



CASTLE INC



Owners Manual

AT Race Assembly Table – 4x8

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1 Introduction

Thank you for making the Castle AT Race Assembly Table the latest addition to your shop. Since 1985 our goal has been to manufacture and develop machines that make cabinetmaking and casework easier, faster and more profitable for the woodworker. This machine represents our commitment to your productivity. Castle machines are made in Petaluma, California and are manufactured to the highest standards using local vendors wherever possible.

This instruction manual is intended for use by anyone setting up or servicing this machine. It should be kept available for immediate reference so that all operations can be performed with maximum efficiency and safety.

Note: Do not attempt to perform maintenance or operate this machine until you have read and understand the information contained in this manual.

2 Machine Safety

NOTICE: The Castle AT Race Assembly Table was designed with operator safety as a priority. This machine was carefully prepared for shipment at our factory. Upon receipt of the machine, inspect for shipping damage. Report any damage **IMMEDIATELY** to the freight company, your Castle dealer and to Castle, Inc. DO NOT attempt to operate the machine if you observe any physical damage. Contact Castle, Inc. at 800.282.8338 for instructions.

2.1 Safety Rules

1. **USE CAUTION WHEN OPERATING THIS MACHINE!** Only skilled operators should use this machine, or be within ten feet when the machine is in operation.
2. Read the Operator Manual carefully before operating. An Operator Manual should be attached to this machine. It contains important information and warnings concerning the use and operation of this machine. Improper use of this machine may result in serious injuries to persons and property.
3. Always wear protective eyewear when operating or standing near an operating machine.
4. Keep all body parts away from the moving parts of this machine whether it is in operation or at rest.
5. Do not place hands or fingers between the work piece and the clamp or near the cutters at any time. Always use a securing device when undertaking close work.
6. Do not wear gloves or loose clothing (such as sweaters, jackets, or jewelry) when operating or standing near an operating machine.
7. Before attempting adjustments, maintenance, or repair, **DISCONNECT** this machine from its air supply. Wait for all motion to stop.
8. Always keep the area around this machine clean and uncluttered. Poor housekeeping could result in slips, falls, or other injuries.

9. Concentrate at all times. Failure to pay attention to the task at hand is the cause of most accidents.

2.2 Key Features

Your Castle AT Race Assembly Table's ergonomic design places the bottom rail at 32" above floor level to reduce bending, reaching and operator fatigue. The highly efficient design allows the hold-down cylinders to be repositioned and clamped in one quick smooth action for fast production. The super rigid, precision beam is both light and strong and moves effortlessly on ball bearings.

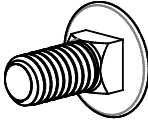
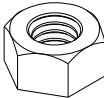
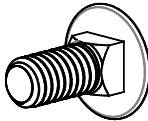

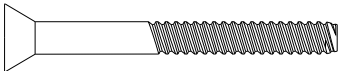
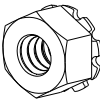
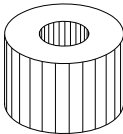

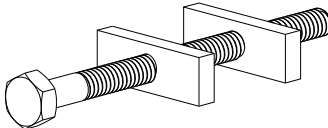
The Castle AT Race Assembly Table is equipped with a pressure regulator, pressure gauge and hose for a pneumatic air screw driver (sold separately). The convenient driver holster is inches away from the work at all times.

2.3 Inventory

Included with each Castle AT Race Assembly Table are the following items. Please take a moment to verify that each of the items listed below and on the following pages are included with your shipment.

- Owners Manual
- Warranty Card – Please fill out and mail to Castle, Inc. or visit our website at www.castleusa.com and register online.
- Hardware: (See following page for hardware details)

CASTLE AT RACE ASSEMBLY TABLE HARDWARE PACK

ITEM	PART #	DESCRIPTION	QTY
SPLICE ASSEMBLY			
 	F51835	5/16-18 x 3/4" Carriage Bolt	16
	F51628	5/16-18 Hex Nuts	16
AT RACE LEG BRACE			
 	F51835	5/16-18 x 3/4" Carriage Bolt	10
	F51628	5/16-18 Hex Nuts	10
AT RACE FENCE			
  	F44134	1/4-20 X 1-3/4	21
	F01422	1/4-20 Kep Nut	21
	N00344	3/4 Large Aluminum Spacer (Fence Installation)	21
AT RACE TABLE TOP			
 	F10212	#10 x 2-1/2" Phillips Pan Head Sheet Metal Screw	30
	F14312	1/4-20 x 3-1/2" Draw Bolt	5

