

# SECTION V

## D-BURR MACHINES

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# **STRAIGHT EDGE D-BURR MACHINES**

**REDUCE STRAIGHT EDGE  
D-BURRING TIME  
BY AS MUCH AS 90%**

## **MODEL 111**

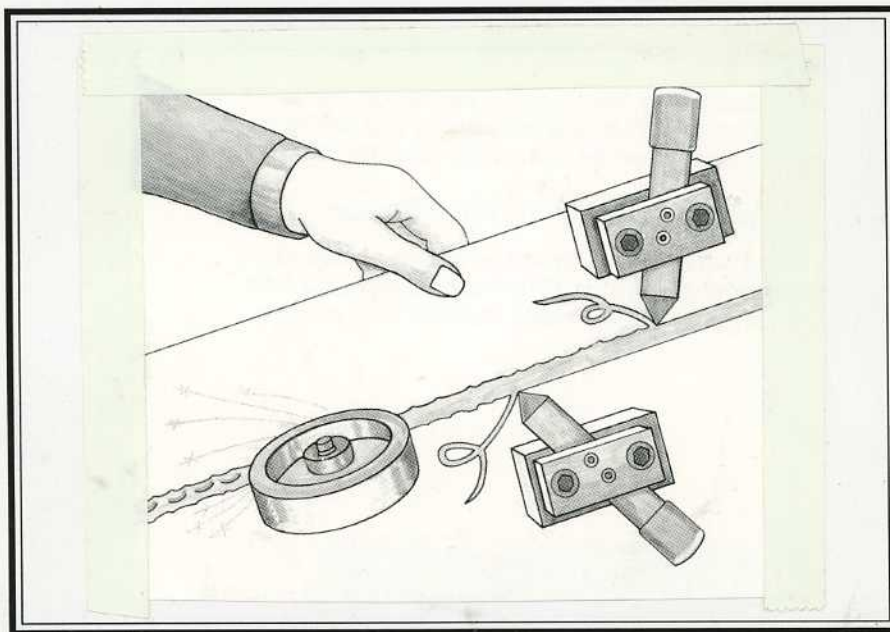
**DEBURRS BOTTOM EDGE IN ONE PASS**

## **MODEL 121**

**DEBURRS THE TOP AND BOTTOM EDGES IN ONE PASS**

## **MODEL 131**

**DEBURRS THE TOP AND BOTTOM EDGES AND  
SMOOTHS THE SHEARED SIDE IN ONE PASS**



## STRAIGHT EDGE D-BURR MACHINES

# Machine Eases Deburring of Sheared Sheetmetal Edges

Removing the dangerous burrs left on sheared edges of sheetmetal is an important safety consideration for sheetmetal shops, especially those working with stainless steel. Unless deburred, the sheets can easily expose workers and customers to the risks of lacerated fingers.

Metal workers usually solve the burr problem by hand filing or grinding, but both are labor-intensive and dirty operations. In addition, there is the likelihood that the sheetmetal workpiece might become bent or scarred. Fortunately, there is an alternative.

Oxford Industries, a precision metal fabricator in Largo, Fla., employs a more sophisticated deburring method that utilizes a unique machine called the D-Bur-R. Oxford Industries has used the machine on all commonly worked metals in a great variety of sizes and shapes, but the unit has been particularly useful in deburring stainless-steel sheet.

According to Al Freeburg of Oxford Industries, "Much of our work is fabricating stainless steel for the food processing and chemical processing industries. There is no other good way to deburr stainless. We like it for our own handling in the shop and our customers like knowing that we deburr all of our sheetmetal products. Whether the work is 10 feet long or just a one-foot square, the machine handles it with no problems."

As an example of the type of stainless-steel construction where deburring is especially valuable, Freeburg cited a current order for several hundred cabinet autoclaves. Each is made in two pieces, a main base and a hinged lid. After the two pieces are sheared from stainless sheet, an operator deburrs all the edges before the blanks are formed and assembled in the shop.

