight 33 lbs.	$7.45
302375—Mitre Gauge assembly to fit slot in table	$1.95
301588—Rubber Feet for Stand....Per Set	$ .95
3760—Reversing Switch. Shipping weight 5 lbs.	$2.95



No. C-3020

$39.85

BAND SAW ONLY

DURO PRODUCTION

12½ INCH BAND SAW

The Duro 12½ inch Band Saw has the following advantages and features—Rigid one piece cast iron guard hinged for convenience in changing blades and testing tension—Built in light directly over point of work at no extra charge—Ball bearing blade guides more expensive to manufacture yet worth it as they eliminate all friction and blade fatigue and make curve sawing easy—Handy screw feed tilting mechanism that holds table in position without necessity of locks and adjustments—Upper and lower wheels mounted on New Departure Ball Bearings—Head bracket of rigid construction for holding upper wheel, with adjustable take up for wear—One piece box frame, not several pieces bolted together—for greater strength and rigidity. These features, plus general construction, are your assurance that this Band Saw is the finest in its field; a greater dollar value than any band saw manufactured—and most important—structural design and incorporation of the one piece guard makes it possible to obtain within 1″ of actual capacity of saws selling much higher in price.

The massive construction of the one piece gray iron box-type frame insures the strength and rigidity essential in a band saw. Cuts can be made up to its extreme capacity with ease and accuracy. Only one piece frame construction can give you such performance.

Consider the convenience and time saved by the one piece hinged guard—Only one screw to loosen and guard swings open giving complete freedom for changing blades and instant access to blade for testing tension. The light built into the guard is included—not necessary to buy it as an accessory. It concentrates the light at the cutting point, making work easier, faster and safer.

The saw guides are by far the most efficient ever furnished as standard equipment on a band saw. The hardened and ground rollers operate on ball bearings. They are concave and set at the proper angle to prevent grooving and consequent blade breakage—reduces cost of operation. Both rollers and guide blocks are hardened and hold all sizes of blades in positive alignment.

The dynamically balanced disc wheels of solid construction are dished to bring radial load directly over the bearings. Each wheel is crowned and rubber tired, then balanced and checked for proper alignment. Wheels are mounted on New Departure Ball Bearings, assuring smooth running and perfect operation at all times.

The large 13″ x 13″ table, ground and polished, is made of heavy gray iron, well ribbed for strength. An auxiliary wood table increases the working surface to 17⅝″ x 13″—ample space when working to the capacity of the saw. Table supported by a heavy trunnion can be tilted to 45 degrees. Pointer indicates the degree of tilt. Table is machined for attaching rip fence which is available.

Another feature which adds to the value and efficiency of this band saw is the mechanism for tilting the table. The ball crank handle turns to tilt table to required position. The tilting screw has coarse thread for quick action and holds table rigidly at any angle without clamps or hooks.

Saw is equipped with 6½″ pulley, ¼″ blade, 10 feet of rubber cord, plug and bulb. For average wood cutting use 2½″ pulley on 1750 RPM ⅓ H. P. Motor. Slower speeds for cutting metal.

Compare the features of this band saw with those of any other make on the market today. The extra value of the Duro saw makes it more economical to own.

PRICE INFORMATION

C3020—Band Saw only less Rip Fence with Light and Bulb. Ship. Wt. 115 lbs.... **$39.85**
301586—Remote Control Switch.....$2.50
301588—Rubber Feet for Stand..Per Set.....$ .95
C302007—Rip Fence and Guide Bar.....$1.85
C302085—Steel Stand for Band Saw.
Ship. Wt. 34 lbs.....$7.85
C302090—Belt and Pulley Guard. Ship. Wt. 8 lbs..$6.85
3766—Electric Bulb to fit in guard.....$ .35
See Page 43 for extra Saw Blades

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VALUE OF ONE PIECE GUARD

The illustration of the guard open in the photograph at the right clearly indicates the many points of usefulness in this type of construction. The one piece cast iron guard is rigidly and substantially built to withstand all vibration and act as a perfect guard for the blade against all eventualities.

It is quickly opened by one turn of the hand knob. Consideration will show the importance of this feature. Blades are changed frequently—one operation requires a wide blade for straight cutting, another operation requires a narrow blade for circle or irregular sawing. On three or four piece saw guards it is a major operation to change saw blades as there are so many nuts and bolts to unscrew—on the Duro Band Saw simply turn a knob and swing the guard open and all adjustments can be made quickly and with ease.

Obtaining proper tension of the saw blade is another important point in successful operation of a Band Saw. Every time a blade is changed, every time an adjustment is made and often when using different types of wood the tension of the blade should be tested and changed. The only place the tension can be successfully tested is at the rear side of the blade where there is no interference from the saw guides. Testing the tension, usually done many times a day, is an easy matter on the Duro Band Saw —Simply swing the guard open and it is readily accessible.

Another advantage when changing blades is the fact that it is an absolute protection while getting the blade to "track" properly whether turning the saw by hand or by the motor—swing the guard shut, turn the saw over and absolute protection is assured in case the blade should come off.

BUILT IN ELECTRIC LIGHT

The Electric Light, built into the guard, is standard equipment. The light alone costs up to $2.00 extra on other saws plus the trouble of putting it on and without the advanage of being properly located. This light, located directly above the cutting area, concentrates the light in the proper place, namely on the line where the material is being cut. It has the further advantage of being entirely out of the way and eliminates loose wires as they are run through the frame. The light is furnished with 110 volt bulb, 10 ft. of rubber covered cord and plug.

RIGID WHEEL MOUNTINGS

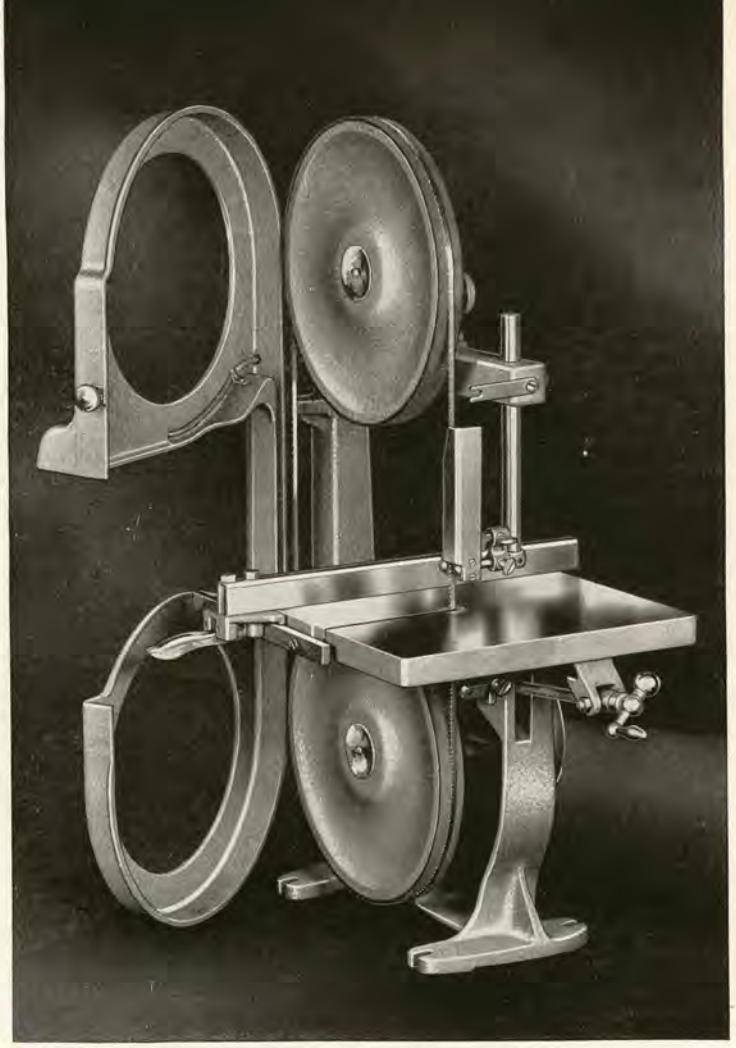
The upper wheel mounting is of utmost importance in Band Saws. The mounting must be rigid to prevent vibration and adjustable to insure proper alignment and take up for wear. Duro mountings provide a heavy, well ribbed box frame made of gray iron carefully machined; a heavy steel plate that slides in the frame and on which is mounted the upper wheel assembly. Adjustments are provided to take up wear that may occur over a period of time. A heavy spring is provided to absorb any shocks. Convenient hand tools are provided for tensioning and alignment adjustments. Both wheels are dished to bring the radial load directly over the bearings. This reduces side thrust and eliminates excessive bearing wear. Both wheels operate on two New Departure Ball Bearings. Also: note the heavy construction of the frame and how the lower wheel is enclosed for added safety.

TABLE TILTING MECHANISM

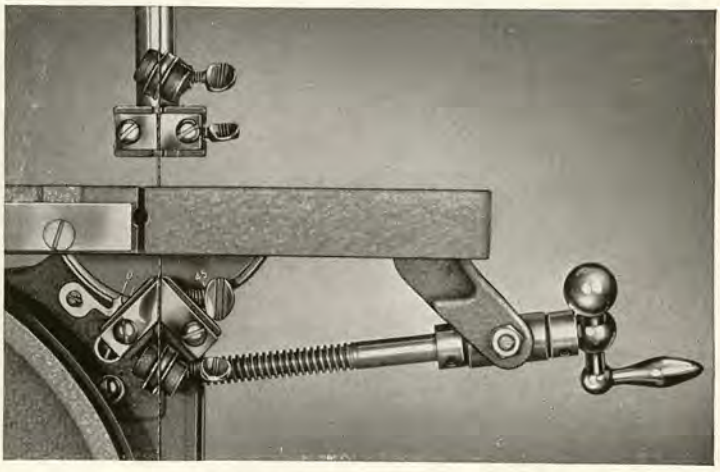
The table-tilting mechanism shown in the photograph on the right—clearly illustrates the practical value of the adjustments on all Duro machines. Easily operated, readily accessible and mechanically practical adjustments are the constant aim of Duro when designing machines. This screw tilting mechanism is not only a great convenience when tilting the table, but is a practical mechanical adjustment—The steel acme cut feed screw operates in a long acme thread nut, made of steel to resist wear. This holds the table rigid at all times and eliminates the necessity of extra locking adjustments. Positive stops are provided at 45° and 90°.

SPECIFICATIONS

Depth capacity with guard closed	5¾".
Depth capacity with guard open	6⅛".
Capacity: Blade to frame	12½".
Cuts to center of circle	25".
Size of tilting table	13" x 13".
Size of auxiliary table	4⅝".
Overall working surface	17⅝" x 13".
Overall Height 33¾". Width	26".
Overall from front to back	13¾".
Shipping weight	115 lbs.



- **Four New Departure Ball Bearings.**
- **One Piece Cast Iron Hinged Guard with Built In Light.**
- **One Piece Box-Type Cast Iron Frame Construction.**
- **Ball Bearing Blade Guides.**



BALL BEARING BLADE GUIDES

Blade guides furnished as standard equipment on the Duro Band Saws are positively the finest ever manufactured. They are a perfect support for the blade, quickly adjustable and readily accessible. Note that the lower guide is immediately adjacent to the under side of the table for true support of blade.

The rollers are hardened and ground and operate on Ball Bearings to reduce friction. They are concaved and set at a 30° angle to eliminate any possibility of grooving. The polished concave surface supports the blade across its entire surface and the roller travelling in the same direction as the blade eliminates all friction and consequent blade fatigue. The guide blocks, made of tempered steel, are adjustable to take all sizes and thicknesses of saw blades. They are handy to get at and easily adjusted—a great convenience as saw blades are changed many times for different types of work. The upper guide is adjustable vertically allowing the guide to be set close to the point of work. An auxiliary guide is provided on the upper guide so that only point of contact on the blade is not guarded.

DURO

HEAVY DUTY GRINDER

No. 3049

$14.95

Equipped with NEW DEPARTURE BALL BEARINGS

Duro offers you the finest Hand Grinder that has ever been built and at a moderate price too! It has everything—Power, Speed, Precision, Compactness, Balance, and Streamline Design. Truly the Grinder with Power Plus and here is why:—

It is powered by a General Electric Universal Motor dynamically and statically balanced, of the conventional series wound type for maximum performance, developing over 40 watts output and running 24,000 R.P.M. The motor has a standard commutator with machined V grooves, and steel clamping rings such as are used on electric power drills. The brushes ride on the periphery of the commutator—not on the end—thus affording proper commutation and longer life. The brushes are the square cartridge type—not round. This design gives maximum seating capacity as the brushes cannot turn in the holders. The result is A1 performance. The switch is the continuous rotary type with a hard rubber button which protects the switch proper and assures long life. It is approved by the Underwriters.

The propeller type fan such as is used on power drills pulls a large volume of air through and over all working parts to insure a cool running, efficient unit.

The spindle operates on special, wide New Departure Precision Ball Bearings, totally sealed to prevent grit getting in or grease leaking out. The extra large bearings and heavy mountings take up all radial load and end thrust. The proper mounting of high speed units is vital.

An 8 foot three wire rubber covered cable is used and the tool is grounded to prevent any possibility of electric shock.

There is precision machining throughout. For example the bearing seats are bored to 2/10,000 of an inch. The two housings have machined rabbet fits to assure perfect alignment.

A specially designed threaded type collet chuck with capacity up to 1/8 inch overhangs the housing only 7/8 of an inch. A patented lock operated by a button slides a pin into a groove on the back of the chuck and locks the shaft so that the chuck may be easily tightened or loosened.

The streamline design fits the operator's hands and has just enough weight to insure power and rigidity with perfect balance. This grinder develops far more power per ounce of weight than any unit on the market.

The machined alloy metal housing, wide accurate bearings and balanced motor are designed to produce a rigid unit with non-chattering, vibration free performance. Superior construction such as this is necessary for best results at the high speed at which this machine operates.

The motor runs on 60 cycle or less AC or DC current. Priced for 110 volt current. 220 volts supplied at a slight additional charge. Ship. wt. 3 lbs.

The above specifications show why we say—"Compare with other grinders in the field up to $35." Such a comparison will show the Duro Grinder to be by far the best value on the market today.

SHAPER-CARVER

The illustration at the right shows the Grinder set up as a Spindle Shaper. The high speed—24,000 R.P.M., the surplus power—over 40 watts output, the rigid stand and large 4 by 5 inch table made of heavy cast iron, with adjustable shaper guide make this machine ideal for clean shaping cuts. One half turn on the knurled knob permits adjusting the tool for cutter height. By using various cutters and burrs hundreds of different cuts may be made. With the shaping table and upright removed the unit becomes a regulation bench stand as illustrated below.

3049-55 As illustrated less Grinder. Ship. wt. 6 lbs...$6.45

3049-70 Shaping table, post and guard. Ship. wt. 3 lbs..$2.50

ROUTER

For routing the Grinder is mounted in the Hand Router Base. The Grinder is held in place by two clamping blocks that fit into the grooves on the side of the housing and that are tightened by a knurled knob. A straight and circular gauge is supplied and is attached with thumb screw adjustments to rods extending from side of base. You can make all types of beading, fluting, veining and routing cuts with this accessory, easily, quickly and accurately. Simply set the grinder for the correct depth cut by adjusting knurled knob. For irregular work the wide opening in the base permits following the pattern easily. For regular work use the straight and circular gauge.

3049-30 As illustrated less Grinder. Ship. Weight 2 lbs.....$4.50

TOOL POST ADAPTOR

Pictured at the left the Grinder is being used as a tool post Grinder. The adaptor holds the tool securely in any tool post holder of any regulation lathe and may be quickly adjusted for all types of internal or external grinding. Not necessary to buy tool post adaptor if shaper-carver assembly is purchased as it is included. The Heavy Duty Grinder with the G. E. Motor, New Departure Ball Bearings, precision machining, 24,000 R. P.M. and over 40 watts output assure a real tool post grinder for precision or production work.

3049-45 Tool Post Adaptor only. Shipping weight 2 lbs.....$2.00

BENCH STAND

Mounted in the Bench Stand as illustrated at the left, the Grinder is used as a carver. The Bench Stand is rigid and solid. It is built up by using the tool post holder with the heavy cast base which may be fastened to the bench. Note the freedom of movement around the cutter this set-up permits. Heavy or delicate cuts may be made in wood, plastic or metal. The Bench Stand also permits using both hands to guide the work. To make a Shaper from the Bench Stand add No. 3049-70 Shaping Table, Post and Guard listed above.

3049-60 as illustrated less Grinder. Shipping weight 3 lbs.....$3.95

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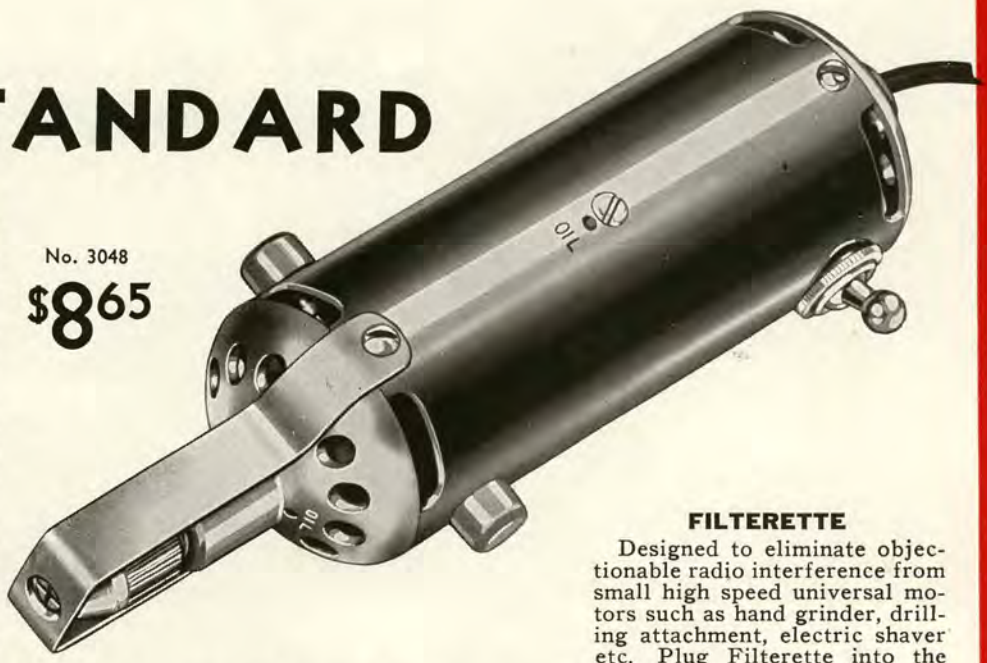
DURO STANDARD GRINDER

No. 3048

$8.65



The standard model is a comparable value to the heavy duty unit. It is the ideal tool for the craftsman or model maker who wants the very latest in design, the greatest amount of speed and the most power that it is possible to buy for a given investment.

We have run comparative tests on other make grinders and have only been able to find a competitive unit in the next higher price bracket, that has the combined power and speed that this unit possesses.

Compare this Grinder with any other unit in the $10.00 price range and you will find that it has a great deal more power than any competitive unit on the market at the present time.

An outstanding feature is the cool operation of this unit. It has a large propeller type fan to pull air over and through the working parts with the result that it can be run for hours and will not overheat.

The motor operates at approximately 18,000 R.P.M. The latest type of self-lubricating, self aligning bushings are used to assure frictionless operation. Square cartridge type brushes—not round—set firmly in the brush holders without turning, assuring maximum performance from good commutation. The motor is turned on and off by means of a toggle switch located near the top of the housing. A collet chuck with two collets is provided to hold all accessories with $\frac{1}{16}$" or $\frac{1}{8}$" diameter shanks.

The housing is black Bakelite. The Grinder measures 5½ inches long overall and is equipped with a 6 foot rubber covered cord. A removable guard is available that fits over the chuck which permits holding the Grinder close to the bits for accurate guiding in delicate work.

The Grinder operates on 110 volt, AC or DC current, 60 cycles or less. This Hand Grinder has a wide variety of uses, will perform any of the operations of any Grinder in this price field and because of its greater power will do a better job, smoother and faster.

3048-Hand Grinder.....$8.65
304830-Guard for 3048.....$ .35

FILTERETTE

Designed to eliminate objectionable radio interference from small high speed universal motors such as hand grinder, drilling attachment, electric shaver etc. Plug Filterette into the wall socket and then plug cord of machine into the Filterette. A simple efficient device costing nothing to operate, that will save annoyance and trouble.

304920-Filterette each....$1.00

COMBINATION DRILLING ATTACHMENT AND HAND GRINDER

Don't miss the value of this Attachment—the most useful development in years for the Craftsman. Think of it—TWO TOOLS IN ONE—A Drilling Attachment for the Scroll Saw and a real Hand Grinder with plenty of power. Use it on your Scroll Saw as a drilling attachment when doing inlay or relief work. Drill the necessary holes in your work right on the Scroll Saw Table. On all types of inside work, simply press the plunger and drill the hole for inserting the blade. On high or low relief work where the cut must be made at a given angle, it is invaluable as the table may be set at the proper angle to make the cut and when holes are needed for inside work they can be made with the assurance that they will be drilled at the proper angle. The spring automatically returns the unit to its original position, out of the operator's way.

It is a simple matter to attach it to practically any Scroll Saw, on either side of the saw. As the bracket has a double joint it may be moved to almost any position over the work. By loosening one set screw the motor may be removed from the bracket and used as a Hand Grinder for hundreds of operations.

The illustration to the extreme right shows it being used as a grinder. Compare the unit with the operator's hand and note its compactness, yet there is plenty of power and speed to assure high grade performance.

