The "Challenger"

6-18 SURFACE GRINDER

A NEW LOW COST HIGH QUALITY SURFACE GRINDER

by

BOYAR-SCHULTZ
Wherever Boyar-Schultz Grinders are used, their design, quality of materials and unexcelled workmanship are quickly recognized.

In shops where accurate, close tolerance work is the rule, skilled mechanics instinctively turn to Boyar-Schultz machines, knowing that these tools give fullest expression to their ability.

With Boyar-Schultz tools and grinders in your shop or tool room, you are sure to have the best your tool dollar can buy.

The Boyar-Schultz Corporation
Underside of Base, with typical ribbing and rigid construction used throughout. Cross Feed Screw shown with protective Neoprene sleeves in place.

Substantial length of Table and Carriage ways for maximum Table support and permanent accuracy.

Vernier Scale on Hand Wheel Pointer for movements to .0001. Bevel Gearing to Vertical Screw.

Dust Collector for 6-18 Challenger Surface Grinder is furnished as optional equipment. Specially made for this Grinder, it is fitted into the stand and requires no additional floor space.

Dust Collector is constructed with 15 filter bags treated for spark resistance, into which all dust is directed and there trapped. A Nylon fiber brush is located in each bag and is used for removing the dust that may cling to the inside surfaces of the bags, brushing it into the removable tray below. All 15 brushes are operated simultaneously by an external lever located at the rear of the grinder stand.
See this new 6-18 Challenger Surface Grinder — try it — and compare its many features with any other make selling for as much as 50% more.

Here is a machine with extreme accuracy and built-in sturdiness to maintain precision over a long, useful life.

Study the many fine features listed below. The 6-18 Challenger Surface Grinder is designed and built to the usual Boyar-Schultz standard of high quality. It is available in either Hand Feed or Hydraulic Longitudinal Feed.

ALL CASTINGS are specially designed for permanent stability. They are made of special wear resisting alloys, and scientifically stress relieved.

ALL WAY SURFACES are finished to "light Band" accuracy and are hand spotted as required for maximum wear resistance and minimum friction.

SPINDLE. Wheel Spindle is of sturdy proportions, with all diameters and threads ground. This eliminates distortion and vibration detrimental to smooth finishes.

Spindle is mounted in heavy duty, pre-loaded precision ball bearings and permanently lubricated. The bearings are completely shielded from contamination by labyrinth seals at both ends of the housing.

CROSS FEED of table carriage is guided by a hard-chromed member. Cross feed can be secured in position by a binding screw provided for face grinding.

SCREWS. Both vertical and transverse screws have ground threads and are mounted on precision ball bearings.

TRANSVERSE SCREW is totally enclosed in Neoprene accordion sleeves. Both transverse and vertical screws operate in precision cut bronze nuts.

VERTICAL SCREW is actuated by selected bevel gears which permit exceptionally accurate vertical control of grinding spindle.

TABLE is rack and pinion controlled for smooth and easy operation. Extra length VEE and flat table ways distribute weight over greatest practical area and reduce wear to a minimum.

VERTICAL COLUMN is massive, box type construction, with spindle housing and spindle drive balanced in column ways. This advanced design results in most accurate and sensitive control of vertical wheel travel.

CONTROL HAND WHEELS are located to permit greatest ease of operation. All hand wheel shafts operate in ball bearings or needle bearings throughout.

HAND WHEEL GRADUATIONS are machined to substantial depth for easy readability. Elevating Hand Wheel Pointer is vernier scaled to .0001".

LUBRICATION. One oil cup provides complete lubrication to all longitudinal and transverse ways and cross feed screw. A second oil cup lubricates the entire vertical way system and the vertical screw. All other bearings are permanently grease packed.