Freeburg points out that operating the deburrer does not require special training. "The machine is easily set up so that anyone can use it—and probably everyone in the shop has. Our particular machine is practically indestructible. About the only things to wear are the cutting tools, and they can be sharpened like any other metal cutters." Freeburg estimates that his shop uses about three cutters per year.

### Trims Burrs at 60 fpm

Oxford Industries has an early model of the D-Bur-R that trims burrs from only one edge at a time. There are now models that trim the top and bottom of an edge at once and another that puts clean edges on metal disks. Basic operation of these models is essentially the same. A small wheel advances the workpiece along a stationary bed (of nonscratching brass) so that its burred edge is trimmed by a triangular cutting tool (two tools if it is a two-edge trimmer). The rate at which metal is fed to the cutter ranges to 60 fpm.

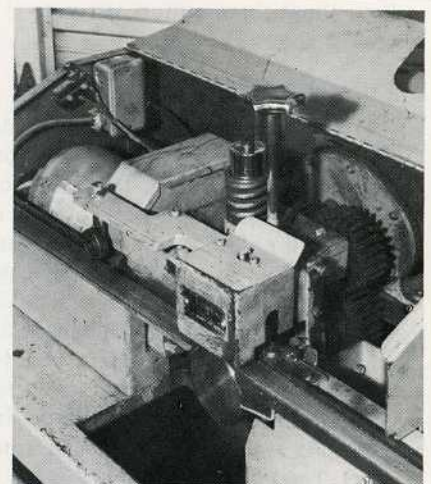
An important aspect of the D-Bur-R design is that its operation is not a grinding or sanding method; the unit generates no dust or pollution. Instead, shavings drop through an opening just below the cutter station into the inside of the machine for future disposal or

recycling. Thus the machine meets all pertinent OSHA and local regulations.

The compact deburring unit can be wheeled to any location in the plant so that large or unwieldy pieces do not have to be brought to the machine. The D-Bur-R, which is manufactured by Falls Metal Products

can handle stock from 24-gage to 1/4 inch thick, lengths from 4 inches up and widths from 1/2 inch up.

According to Freeburg, it is difficult to accurately assess the amount of money saved by the machine. "Labor cost savings alone must run 75 percent or more," he estimates. But there are other important dividends including customer acceptance and reduced worker time lost because of accidents.



Detail view of the D-Bur-R mechanism. The workpiece is drawn along the horizontal track by the drivewheel (lower right). The cutting tool is housed within the metal box over the wheel. Tool position is varied with the vertical control shaft behind the tool.

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## **STRAIGHT EDGE D-BURR MACHINES**

### **Machine Eases Deburring of Sheared Sheetmetal Edges**

Trimming machine removes dangerous burrs from sheared sheetmetal edges in a fraction of the time and with none of the mess associated with hand deburring methods.



Oxford Industries' Al Freeburg demonstrates use of Falls D-Bur-R to remove the burr on the edge of stainless-steel sheet.

# STRAIGHT EDGE D-BURR MACHINES

## SLASH DEBURRING TIME BY AS MUCH AS 90%

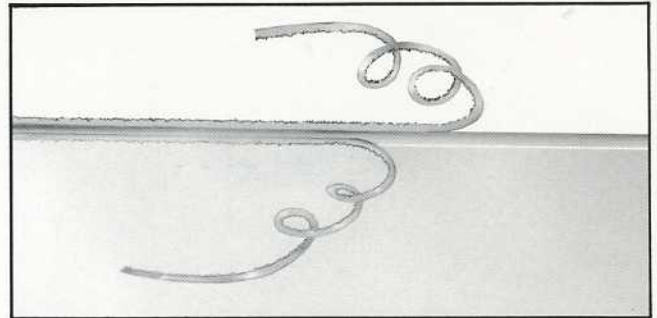
Imagine! Smooth peeled edges at 60 ft./min.! D-BUR-R removes sharp burrs fast. Five models to give you the competitive edge. Four give you perfect edges without grinding or filing. The fifth (Model 131) deburrs top and bottom edges in one pass, as well as eliminates "scallop" marks caused by the punching action.