The motor is of the standard universal type with a chuck speed of over 10,000 R.P.M. It is fan cooled to assure a cool running unit.

Complete with 2 collets, for all sizes of drills and accessories from 0 to ⅛ inches, 6 ft. of rubber covered cable, plug and switch. Shipping weight 3 lbs.

3351—Drilling Attachment. Complete plus Chuck Guard for Hand Grinding.....**$8.95**

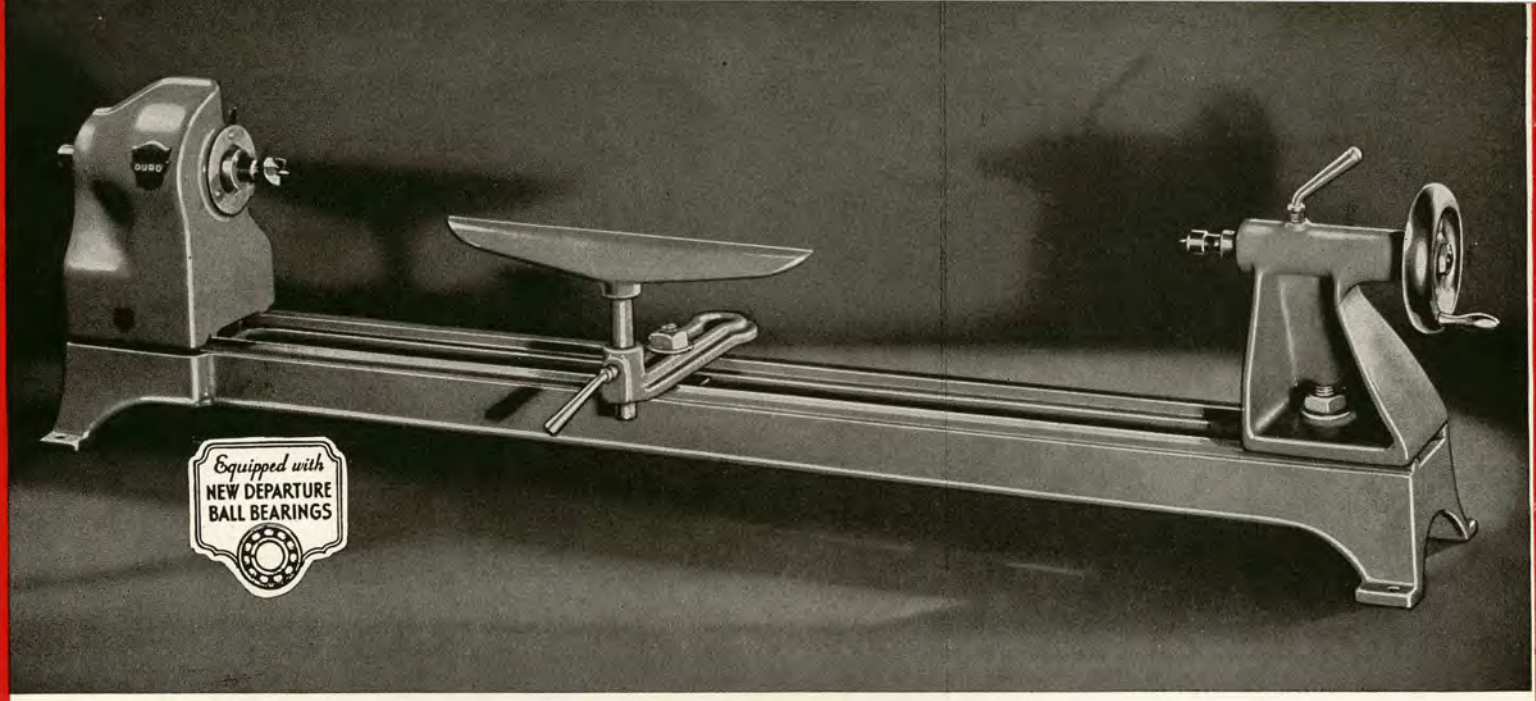
As illustrated at the left, the Grinder mounted in the Bench Stand is used as a carver, allowing complete freedom of movement around the cutter. The rigidness of the Stand plus the power and speed of the Grinder allows the most intricate and delicate cuts to be made when two hands are needed to guide the object. The Bench Stand is also ideal for Buffing, Polishing, etc. Grinder is held in the stand by tightening one nut on the tool post adaptor. The adaptor is adjustable on the stand allowing cutter to be set any angle. The adaptor may be removed from the stand and the unit used in any standard tool holder for internal grinding on a lathe.

3047-10—Tool Post Holder and Bench Stand.....$2.95

Illustration at the right shows the combination unit being used as a Hand Grinder with the chuck guard attached. Note the compactness of this unit and the fact that it may be gripped close to the work. This makes it possible to do many grinding and drilling operations in hard to get at places. On just one job it will sometimes save many times its original low cost in time and labor saved.

The high speed of over 10,000 R.P.M. plus the reserve power built into the standard universal type motor assures maximum efficiency and high grade performance. Self-adjusting, self-lubricating bronze bearings insures a true running spindle and long life of the unit. A large propeller type fan insures cool running under load for continuous operation. Use this combination unit for Drilling, Grinding, Polishing, Scratch Brushing and hundreds of other operations. You will be truly amazed at the efficiency and value of this unit. Furnished complete with 2 collets for all sizes of drills and accessories from 0 to ⅛ inches, 6 ft. of rubber covered cable, plug and switch.

3047—Utility Hand Grinder with Chuck Guard.....**$4.95**



DURO HEAVY DUTY LATHE

10-Inch Swing

31 Inches Between Centers

No. B-3053

$18.95

AS ILLUSTRATED

Exclusive features and extra values such as large *New Departure Sealed Ball Bearings,* V and flat ways milled in Bed, Head and Tailstock, Guarded Head, Hollow Spindle, No. 1 Morse Taper Fittings self-ejecting Quill, and extra capacity are built into this Lathe to make it an outstanding value in the market today.

The bed is accurately milled with V and flat ways. More expensive to manufacture and far superior to ordinary flat ways. The V way on the bed and corresponding V in the headstock and tailstock wedge when clamped together, drawing parts solidly into accurate alignment. Legs are an integral part of the bed with clearance for easy removal of chips.

The guarded headstock is the safest and most modern ever built into a lathe of this size. The four step pulley is properly supported between bearings with *New Departure Ball Bearings* to take end thrust and radial load. Lathe may be driven from below or behind.

The tailstock is equipped with oversize quill to take No. 1 Morse Taper fittings. Operated by large hand wheel the quill ejects the fittings when backed to the limit.

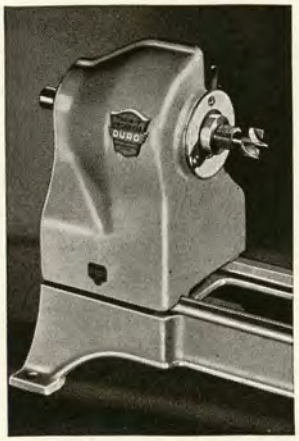
The 10″x31″ capacity, exclusive V and Flat way construction, Ball Bearing spindle mounting and the rigid, substantial design combine to give the necessary strength, capacity and acuracy to produce quality work.

For Metal cutting attachments, Compound Slide-Rest, etc., see page 44. Equipped with 12″ tool rest, No. 1 Morse Taper, spur and cup centers with removable points. Use motor pulley No. 341505; ⅓ H.P. motor; 48″ belt with B305385 steel stand.

PRICE INFORMATION

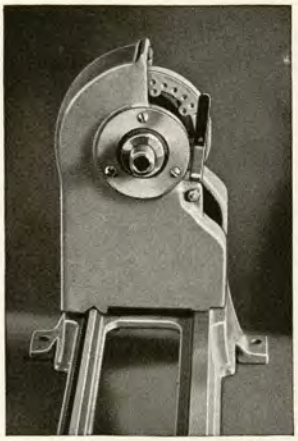
B-3053—Lathe. Shipping Weight 60 lbs.....$18.95
305367—Sanding Disc and Table. Ship. wt. 26 lbs.....$12.50
B305385—Steel Stand. Ship. wt. 52 lbs.....$10.45
305360—18″ Bed Extension. Ship. wt. 12 lbs.....$ 4.25
301221—Mitre Gauge for 305367.....$ 1.95
3265—Sandpaper, 10″ for above Sanding Disc, Fine, Medium or Coarse, each.....$ .15

See Page 45 for Remote Control Switch and Rubber Feet for Stand.



GUARDED HEAD

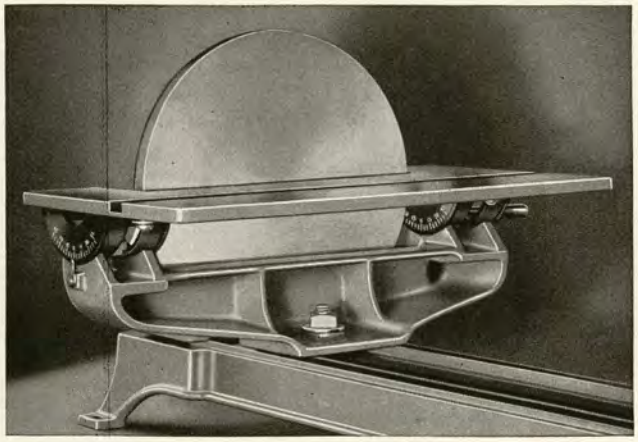
One of the finest, safest and most modern headstocks ever built into a lathe of this size. Guard protects the operator from the front of the lathe yet leaves plenty of room to change belts from one speed to another. Lathe may be driven from back or below. Extra large New Departure Sealed Ball Bearing takes end thrust and radial load.



INDEXING HEAD STOCK

This new headstock has a balanced four-step pulley provided with one row of thirty holes and one row of eight holes, accurately spaced for indexing, making it invaluable for fluting, or laying out work.

The polished steel spindle ¾″ in diameter, has a ⅜″ hole drilled through it. Takes No. 1 Morse Taper attachments.



SANDING DISC WITH ADJUSTABLE TABLE

The addition of this accessory will economically convert your Lathe into a disc sander. The 10″ disc is threaded for attaching to spindle and the four step pulley provides four speeds. The table and frame are attached to the bed by tool rest clamp.

Made from heavy gray iron and finished to match lathe. Ground cast iron table 10″ x 16″ with slot for mitre gauge. Table rides on double trunnions and tilts 45° in one direction and 15° in other.

305367—Each. Shipping weight 26 lbs.....$12.50
3265—Sandpaper, 10″; fine, medium or coarse, ea. .15

No. A-3033

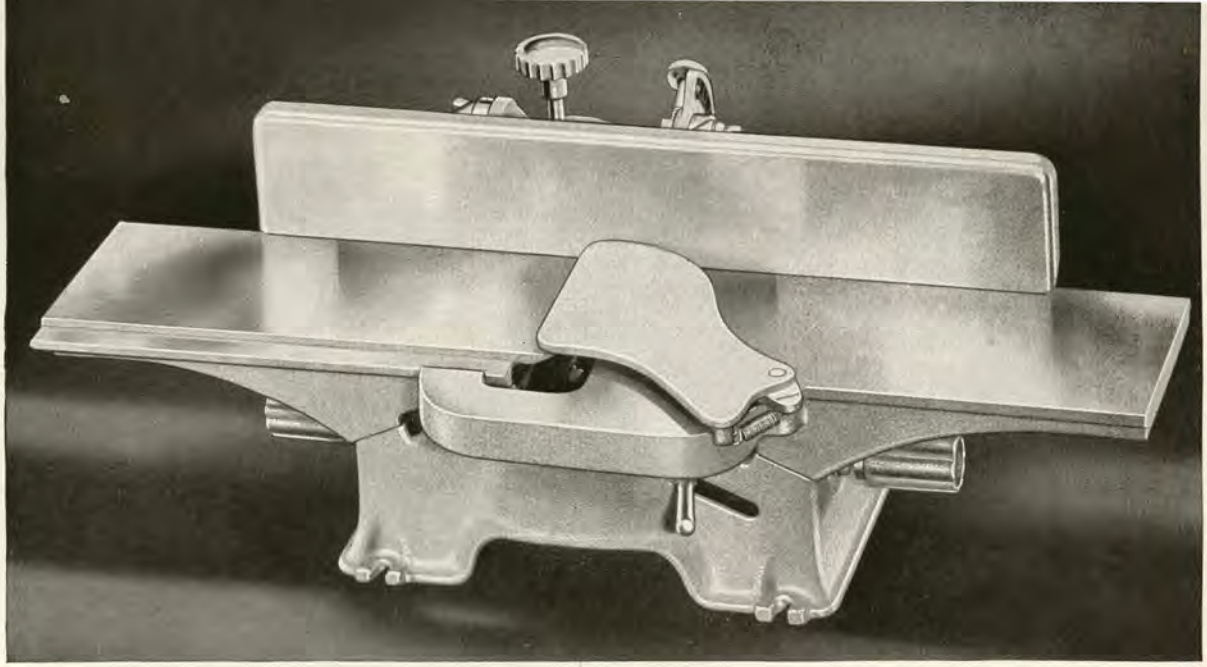
$19.95

AS ILLUSTRATED

4½ x ⅜ INCH CAPACITY

PRODUCTION FENCE

SAFETY TYPE THREE BLADE CUTTER HEAD



DURO HEAVY DUTY JOINTER

The new Duro 4½ inch Jointer has increased capacity and added features that make it the greatest value in the low price field. It has a capacity of 4½ inches with ⅜ inch depth cut. The tables are longer and wider; the frame is heavier, and a real production fence attached to the rear table is now included as standard equipment. Greater capacity, greater weight, more accurate performance and added improvements all combine to make this machine unequalled in its field.

The high quality, close grained, gray iron base casting is cross-ribbed for greater strength and rigidity. Added weight has been built into the frame to give extra solid and vibration free performance. Mounted in the main frame, the shaft runs on extra long and extra heavy self-lubricating bronze-bearings.

The cutter head is of the three blade type with three chip breakers. The blades are high speed tool steel, heat treated to maintain the cutting edge. After assembly of the blades and the chip breakers, the cutter head is balanced for safe operation at speeds up to 5000 R.P.M. The result of this vibrationless high speed operation is remarkable smoothness of cut.

The heavy cast iron tables operating on long milled ways are raised and lowered with a hand knob and locked in position with lever lock. The jointer has a capacity up to ⅜ inches in depth of cut. In order to give support to long work without teetering, the tables are made approximately 25 inches long overall, the front table being 5½ inches wide with a 3 inch rabbetting arm and the rear table 5½ inches wide over the rabbetting ledge. The height to the top of table is 5 inches. The working surfaces of the tables are rough ground and the castings then seasoned to prevent warping. AFTER assembly they are finish ground to insure absolutely true and parallel surfaces. A guard completely covers the cutter head, swinging out of the way when material is passed over the jointer; instantly returns by spring.

The Duro production fence that has been added to this jointer, although more expensive in construction is far superior to the ordinary fence in versatility, accuracy and safety. The fence is mounted on the rear table, thereby eliminating the dangerous gap between the fence and rear table, the point where stock is apt to catch. It may be tilted to 45 degrees in either direction with the degree of tilt indicated by pointer on an easily read scale. Fence is moved across the tables on an arm fastened to the back table—not the front. Securely locked in any position by hand wheel. The rear guard is part of the fence base casting. The blades are always guarded regardless of position of fence—a safety feature not available in most Jointers and in others charged for as an extra.

The jointer is furnished with a 1½ inch pulley. Use a 4 inch pulley on a 1750 R.P.M. motor for the proper speed.

SPECIFICATIONS

Capacity Width of Cut	4½"
Capacity Depth of Cut	⅜"
Overall Length	24"
Overall Width	14½"
Overall Height	8"
Height to Table Top	5"
Shipping Weight	38 lbs.

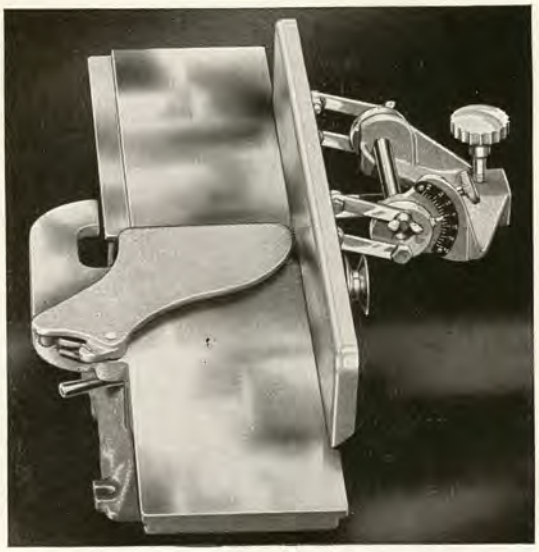
PRODUCTION TYPE FENCE

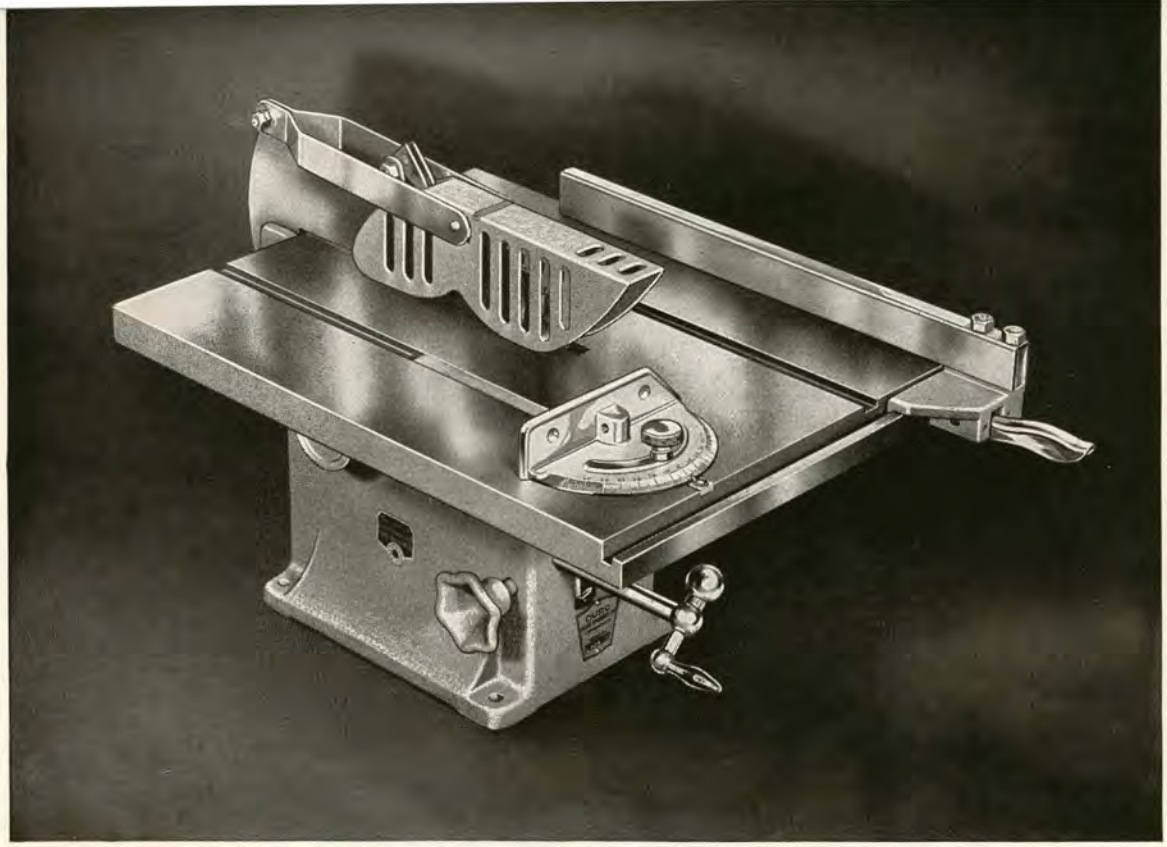
The illustration at the right shows the exclusive Duro production safety fence which is included as standard equipment on the 4½ inch Jointer. The fence is mounted on a bracket fastened to the rear table so that at no time regardless of the adjustment of the jointer is there a gap between the rear table and the fence where lumber might catch. Clearance between the fence and the front table is only equal to the depth of cut therefore always less than the thickness of the stock. This is a particularly important safety feature in working with thin stock.

The fence moves across the table on an arm attached to the rear table. A hand wheel locks the fence in any required position. As the fence is moved to the left across the table the fence bracket acts as a guard to cover that part of the cutter head that is to the right of the fence—another exclusive safety feature. The fence also tilts 45 degrees in either direction and is locked in position by handwheel with the degree of tilt indicated on a graduated scale. This fence construction is far superior in performance and safety to that of the usual jointer fence.

Note that the front table is equipped with a cam level lock located on the left side of the base. A quarter turn of the lever locks the table solidly at any height. Even when working with heavy material the cuts are straight and an accurate joint is assured as the table is locked to the main frame preventing any tilt.

These are some of the extra features built into Duro Tools that give you plus value.





No. 3012

$25.95

AS ILLUSTRATED

- **14″ x 18″ Table**
- **2⅜″ Depth Cut**
- **Splitter and Safety Anti-Kick Back**

Equipped with NEW DEPARTURE BALL BEARINGS

DURO HEAVY DUTY BENCH SAW

Specially designed and moderately priced to meet the requirements of those who need an 8″ Table Saw that will perform heavy duty work with a moderate investment.

This saw embodies the same quality materials and the same precision workmanship found in our production saw. The materials are substantial in weight and the mechanism has been carefully designed. Compare it with any saw in this price range —it is an outstanding value.

