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Materials List

The Quantity and (May Buy) column lists the amount needed in inches.

The likely available size is in parentheses (listed in feet).

Notes	Quantity (May Buy)	Material	Where Used, and Comments Measures are rounded. This is not a cut-list.
Wood. Available from Homecenters.			
	167" (2@8')	1x2, Actual Size 5/8" or 3/4" x 1 1/2"	Tilt-lock notched ~34", Spacer ~34" Front edge ~34", Keyboard tie ~24, Tray tie ~25" Knobs ~10", Crank handle 6"
	82" (1@8')	1x4, Actual Size 3/4" x 3 1/2"	Cross tie ~34", Keyboard sides ~26", Endplates ~22"
	184" (2@8')	1x8, Actual Size 3/4" x 7 1/4"	Fixed sides ~56", Top~34" Floating sides ~44", Shelf ~26", Keyboard-tray ~24" Two 8' boards will work. Cut the fixed sides and the top from one board.
	224" (3@8')	2x3, Actual Size 1 1/2" x 2 1/2"	Legs. Eight at 27.5"
	60" (1@8')	2x4, Actual Size 1 1/2" x 3 1/2"	Feet. Two at 30"
	~	Slab for Top of Desk	Size varies, ~3' x 4'. Can be plywood, countertop, etc.
	2 Count	Paint Paddle (Optional)	Foot-board shims, can be cut from 2x4.
Aluminum. Available from Onlinemetals.com.			
	~64" (6')	1/8" x 3/4" Flat Bar 6061 T6511	Tilt-arms and tray-arms. Four at ~16"
	~4" (1')	1" x 1" x 1/8" Angle 6063 T52	Tilt-arm swivel brackets. Two at ~2"
	~3" (1')	2" x 3" x 1/8" Rect. Tube 6063 T52	Gearboxes. Two at 1 1/4"
	~11" (1')	2" x 1" x 1/8" Channel 6063 T52	Leadscrew and leadnut supports. Six at 1 3/4"
	~22" (2')	1/2" Rod 6061 T6511	Gearbox coupling rod. ~22"
Steel. Available from Onlinemetals.com.			
	48" (4')	1/8" x 1 1/2" Flat Bar, Hot Rolled Rect.	Gibs. Two at 24"
	24" (2')	1/2" Rod, Hot Rolled Round.	Gearbox axles. ~9", ~15"
Leadscrew Components. From Use-Enco.com, McMaster.com, Roton.com.			
	52" (6') or (2@2')	Leadscrew 1/2"-10 Or 1/2" Multi-Start	Enco often has sales on standard Acme. McMaster and Roton sell multi-start.
	4 or 2 M-S	1/2"-10 Acme Nuts Multi-Start Leadnuts	Enco often has sales on Acme nuts. McMaster and Roton sell multi-start.
	8	Flanged Sleeve Bearings, Bronze 1/2" ID, 3/4" OD, 1" Flange, 1/2" Long	Enco usually has the best price on Enco brand. Enco brand decimal size 0.5020" ID, 0.7530" OD.
Bevel Gears. From Truckspring.com and Others.			
	2 Sets	Replacement Sidewind Gear Kit 7000 lb. Used on 190 Series Jacks, Bulldog Part #500156. Be sure to exactly match the part number. Similar kits will not fit the gearbox. Each set includes Pinion Gear, Groove Pin, Driven Gear, Dowel Pin. Photos on page 18. A third gear with a larger bore may be included with the set. These gears are used with trailer jacks and can be found at camping, boat and farm trailer parts suppliers. Price is ~\$13/set + shipping. Bevel Gear Overview, page 9.	