Falls Products' D-BUR-R gives you big savings, too. Both in labor and in maintenance. By cutting deburring time by as much as 90% over conventional methods. Safer for your operators and for your sheet metal, too. D-BUR-R won't distort sheets or mar surfaces.

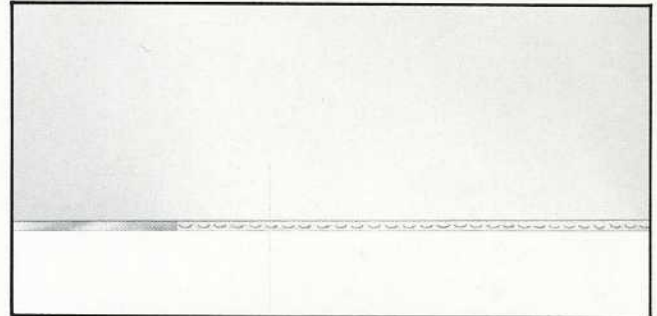
What's more, the triangular cutting tool that is the heart of the D-BUR-R, is presharpener and can be rotated for a projected life span of eight months to a year.

### Large Capacity in Small Space

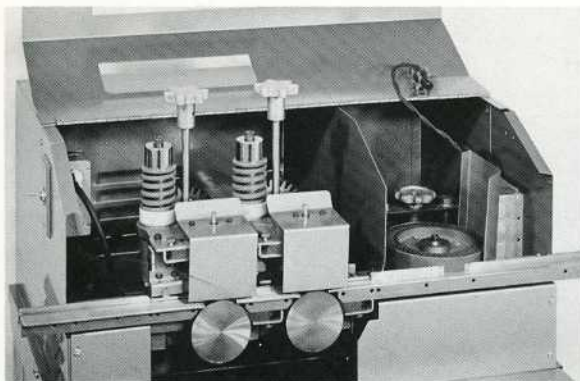
All five D-BUR-R models provide large capacities: Lengths from 4" to 10' or more; thicknesses from 24 gauge to 1/4"; widths from 1/2" to 4' or more.\*



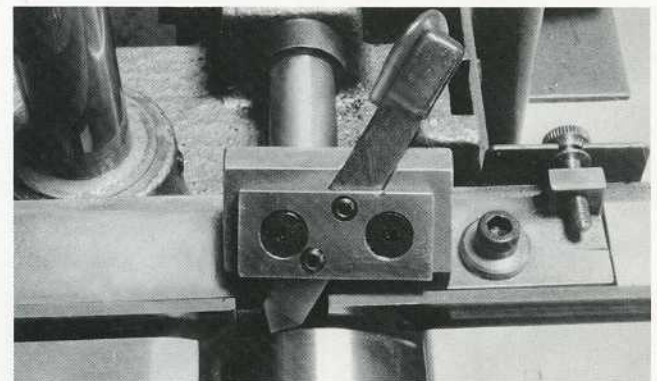
*Peels bottom or top and bottom edges without distortion.*



*Model 131 also smooths the vertical edges of shaker parts, eliminating "scallop" marks in the same operation.*



*Easier, safer, faster for operator.*



*Triangular cutting tool slashes maintenance costs.*

# STRAIGHT EDGE D-BURR MACHINES

## MODEL 111



Deburs the bottom edge in one pass.

## SPECIFICATIONS

- DIMENSIONS:** Height 50", Width 36",  
Depth 26".
- ELECTRICS:** Gear Motor 1/4 HP. 115 Volt  
Single Phase. Brush Motor  
1/4 HP. 115 Volt Split Phase.
- MATERIAL:** Steel, stainless steel, alum-  
inum, brass, galvanized,  
perforated, expanded sheet  
metal.
- CAPACITY:** Thickness 24 gauge to 1/4".  
Width 1/2" to 4' or more.  
Length 4" to 10' or more.