The base, well balanced, fully enclosed, is made from selected, seasoned gray iron. Substantial reinforcing cross ribs give it strength and rigidity. The housing which supports the spindle bearings is an integral part of the frame casting. The table bracket, made of high grade gray iron, is supported by two posts that operate in long bearings in the main frame. The table is made of high quality gray iron with deep flanges and heavy ribs to prevent warpage. All tables are carefully seasoned, milled and ground to a smooth accurate finish. A 14″x18″ surface with 7½″ in front of the blade when set at 2″ depth and 9″ when set at 1″ depth gives ample table space without the necessity of buying extra tables.

Two outstanding features of this saw are the improved guard with splitter and the anti-kickback device. The splitter is mounted directly behind the blade and is designed to follow the kerf of the saw. It is made of the proper thickness of material and extending well beyond the back of the table it guides the material being cut and at the same time prevents binding.

The anti-kickback is the friction type so designed that it will grip any material from the finest up to the capacity of the saw. It is immediately behind the saw blade and only the width of the splitter to the right, consequently it grips the thinnest material in the event that it kicks back. These two safety features usually cost dollars extra as accessories on other saws.

The saw is furnished with a heavy steel rip fence. It has a clamp type lever that permits easy removal or movement from place to place across the surface of the saw table. It may be used to equal advantage on either side of the saw blade. The table is slotted on both sides of the blade to accommodate the mitre gauge, which is adjustable to 60° in either direction. The saw is finished in corduroy baked enamel and is equipped with a high grade combination 8″ saw blade. Shipping weight 85 lbs.

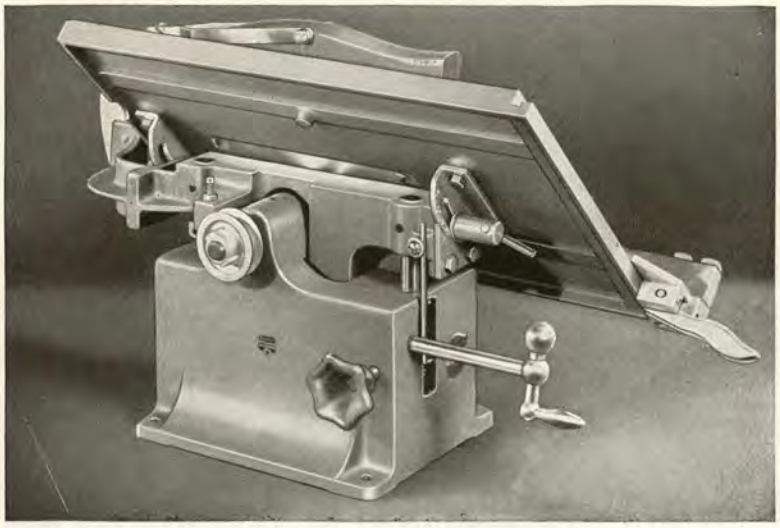


TABLE TILTS TO 45 DEGREES

The illustration at the left clearly shows the rugged construction of this unit that makes it strong and vibration free. The full box frame and the heavy table bracket properly support the trunnions on which the table is mounted. The trunnions are steel, and are set well apart to give maximum support. The front trunnion is graduated and a pointer records the degree of tilt.

Note the heavy cast iron section through which the spindle passes and the fact that it is part of the main base. In this are mounted the New Departure Sealed Ball Bearings on which the spindle operates.

The table is raised and lowered without play or backlash by an accurately cut gear and rack. The rack is part of the table bracket and the gear is operated by the large ball crank. A compensating spring is provided in order that the table may be raised or lowered with equal ease. A depth indicating scale with adjustable pointer records the depth of cut. The hand wheel locks the table at the required depth.

FIR WIT Safety Join Fen

DURO 9½ INCH BAND SAW

No. 3026
AS ILLUSTRATED **$18.95**

The Duro 9½ inch Band Saw is patterned after our 12½ inch Saw and is built to the same exacting standards but with a smaller capacity and corresponding reduction in price. Incorporated are features such as, one piece hinged, gray iron guard; one-piece gray iron frame; solid disc wheels; rigid mounting of upper wheel; and superior blade guides.

Only one-piece hinged guards can give instant access to back of blade for testing tension or complete freedom for changing blades. Simply loosen one screw to swing guard out of the way. Eliminates numerous screws and necessity of removing guard from frame.

The deep channel frame of high quality gray iron, is cast in one piece for strength and rigidity. Semi-box type construction and heavy cross ribs insures permanent alignment of wheels.

Solid disc wheels are same type as those used on our 12½ inch saw. Dished to bring load strain directly over bearings; crowned and equipped with live rubber tires; balanced to insure true running. Spindles, carefully ground and polished, are mounted on large self-lubricating bronze bearings, assuring smooth operation and trouble free service.

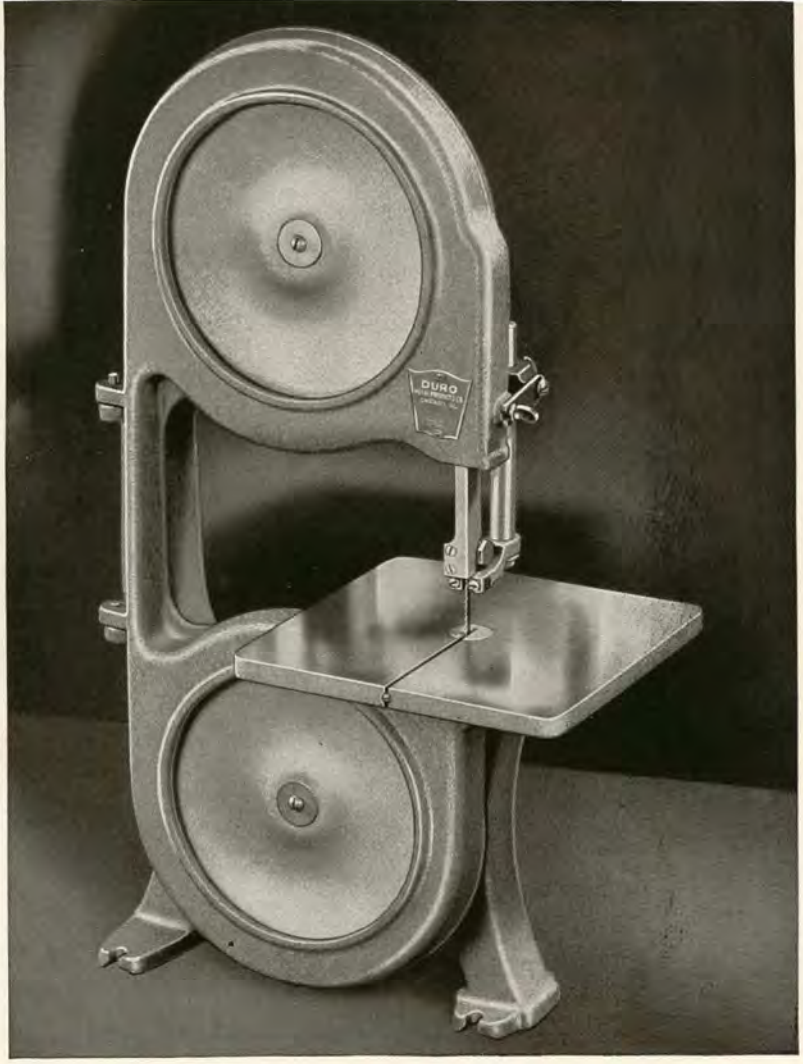
Upper wheel mounting is an exact duplicate of that used on the 12½ inch production Band Saw. The same size heavy gray iron bracket assures rigidness and positive alignment of wheels. Heavy spring absorbs shocks. Convenient hand screws permit accurate tension and alignment adjustments.

9 by 9 inch table is made of same high quality gray iron as the castings on our production tools. Machine ground to a smooth, accurate surface. Designed to permit removal of blades from the front. Table is supported on a large trunnion and tilts to 45 degrees.

Bronze bearing saw guides are hardened steel roller type; blade runs on edge instead of side of roller. Reduces friction and assures maximum blade life.

Equipped with 4" pulley and ¼" blade. Use 2" pulley on 1750 R.P.M. motor for cutting wood; a slower speed for soft metals.

302625—4⅜"x9" Auxiliary Table for 3026. Will not fit on 3025.....$1.25

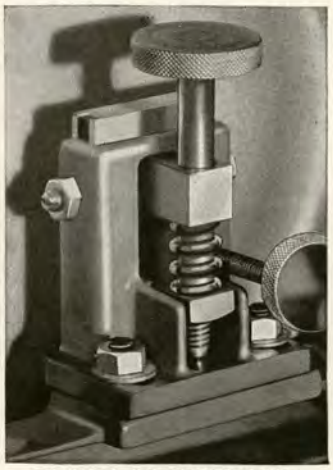


GENERAL SPECIFICATIONS

One piece hinged guard.
Capacity, Blade to frame...9½"
Depth capacity, guard open.4¾"
Capacity, guard closed.....4¼"
Overall height .....26¼"
Overall width .....16½"
Overall, front to back.....9¾"
Size of table.....9"x9"
Table Tilts from.....0 to 45°
Length of blade.....60"
Width of blade furnished....¼"
Shipping weight .....48 lbs.

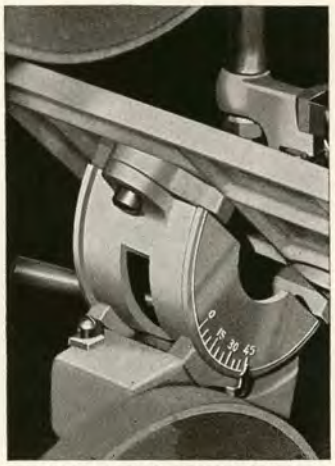
ROLLER SAW GUIDE

Bronze bearing saw guides are roller type. Blade runs on edge instead of side of the hardened steel roller. Hardened steel guide blocks are adjustable for any size blade. Guide raises or lowers for various thicknesses of material. Auxiliary guard covers blade above cutting point. Aluminum disc in center of table prevents damage to blade.



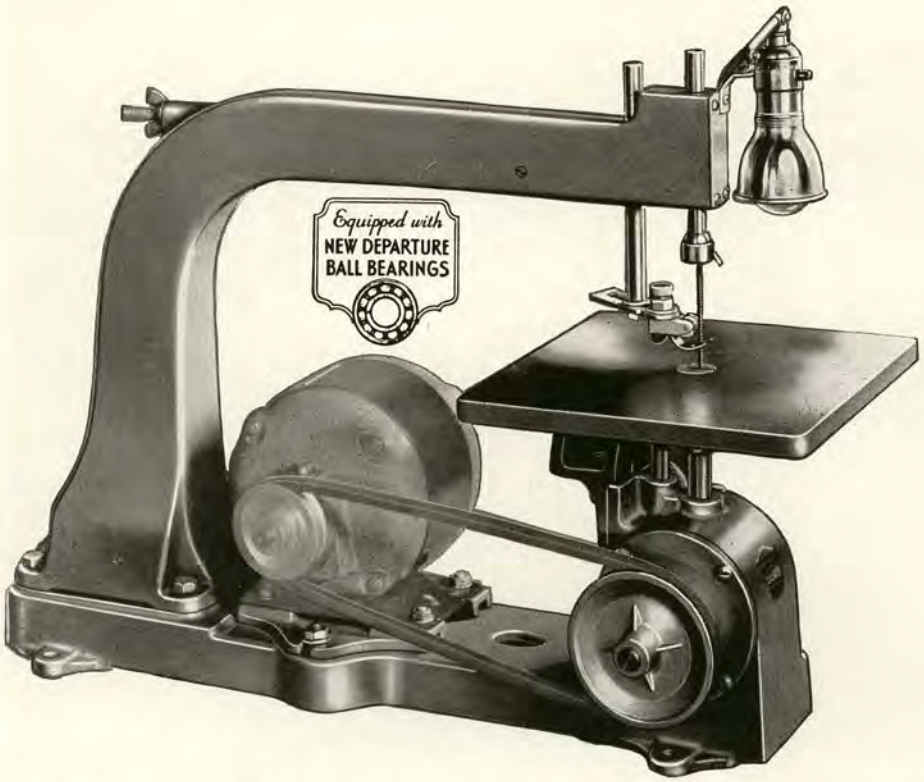
BLADE ADJUSTMENT

Very accurate and positive method for holding and adjusting upper wheel. Hand screws permit either horizontal or vertical adjustments to perfectly align upper and lower wheels and put exact degree of tension on blade. Heavy spring absorbs shocks that might damage blade. An exact duplicate of device used on the 12½" Production Band Saw.



TRUNNION MOUNTING

The sturdy trunnion slides on milled ways in frame. Can be instantly clamped with a convenient cam lever. Table tilts to 45 degrees. Adjustable pointer indicates angle of tilt. Automatic stop provided for squaring table—the most frequently used position. Note the heavy cross ribs in table—assures strength and a permanently true working surface.



DURO HEAVY DUTY 16-INCH SCROLL SAW

No. 3003

$22.95

LESS LIGHT, MOTOR, BELT AND PULLEY

The Duro 16 inch Scroll Saw is a heavy duty machine, built for continuous use, that cuts accurately and smoothly. It meets the requirements of the artisan needing a big machine for exacting work and yet one that can be operated in a limited amount of space.

The heavy cast iron frame of this saw is rigid and solid maintaining accurate alignment of the parts and preventing vibration. The crank case is an integral part of the base casting which also carries the adjustable motor mounting. The hollow box type upper arm is reinforced with inside ribbing giving it increased strength and rigidity. This sturdy construction is an important factor in the vibrationless performance of this machine.

The operating mechanism of a scroll saw is of vital importance. Both the upper and lower mechanism of the Duro saw are of exceptionally fine design and construction.

The driving mechanism is made of machined and ground parts that have been held to close limits in manufacture. The crank shaft operates on New Departure Sealed Ball Bearings. The entire mechanism is balanced to prevent vibration and operates in a bath of oil within a closed crank case. The result is not only a quiet, smooth running mechanism but also one that will run indefinitely with a minimum of wear.

The upper spring tension mechanism is similar to that described on Page 32 for the 24 inch scroll saw, furnishing even blade tension at all positions of the stroke and preventing whip. This exclusive feature not only is necessary to insure smooth operation but also is important in increasing the life of the blade. Adjustment of the spring tension is readily made by means of a wing nut at the back on the upper arm. The correct tension for various kinds of work and various sizes of blades is quickly obtained.

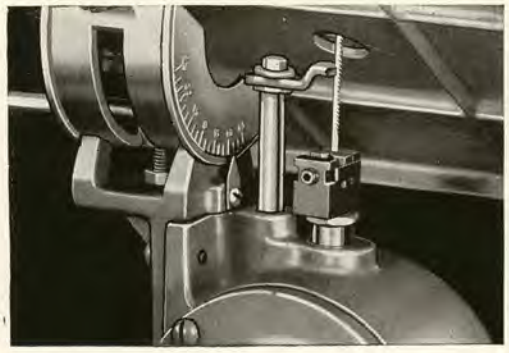
The heavy cast iron table 10 inches by 10 inches is cross-ribbed on the underside for added strength and to prevent warping. The top of the table is machined and ground to a smooth finish and is fitted with a removable aluminum insert to prevent blade damage. The table is mounted on a large double trunnion with double machined ways. Table tilts 45° in one direction, 30° in other direction. Pointer records the degree of tilt. The table is locked in desired position by a quick acting hand lever. The upper and lower chucks are the same as used on the 24 inch Scroll Saw with hardened steel jaws that firmly grip all types of plain end blades. Standard five inch blades may be used in this machine. For extra long work the chucks may be adjusted to a sawing position at right angles to the usual position.

Note the spring hold down on the adjustable foot and roller blade guide. The blade guide below the table is set close to the underside of the table for maximum support—valuable in saber saw work with the upper arm removed. An adjustable electric light can be obtained for added utility and convenience. See page 45.

The fine balance of this machine permits driving with a ¼ H.P. motor. The saw is equipped with a 4 inch pulley. Use a 3 inch pulley on 1750 R.P.M. motor for average work. This saw may be run, however, at much higher or lower speeds, if required, without decreasing its efficiency.

SPECIFICATIONS

Capacity	16″ Cuts to center of circle…32″
Overall length	27½″; Height, 18¾″; Width, 10½″
Table size	10″x10″
Blade Length	5″
Shipping Weight	67 lbs.

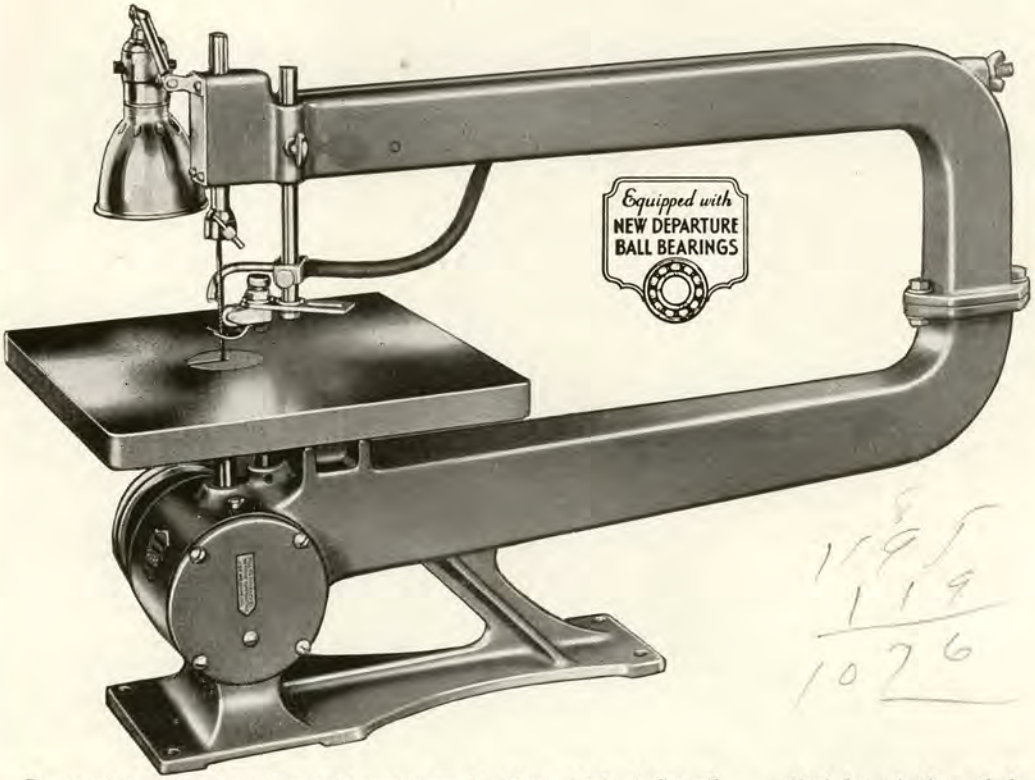


TRUNNION MOUNTING

Note on the illustration at the left the heavy double trunnion with double machined ways. Table tilts 45° in one direction, 30° in other direction. Pointer indicates degree of tilt. The table is locked in position by a cam lever. Note the heavy cross-ribs under the table for added strength and to prevent warping.

The lower blade guide adjusts both vertically and horizontally so that various width blades may be supported close to the underside of the table—invaluable for sabre saw work.

The hardened and tempered steel chuck with adjustable jaws will hold the finest fret saw blades as well as the heaviest saber blades. Socket head set screw tightens jaws to hold blades firmly and may be tightened without fear of breaking due to the rugged construction. One quarter turn of the locking nut releases the chuck to turn it at right angles for ripping long pieces. The upper chuck may be turned at right angles by removing thumb screw and turning chuck jaws.



DURO PRODUCTION 24-INCH SCROLL SAW

No. 3005

$28.50

LESS LIGHT, MOTOR, BELT AND PULLEY

In construction, capacity and accuracy the Duro 24 inch Scroll Saw is an outstanding value. It is a real production machine capable of continuous heavy duty service. Refinements and improvements have been included that increase its utility and add to the convenience of operation. Thousands in actual service testify to the efficiency and satisfactory performance of this saw.

One of the outstanding characteristics of this saw is the virtual lack of vibration. Duro engineers have accomplished this smooth quiet vibration-free performance by the design and construction of an extraordinarily substantial frame, by the use of a carefully balanced operating mechanism running on New Departure Sealed Ball Bearings and by a new application of an adjustable spring tension housed in the upper arm.

The lower and upper arms of the frame are hollow box castings with reinforced webs for added strength. The main housing is an integral part of the bottom half of the lower frame, both standing on a strong well balanced base. Upper arm may be removed for sabre saw work. Frame, housing, base table are all seasoned, high quality gray iron. This strong and solid construction is one of the reasons for smooth accurate operation of the machine.

The operating mechanism is composed of parts accurately machined and balanced with the crankshaft mounted on New Departure Ball Bearings. The entire driving mechanism is enclosed in a dust proof case and operates in a constant bath of oil. A set screw in the side of the crankcase is removable for filling with oil to the proper level and on top of the crankcase is located the breather cap. Also operating out of the crankcase is an efficient air pump that blows sawdust clear of the cutting line.

The upper chuck spindle runs on two self-lubricating bronze bearings keeping the blade absolutely vertical. In the upper assembly the exclusive Duro spring tension mechanism maintains constant blade tension at all positions of the stroke with resulting smooth operation and long blade life. Illustration and detailed description of the tension mechanism is given below.

The heavy cast iron table is 12 inches by 12 inches with reinforcing ribs for added strength and to prevent warping. The table is mounted on a heavy double trunnion and tilts 45° in one direction, 30° in other direction. Pointer indicates degree of tilt. A quick acting lever locks the table in the desired position. Table has aluminum insert to protect blade.

