

# Snowblower

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## Bill of Materials

No. of pieces	Material
2	1-1/8" solid shafts, 14" long
1	1" solid shaft, 4' long
4	7'x 4" channel
1	5'x 4'x 1/4" mild steel plate
1	36"x 3"x 1" high-strength steel
1	35"x 96"x 3/16" mild steel plate, bent to specifications
1	2-1/2" I.D. iron pipe, 8' long
1	9'x 6"x 1/4" steel strapping
1	4'x 2"x 1/4" steel strapping
1	used grader blade
1	rear differential drive unit from old corn picker with P.T.O. shafts and knuckles
4	ring spacers to match 1-1/4" shaft to 2-1/2" I.D. steel pipe
1	15-tooth #50 chain sprocket, 1-1/8" hub
1	15-tooth #50 chain sprocket, 1" hub
1	60-tooth #50 chain sprocket, 1" hub
1	26-tooth #50 chain sprocket, 1-1/4" hub
2	1-1/4" bearings and flanges
2	1" bearings and flanges
16	3/8" bolts, 1-1/4" long with lock nuts
1	#50 chain, 8-1/2' long
1	2" bearing and flange
1	2"x 2"x 1/4" angle iron, 2' long

This fast-hitch rear mount snowblower was made to fit a 65 h.p. International tractor.

The first step was to have a 96"x 35" sheet of 3/16" steel bent to specifications (see Fig. 1).

Next cut two pieces of steel 20"x 13"x 1/4" for the end caps for the auger shell. Then cut a hole to fit a flange for a 1-1/8" bearing with a front exit slot for a 1-1/8" shaft. Weld the end caps in place and mount the auger bearings and flanges to the shell.

Take two pieces of 70"x 8-1/4"x 1/4" sheet and shear 20 fins. Cut the arcs with a flame cutter. The small arc has a 2-1/2" radius and the large arc has a 9-5/8" radius. The fins are held perpendicular to a 2-1/2" I.D. steel pipe and given a 45° turn, top edge toward center. With two spacer washers, a 1-1/8" diameter 14" long shaft is welded with 6" protruding from the end of the pipe. This is mounted to the auger housing shell by use of appropriate bearings and flanges.

With a hand cutting torch, cut two round steel plates, one with a 12" radius x 3/16", which is used as a permanently mounted safety shield on the fan housing. Then cut a round steel plate with an 11" radius out of a 1/4" sheet and weld 6 paddle-shaped fins to it, beveled side in. The fins were tilted 1/4" into the direction of rotation to aid in removal of snow from the auger feed-in. This is the main blower fan.

The gear box was a heavy-duty rear differential from a two-row corn picker with a 1 to 1 ratio. It also had a one-in, two-out drive. By rotating the gear box 90°, the straight-through shaft on the gear box was used as the P.T.O. to the blower shaft. The right hand shaft was machined to be used with a 1-1/2"

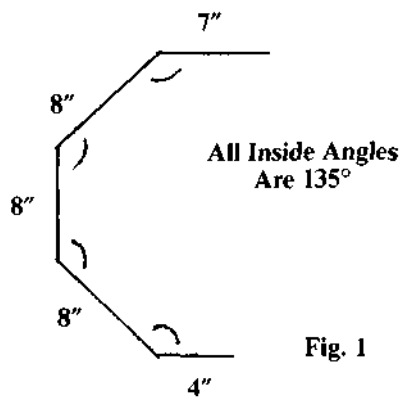


Fig. 1

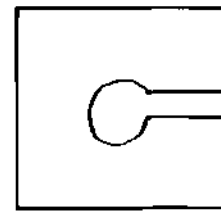


Fig. 2

hub on a 15-tooth sprocket. This was connected to a 60-tooth sprocket by a #50 roller chain on one end of a 1" shaft. At the other end, a 15-tooth sprocket was connected to a 26-tooth sprocket by a #50 roller chain. This was mounted on the feed-in auger. The auger was geared down approximately 10 to 1 from the blower speed.

The unit was supported to the tractor by the use of four 4" channels welded into two tubes, each 54" long. These were then welded perpendicular to the auger housing shell, 28" to center. Supports were added where necessary.

Two fast hitch mounts were flame cut from a piece of high-strength steel. One was welded to the end of each 4" tube.

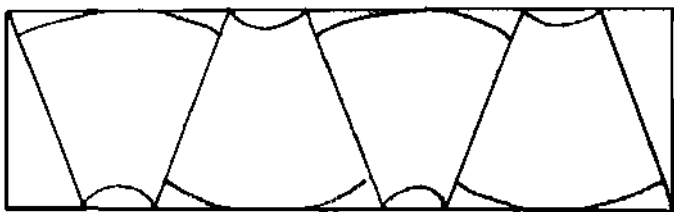


Fig. 3

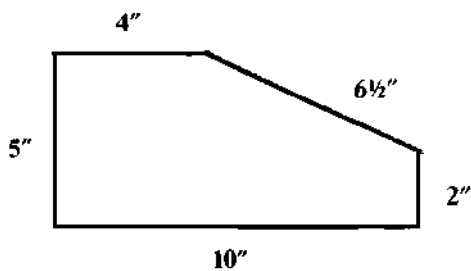


Fig. 4

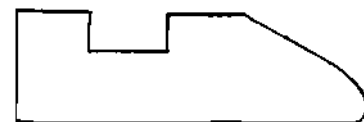


Fig. 5