# STRAIGHT EDGE D-BURR MACHINES

## MODEL 121



Deburs the top and bottom edges in one pass.

**LARGER SHEETS  
DO NOT HAVE  
TO BE TURNED  
OVER TO D-BURR**

**HAS GREATER PULL  
WITH SECOND  
ROLLER ASSEMBLY**

## SPECIFICATIONS

<b>DIMENSIONS:</b>	Height 48", Width 48", Depth 27".
<b>ELECTRICS:</b>	Gear Motor 1/4 HP. 115 Volt Single Phase. Brush Motor 1/3 HP. 115 Volt Split Phase.
<b>MATERIAL:</b>	Steel, stainless steel, alum- inum, brass, galvanized, perforated sheet metal.
<b>CAPACITY:</b>	Thickness 24 gauge to 1/4". Width 1/2" to 4' or more. Length 4" to 10' or more.

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# STRAIGHT EDGE D-BURR MACHINES

## MODEL 131



The most versatile D-BUR-R ever! Falls Products' Model 131 deburrs the top and bottom edges and smooths the sheared sides in one pass! That's right! It eliminates "scallop" marks as it deburrs. And like the others, it does it all in speeds of up to 60 feet per minute!

## SPECIFICATIONS

- DIMENSIONS:** Height 48", Width 48",  
Depth 27".
- ELECTRICS:** Gear Motor 1/4 HP. 115 Volt  
Single Phase. Abrasive  
Motor 1/3 HP. 115 Volt  
Split Phase.
- MATERIAL:** Steel, stainless steel, alum-  
inum, brass, galvanized,  
perforated sheet metal.
- CAPACITY:** Thickness 24 gauge to 1/4".  
Width 1/2" to 4' or more.  
Length 4" to 10' or more.

# **MODEL 111 D-BURR MACHINE**

## **INSTRUCTIONS FOR OPERATING MODEL 111 D-BUR-R**

**The burr must be down when feeding the material into the machine.**

To operate the machine, the operator must hold the work piece against the back guide until the feed rollers automatically draw the material by the cutting tool for removal of the burr.

### **WHEN FIRST FEEDING MATERIAL INTO MACHINE**

1. Raise top roller by turning jackscrew clockwise.
2. Place material between rollers with machine turned on. Lower roller by turning jackscrew counter clockwise until material moves. Then make an extra half turn for firm pressure.

### **ADJUSTING, CUTTING TOOL FOR LIGHT OR HEAVY GAUGES**

1. Loosen securing screw.
2. For heavy gauge move tool toward material by using thumbscrew.
3. For light gauge, move tool away from material by using thumbscrew.
4. Tighten securing screw to prevent tool movement by vibration.

### **ROTATING OR REPLACING TOOLBIT**

1. Remove presser spring.
2. Lift up top assembly.
3. To remove toolbit, loosen two set screws in top plate just enough to slide tool out. Rotate tool until all cutting points are dull. Then remove worn ends with ordinary grinder. Do not burn or discolor while grinding.
4. When returning toolbit to holder, place cutting tool slightly below top of bottom roller, approximately 1/64 and retighten two set screws.
5. Replace top assembly and pressure spring. Apply enough pressure by turning hex driver until pressure gauge fits over pressure spring.

### **INSTRUCTIONS FOR ABRASIVE BRUSH ATTACHMENT**

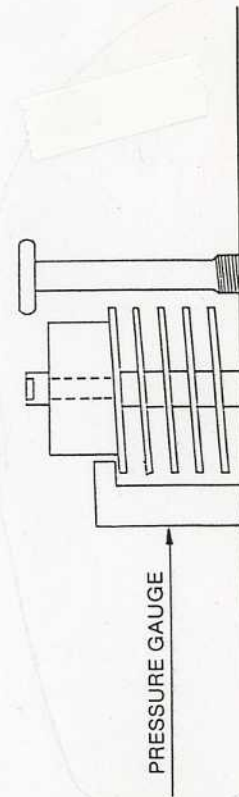
To adjust brush, loosen the two hold-down screws on motor base plate. Hold a piece of stock against back guide. While motor is running, move brush attachment toward edge of stock until brush barely touches. Turn off motor and move brush attachment another 1/16 to 1/8" . Tighten hold down screws.