The chucks have hardened steel tight gripping jaws. Chucks may be adjusted to cut at right angles for use with extra long stock. With the upper arm removed the saw has unlimited capacity. Adjustable roller guide with adjustable spring hold down foot. Lower guide adjusts close to table for maximum support for sabre saw work. Uses 5 inch plain end blades. An adjustable electric light that attaches to the upper arm may be added to increase the utility of the machine.

The saw has a 4 inch V Pulley. Use a 3 inch pulley with a ¼ H.P. 1750 R.P.M. motor, for ordinary work. To mount individually use No. 300585 steel stand with 50 inch V Belt.

SPECIFICATIONS

Capacity	24″	Cuts to center of circle	48″
Overall length			33″
Overall height			9″
Overall width			12″
Crankshaft mounting	New Departure Ball Bearings		
Table Size			12″x12″
Blades	5″ Plain End		

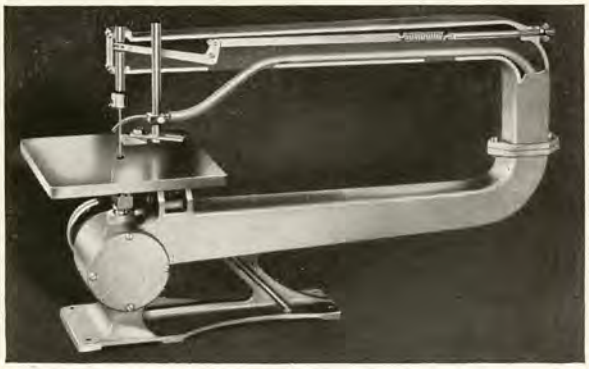
PRICE INFORMATION

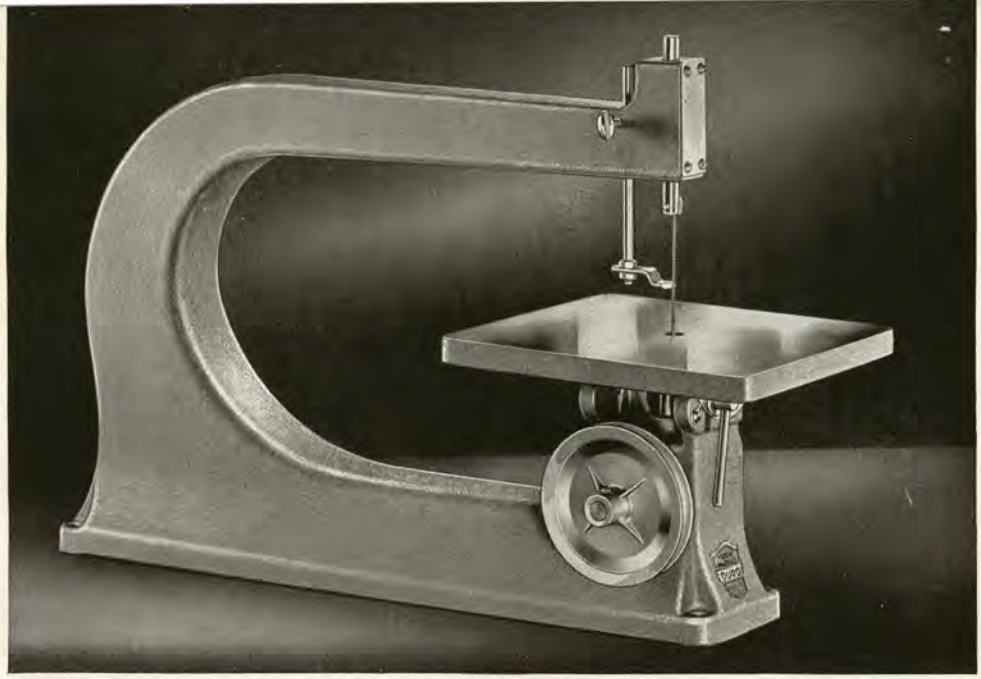
3005—Scroll Saw less Adjustable Light. Ship. wt. 85 lbs.	$28.50
300585—Steel Stand for 3005. Shipping weight 35 lbs.	$ 7.85
301586—Remote Control Switch	$ 2.50
301588—Rubber Feet for Stand. Per Set	$ .95
3765—Adjustable Electric Light	$ 1.25

ADJUSTABLE SPRING TENSION

The illustration at the right shows the exclusive Duro adjustable spring tension device for regulating tension according to the size of blades and type of work and also for maintaining an even tension on the saw blade at all positions of the stroke. The importance of setting the tension on a jig saw blade according to the size and width is as great as that of setting the tension on a band saw blade. The wider and heavier the blade the greater the tension required. Even tension at all positions of the stroke is important to prevent whip or buckling which produces crystallization that greatly reduces the life of the blade. Correct tension, evenly applied produces a quieter, smoother-running, vibration-free saw.

This tensioning mechanism is simple and efficient. By turning a wing nut adjustment at the rear of the upper arm, the tension is increased or decreased as desired. The cantilever link moves the spring only one quarter the distance required on other types of saws thereby producing an even tension at all positions of the stroke and also assuring longer spring life.





DURO 15-INCH JIG SAW

No. B-3002

$11.95

AS ILLUSTRATED

The Duro 15 inch Jig Saw is built to meet the demand for a large capacity saw at a low price. It is built to the same high standards as our Production Scroll Saws, with quality and workmanship that has never before been offered in a moderately priced Jig Saw. Incorporated are features such as, one piece gray iron frame and base, 15 inch capacity from blade to frame, upper and lower tension springs and totally enclosed driving mechanism operating in a bath of oil. The design of the one piece frame and base provides strength, the construction of the working parts provides smooth and quiet operation.

The hollow box-type frame and base are cast in one piece to insure rigidity. Made of high quality gray iron and carefully machined to accurate limits. The housing for the working parts is an integral part of the base. A dust proof cover keeps foreign matter from entering the housing to cause damage to the working parts. This insures long life as the working parts receive proper lubrication from the oil in the housing.

Tension on upper spindle is controlled by a torsion type spring enclosed in the head of the frame and on the lower spindle by a compression type spring. The two springs working in conjunction with each other provide the proper tension on the blade at all positions, resulting in smooth, vibrationless cutting. Reduces blade breakage to a minimum.

The spindles are actuated by a hardened and ground eccentric cam on the drive shaft. An improved cross head is mounted on the lower spindle and is held against the cam by the lower spring. The cam operating the cross head in conjunction with the tension spring produces a positive driving action that delivers maximum cutting capacity at each stroke.

Table is made of cast iron and is machine ground to insure a true surface. 9″x9″ gives adequate working surface when cutting up to the capacity of the saw. Heavy steel trunnions support the table and allow it to be tilted accurately to 45 degrees. Trunnion is graduated, a pointer indicates the degree of tilt.

Hardened steel blocks are used to hold the blade on to the shafts. They are easily adjusted with hollow head cap screws. Saw takes any 5 inch plain end blade. A guide foot which also acts as a hold down is carefully heat treated then cadmium plated to prevent rust.

Standard equipment includes 4″ pulley, saw blade and adjusting wrench for blade holders. Use 2 inch pulley on 1750 R.P.M. motor or line shaft.

SPECIFICATIONS

Capacity, Blade to Frame	15″
Depth Capacity	2″
Overall Length	23″
Overall Width	9″
Overall Height	15½″
Size of Table	9″x9″
Degree of Table Tilt	45°
Shipping Weight	32 lbs.

12 INCH JIG SAW

No. B-3000
AS ILLUSTRATED **$6.50**

A low priced Jig Saw that operates with the smoothnes and quietness of many large Scroll Saws. Sturdy, one-piece frame of seasoned gray iron, heavily ribbed to insure rigidity. Upper and lower springs provide smooth, quiet operation. Driving mechanism, enclosed in a dust proof housing, runs in a bath of oil. Such features make this Jig Saw the finest in its price field.

Shafts are ground and polished steel, with heat treated clamps for holding blades. Clamps are provided with hollow head cap screws—fully adjustable for any size blade. Torsion type spring exerts even tension on upper spindle, compression spring on lower spindle. The springs working together provide proper tension on the blade at all positions of the stroke.

Mechanism is actuated by an eccentric cam, operating on an improved cross head. Working parts are enclosed and run in a bath of oil —assures proper lubrication and longer life of the tool.

8″ diameter steel table is reinforced to insure a true working surface. Table tilts to 45 degrees on graduated trunnions. Adjustable stop is provided for squaring table.

Equipped with blade, 4″ pulley and wrench for blade clamp adjustment. Use 2″ pulley on 1750 R.P.M. Motor.

SPECIFICATIONS

Capacity	12″ Cuts to Center of circle 24″
Overall height, 16″; length, 18″; width, 8½″.	
Actual table size	8″
Length blade	5″
Shipping weight	20 lbs.

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DURO SUPER VALUE 10x31 INCH LATHE

- 10 Inch Swing
- 31 Inches Between Centers
- 45 Inch Bed
- V and Flat Way Construction
- No. 1 Morse Taper Fittings

No. C-3053

$11.95

AS ILLUSTRATED

Built to the same standard of values as all other Duro Tools this Super Value Lathe is comparable in value to competitive lathes selling up to $20. Read the following specifications and you will know it is the greatest value ever offered.

Capacity—Swings 10 inch material over the bed with a full 31 inches between centers. Never has a lathe of this capacity been offered at this low price.

Construction—Machining of all parts to the same high standards of close tolerances that make Duro tools outstanding in accuracy and dependability. Bed, head and tailstock are made of the same high grade gray iron that characterizes other Duro tools.

V and Flat ways machined in bed, head and tailstock insure perfect alignment of the spindles. All castings are extra heavy, well ribbed and braced to give you smoothness at all speeds. Ample clearance under the bed for easy removal of chips.

Indexing head-stock is equipped with a balanced 4-step pulley having one row of 30 holes and one row of 8 holes accurately spaced. An extra-value feature of this lathe. Polished steel headstock spindle is ¾" in diameter and is mounted solidly on large self-lubricating bronze bearings with ball bearing to take end thrust. The spindle has ⅜" hole drilled through it with the front end machined to take all tools with #1 Morse Taper—also has ¾"—16 threads to take all standard accessories.

The tailstock is substantially built with a high quality machined steel quill. Quill, machined to hold all No. 1 Morse Taper fittings, ejects its center when backed to the limit. V and Flat ways machined in tail stock correspond to V and Flat way in bed and headstock assuring alignment of spindles at all positions along the bed.

Standard equipment includes spur center, cup center, 9" tool rest and tool rest holder. Shipping weight 52 lbs.

DURO SUPER VALUE 8 INCH TABLE SAW

- 2⅜ Inch Cut—8 Inch Saw Blade
- Gear and Rack Raising Mechanism
- Large 11x15 In. Ground Table

No. A-3011

$11.95

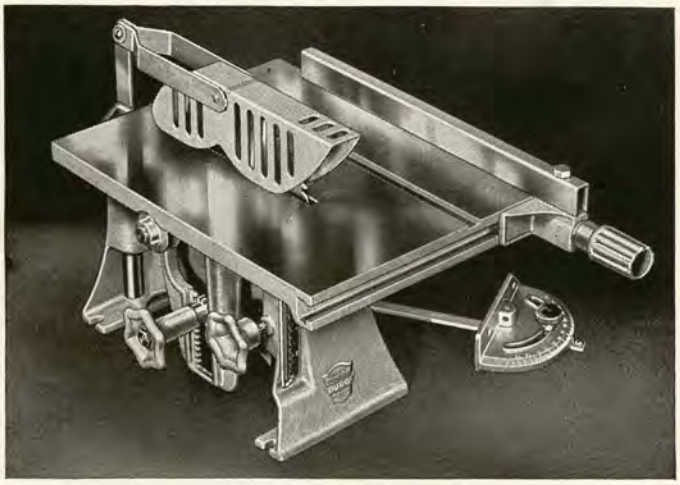
Built to the same Duro standard of values, this 8 inch Table Saw has the specifications and quality workmanship that make it an outstanding value in this price field. The following specifications were formerly found only in machines selling at much higher prices.

Capacity—The 8 inch saw blade cuts material up to 2⅜ inches thick. Ample capacity to handle the majority of material used in the home workshop or in maintenance work. An adjustable pointer indicates depth of cut.

Construction—All machining is held to Duro high standards of close tolerances for accuracy and efficiency. All materials are of the highest quality. Base, table bracket and table are made of high grade gray iron to give rigidity and smoothness. Ground and polished spindle, ⅝" in diameter, is of high grade alloy steel, insuring a true running blade.

The large 11" x 15" table is machine ground and polished. It is quickly raised or lowered by turning the large handwheel which operates the gear rack and pinion. Lock holds table at the desired height. Extra wide trunnions travel in saddles that are part of the table bracket. Table tilts to 45 degrees. Table has removable throat for dado head. Spindle runs on self-lubricating bearings seated in the base casting.

Equipped with clear vision guard, splitter, mitre gauge, rip fence and 8 inch combination saw blade of chrome alloy steel. Use a 4 inch pulley on 1750 RPM ⅓ H. P. Motor. Shipping weight 42 lbs.



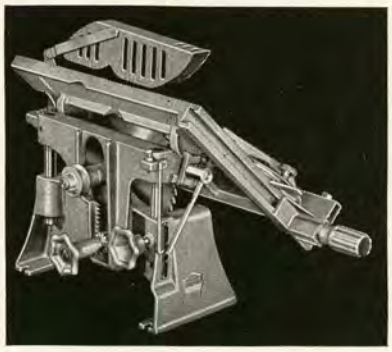


TABLE TILTS TO 45 DEGREES

Note the extra heavy construction of base and sturdy mounting of table and spindle. Wide trunnions at front and rear, travel in saddles which are part of the bracket. Table tilts accurately and smoothly to 45 degrees. Table raises by means of a sturdy geared, hand wheel. Lock provided to hold table at desired height and required angle of tilt. Heavy steel posts are built into frame at both front and rear giving rigid support to table at all times.

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DURO PORTABLE HEAVY DUTY FLEXIBLE SHAFT

An improved design Flexible Shaft unit with a wide range of usefulness. Ideal for the mechanic or shop requiring a compact and portable outfit. Sturdy and well balanced, it is unusually flexible. The motor mounting swings in the yoke, the yoke revolves on the solid steel post on ball bearings and the entire unit is mounted on ball bearing casters.

Note the extra heavy construction of the tripod stand. The sturdy cast iron legs mounted on ball bearing casters have a spread of 21 inches, providing a stable unit that is not top heavy. A large 14 inch steel tool pan is provided. The lower end of the solid steel post 1½ inches in diameter, sets in a cast iron bracket with an adjustment to permit raising or lowering the post. The cast iron yoke is mounted at the top of the shaft on ball bearings to permit revolving the head easily and quickly to any desired position. The cast iron motor mounting also swings within the yoke for greater flexibility.

The four step motor pulley drives through the V belt to a four step pulley on the Jack Shaft, which gives a speed range of from 690 to 4,000 R.P.M. The Jack Shaft is adjustable vertically to permit obtaining the proper belt tension. Above the Jack Shaft is a convenient, specially designed, bracket in which the end of the Flexible Shaft may be set with any attachment fastened to it, while the shaft and attachment are still revolving. The overall height of the unit is 44 inches.

The Flexible Shaft Outfit has many uses such as polishing, grinding, drilling, buffing, carbon removing, body work, etc. It is indispensable to any garage or workshop.

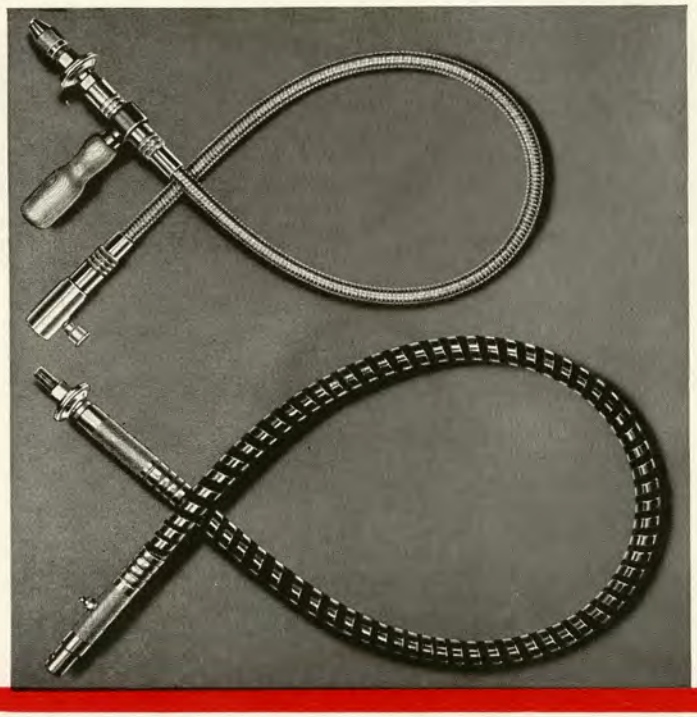
PRICE INFORMATION

3074—Tripod Unit including pulleys and belt less Motor and Flexible Shaft. **$14.75**
Shipping weight 45 lbs.....

3075—Complete unit including ⅓ H.P. G.E. Ball Bearing Motor and 3073 Heavy Duty Flexible Shaft.
Shipping weight 95 lbs.....$43.95

- **Heavy Duty Ball-Bearing Shaft.**
- **4 Speeds, 690 to 4000 R. P. M.**
- **Motor Head swivels in any direction.**

DURO BALL-BEARING FLEXIBLE SHAFTS



53 INCH FLEXIBLE SHAFT

A new improved ball bearing motor coupling with grease cup gives this convenient tool added strength and utility. This carefully constructed shaft is used for grinding, drilling, sanding, polishing, buffing and general utility work around the shop. It has a specially wound music wire inner core $\frac{5}{16}$" in diameter. Two rows of ball bearings at each end of shaft. All engaging parts are heat treated. Heavy cadmium plated flexible outer casing. Equipped with motor coupling, chuck adaptor, 3 jaw ¼ inch chuck, flanges for wheel and auxiliary handle. Length overall 53 inches.

PRICE INFORMATION

3071—Flexible Shaft. Shipping weight 6 lbs.....$6.00
307133—Flexible Shaft Extension. Length 43 inches. Increases length of No. 3071 to 95 inches overall. Shipping weight 4 lbs.....$3.50

HEAVY DUTY FLEXIBLE SHAFT

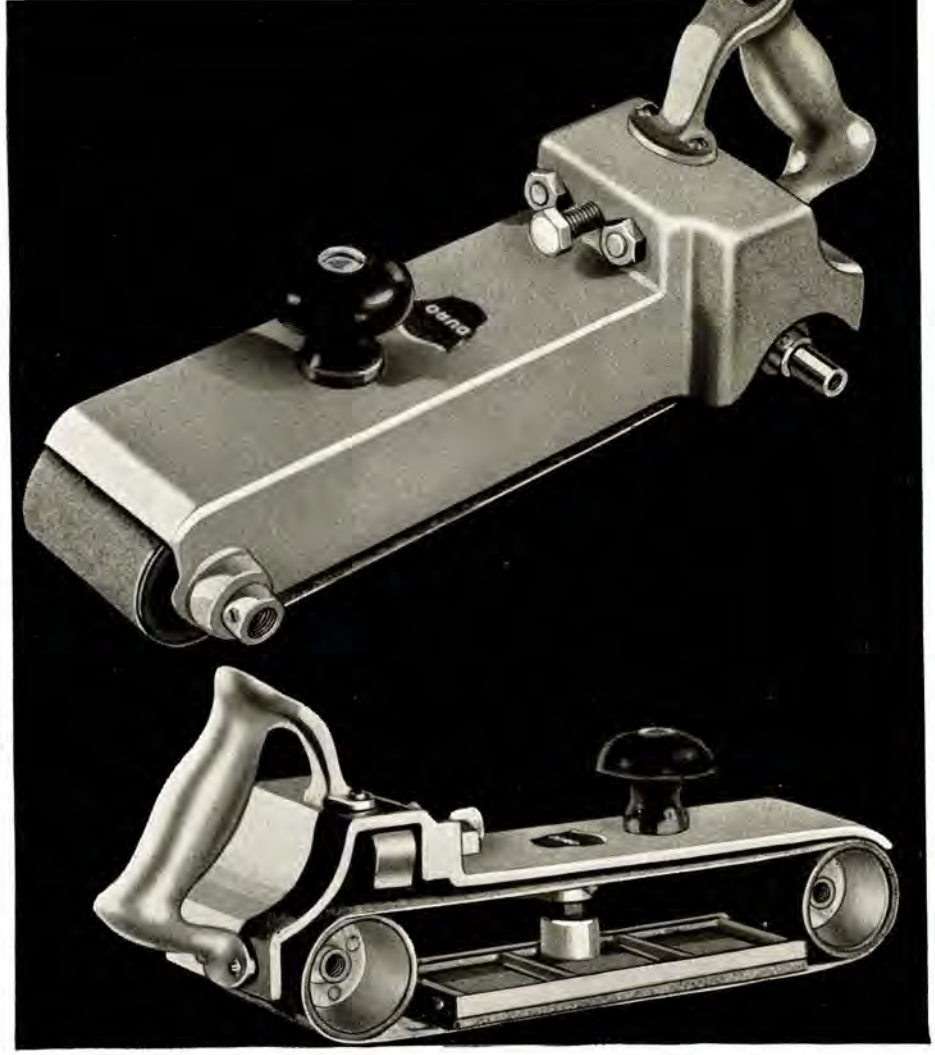
This unit is designed for heavier duty work than No. 3071 above and will be found ideal for garage, woodworking shops, machine shops and paint shops. Used for drilling, polishing, grinding, buffing, carbon removing, etc.

