Adjustable Basketball Goal

Bill of Materials

Description	Qty.	Material	Size of Part
Backboard	1	Exterior Plywood	4′x 4′
Brakeaway rim	1	Metal	Standard Basketball Rim
Boat Winch	1	Metal	6″x 3″
Implement Rim	1	Metal	16″ radius
U-Clamps	2	Metal	½″
Backboard Metal Brace Plate	1	Metal	¼ x 12½ x 18¼
Base Support	1	Metal	¼ x 12¼ x 23¼
Base Support	1	Metal	¼ x 11½ x 22
Pole Support	1	Metal Pipe	3″ dia., 25″ long
Brace Support	1	Angle Iron	¼ x 2″x 2″
Brace Support	1	Angle Iron	¼ x 1½″x 1½″
Upright Support	1	Metal Pipe	2⅞″ dia., 84″ long
Upright Support	1	Metal Pipe	2⅞″ dia., 84″ long
Horizontal Support	1	Metal Pipe	2⅞″ dia., 22″ long

Procedures for Building an Adjustable Basketball Goal

1.) Obtain a 16" radius implement rim.

2.) Cut a piece of angle iron to the length of 32".

3.) Weld angle iron to the implement rim 12-1/4" from the inside of the implement rim.

4.) Cut a 1/4" plate in a semi-circle with a diameter of 23-1/4" and a radius of 12-1/4".

5.) Weld 1/4" plate to the outside rim and to the angle iron.

6.) Cut a 3" diameter circle in the 1/4" plate with the center point of the circle 6-1/8" from the outside rim and 11-5/8" from the outside edge of the 1/4" plate.

7.) Repeat steps 2-6 for the bottom brace on the implement rim.

8.) Cut a 3" diameter pipe, 25" long and place it in the 3" holes in the 1/4" plate 1" from the floor and weld pipe to the plates.

9.) Drill a 7/16" hole in the 25" pipe 3" down from the top of the pipe.

10.) Weld a 3/8" nut over the hole.

11.) Insert a 3/8" bolt into the hole and tighten.

12.) In an 84", 2-7/8" diameter metal pipe, cut a 51" slot with a cutting torch starting 8" from one end of the pipe.

13.) Insert the 84" pipe into the 25" pipe.

14.) Take an 84", 2-5/8" metal pipe and insert it into the 2-7/8" diameter metal pipe.

15.) Within the slot, drill a 1/2" hole, 6" from the bottom end of the 2-5/8" diameter metal pipe.

16.) Weld a 1/3" bolt into the hole and drill a 1/4" hole in the side of the 1/2" bolt.

17.) Cut a 6"x 3", 1/4" metal plate and weld it 6" from the top of the 2-7/8" diameter pipe in line with the slot.

18.) Weld a boat winch to the 1/4" plate.

19.) From an 18", 2-5/8" diameter metal pipe, cut a 45° angle on each end.

20.) Weld it to the 84", 2-5/8" diameter pipe.

21.) From an 11", 2-5/8" diameter metal pipe, cut a 45° angle on one end. Weld this end to the 18" metal pipe.

22.) Cut a 1/4" metal plate to 12-1/2"x 18-1/2".

23.) Weld the 11" pipe to the center of the metal plate.

24.) Drill 4, 5/16" holes in the metal plate, 3" over and down from each corner of the plate.

25.) Place a basketball backboard template on a 4'x 4' sheet of exterior plywood and cut around it.

26.) Paint it white.

27.) Paint the pole and implement rim red.

28.) Center and attach the backboard to the 18-1/2"x 12-1/2", 1/4" plate with 4, 5/16" carriage bolts.

29.) Purchase a standard basketball rim and net. Centering it horizontally, attach the plate of the rim 2" from the bottom of the backboard with 4, 5/16" bolts.