## Performance Tips

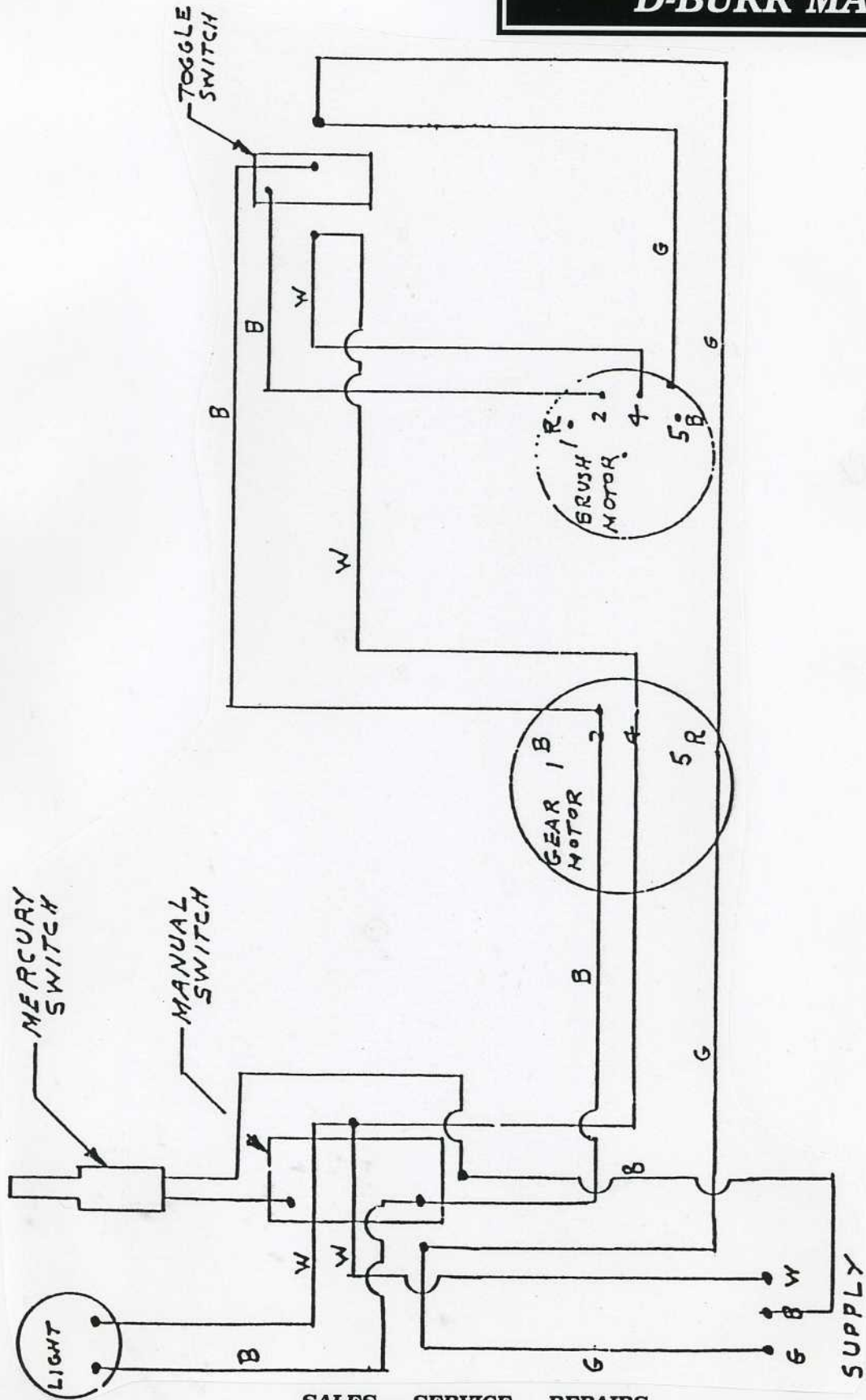
# MODEL 111 D-BURR MACHINE

### THINGS TO WATCH FOR

1. If work jams or stops, it may be that rollers are too close together, or toolbit is taking too much of a bite.
2. When changing from extreme light gauge to extreme heavy gauge, always move toolbit in to reach burr.
3. When changing from extreme heavy gauge to extreme light gauge, always move toolbit out (or away) to keep from jamming.
4. Always use pressure gauge to make sure there is enough pressure on spring.
5. When returning toolbit, always be sure that cutting tip is slightly below top of roller - approximately  $1/64$  "
6. **Never remove burrs by hand. Always use pliers or a hook.**



# MODELS 111 & 121 D-BURR MACHINE



Wiring Diagram 111 & 121

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# Parts - Model 111 Main View

## MODEL 111 D-BURR MACHINE

Key#	Part #	Part Description	REPLACEMENT PARTS
1	4080	Front Panel Left	1006 OILITE BUSHING
2	8244	Toggle Switch ( Eagle 447 )	2015A TOP ROLLER ASSY ( 111 )
3	8233	Switch Guard Plate	2015B BOTTOM ROLLER ASSY ( 111 )
4	4079	Top Guard Assy (Hinged)	2023 26 TOOTH STEEL GEAR
5	4081	Front Panel Right	2024 26 TOOTH PHENOLIC GEAR
6	2052	Top Roller Guard	2025 15 TOOTH DRIVE GEAR
7	1230	Tension Spring	2027A INTERMEDIATE GEAR ( PHENOLIC )