The outer casing is a specially flexible and durable combination of steel and tough rubber. The heavy ⅜ inch core is made of specially wound music wire and rides on two rows of enclosed ball bearings at each end of the shaft. The inner walls of the casing have a special lining which resists friction and wear and gives longer life to the core. Equipped with motor coupling at one end and heavy ½ inch 24 thread spindle at the other, wheel flanges and nut. Fits ¼ or ½ inch chucks and other standard accessories. Over all length 5 ft.

PRICE INFORMATION

3073—Flexible Shaft. Shipping weight 12 lbs.....$14.25
307333—Flexible Shaft Extension for No. 3073 Length overall 5 ft. Shipping weight 12 lbs..... $14.25
307321—Adaptor for using No. 3073 Flexible Shaft with No. 3061 Sander .....$ .50
3264—6 x ½" Flexible Sanding Disc to fit No. 3073.....$ 1.60
3263—Sandpaper for No. 3264, fine, medium or coarse, each .....$ .10

DURO PORTABLE BELT SANDER



Belt sanding is the most practical, economical labor saving and time saving way of sanding flat surfaces. Table tops, desk tops, cabinets, etc. can be sanded as efficiently as in the factory. A fine smooth even surface is obtained without ridges, corrugations or rings.

This Portable Sander has proved that it will do any sanding job as satisfactorily as portable sanders that usually sell for $85.00 or more. It will accomplish in a few minutes and with little effort what would usually take hours of hand labor.

The main frame and pistol grip handles are high grade aluminum castings making the tool light in weight and easy to handle. When sanding, the design of the pistol grip allows the wrist and arm to assume a natural position at all times.

The rubber covered crown pulleys run on self-lubricating bronze bearings which provide not only adequate lubrication at all times but prevent oil dripping out to mar finished work.

Conveniently located adjustments for setting the tension and tracking of the sanding belt are located on top of the frame in front of the pistol grip handle. The belt is backed at the sanding surface by an adjustable cast aluminum table with cork pad and a sheet metal cover plate.

The machine may be driven from the right or left side of the front or back pulley. For most work, however, the left side of the front pulley is the most convenient drive. The Sander is driven by any Flexible Shaft with a spindle $\frac{5}{16}$"-24 threads.

Duro No. 3071 Flexible Shaft will give excellent results. For a longer shaft with greater flexibility add No. 307133 Extension. If No. 3073 Heavy Duty Flexible Shaft is used to drive the Sander, No. 307321 Adaptor is required.

The length overall of the sander is 17 inches —a large enough machine for the greater portion of sanding done in any woodworking shop. It should be run at motor speed of 1750 R.P.M. Equipped with one medium grit sanding belt. For extra belts see page 43.

3061—Portable Sander.
Shipping weight 11 lbs..... **$11.95**

SPINDLE SANDER

For sanding carvings, mouldings and all irregular shapes. Allow garnet paper to overhang the end of rubber drum. Run at 3450 R.P.M. and press work against paper. Centrifugal force holds paper out and provides resilient surface. Spindle, rubber sleeve, wood roller and one sheet of garnet paper included.

No. 3062 .....$1.95
No. 3260—Special garnet paper for above size 9x12 inches—fine, medium and coarse. State grade wanted. Per dozen.....$0.60

IDEAL FOR SANDING IRREGULAR SURFACES. THE EQUIVALENT OF MANY HOURS OF HAND SANDING CAN BE DONE IN A FEW MINUTES.

DURO BENCH SANDER

The Duro 3 inch Bench Sander is a sturdy inexpensive machine built to our usual high quality standards. The frame is heavy gray iron carefully machined assuring proper alignment of the two rollers. Each roller is crowned and rubber tired. The rubber tires not only add to the life of the belt on straight sanding but also permit using the rollers to sand curved surfaces. The rollers are supported on gray iron arms with long bearing surfaces and bearings are fitted with oil cups. The arms are mounted on two heavy steel rods with adjusting nuts to regulate the tracking of the rollers and to adjust the tension of the belt.

A 4x8 inch ground gray iron table supports belt and is adjustable for height. The sander is also provided with a fence that is adjustable to 45° and that can be removed when sanding long pieces. The sander comes equipped with a 3x30 inch medium grit sanding belt. For extra belts with fine, medium or coarse grit see Page 43. Emery cloth belts are also listed making it possible to use this machine for metal cutting. The length overall is 13½ inches. Sander is equipped with 2-inch V Pulley. Run at 1200 R.P.M.

3060—Bench Sander. Ship. wt. 12 lbs..... **$6.15**

DURO HEAVY DUTY DRILL PRESS

No. A-3080

$32.75

LESS MOTOR

A heavy duty Drill Press designed to meet the requirements of precision work for a moderate investment. Especially designed to stand up under heavy loads at speeds up to 4000 RPM. This drill is designed for heavy duty drilling, boring and other operations up to the limits of its capacity. Shaping, routing and mortising are also performed with precision. Large oversize radial load bearings with adequate support for the shaft and a heavy thrust ball bearing to take the end thrust make it especially adaptable for heavy work. Made from properly seasoned gray iron castings, carefully machined to precision limits. Tables are surface ground and polished. Like our production drill presses, one spindle does all operations—no need to buy extra spindles—three inexpensive adaptors enable you to do all operations. Has depth adjustment with oversize quill graduated in ⅛ inches from 0 to 4½ inches. Positive micrometer adjustments provide a method to lock the spindle in position when shaping or routing, or determines the length of stroke when mortising or drilling. Lock nuts hold it in position. Price includes motor pulley and V belt. Use ⅓ H.P. 1750 R.P.M. Ball Bearing Motor.

SPECIFICATIONS

Capacity of Jacobs Keyed Chuck	½"
Number of speeds	13
Range of Speed, R.P.M.	760-4000
Distance of spindle travel	4½"
Drills to center of circle	14"
Maximum distance from base to jaws	17"
Overall width	9½"
Overall height	40"
Size of upper table	8" x 8"
Size of base	9¼"x 15"
Diameter of ground steel column	2".
Shipping weight	80 lbs.

NEW DURO 6-SPLINED SPINDLE DRILL PRESS

No. B-3082 LESS BELT, PULLEY AND MOTOR $19.95

No. B-3083 WITH JACOBS CHUCK $24.95

The new Duro six spline spindle Drill Press, built to Duro standards of value, meets a definite demand for a quality machine in a moderate price field. A big Drill Press with specifications and workmanship incorporated that were hitherto thought impossible in the price field.

All machining is held to the close tolerances consistent with Duro high standards of workmanship. Head, base and table are of high quality gray iron well ribbed for strength and rigidity. The large ground column provides adequate support when working up to the capacity of the drill press. The six splined spindle runs on large self-lubricating bronze bearings. Two bearings in the main quill take the radial load, a ball bearing takes the end thrust. Driving strain and binding on the spindle is eliminated because the spindle pulley is independently mounted. The pulley is mounted on an upper quill of machined steel. The upper quill bearing, likewise self-lubricating, is mounted directly in the head casting. All driving strain is absorbed by the upper quill and bearing assuring a free running spindle at all times. The six splined spindle is driven by a splined sleeve. This method of construction prevents whip or backlash in the spindle and assures positive driving. Note the specifications below, compare them with any other drill press in this price field. You will find the Duro Drill Press an outstanding value.

SPECIFICATIONS

Six Splined Spindle
Equipped with self-lubricating bronze bearings and ball thrust bearing.
Overall dimensions—Height-33½"; width-10"; depth with motor.....24".
Travel of six splined spindle....3½". Drills to center of circle.....14¼".
Machined surface of table—7½" x 7½". Table surface of base.....8 x 8".
Distance from chuck to base—14". Chuck to table.....11".
Diameter of ground steel column.....1⅝".
Use ⅓ H.P. 1750 R.P.M. Ball Bearing Motor.

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DURO ELECTRIC DRILLS

UTILITY DRILL

A quality tool, not built to a price, but to meet the demand for a sturdy but light drill for close work in hard to get at places.

Duro Drills represent the finest quality materials and workmanship. Equipped with G.E. Motors; New Departure Ball-Bearings on spindle; Jacob keyed chuck; 10 feet of 3 wire safety cord. The G.E. Switch is totally enclosed in the main case for close quarter drilling without handle. Double reduction helical cut gears are made from chrome vanadium steel—quiet and smooth running. Length 11½"; without handle, 9¼". For 110 volt A.C. or D.C. current, 60 cycles or less. Other voltage prices on request.

No.	Style	Duty	Capacity in Steel	No Load Speed	Shipping Weight	Price Each
3300	DA	Utility	¼ in.	2000	5 lbs.	$19.95

PISTOL GRIP DRILL

Duro drills will not stall when used at their maximum capacity, and have ample safety factor beyond that point. Fan and housing designed to provide sufficient ventilation to operate at full load without overheating. Double reduction gears are helical cut chrome vanadium steel—heat treated and ground to give longer life.

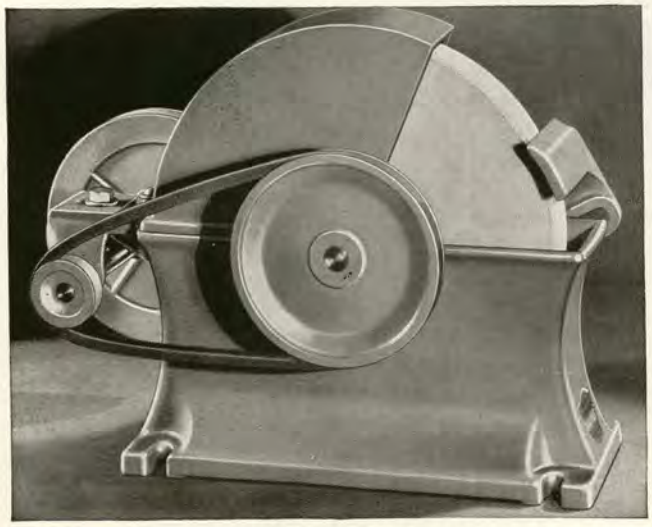
Equipped with G.E. Motor; New Departure Ball Bearings; Jacobs keyed chuck; 10 feet of 3 wire safety cord; and totally enclosed double pole trigger switch with lock for continuous running. For 110 Volt AC or DC current, 60 cycles or less. Other voltage prices on request.

No.	Style	Duty	Capacity in Steel	No Load Speed	Shipping Weights	Price Each
3305	DB	Ex-Heavy	¼ in.	2000	10½ lbs.	$34.95
3310	DC	Heavy	5/16 in.	1400	11 lbs.	38.50
3315	DD	Special	⅜ in.	1300	12 lbs.	39.95

BREAST DRILLS

Designed for power and efficiency to meet factory and production requirements. Powered with special G.E. Universal Motors that will run continuously under maximum load without overheating or stalling. Equipped with New Departure Ball Bearings; Jacobs keyed chuck; 10 feet of 3 wire safety cord. Totally enclosed double pole switch with lock for continuous running. Double reduction, helical cut gears made from chrome vanadium, heat treated steel-ground to give longer life and smooth, quiet operation. For 110 volt A.C. or D.C. current, 60 cycles or less. Other voltage prices on request.

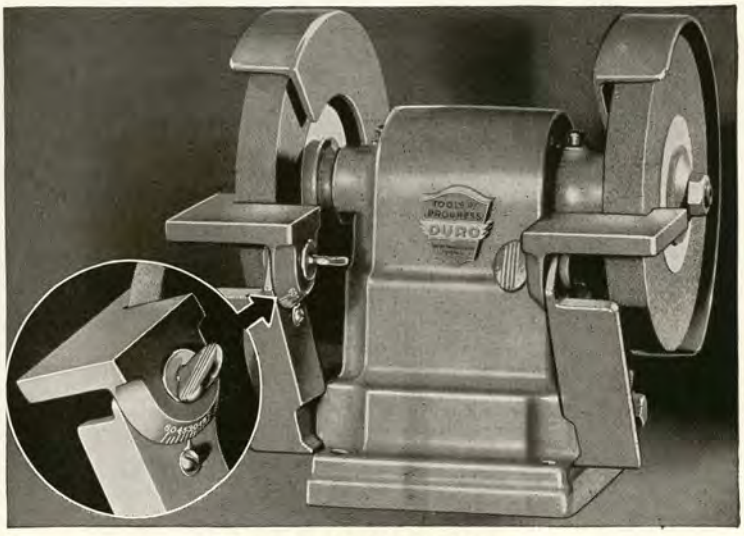
No.	Style	Duty	Capacity in Steel	No Load Speed	Shipping Weights	Price Each
3320	DF	Ex-Heavy	½ in.	550	20½ lbs.	$54.00
3325	DG	Heavy	⅝ in.	480	21½ lbs.	59.00
3330	DH	Standard	¾ in.	425	23½ lbs.	63.00



DURO WATER GRINDER

A specially designed, heavy and well built Water Grinder. The ideal means of sharpening all tempered, edged tools. The wheel runs in water at slow speed—eliminates heating and drawing temper of tools.

Heavy one piece gray iron case with drain plug. Guard covers wheel except at working point—prevents splashing. Adjustable tool rest permits holding tools at the correct angle for grinding. Genuine Ohio grindstone, 10" diameter 1½" face. Spindle mounted on self-lubricating bronze bearings. Speed, 125 R.P.M. Complete as pictured. Use 1½" pulley on 1750 R.P.M. Motor.
C3043—Water Grinder. Ship. wt. 40 lbs..... **$10.95**



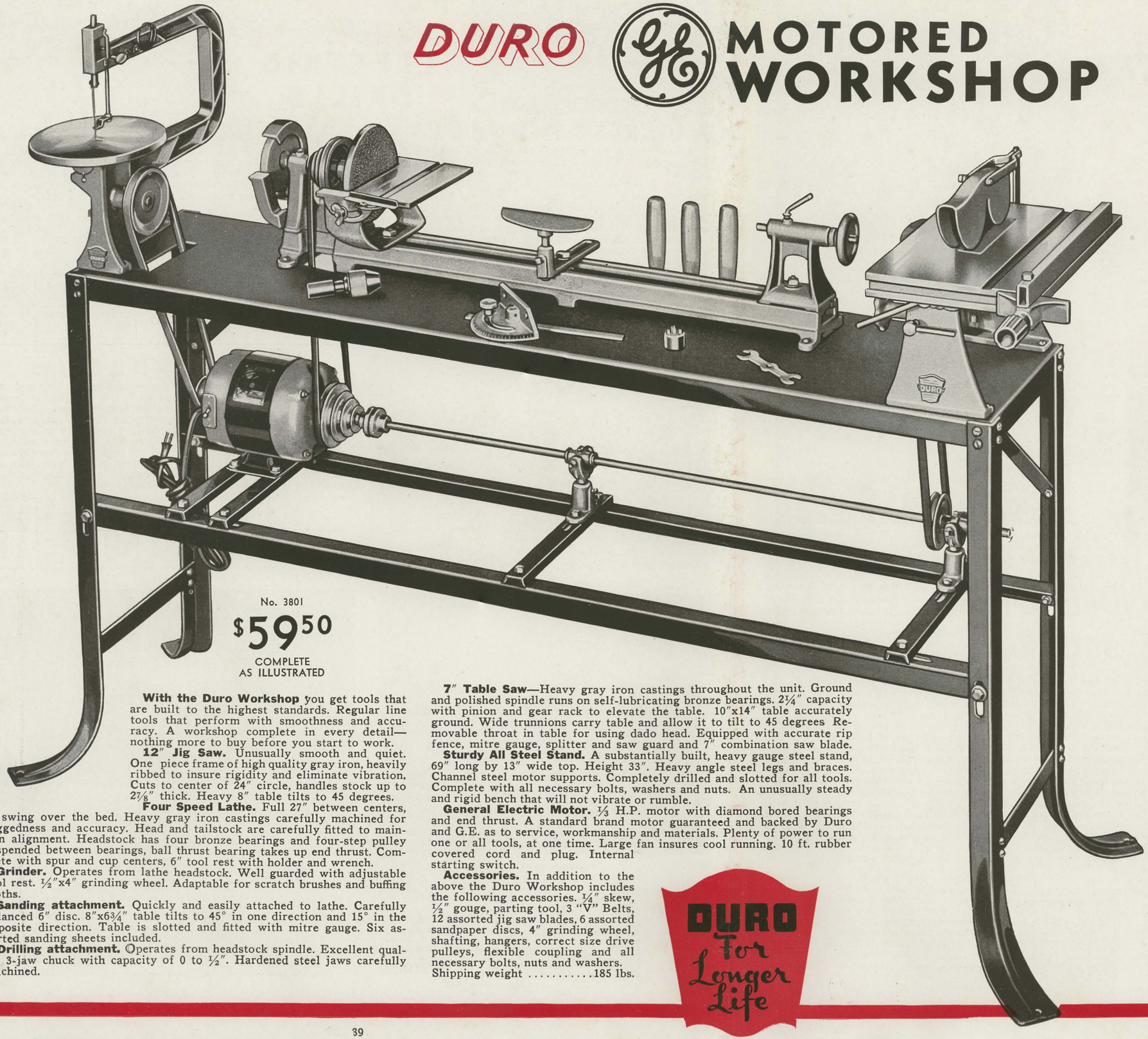
DURO BENCH GRINDER

Modern design, safety construction, heavy gray iron castings to assure rigidity, large wheels, heavier bearings and spindle make this Bench Grinder an outstanding value in the low price field. The fully enclosed base acts as belt and pulley guard. Can be driven from back or below bench. Note the large guards to give added safety and the adjustable tool rests with graduated scales to give correct angle for proper grinding.

Heavy ¾" steel shaft mounted on self-lubricating bronze bearings, fitted with reservoirs for renewing lubrication. Two ¾" x 6" diamond dressed wheels, one fine and one coarse grain. Can also be used with scratch wheels and buffing cloths. A valuable tool for garage, woodworking shops, etc. Finished in corduroy gray baked enamel. Shipping weight, 22 pounds.
3041—Complete as illustrated..... **$7.95**

DURO

MOTORED WORKSHOP



No. 3801

$59.50

COMPLETE
AS ILLUSTRATED

With the Duro Workshop you get tools that are built to the highest standards. Regular line tools that perform with smoothness and accuracy. A workshop complete in every detail—nothing more to buy before you start to work.

12″ Jig Saw. Unusually smooth and quiet. One piece frame of high quality gray iron, heavily ribbed to insure rigidity and eliminate vibration. Cuts to center of 24″ circle, handles stock up to 2⅞″ thick. Heavy 8″ table tilts to 45 degrees.

Four Speed Lathe. Full 27″ between centers, 8″ swing over the bed. Heavy gray iron castings carefully machined for ruggedness and accuracy. Head and tailstock are carefully fitted to maintain alignment. Headstock has four bronze bearings and four-step pulley suspended between bearings, ball thrust bearing takes up end thrust. Complete with spur and cup centers, 6″ tool rest with holder and wrench.

Grinder. Operates from lathe headstock. Well guarded with adjustable tool rest. ½″x4″ grinding wheel. Adaptable for scratch brushes and buffing cloths.

Sanding attachment. Quickly and easily attached to lathe. Carefully balanced 6″ disc. 8″x6¾″ table tilts to 45° in one direction and 15° in the opposite direction. Table is slotted and fitted with mitre gauge. Six assorted sanding sheets included.

Drilling attachment. Operates from headstock spindle. Excellent quality 3-jaw chuck with capacity of 0 to ½″. Hardened steel jaws carefully machined.

7″ Table Saw—Heavy gray iron castings throughout the unit. Ground and polished spindle runs on self-lubricating bronze bearings. 2¼″ capacity with pinion and gear rack to elevate the table. 10″x14″ table accurately ground. Wide trunnions carry table and allow it to tilt to 45 degrees Removable throat in table for using dado head. Equipped with accurate rip fence, mitre gauge, splitter and saw guard and 7″ combination saw blade.

Sturdy All Steel Stand. A substantially built, heavy gauge steel stand, 69″ long by 13″ wide top. Height 33″. Heavy angle steel legs and braces. Channel steel motor supports. Completely drilled and slotted for all tools. Complete with all necessary bolts, washers and nuts. An unusually steady and rigid bench that will not vibrate or rumble.

General Electric Motor. ⅓ H.P. motor with diamond bored bearings and end thrust. A standard brand motor guaranteed and backed by Duro and G.E. as to service, workmanship and materials. Plenty of power to run one or all tools, at one time. Large fan insures cool running. 10 ft. rubber covered cord and plug. Internal starting switch.

Accessories. In addition to the above the Duro Workshop includes the following accessories. ¼″ skew, ½″ gouge, parting tool, 3 "V" Belts, 12 assorted jig saw blades, 6 assorted sandpaper discs, 4″ grinding wheel, shafting, hangers, correct size drive pulleys, flexible coupling and all necessary bolts, nuts and washers. Shipping weight .....185 lbs.