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Hydraulic Feed</th>
<th>Hand Feed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table Travel—Longitudinal</td>
<td>19&quot;</td>
<td>19&quot;</td>
</tr>
<tr>
<td>Cross Feed</td>
<td>7&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>Work Height (using 7&quot; diam. wheel)</td>
<td>0 to 11 1/4&quot;</td>
<td>0 to 11 1/4&quot;</td>
</tr>
<tr>
<td>Table Working Surface (&quot;T&quot; slot, 3/8&quot; width)</td>
<td>18&quot; x 5 1/8&quot;</td>
<td>18&quot; x 5 1/8&quot;</td>
</tr>
<tr>
<td>Grind Wheel—Diameter</td>
<td>7&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>Thickness</td>
<td>1/2&quot; to 1 1/4&quot;</td>
<td>1/2&quot; to 1 1/4&quot;</td>
</tr>
<tr>
<td>Hole Diam.</td>
<td>1 1/4&quot;</td>
<td>1 1/4&quot;</td>
</tr>
<tr>
<td>Spindle Speed</td>
<td>3000 rpm</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>Handwheel Graduation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical (Vernier Scale or pointed to .0001&quot; graduations)</td>
<td>.0005&quot;</td>
<td>.0005&quot;</td>
</tr>
<tr>
<td>Cross Feed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Longitudinal Table Speed</td>
<td>0 to 50 fpm</td>
<td>0 to 50 fpm</td>
</tr>
<tr>
<td>Spindle Motor</td>
<td>3/4 hp—3450 rpm</td>
<td>3/4 hp—3450 rpm</td>
</tr>
<tr>
<td>Hydraulic Pump Motor</td>
<td>3/4 hp—1725 rpm</td>
<td>3/4 hp—1725 rpm</td>
</tr>
<tr>
<td>Floor Space</td>
<td>56&quot; x 38&quot;</td>
<td>56&quot; x 38&quot;</td>
</tr>
<tr>
<td>Height—(Bench Model) (Floor Model)</td>
<td>32&quot;</td>
<td>32&quot;</td>
</tr>
<tr>
<td>Weight—Net</td>
<td>576 lbs.</td>
<td>506 lb.</td>
</tr>
<tr>
<td>Shipping</td>
<td>796 lbs.</td>
<td>652 lb (Approx.)</td>
</tr>
</tbody>
</table>
6-18 CHALLENGER
Hydraulic Longitudinal Feed

A true companion to our 6-18 Hand Feed
CHALLENGER Surface Grinder. This Grinder with
hydraulic longitudinal feed fills the need for a quality grinder
at an unusually low cost. It has all the sturdiness and
built-in precision usually found only in surface grinders
at much higher prices.

If your are in need of a surface grinder, be sure to see and compare
the value offered in this 6-18 Hydraulic Challenger Surface Grinder.
ACCESSORIES FOR THE BOYAR-SCHULTZ

**6-18 Challenger**

**SURFACE GRINDER**

**ADJUSTABLE LIGHT.** Provides full visibility. Fastened to spindle column; adjustable to any position.

**DIAMOND DRESSER AND DIAMOND.** A sturdy fixture presenting a generous surface to magnetic chuck.

**WET COOLANT ATTACHMENT.** Furnished complete with pump and splash guards, drilled hole and sealing gaskets. Either pump or splash guards available separately.

**ADJUSTABLE LONGITUDINAL TABLE STOPS** for more rapid production.

**HIGH SPEED GRINDING ATTACHMENT** is designed for grinding angles and slots too small to permit using standard size grinding wheels; for grinding serrations, T-slots, and many other hard-to-get-at surfaces.

It provides higher spindle speeds — 14,000 R.P.M. — for grinding small radii and small contours in die blocks and other parts. It is mounted on the surface grinder spindle in a few minutes. Belt tension is adjusted through an eccentric bushing. Spindle is equipped with permanently lubricated, pre-loaded, super precision ball bearings.

Other Tool Room Grinders by BOYAR-SCHULTZ

In shops where close precision work is the rule, skilled mechanics know they can depend on Boyar-Schultz machines to give them the very best in performance. That is why they are favored.

Each machine is designed to fill a specific need, and each is recognized as outstanding in its field.

**BOYAR-SCHULTZ Corporation**

2000 South 25th Avenue • Broadview, Illinois