8	1099	Tension Spring Cap	2027B INTERMEDIATE GEAR (STEEL)
9	1441	Tension Spring Shrew	3034 FELT PADS
10	8242	Light Lens	3037 BRASS BED LEFT ( 111 )
11	2027	Gear Reducer Motor	3038 BRASS BED RIGHT ( 111 )
12	8241	Light Base	6074 ABRASIVE BRUSH
13	7073	Brush Motor	7102 TOOL BIT HSS
15	4061	Top of Base	7104 FIRST STAGE COBALT TOOL BIT ( 121 )
16	4054	Outrigger Sheet Support	7104A SECOND STAGE COBALT TOOL BIT ( 121 )
18	5095	Base Panel Left	3122 BRASS WEAR BED LEFT ( 121 )
19	5093	Base-Top Panel Right	3123 BRASS WEAR BED RIGHT ( 121 )
20	5094	Base Bottom Panel Right	3124 BRASS WEAR BED CENTER
21	5098	Power Cord Bracket	2130 BOTTOM ROLLER ASSY ( 121 )
22	5097	Base Pan	2131 TOP ROLLER ASSY ( 121 )
23	5091	Front and/or Rear Base Panel	6253 STEEL GEAR YB 20
24	7108	Swivel Casters	6254 PHENOLIC GEAR YBP 20
25	4058	Support Bar	REDBELT 80 GRIT STL / SS PKG / 10 ( 131 )
26	4059	Support Rod	BLACKBELT 80 GRIT ALUM / SOFT MATL PKG / 10 ( 131 )
58	1029	Jack Screw Knob	
62	4089	Tool Drawer	
64	8234	Utility Box Cover	
65	8231	Utility Box	
67	4082	Front Guard Left	
68	4083	Front Guard Right	
69	8239	Mercury Switch	
70	8232	Utility Box	
71	8442	Manual Starter Switch Guard	
94	8238	Power Cord Set	
99	3035	Main Gate	
100	8235	Manual Starter Switch	
101	8236	Heater Coil H 14.4B	