DURO
For
Longer
Life

DURO WORKSHOP INCLUDES

1 #3000	12″ Jig Saw
3 #3000-A	¼″x¾″ Round Head Bolts
3 #3000-B	¼″ Hexagon Nuts
1 #360143	43″ V Belt for Jig Saw
1 #340175	1¾″ V Pulley ½″ bore
1 #3010	7″ Table Saw
4 #3010-A	¼″x¾″ Round Head Bolts
4 #3010-B	¼″ Hexagon Nuts
4 #3010-C	¼″ Metal Washers
1 #360143	43″ V Belt for Table Saw
1 #340300	3″ V Pulley ½″ bore
1 #3051	8″x27″ Lathe with grinding attachments
4 #3051-A	¼″x¾″ Round Head Bolts
4 #3051-B	¼″ Hexagon Nuts
1 #360143	43″ V Belt for Lathe
1 #305009	4-Step Pulley ½″ bore
1 #320101	¼″ Skew Chisel
1 #320103	½″ Gouge Chisel
1 #320105	½″ Parting Chisel
3 #320100-A	Turning Tool Holders
3 #320100-B	¼″x¾″ Round Head Bolts
3 #320100-C	¼″ Hexagon Nuts
1 #3250-4	Chuck Arbor
1 #3146-A	½″ Chuck
1 #3257	Pkg. 6″ Sandpaper Discs
1 #3480-A	12 Assorted Jig Saw Blades
1 #3750 DES	⅓ H.P. Motor 60 Cy. 110 V. Dbl. end shaft
2 #3750-A	5/16″x¾″ Hexagon Cap Screws
2 #3750-B	5/16″x1¼″ Hexagon Cap Screws
4 #3750-C	5/16″ Hexagon Nuts
8 #3750-D	5/16″ Metal Washers
1 #311703	½″x42″ Ground Steel Shafting
2 #3120	½″ Shaft Hangers
4 #3120-A	5/16″x1″ Hexagon Cap Screws
4 #3120-B	5/16″ Hexagon Nuts
4 #3120-C	5/16″ Metal Washers
1 #341800	Flexible Coupling ½″ bore
1 #3801-1	Table Top
16 #3801-1A	¼″x½″ Round Head Bolts
16 #3801-1B	¼″ Hexagon Nuts
1 #3801-2-1	Right Front Leg, without hole
1 #3801-2-2	Left Front Leg, without hole
1 #3801-2-3	Right Rear Leg, with hole
1 #3801-2-4	Left Rear Leg, with hole
2 #3801-2-5	Braces for Rear Legs
4 #3801-2-5A	¼″x½″ Round Head Bolts
4 #3801-2-5B	¼″ Hexagon Nuts
2 #3801-2-6	Lower Leg Braces
8 #3801-2-6A	¼″x½″ Round Head Bolts
8 #3801-2-6B	¼″ Hexagon Nuts
1 #3801-3-1	Lower Cross Bar (Front)
2 #3801-3-1A	⅜″x¾″ Square Head Bolts
2 #3801-3-1B	⅜″ Hexagon Nuts
4 #3801-3-1C	⅜″ Metal Washers
1 #3801-3-2	Lower Cross Bar (Rear)
2 #3801-3-2A	⅜″x¾″ Square Head Bolts
2 #3801-3-2B	⅜″ Hexagon Nuts
4 #3801-3-2C	⅜″ Metal Washers
4 #3801-3-3	Channel Supports
6 #3801-3-3A	⅜″x1″ Square Head Bolts
6 #3801-3-3B	⅜″ Hexagon Nuts
6 #3801-3-3C	⅜″ Metal Washers
39	Lock Washers for ¼″ Bolts
8	Lock Washers for 5/16″ Bolts
12	Lock Washers for ⅜″ Bolts

DURO

No. 3801

$59.50

COMPLETE
AS ILLUSTRATED

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Grinder. Operates from lathe headstock. Well guarded with adjustable tool rest. ½″x4″ grinding wheel. Adaptable for scratch brushes and buffing cloths.

Sanding attachment. Quickly and easily attached to lathe. Carefully balanced 6″ disc. 8″x6¾″ table tilts to 45° in one direction and 15° in the opposite direction. Table is slotted and fitted with mitre gauge. Six assorted sanding sheets included.

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Shipping weight .....185 lbs.

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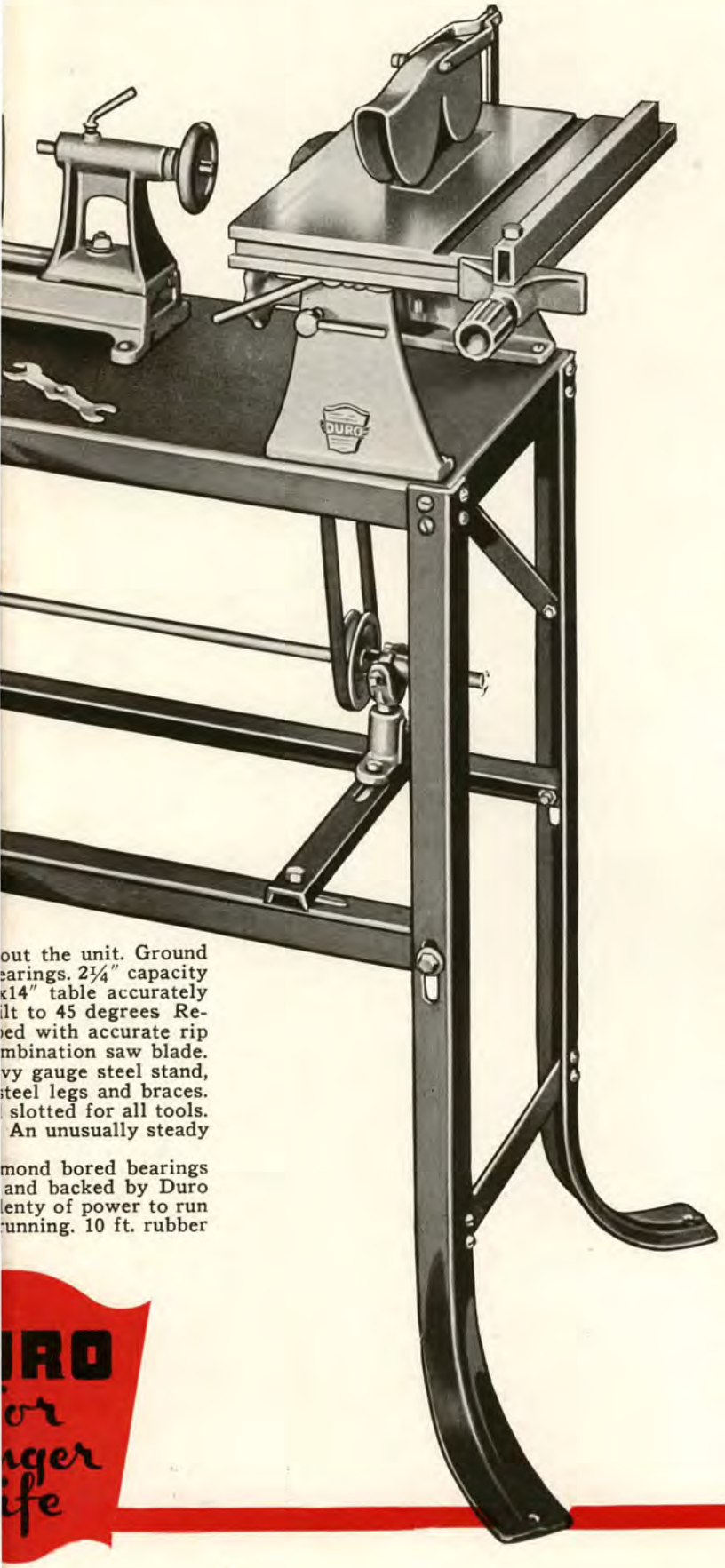
MOTORED WORKSHOP



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2	#3801-2-5	Braces for Rear Legs
4	#3801-2-5A	¼"x½" Round Head Bolts
4	#3801-2-5B	¼" Hexagon Nuts
2	#3801-2-6	Lower Leg Braces
8	#3801-2-6A	¼"x½" Round Head Bolts
8	#3801-2-6B	¼" Hexagon Nuts
1	#3801-3-1	Lower Cross Bar (Front)
2	#3801-3-1A	⅜"x¾" Square Head Bolts
2	#3801-3-1B	⅜" Hexagon Nuts
4	#3801-3-1C	⅜" Metal Washers
1	#3801-3-2	Lower Cross Bar (Rear)
2	#3801-3-2A	⅜"x¾" Square Head Bolts
2	#3801-3-2B	⅜" Hexagon Nuts
4	#3801-3-2C	⅜" Metal Washers
4	#3801-3-3	Channel Supports
6	#3801-3-3A	⅜"x1" Square Head Bolts
6	#3801-3-3B	⅜" Hexagon Nuts
6	#3801-3-3C	⅜" Metal Washers
39		Lock Washers for ¼" Bolts
8		Lock Washers for 5/16" Bolts
12		Lock Washers for ⅜" Bolts

Liner Cutter

Half Round

Round Nose

Hook Tool

Button Drill

Straight Face

DURO CARVING CUTTERS

Highest quality heat treated steel. This assortment of cutters permits carving practically any design. Cutters have ⅜"—24 threads to fit all standard carving spindles.

355001—Straight Face, Out. Diam. Cutter 49/64"...$4.30
355002—Round Nose, Out. Diam. Cutter 1 in.....$3.45
355003—Liner Cutter, Out. Diam. Cutter 1 in.....$2.70
355004—Hook Tool, Out. Diam. Cutter 25/32"....$4.30
355005—Half Round, Out. Diam. Cutter 13/16"....$3.75
355006—Button Drill, Out. Diam. Cutter 13/32"...$4.30

ROUTING CUTTERS

Straight routing cutters and round nose cove cutters made of high speed steel. Shanks 5/16" diameter.

Number		Size	Price
353006	Single Lip	1/16-in.	$0.70
353001	Single Lip	1/8-in.	.70
353007	Single Lip	5/16-in.	.70
353002	Single Lip	1/4-in.	.70
353003	Double Lip	3/8-in.	.75
353004	Double Lip	1/2-in.	.85
353005	Double Lip	5/8-in.	1.00
354001	Cove	1/4-in.	1.10
354003	Cove	3/8-in.	1.25
354004	Cove	1/2-in.	1.50

PICTURES BELOW SHOW ACTUAL END SIZES OF BLADES

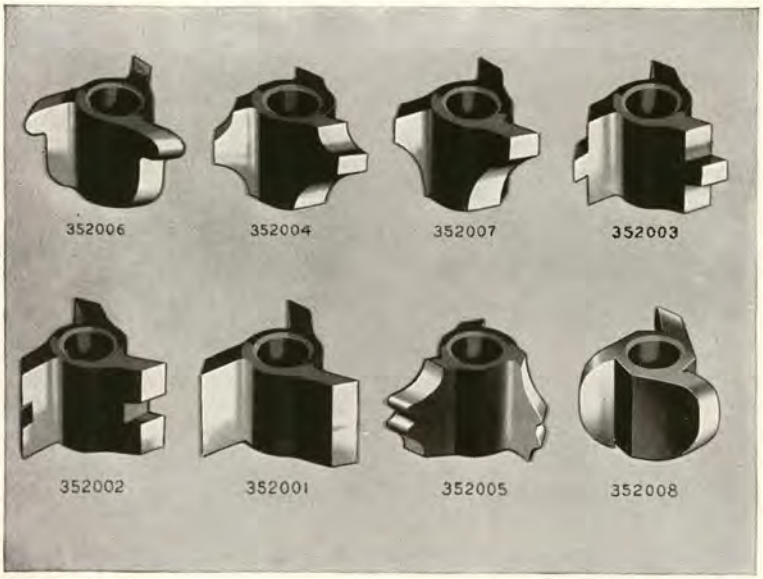
303316

303113

JOINTER CUTTERS

Finest quality high speed tool steel that cuts faster and holds an edge longer than ordinary carbon steel knives. Correctly tempered and sharpened ready for use. Sold only in sets of 3 blades.

303316—4½" Cutters to fit No. A3033 Jointer. Per Set....$1.95
303113—6 in. Cutter to fit No. 3031 Jointers. Per Set....$3.90



DURO ½-INCH SHAPER CUTTERS

Shaping provides an excellent opportunity to design furniture and add to its value. These Shaping Cutters are made in our own factory. Produced from a special alloy steel that is well known for its deep hardening quality and ability to withstand shocks and many resharpenings. They are sharpened by grinding across the face of the cutting edge on a flat wheel, and consequently do not lose their original diameter. All cutters are carefully machined for proper clearance and hardened. The maximum diameter is 1¾ inches and maximum width 1 inch. For use on any ½ inch diameter spindle. With adaptors they may be used on the Production Shaper, Floor and Bench Model Drill Presses, and Carver.

Price each $1.25
3591A—½" Bore Depth Collars—Set of Six..... .69

SPLIT SHAPER COLLARS

Especially designed for those who prefer to grind their own shaper knives. Two beveled edge shaper knives are clamped between collars. Knives are made of high speed steel, hardened and tempered ready for grinding to design required. Each knife is 2⅛" long x 3/16" thick. Order by numbers shown below:

356001—Shaper Collars 1¾" diameter—per pair.$1.25
356002—Shaper knife blanks—½" wide—each.... .75
356004—Shaper knife blanks—1" wide—each.... .85

CHROME VANADIUM STEEL CUTTERS

DURO 5/16 INCH SHAPER CUTTERS

Made from chrome vanadium steel, correctly tempered so that the edges stay sharp much longer than ordinary cutters. Ground true and accurate and matched to fit each other. Tough enough to withstand many resharpenings. They can be combined to make hundreds of different styles of cuts. For use with any ⅝-inch diameter spindle. With adaptors they may be used on the Duro Production Shaper; Floor and Bench Model Drill Presses, and Carver.

Number	Width	Diameter	Price	Number	Width	Diameter	Price
350101	.177	.950	$0.50	350201	.221	.994	$0.50
350102	.264	.950	.50	350202	.442	1.03	.50
350103	.354	.950	.50	350301	.303	1.09	.50
350104	.442	.950	.50	350302	.388	1.16	.50
350401	.125	.950	.50	350701	.282	1.18	.50
350402	.156	.950	.50	350702	.344	1.24	.50
350403	.187	.950	.50	350901	.177	1.12	.50
350404	.250	.950	.50	350902	.282	1.12	.50
350601	.177	1.02	.50	350801	.194	1.13	.50
350602	.264	1.06	.50	350802	.260	1.20	.50
350603	.354	1.09	.50	350501	.442	1.25	.50
350604	.442	1.13	.50	351001	1.00	1.25	.75

Set of 24 cutters listed above with 6 assorted depth washers.
3500B—Packed in a neat indexed wood box. Per Set...$12.25
3590A—⅝-inch Bore Depth Collars. Set of six..... .55

HOW TO USE FOR COMBINATION CUTTING

The picture at left illustrates how several cutters may be used to make combination cuts. These are all matched and may be used in conjunction with each other to make hundreds of different designs of fancy mouldings.

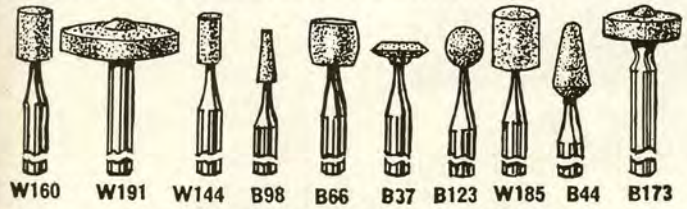
HAND GRINDER ACCESSORIES

BURRS FOR WOOD

These burrs are made of the same high-grade Tungsten steel by the same Swiss manufacturer. Accurately designed and correctly hardened—not to be confused with ordinary burrs. For use in cutting and engraving wood, plastics, etc. 1/8 inch polished shafts. Be sure to specify the correct number and code letter. Caution: These cutters should not be used for cutting steel.

No.	Diam.	Length	Price	No.	Diam.	Length	Price
3571A	5/16"	5/16"	$0.69	3571F	1/4"	5/16"	$0.69
3571B	5/16"	7/16"	.69	3571G	1/4"	7/32"	.69
3571C	1/4"	15/32"	.69	3571H	3/8"	5/32"	.69
3571D	15/64"	15/64"	.69	3571I	1/4"	5/16"	.69
3571E	3/16"	1/4"	.69	3571J	1/4"	5/32"	.69

3570—Set of 6 Burrs Consists of Nos. A-C-E-G-H-I.....$3.95



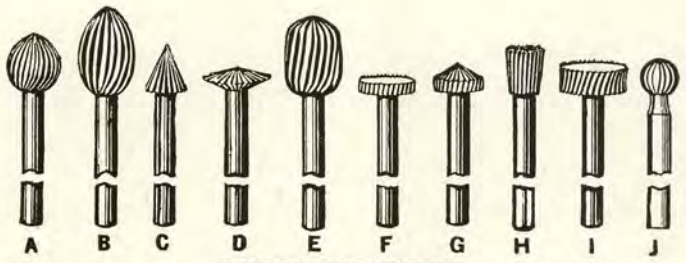
MOUNTED ABRASIVE POINTS

The assortment of mounted points illustrated above offers the best selection for practically all needs. Made by a well known American manufacturer of high quality abrasives correctly bonded for maximum efficiency and safety. True, properly balanced and guaranteed to stay on the shanks. For use on steel dies and moulds and other hard materials. Furnished with 1/8 inch shanks only. Light pressure on work gives maximum cutting efficiency and extra life to the wheels. Be sure to give the correct number when ordering.

No.	Diam.	Length	Price	No.	Diam.	Length	Price
W160	1/4"	1/4"	$0.30	B37	5/16"	3/32"	$0.36
W191	5/8"	1/8"	.33	B123	5/16"	3/16"	.36
W144	1/8"	1/4"	.33	W185	1/4"	1/2"	.36
B98	1/8"	1/4"	.39	B44	7/32"	3/8"	.39
B66	1/4"	1/4"	.36	B173	3/8"	1/8"	.30

SET OF NINE PIECES—ABRASIVE POINTS, DISCS & MANDREL

Set consists of W160, W191, B123, W185, B44 Mounted Points, illustrated above, two 3575R Carborundum Cutting Discs, one 3575P Rubber Polishing Wheel size 7/8" x 1/8", and one 3575M Mandrel.
3574—Set, complete in carton, as illustrated.. **$2.25**

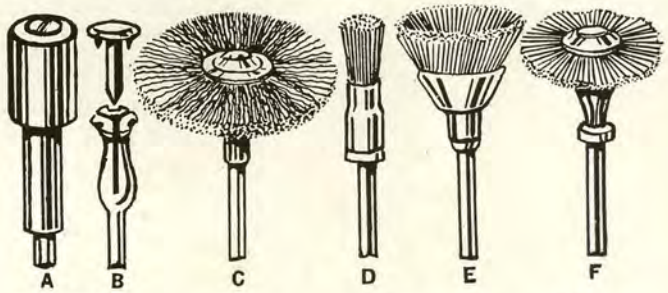


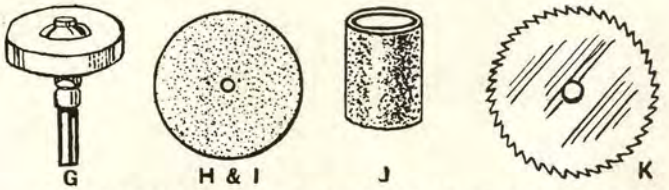
BURRS FOR METAL

These burrs are made of exceptionally high-grade Tungsten steel by a famous manufacturer of Swiss files. They are properly designed and correctly hardened for cutting steel, such as are used in dies, and other metals. These burrs are not to be confused with lower-priced burrs made of ordinary steel. 1/8 inch polished shafts. When ordering be sure to specify the correct number and code letter.

No.	Diam.	Length	Price	No.	Diam.	Length	Price
3573A	5/16"	5/16"	$0.69	3573F	5/16"	5/64"	$0.69
3573B	5/16"	15/32"	.69	3573G	9/32"	5/32"	.69
3573C	15/64"	1/4"	.69	3573H	15/64"	5/16"	.69
3573D	11/32"	5/32"	.69	3573I	11/32"	7/64"	.69
3573E	5/16"	7/16"	.69	3573J	15/64"	15/64"	.69

3572—Set of 6 Burrs Consists of Nos. A-B-C-D-E-H.....$3.95





ACCESSORIES FOR CLEANING AND POLISHING

Number	Description	Size	Price	
3575A	Sanding Drum	3/8"x1/2"	Each	$0.75
3575B	Mandrel for Sanding Discs		Each	.69
3575C	Wire Wheel-Double Thickness	1 1/16" Dia.	Each	.65
3575D	Bristle Brush	5/32"x1/4"	Each	.15
3575E	Cup Shape Bristle Brush	3/16"	Each	.15
3575F	Bristle Brush	3/4"	Each	.15
3575G	Felt Wheel	5/8"	Each	.20
3575H	Sandpaper Disc, Fine or Coarse	2 1/2"	100	.30
3575I	Sandpaper Disc, Fine or Coarse	7/8"	100	.30
3575J	No-Lap Sanding Sleeve for 3575A	1/2 Grit	Dozen	.40
3575K	Saw Blade	3/4"	Each	.75
3575L	Saw Blade	13/16"	Each	.75
3575M	Mandrel for above Saws	1 3/4"x1/8"	Each	.40
3575P	Rubber Polishing Wheels	7/8"x1/8"	Dozen	1.00
3575R	Carborundum Cutting Discs	7/8"x1/64"	Dozen	.30

HIGH SPEED ROUTER BITS

VEINING BITS

3576A	1/16"	$0 95
3576B	3/32"	.95
3576C	1/8"	.95

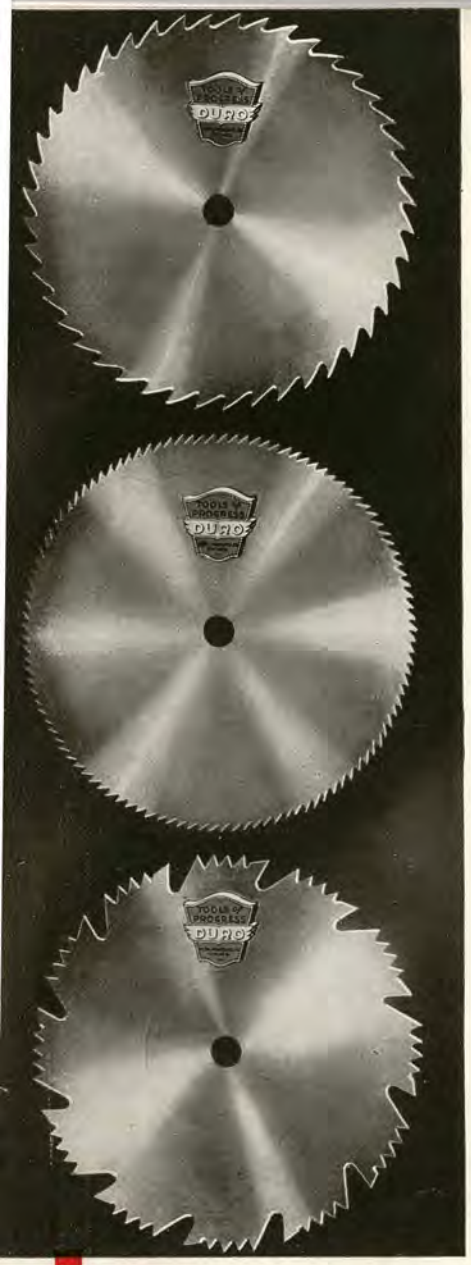
FISH TAIL BITS

3577A	1/8"	$1.50
3577B	3/16"	1.50

STRAIGHT ROUTER BITS

3578A	1/8"	$1.25
3578B	3/16"	1.25
3578C	1/4"	1.25

These bits are made of high speed steel, properly hardened and tempered. Can be used for routing, inlaying, mortising and molding cuts. All bits have 1/8" shanks. Manufactured in U.S.A.