Notes	Quantity	Material	Where Used, and Comments
Machine Screws, Bolts, Threaded Rod			
		Note: #10-32 can be used in place of #10-24 screws and nuts.	
	4	#10-24 x ½" Flat Head	Tilt-arms 2, Tray-arms 2.
	4	#10-24 x 1¼" Round Head	Leadnut blocks 4.
	2	#10-24 x 1¾" Round Head	Crank clamp 2.
	24	#10-24 x 2" Flat Head	Leadscrew channels 16, Gearboxes 8.
	1	#10-24 x 3" Round Head	Crank knob 1.
	2	¼-20 x 1¼" Tap Bolt	Uplift preventer 2.
	8	5/16-18 x 2½" Tap Bolt	Leadnut support 4, Gib knobs 4 The gib bolts can be full-thread carriage bolts.
	2	#10-24 x 1½" Hanger Bolts	Tilt prevention corner braces 2.
	12	#10-24 x 2" (Optional) Hanger Bolts	Floating 1x8 12.
	1 Piece	¼-20 x 36" Threaded Rod	Tilt-lock tension rod. Enco may charge less.
Nuts			
	36 (+12)	#10-24	Leadscrew channels 16, Leadnut blocks 4. Gearbox 8, Crank knob 2, Crank clamp 2. Tilt-arm 2, Tray-arm 2. (Floating 1x8 sides 12, can be cap nuts).
	4	5/16-18	Gib knobs 4.
	12	#10-24 Cap Nuts (Optional)	Floating 1x8 sides 12.
	2 (+12)	Wing Nut #10-24	Tilt prevention 2. (Floating 1x8 sides 12, optional).
	1	Wing Nut ¼-20	Tilt-lock.
	3	Tee Nuts ¼-20	Uplift bolts 2, Tension knob 1.
	8	Tee Nuts 5/16-18	Gibs 4, Leadnut supports 4.
Flat Washers			
	50	#10	Gearboxes 6, Channels 16, Leadnuts 4, Tilt-arms 2 Tray-arms 2, Crank 8, Floating 1x8 side 12.
	13	¼" ID	Gearboxes 4, Uplift bolts 2+ ~6, Tension knob 1.
	8 (+4)	5/16" ID	Leadnut support bolts 4. Gib knobs with carriage bolts 4, (with hex bolts 8).
	6	½" ID	Gearboxes 2, Top gears 2, Bottom nuts 2.
Fender Washers			
	3	¼" ID, 1¼" OD	Tilt-tension rod 3.
Finish Washers			
	12+	#8 or #10 (Optional)	Floating 1x8 sides 12. Can be used with many other screws if desired.

Drywall Screws			
	50 (+12)	1 $\frac{5}{8}$ " Can be 1 $\frac{3}{4}$ " wood screws.	A 1 pound box of 1 $\frac{5}{8}$ " will supply enough for all. Front rail 3, Notched rail 3, Fixed 1x8 16, Endplates 6, Crosstie 8, Shelf 6, Endplate-blocks 4, Tray-sides crosstie 4, Floating 1x8 12 (Optional).
	21	2 $\frac{1}{2}$ " Can be wood screws.	Feet 8, Endplates 6, 1x8 Top 4, 1x2 Spacer rail 3.
Wood Screws			
	6	Flat Head #6 x $\frac{3}{4}$ "	Gibs 4, Tray-arms 2. The screws for the hinges, drawer slides and corner braces are often supplied with the hardware.
	6	Round Head #6 x $\frac{3}{4}$ "	Tie swivel brackets to bottom of desk-top.
Miscellaneous			
	~	Wood Glue	Carpenters' yellow glue serves well.
	~	Loctite Green Thread Locker	Not permanent, wicks into joint and can be applied after assembly. Loctite Blue also works.
	~	Grease, General Purpose	Lubricate leadscrew and gears.
	~	Oil, Motor, Sewing Machine, etc.	Lubricate bushings and axles.
	~3"	Reinforced Vinyl Tubing $\frac{1}{2}$ " ID	Connects axles to coupling rod.
	~4"	Thin Wall Plastic Tubing $\frac{1}{2}$ " ID	Between bushing and gear in gearbox.
	4	#6 Hose Clamps	Connect axles to coupling rod.
	2	Cotter Pin $\frac{3}{32}$ or $\frac{1}{8}$ x 1 $\frac{1}{4}$ "	Bottom Acme nuts 2.
	4	Small Nails, 6d or 8d Finish	Socket pin 1, Tension push rod 1, Tilt-arms pins 2.
	8	Wire Nails, $\frac{5}{8}$ -18 Finish	Secure aluminum leadscrew cover 8.
	4	Corner Braces 2"	Tilt-arm 2, Tilt prevention 2. Or Fixed top tie-down 4.
	~2"	~ $\frac{1}{2}$ " Diameter Wood Dowel	Crank handle. Can be a knob, spool, wooden block.
	Pack of 4	Leveling Glides	Adjustable feet.
	~3'	Piano Hinge	Tilt top. Can be two or more shorter hinges.
	2	Small Hinges $\frac{3}{4}$ " Wide	Tilting keyboard-tray.
	Pair	Drawer Slides 12"	Keyboard-tray, longer slides will work.
	1 Piece	Dryer Duct 4" x 24" Aluminum Pipe (Optional)	Leadscrew-covers. Can be poster-board or similar.
	~	Thin Plastic	Dust guards at bottom of legs. The stock can be from food containers and similar.
Socket Wrench Components (All Optional)			
	1	Socket, $\frac{1}{2}$ " x $\frac{3}{8}$ " Drive	On end of gear-axle, can be other sizes.
	1	Extension, $\frac{3}{8}$ " Drive	Connect crank to gear-axle, length varies.
	1	$\frac{1}{4}$ " Hex to $\frac{3}{8}$ " Drive Adapter	Connect drill to gear-axle.
	1	Breaker Bar, $\frac{3}{8}$ " Drive	Crank handle.