DURO

Quality SAWS

COMBINATION RIP AND CROSS CUT

Quality Saw Blades built to give maximum cutting efficiency. Made from fine quality crucible alloy steel, with a sharp cutting edge, correctly tempered, hand filed, hammered and set for proper balance and true cutting. Will not bind or buckle.

3456A—18 Ga., Diam. 6 in. ½ in. bore—Each.....$1.45
3457A—18 Ga., Diam. 7 in. ½ in. bore—Each.....$1.65
3458A—18 Ga., Diam. 8 in. ⅝ in. bore—Each.....$1.85

3458X—Same dimensions and teeth as 3458C, but not hollow ground—Each.....$1.85

CROSS CUT SAW

Made especially for cross cutting from same fine quality steel.

3454B—18 Ga. Diam. 4 in. ½ in. bore—Each.....$0.50
3456B—18 Ga. Diam. 6 in. ½ in. bore—Each.....$1.45
3457B—18 Ga. Diam. 7 in. ½ in. bore—Each.....$1.65
3458B—18 Ga. Diam. 8 in. ⅝ in. bore—Each.....$1.85

HOLLOW GROUND MITER SAW

A hollow ground blade used for jointing finished lumber. Leaves a very smooth finish. Made from the finest crucible alloy steel correctly tempered and balanced.

3456C—16—19 Ga. Diam. 6 in. ½ in. bore—Each.....$3.50
3457C—15—18 Ga. Diam. 7 in. ½ in. bore—Each.....$4.00
3458C—15—18 Ga. Diam. 8 in. ⅝ in. bore—Each.....$4.75

Band Saw Blades

Only high grade alloy steel has been selected for our Band Saw blades. They are correctly tempered and carefully set for fast smooth cutting in all kinds of wood. Strong, flexible—give longer life. Use our Quality Saw Blades to assure satisfaction. Width ⅛, 3/16, ¼ and ⅜ in. State width wanted.
3442—60 inch blade for 9½ in. Saws Each.....$0.85
3442—60 inch blade, ⅜ inch width Each.....$0.95
3444—78 inch blade for 12½ in. Saws Each.....$1.00
3444—78 inch blade, ⅜ inch width Each.....$1.20
For cutting soft metals such as aluminum, copper, etc.
3443—60 inch blade, ⅜ inch in width, Each.....$1.20
3445—78 inch blade, ⅜ inch in width, Each.....$1.30

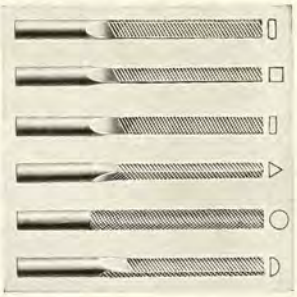
BLADES FOR 16-INCH BAND SAW

3446—⅛" x 111". Each.....$1.55
3446—¼" x 111". Each.....$1.55
3446—⅜" x 111". Each.....$1.60
3446—½" x 111". Each.....$1.75
3446—¾" x 111". Each.....$1.95
3447—½" x 111" Metal Cutting Each.....$1.85

DADO HEADS

High quality tempered steel, hand set and filed. Set consists of two outside blades and six inside cutters.
3434A—Complete set, 4" Diameter ½" Bore for 7" saw.....$2.50
343401—Outside blades only Each.....$0.75
343402—Inside cutters only Each.....$0.25
3435A—Complete set 5" diameter ⅝" Bore for 8" saws. Each.....$3.90
343501—Outside blades only Each.....$1.15
343502—Inside cutters only Each.....$0.35
3436A—6" Dado Head ⅝" Bore. Consists of two outer blades ⅛" thick, two inside cutters ⅛" thick, one ¼" thick and one 1/16" thick.....$10.75

SCROLL SAW FILES



Crucible steel, properly tempered. Will fit our 16", 24" or 30" scroll saws. No. 0 for metal, 00 for wood. State cut wanted.

0-Cuts	00-Cuts	Style File	Each
327001	327101	Round	$0.60
327002	327102	Half Round	.60
327003	327103	Pillar	.60
327004	327104	Square	.60
327005	327105	3 Square	.60
327006	327106	Crochet	.60

3270—Complete Set of six, 0 cut.....$3.60
3271—Complete Set of six, 00 cut..... 3.60

JIG SAW BLADES PLAIN END

Finest quality Jig Saw Blades—correctly tempered and carefully set. State length wanted.

No.	Size		No. of Teeth	Price per pkg. of Six	
	Thick.	Width		5 Inch	6 Inch
3481A	.007	.028	18	$0.18	$0.20
3482B	.010	.040	18	.18	.20
3483A	.016	.034	32	.12	.14
3483B	.016	.049	16	.18	.20
3483C	.016	.054	20	.18	.20
3484A	.020	.125	10	.20	.20
3484B	.020	.125	15	.20	.20
3485A	.012	.029	21	.15	.16
3486A	.013	.032	20	.16	.16
3487A	.020	.070	7	.20	.20
3487B	.020	.070	15	.20	.20
3487C	.020	.070	32	.20	.20

SABER BLADES

3490A—Package of 3.....$0.25

BUFFING CLOTH

These fine grade cloth buffing wheels consist of eighteen layers of bleached muslin securely sewed together. All sizes have ½-inch arbor hole.
3204— 4 in. dia. Ea.....$0.15
3206— 6 in. dia. Ea.....$0.25
3208— 8 in. dia. Ea.....$0.45
3210—10 in. dia. Ea.....$0.65
3212—12 in. dia. Ea.....$0.85

SCRATCH BRUSHES

A well made, firmly set wire scratch wheel. All sizes have ½-inch arbor hole.
3224C—4 inches in diameter **Coarse Type.** Each.....$0.40
3224F—4 inches in diameter **Fine Type.** Each.....$0.50
3226C—6 inches in diameter **Coarse Type.** Each.....$0.50
3226F—6 inches in diameter **Fine Type.** Each.....$0.65
3228C—8 inches in diameter **Coarse Type.** Each.....$0.70
3228F—8 inches in diameter **Fine Type.** Each.....$0.95

GRINDING WHEELS

Coarse grit for general grinding work—Fine grit for knives, etc. ½" arbor hole.
3214C—4 inches in diam. ½ in. face. **Coarse grit**.....$0.35
3214F—4 inches in diam. ½ in. face. **Fine grit**.....$0.35
3216C—6 inches in diam. ½ in. face. **Coarse grit**.....$1.00
3216F—6 inches in diam. ½ in. face. **Fine grit**.....$1.00
3236C—6 in. diam. ¾" face ¾ in. arbor hole. **Coarse grit**.....$1.25
3236F—6 in. diam. ¾ in. face; ¾ in. arbor hole. **Fine Grit**.....$1.25

SANDING DISC SHEETS

These sandpaper discs add a finishing touch to a sanding job giving it a smoother, more flawless finish. Each disc is 6 inches, in diameter, for use with metal sanding disc shown below. Set of six consists of two each of coarse, medium and fine grit.
3257—Package of Six.....$0.30

SHEEPSKIN BUFFER

You'll find it an excellent polishing buffer for automobile bodies, or most any metal surface. Sheepskin jacket slips over sanding disc and rubber pad shown below. Fastens securely.
3256—Each.....$1.00

SANDING DISCS

A carefully machined and well balanced sanding disc. Made from quality die cast metal. 6 inches in diameter. **State whether ½ inch threaded or ½ inch or ⅝ inch unthreaded bore is wanted.**
3254—Each.....$0.65

RUBBER DISCS

A tough gray sponge rubber pad for use between sanding disc and sheepskin buffer or sanding disc shown above. 6 inches in diameter and ½ inch thick.
3255—Each.....$0.28

SANDING BELTS

An endless Sanding Belt made in two sizes; the 3 inch for Table and Portable Sander and the 6 inch for production Sander. Made with a tough fabric back to give long, satisfactory service. Keep an assortment on hand; you will use them often in your workshop. Three grits stocked—½, 0, 00. Other grits on request. State grit wanted.

Number	Width in Inches	Length in Inches	Price Each
3258	3	30	$0.45
3259	6	44½	$1.00

EMERY SANDING BELTS

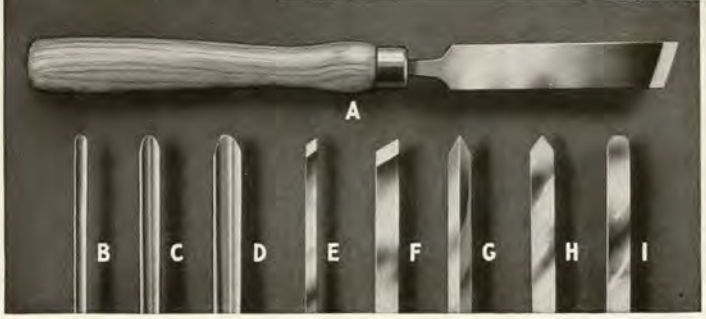
For sanding aluminum, copper, brass and other castings and soft metals. Fine, medium and coarse grits. State grit wanted. Other grits on request.
3261—3" belts for portable or 3" bench grinder. Each.....$0.50
3262—6" belts for 6" sander. Each..... 1.10

DRUM SANDPAPER

Just what you need for smoothing rounded edges and surfaces. This thick sanding band fits over the rubber drum that is pictured below, or any other of same size. For use with flexible shaft, polishing head, etc. **State whether Coarse, Medium or Fine Grit is wanted.**
325201—2 1/16 inches in diameter. Each.....$0.12

SANDING DRUM

An accurately designed expanding rubber sanding drum. For sanding either straight or irregular shaped materials. The rubber increases the life of the sandpaper and forms a cushion to back up the sanding sleeve. Can be easily and quickly attached to a flexible shaft, polishing head, etc. Makes a very useful and convenient sander for any workshop. The diameter is 2 5/16 inches and the width is 3 inches. Use 325201 Sanding paper listed above.
3251—Complete.....$0.95



DURO Wood Turning Chisels

These chisels are made from the very best quality crucible steel—carefully hardened and tempered to produce a keen cutting edge of long life. Blades are 4 inches in length, fully polished and sharpened ready for use. Fitted with thoroughly seasoned, varnished hardwood handles. Handles are 8 inches long, the most popular length handle for wood turning. Be sure to state style blade wanted.

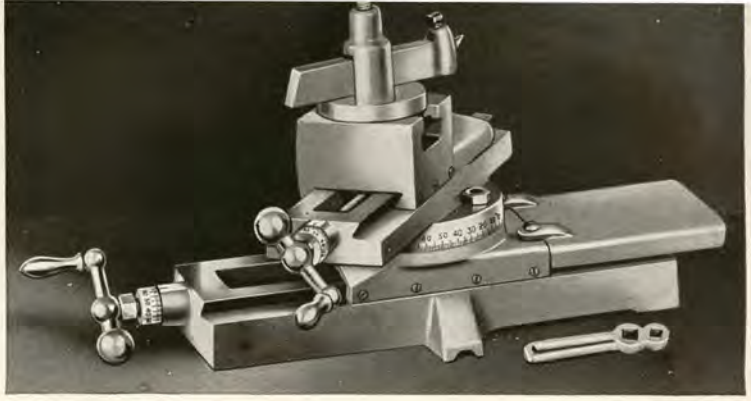
320001—(E)	¼″ x 4″ Skew	Each.....$0.70
320002—(F)	½″ x 4″ Skew	Each..... .75
320003—(C)	½″ x 4″ Gouge	Each..... .80
320004—(D)	¾″ x 5″ Gouge	Each..... 1.10
320005—(G)	½″ x 4″ Parting Chisel	Each..... .80
320006—(B)	½″ x 4″ Gouge	Each..... .80
320007—(I)	½″ Round Nose	Each..... .75
320008—(H)	½″ Spear Point	Each..... .75
320009—(A)	1″ Regular Skew	Each..... 1.10

3200—A—Set of 5 chisels consisting of C, D, E, F, G..... 4.25

A good quality low priced chisel made from crucible steel, hardened and tempered. Blades are satin finish, correctly sharpened, and fitted with 8-inch seasoned hardwood handles.

320101—(E)	¼″ x 4″ Skew	Each.....$0.50
320102—(F)	½″ x 4″ Skew	Each..... .55
320103—(C)	½″ x 4″ Gouge	Each..... .60
320104—(D)	¾″ x 5″ Gouge	Each..... .80
320105—(G)	½″ x 4″ Parting Chisel	Each..... .55

3201A—Set of the above 5 chisels..... 3.15



DURO Compound Rest

Metal turning with micrometer accuracy in the finished work may be done on your Duro lathe with this compound slide rest. V way base is milled to match V way lathe bed giving positive precision alignment. The swivel base is graduated in degrees and may be locked at at any angle. Ball crank handles are graduated to read in thousandths of an inch with one complete turn of handle producing 1/10 inch travel. The longitudinal feed is 6½ inch and the transverse feed 7 inches. All ways are machined to 60 degrees and gibbed for take-up. Tool holder and wrench included. For tool bits see bottom of page. This is strictly a quality tool built to rigid specifications.

305357—Compound Slide Rest for No. 3053 Lathe.....Shipping weight 25 lbs.....$17.95
305657—Compound Slide Rest for No. 3056 Lathe.....Shipping weight 25 lbs..... 17.95

BACK RESTS

Used to back up wood that has tendency to bend when being cut into by chisel. Steadies the work and makes finer work on very slender pieces possible. Rollers are adjusted by star hand wheels as work progresses. Fits in regular tool rest holder.

305344—Fits Lathe No. 3053 Each.....$3.95
305644—Fits Lathe No. 3056 Each.....$3.95

STEADY RESTS

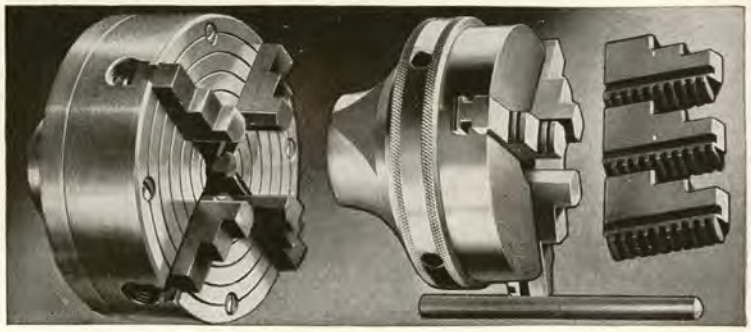
A most necessary accessory to the metalworker turning long pieces. Properly set it will prevent "whip" or springing and enable the operator to make a true turning of long pieces. Made of good quality gray iron. Adjustable to take work up to 2½ inches in diameter. Sturdily and well constructed.

305323—Fits Lathe No. 3053. Each.....$2.25
305642—Fits Lathe No. 3056. Each.....$2.25

FACE PLATES

Heavy gray iron. Face, hubs and rims carefully machined to insure true and balanced running.

305326—3½ in. ¾ in. bore 16 Thread for 3053 Lathe Each.....$1.25
305641—3½ in. 1 in. bore 16 Thread for 3056 Lathe Each.....$1.25
305311—6 in., ¾ in. threaded or unthreaded — for 3053 Lathe. Each.$1.50
305618—6 in. 1 in. bore cross threaded for 3056 Lathe. Each.....$1.60



4 JAW CHUCK

Independent 4 Jaw Chuck of fine material and workmanship. Jaws are hardened steel and reversible. Each jaw operates independently so that it is possible to grip irregular work. Wrench and back plate included.

For No. 3053 Lathe or any lathe with ¾ inch spindle 16 threads to the inch.
305358....4 inch size....Each.....$6.75
For No. 3056 Lathe or any Lathe with 1 inch Spindle 16 threads to the inch.
305658....4 inch size....Each.....$6.75
305663....6 inch size....Each.....11.50

UNIVERSAL CHUCK

A precision tool for the master mechanic of excellent quality, finish and workmanship. Universal type with three hardened steel jaws that operate simultaneously holding work true and firm. An extra set of jaws are furnished so that both inside and outside grips may be obtained. Key and back plate included.

305659—3 Jaw Chuck. Three inch size for No. 3056 Lathe or any lathe with 1 inch spindle having 16 threads to the inch.
Each.....$16.50

CENTER FOR JACOBS CHUCK

Machined, ground and polished for accuracy. For adapting ½ inch Jacobs Chuck, as supplied on our drill press, to lathe work. Chuck end is ⅝ inch—16 threads.

3148A—No. 2 Morse Taper.
3148B—No. 1 Morse Taper.
Each.....$1.10

CHUCK CENTER

½-inch chuck equipped with Morse Taper for use in lathes having taper specified. Used in tailstock of lathes for boring. Spindle is ½ inch—24 threads.

3146C—½ inch Chuck with No. 2 Morse Taper. Each.....$1.45
3146D—½ inch Chuck with No. 1 Morse Taper. Each.....$1.45

SCREW CENTER

An accessory indispensable when turning very small pieces. Use in any lathe having specified Morse tapers. Carefully machined and accurately ground. Screw is removable and may be replaced at small additional cost.

305327—No. 1 Morse Taper.....$0.75
305660—No. 2 Morse Taper.....$0.75

60° CENTER

60 degree center for use with metal cutting attachments. Accurately machined and ground to fit any lathe with specified Morse tapers.

305325—60 degree center with No. 1 Morse Taper. Each.....$0.75
305656—60 degree center with No. 2 Morse Taper. Each.....$0.75

CUP CENTER

Accurately machined and ground; with removable points that can be easily replaced if necessary. An essential accessory for woodturning.

305317 — Cup Center with No. 1 Morse Taper. Each.....$0.75
305626 — Cup Center with No. 2 Morse Taper. Each.....$0.75

SPUR CENTER

Accurately ground to fit Morse Taper. Heat treated steel. Machined spurs and removable points. Fits lathes with specified Morse Tapers.

305307—Spur Center No. 1 Morse Taper. Each.....$0.75
305639 — Spur Center with No. 2 Morse Taper. Each.....$0.75

HOLDERS FOR TOOL RESTS

Heavy gray iron, machined.

305312—Tool Rest Holders, as illustrated for 3053 Lathe. Each.....$0.75
305607—Tool Rest Holder, complete with hand wheel and bolt for 3056 Lathe. Each.....$1.75

TOOL RESTS

Heavy gray iron with carefully machined shanks to fit tool rest holders as specified for lathes. Larger tool rests are very convenient for turning long pieces such as table and chair legs and lamps. 3053 Tool Rests have ⅝-inch shanks; 3056 have 1-inch shanks and may be used in holders having specified bore.

305313—12-inch Tool Rests for 3053 Lathe..Each...$0.95
305324—18-inch Tool Rests for 3053 Lathe..Each... 1.50
305605— 4-inch Tool Rests for 3056 Lathe..Each... .75
305604—12-inch Tool Rests for 3056 Lathe..Each... 1.10
305606—24-inch Tool Rests for 3056 Lathe..Each... 2.25

LATHE DOGS

Another quality metal turning accessory. Drop-forged from high grade steel—correctly shaped and tempered for great strength and toughness. Bent tail. Natural forged finish.

305661—¾ inch...$0.65

HIGH SPEED STEEL METAL CUTTING TOOL BITS

High speed steel, correctly heat treated to hold a lasting cutting edge. Designed to fit tool holder of compound rests listed above. Each bit is sharpened, ready for use. The complete set consists of round nose turning tool; right and left hand turning tool; right and left hand facing tool and threading tool.

305662—Per Set.....$1.35

HEAVY DUTY POLISHING HEAD

Modern design and safety constructed polishing head for grinding, buffing or polishing. Heavy gray iron base gives it rigidity and accuracy. Base acts as a belt guard. Can be driven from in back or below. The ½ inch steel shaft runs on self-lubricating bronze bearings, has right hand thread on one side and left hand thread on the other. Complete with guard; tool rest; flanges; ½" x 4" grinding wheel; 4" buffing wheel and polishing compound. Equipped with 2¼" V pulley. Shipping weight 9 lbs.

3045A—Complete as pictured $3.70
3045B—Polishing head, less grinding wheel, buff and polishing compound.....$3.20

3130B—Polishing Head with Chuck.....$1.30
3130G—Polishing Head, similar to above but with plain bearings and one set of wheel flanges without chuck .....$ .90
3130H—Polishing Head, similar to above in size and design but with plain bearings and two sets of wheel flanges. Has no chuck and no tapered spur.....$ .90

POLISHING HEADS

Sturdy, well built polishing heads for removing paint, grinding, polishing, drilling and various other operations. Bases are made of high grade gray iron. Bearings are split and can be adjusted. Oil holes are provided. ½ inch steel spindle. 3-jaw self-tightening ¼ inch chuck; 4 large flange nuts for holding grinding wheels, scratch brushes, saw blades, etc. One end of spindle has a tapered arbor to facilitate attaching buffing wheels, etc. V-pulley for ⅜ or ½" V-Belts.

Shipping weight, 6 lbs.

ACCESSORY KIT

A complete outfit for removing paint and rust, grinding, buffing and polishing. Use with Polishing Heads at the right, as well as motor arbor or flexible shaft. Outfit consists of 4-inch saw with ½-inch bore; 4-inch grinding wheel; 4-inch scratch wheel; 4-inch cloth buffer and cake of polishing compound.

3130E—Complete.....$1.35
3130D—8 x 8 inch stamped steel table with mitre gauge. Fits on 3130B polishing head to make an efficient bench saw for cutting small work.

Each.....$0.70

CHUCKS

High grade 3-jaw self-tightening chucks with machined, hardened jaws. For use on motor arbors, flexible shafts or 3130 series polishing heads. Fits any spindle with ½ inch—24 threads.

3140A—¼ Inch. Chuck.....$0.40
3146A—½ Inch. Chuck.....$ .75

ARBORS

Designed to fit any ½-inch shaft; arbor takes wheels with ½-inch bore Use for scratch brush work, grinding, buffing, polishing, drilling, etc. Equipped with single groove pulley and chuck. Arbor is ½ inch—24 threads.

3150F—With ½ inch Chuck.....$1.30
3150B—With ¼ inch Chuck..... .95
3150A—Less Chuck..... .55

Multi Spur Bits

Fine quality tool steel, tempered and polished. Takes less power to drive than ordinary bits. Will drill straight and not clog.

Article Number	Size In.	Price Each
359801	⅜	$2.00
359802	½	2.10
359803	⅝	2.20
359804	¾	2.50
359805	⅞	2.65
359806	1	3.15
359807	1⅛	3.30
359808	1¼	4.00

Hollow Chisels

Used in drill press with mortising head and chuck listed at right. Finest quality tool steel, hardened and tempered. These chisels will hold their edge over long periods of hard usage. Designed to cut absolutely square corners.

Article Number	Size In.	Price Each
359601	¼	$1.60
359603	⅜	1.60
359604	½	1.60

Hollow Chisel Bits

This bit is used with hollow chisel of corresponding size shown at left for making accurate square mortise joints. Correctly hardened, tempered and ground to give proper clearance and long life. Used with mortising head and chuck.

Article Number	Size In.	Price Each
359701	¼	$1.45
359703	⅜	1.45
359704	½	1.45

Mortising Head and Chuck

The mortising head and chuck is attached to the quill and spindle respectively after removing Jacob's Chuck. They hold the hollow chisels and chisel bits shown at the left.

A308063 — Mortising Head and Chuck for A3080 and B3083 Presses $2.35
C308063 — for H3080 and H3081 Drill Presses..$2.35

Mortising Hold-Downs

To insure straight clear mortising cuts and to prevent the wood from lifting when chisel is raised from the work, use the mortising hold down and guide as illustrated above. Baked gray enamel finish.

308064 — for A3080 and B3083 Drill Presses. Each. $1.95
308165 — for H3080 and H3081 Drill Presses. Each. $1.95

Guard and Fence

A guard and fence is extremely handy when making straight cuts. Has micrometer adjustment. By turn of a ball crank one face may be adjusted forward or backward and rigidly locked. Heavy gray iron finished in baked gray enamel. Equipped with two hardwood extensions.

309003.....$3.95

Shaper Adaptors

For use on #3080 and #3081 Drill Presses for shaping with 5/16" and ½" shaping cutters.

3593—5/16—Adaptor to fit 5/16 inch bore shaper cutters, Each.....$0.55
3593—½—Adaptor to fit ½ inch bore shaper cutters, Each.....$0.55

See page 41 for complete line of Chrome Vanadium Steel Shaper Cutters.

RUBBER FEET

Made of high grade rubber, of the correct composition to stand hard usage and have the proper flexibility to absorb vibration. They help eliminate noise especially when floors do not have a solid foundation. Also prevents floors from being scratched. Molded with a recess in bottom to take patented flat head bolts that will not turn.

301588—Set of 4 Feet, complete with bolts and chrome plated acorn nuts.....$0.95

REMOTE CONTROL SWITCH

Heavy-duty Double Pole Toggle type Switch approved by Underwriters Laboratories. Positive in action, insuring complete current cut-off when in off position. Steel cover box provided to protect switch. Easily attached to stand in place most convenient. Brings control of tools in easy reach. Use with any motor up to 1 H.P. 220 volts. Complete with all screws and instructions for installing.

301586—Switch.....$2.50

ADJUSTABLE ELECTRIC LIGHT

An adjustable light that may be attached to any machine. The extension arm has three links so that the reflector may be adjusted to any angle to throw a bright light directly on the work. Polished aluminum reflector intensifies the light and makes it easy to follow outlines. Equipped with push-key socket. Complete with 10 feet of rubber cord and non-breakable plug.

3765.....$1.25

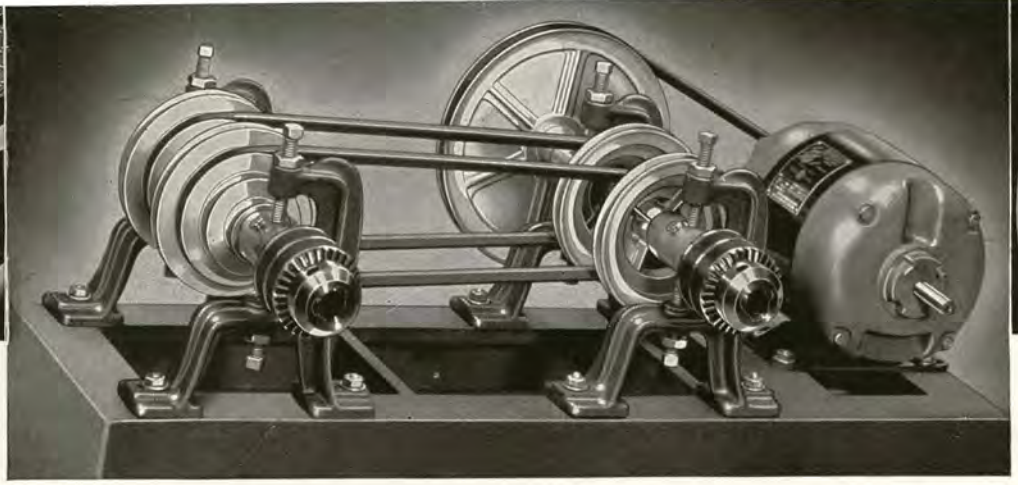
4 SPEED JACK SHAFT

Increase the usefulness of your lathe or drill press or any tool that requires a wide range of speed, by using the Duro Jack Shaft. It is the ideal method for quickly increasing or reducing speeds without changing or using different size pulleys. Frame is made of extra heavy gray iron, drilled to fit same space as ⅓ H.P. motor. Ground steel shaft runs in bronze bushed bearings fitted with oil cups. The bearings have a vertical and lateral adjustment to insure proper belt tension. Equipped with one 2½ inch end pulley and one 4-inch 4-step pulley. Ship. wt. 14 lbs.

3110—Each.....$3.75

FIR WIT Many Ma Improv

"V" BELTS



"V" PULLEYS

DURO V BELTS and PULLEYS Transmit Full Power on this Heavy Duty, Double Head 3/4" Reaming Machine

The life of Duro V-Belts is almost twice that of ordinary cord belts usually sold in this field because they are designed and built to our exact specifications. Note the 4 rows of tightly woven long staple cotton cords, each row incased in live rubber. These cords are pre-shrunk and placed in the belt under great tension to remove the excessive stretch so common in other belts. The two jackets around the outside are heavily impregnated with rubber to give you the longest belt life available. This is the same construction used in heavy industrial V-Belts and first-grade automobile tires. It is your guarantee of Duro quality and countless hours of trouble free service.

Number	Size Inches	Outside Circumference Inches	Inside Circumference Inches	Price Each
360124	3/8	24	22 1/8	$0.44
360131	3/8	31	29 1/4	.51
360134	3/8	34	32	.55
360143	3/8	43	40 3/4	.69
360160	3/8	60	58	.95
360226	1/2	26	24	.48
360228	1/2	28	26	.49
360233	1/2	33	31 1/2	.56
360237	1/2	37	35	.60
360239	1/2	39	36 11/16	.64
360240	1/2	40	38	.66
360242	1/2	42	39 1/2	.67
360244	1/2	44	42	.73
360246	1/2	46	43 1/2	.75
360248	1/2	48	46	.77
360250	1/2	50	48 3/8	.80
360253	1/2	53	51	.82
360256	1/2	56	53 1/2	.87
360258	1/2	58	56	.89
360260	1/2	60	58	.91
360262	1/2	62	60	.93
360265	1/2	65	63	.98
360268	1/2	68	66 1/2	1.02
360270	1/2	70	68	1.04
360272	1/2	72	69 3/4	1.06
360277	1/2	77	75	1.10
360292	1/2	92	90	1.30

Superior quality and greater accuracy are built into Duro V-Pulleys. Value counts and that is the reason that in four years Duro has become one of the world's largest manufacturers of V groove pulleys, Designed and manufactured by us to stand up under the most rigid tests for a long life of trouble free service. The metal is of our own specifications and breakdown tests have shown they have greater strength and give more service than the ordinary type of die cast or bell metal pulley. Automatic casting machines, electrically controlled, exert tremendous pressure to produce uniform density and a close grain finish not possible to produce on hand operated machines.

Number	Diameter, Inches	Bore, Inches	Price, Each
340150	1 1/2	1/2, 5/8	$0.20
340175	1 3/4	1/2, 5/8	.21
340200	2	1/2, 5/8	.22
340225	2 1/4	1/2, 5/8	.27
340250	2 1/2	1/2, 5/8, 3/4	.30
340275	2 3/4	1/2, 5/8, 3/4	.34
340300	3	1/2, 5/8, 3/4	.36
340325	3 1/4	1/2, 5/8, 3/4	.41
340400	4	1/2, 5/8, 3/4	.51
340500	5	1/2, 5/8, 3/4	.59
340600	6	1/2, 5/8, 3/4	.88
340650	6 1/2	1/2, 5/8, 3/4	.96
340800	8	1/2, 5/8, 3/4	1.40
341000	10	1/2, 5/8, 3/4, 1	2.00
341200	12	1/2, 5/8, 3/4, 1	2.67

NOTE: All "V" Pulleys up to 6 1/2" for use with 3/8 and 1/2 inch Belts. Larger sizes also take 5/8 inch Belts.

4-STEP "V" PULLEYS

For use with either 3/8 or 1/2 inch rubber belts. No. 305009 for 3/8 inch belts only. State b wanted.

Number	Diameter Inches	Bore Inches	Price Each
341505	4, 3 1/4, 2 1/2, 1 3/4	1/2, 5/8, 3/4	$1.00
341506	5, 3 1/2, 2 11/16, 1 3/4	1/2, 5/8, 3/4	1.15
305009	For 3050 Lathe	1/2, 5/8	.85
305617	For 3056 Lathe	1/2, 5/8, 3/4	1.15
300715	For Scroll Saw	1/2, 5/8, 3/4	1.25
300716	For Motor	1/2, 5/8, 3/4	.85

Scroll Saw pulleys used in pairs produce speeds 650, 1000, 1300, 1750 RPM.

HEAVY DUTY SHAFT HANGERS

A very sturdy and practical line shaft hanger with one open side allowing the complete assembly of belts before placing in the hangers. Specially designed for close quarters. Shafting does not need to be fed in from one end as in other types. Self-aligning with 1 inch vertical adjustment—from 4 to 5 inches—Bearings equipped with two self-lubricating bronze bushings with oil cup and well to renew lubrication. For 3/4 inch shafting only. Shipping weight 5 lbs.

3122—Each.....$2.25

FLEXIBLE COUPLING

Rubber cushioned for flexibility. Can be furnished with a combination of two bores for reducing. Specify bore required on each end.

341800—1 inch hub; 1 7/8 inch outside diameter; 1 7/8 inch length; bore sizes 1/2 or 5/8 inches.
Each.....$0.36

341802—1 3/8 inch hub; 2 1/8 inch outside diameter; 1 7/8 inch length; bore sizes 1/2, 5/8 or 3/4 inch.
Each.....$0.48

DURO 2-STEP PULLEYS

Takes 3/8 or 1/2 inch "V" Rubber Belt. For line shaft, motors or machines for quick speed changes. Diameters are 2 and 2 1/2 inches. State bore wanted.
341500—1/2 or 5/8 inch bore—Each.....$0.40

STEEL SHAFTING

High grade ground and polished steel for use as line shafting. Held to within 2/1000 inch limits. Other lengths furnished on application. Add 1 1/2 cents per inch for 1/2" and 2 1/2 cents per inch for 3/4".

311702—Size 1/2 x 24 inches
Each.....$0.30

311705—Size 3/4 x 48 inches
Each.....$1.10

RIGID COUPLINGS

For coupling two shafts together. Machined from solid bar steel and cadmium plated to prevent rust.
311801—1/2 inch size bore. Each.....$0.23
311802—3/4 inch size bore. Each..... .35

SHAFT COLLARS

For removing end play from line shafts. Machined from solid bar steel and cadmium plated.
311901—1/2 inch size bore. Each.....$0.11
311902—3/4 inch size bore. Each..... .17

SHAFT HANGERS

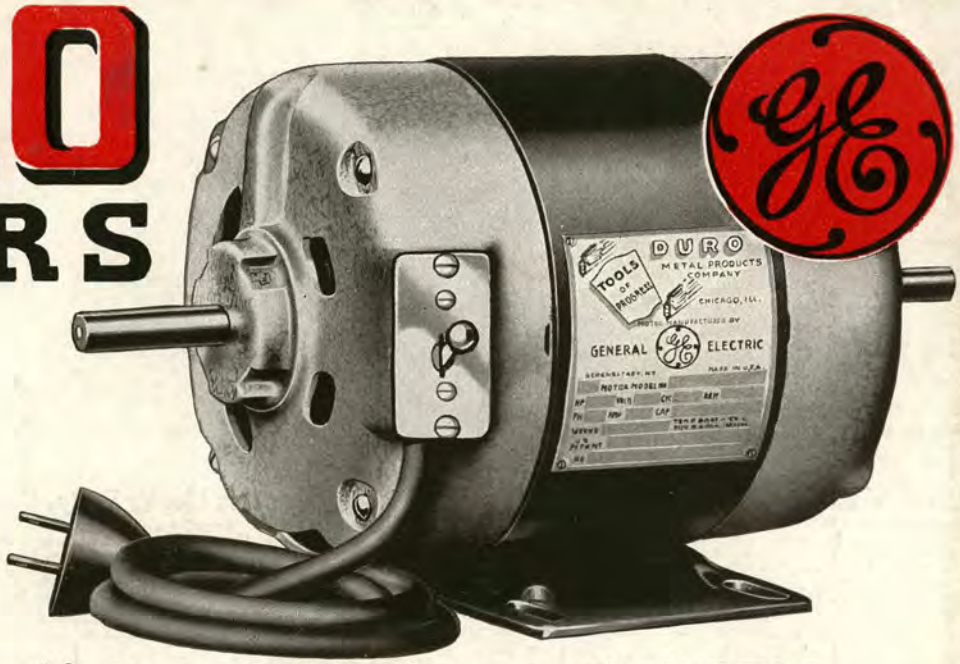
The base and arm are made of high quality gray iron. The bearing is made of steel and equipped with two large phosphor bronze bearings. Broached after assembly to assure perfect alignment. Equipped with oil cups. A reservoir provided to hold an ample supply of oil assures perfect lubrication without the necessity of frequent oiling. Provision is made for both horizontal and vertical adjustment. Sufficient vertical adjustment is provided to permit lining up with 1/4, 3/4 and 1/2 H.P. motor shafts for direct drive without shimming.
3120—1/2 inch bore—Each.....$0.95
3121—3/4 inch bore—Each..... 1.25

CROWN FACE PULLEYS

For use with flat belts to drive line shaft from gasoline engine. Set screw for locking to shaft. State bore wanted.

Number	Diam. Inches	Width Inches	Bore Inches	Price Each
341600	1 1/2	1 3/4	1/2, 5/8	$0.33
341602	2	2	1/2, 5/8, 3/4	.36
341603	2	3	1/2, 5/8, 3/4	.57
341605	2 1/2	2 1/2	1/2, 5/8, 3/4	.50
341606	2 1/2	3	1/2, 5/8, 3/4	.67
341608	3	1 3/4	1/2, 5/8, 3/4	.51
341611	3	3	1/2, 5/8, 3/4	.78

DURO MOTORS



Quality - Guaranteed

Duro Metal Products Company with the cooperation of the General Electric Company has made it possible for the woodworking field to purchase standard brand motors at popular prices. All Duro motors incorporate the latest engineering developments and each motor bears the GE trade-mark to insure the purchaser that they are built to G. E. quality standards. . . . The highest in the electrical field.

All Duro motors are doubly guaranteed and backed by the Duro Metal Products Company as being the best that can be purchased in their respective fields, and carrying the regular GE guarantee as to service, workmanship and materials. GE service stations in every large city will give maximum and efficient service with the least possible delay.

1/3 H. P. STANDARD-DUTY MOTOR

A standard brand motor at a new low price. Diamond bored bearings with end thrust, runs in vertical or horizontal position. Statically and dynamically balanced. Aluminum cast rotor with large fan insures perfect ventilation. Extra long double end shafts. 10 foot, heavy rubber cable and plug with internal starting switch. Unusually smooth running motor, quiet and entirely free from vibration. Shipping wt. 30 lbs.

No. 3750—DES. . . 110 Volt, 60 cy. A.C., 1750 R.P.M. . . . $10.95

$10.95

1/4 H. P. SLEEVE BEARING

$9.95

The GE single end shaft ¼ H.P. motor is a split phase start, induction run motor, operating at 1750 R.P.M. It is statically and dynamically balanced. The phosphor bronze bearings are diamond bored for accuracy. Aluminum cast rotor with large fan insures effective ventilation. Stator winding . . . all wires are individually wound and thoroughly insulated, not merely bare wire impregnated. Bearing housings are filled with oil saturated wool yarn, which filters oil and is held to shaft by spring, providing perfect lubrication. The shaft is ½" at pulley, but larger through bearings and motor. Height to center of shaft from base 3½". 10 feet of rubber covered cable. 110 volt, 60 cy. A. C. Shipping wt. 27 lbs.

No. 3700SES ¼ H.P. single end shaft.....$9.95

1/3 H. P. BALL BEARING

$14.95

This GE ⅓ H.P. double end shaft ball bearing motor is a resistance split phase start, induction run motor, operating at 1750 R.P.M. Rotor and stator are the same high quality construction as all other GE motors. They are built with exceptionally high starting torque and large reserve capacity, making them especially adaptable for woodworking applications. Equipped with New Departure Sealed Ball Bearings, they are equally applicable for horizontal or vertical running. Large fan insures perfect ventilation and prevents overheating. The ½" shaft protrudes full 2" from each end. Height from base to center of shaft is 3⅛". 10 ft. rubber covered cable and internal starting switch. 110 volt, 60 cy. A.C. Ship. wt. 33 lbs.

No. 3710 DEB.....$14.95

1/2 H. P. HEAVY DUTY Capacitor Type

$33.95

A new development by General Electric—a Capacitor motor with far greater starting and maximum running torque than has ever before been developed. With these added advantages—no brushes or starting windings—no radio interference—no excessive line load. Watt input load or amount of power consumed is remarkably low and flow of power is even and continuous.

The cast aluminum rotors are statically and dynamically balanced to provide longer life, greater efficiency and quieter operation. The stators are individually wound and heavily impregnated.

Shafts ¾" dia. Height from base to center of shaft, 4⅛". 10 ft. rubber covered cable and snap switch. 1750 R.P.M. motors wired for 110 and 220 volts, 60 cycle, A.C. Shipping weight 57 lbs.

No. 3720—SES single end shaft sleeve bearings.....$33.95

No. 3720—DEB same motor as above with ball bearings and double end shaft $37.95

1 H. P. HEAVY DUTY Capacitor Type

$41.50

A new motor, specially designed by the General Electric Company and built to our specifications for the woodworking machinery field. Designed to run at 3450 R.P.M. and especially recommended for use with bench saws, jointers and other work where heavy duty motors are required.

The capacitor motor does not require brushes or starting windings, with the result that there is no radio interference or excessive load on the line when started. The watt input load is remarkably low considering the maximum power developed—approximately 2 H.P. The flow of power is even and continuous. The one piece cast aluminum rotor statically and dynamically balanced is the latest type construction providing longer life and giving greater efficiency. Equipped with New Departure Sealed Ball-Bearings. Heavy ¾" double end shaft. Complete with heavy rubber covered cable. For 110-220 volt, AC current, 60 cycle, Shipping weight 45 pounds.

No. 3740 DEB.....$41.50

We reserve the right to make improvements in design or price changes without notice.

POWER TOOL DIVISION

DURO METAL PRODUCTS COMPANY

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