CASTLE AT RACE ASSEMBLY TABLE PARTS LIST

ITEM	PART #	DESCRIPTION	QTY
SPLICE ASSEMBLY			
	G48006	AT Race Splice	2
AT RACE LEG BRACE			
	G48013	AT LEG BRACE,	1 L, 1 R
AT RACE BEAM BRACKETS			
	G48218	AT Race Beam Bracket, Left w/Set Screws	1
	G41219	AT Race Beam Bracket, Right w/Set Screws	1
AT RACE CLAMP ARM			
	C48010	AT Race Clamp Arm As- sembly	1
AT RACE SIDE & BOTTOM FENCE			
	O08474	AT Race Side & Bottom Fence	3

2.4 Machine Requirements

Your Castle AT Race Face Frame Assembly Table requires a minimum of **85 PSI** air not to exceed 150 PSI.

- Supply Line should be a minimum of ¼" line.
- Install an air filter trap to reduce the potential for foreign particles and water from your air supply prior to entry into the machine. The filter should be mounted to the wall where your supply comes from and **SHOULD NOT** be mounted to your machine.

2.5 Other Supplies

- Plywood sheet at least 8' X 4' (not included)
- (2) Scrap 2 X 4's

3 Setting Up Your AT Race 8' Table

Your Castle AT Race Assembly Table is shipped knocked-down, with the legs bolted to a pallet and the frame and top inside with the rest of the components securely attached. Inspect your table components carefully to insure that there is no damage before proceeding with set-up.



Fig 1

3.1 Getting Started

Safe assembly of your Castle AT Race Assembly Table takes **two** people. In addition, you will need the following tools to uncrate and assemble your Castle AT Race Assembly Table.

1. 1/2" Open End Wrench
2. 1/2" Socket w/ratchet
3. Socket extension
4. 9/16" Socket w/ratchet
5. 5/32" Allen Wrench
6. Framing square



3.2 Unpacking your Table

1. Cut zip ties and remove the Beam Brackets (Fig 2), Fences (Fig 3), and Clamp Arm Assembly (Fig 4), and Splice Brackets (Fig 5).



Fig 2

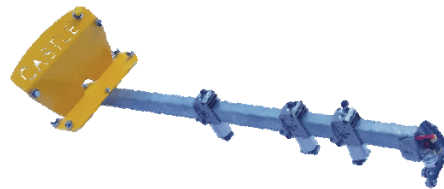


Fig 4

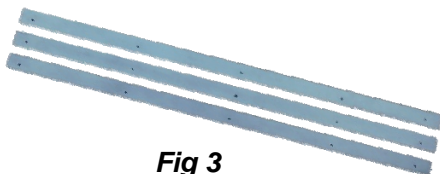


Fig 3

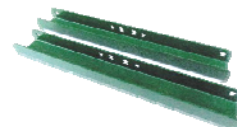


Fig 5

1. Using a 1/2" Open End Wrench, remove the bolts holding the threaded rod used to secure the AT Race parts for shipping. (FIG 6)

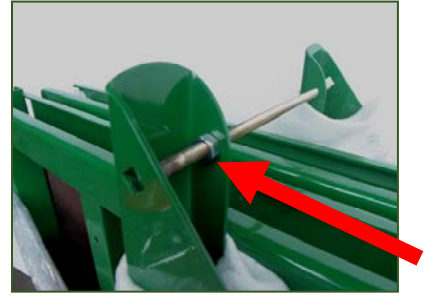


Fig 6

2. The triangular Leg Braces and (4) Hardware Packs will be inside each of the leg. Once you have removed the legs from the pallet you should be able to pull the leg braces out. (Fig 7)

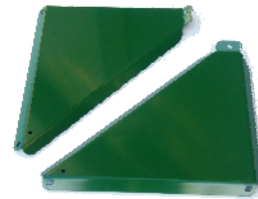


Fig 7



Fig 8



Fig 9



Fig 10



Fig 11

3. Using a 9/16" Socket Wrench, remove the Lag Bolts holding the legs to the pallet. (Fig 12)
4. Lift the 2 table tops out and set them aside for later use. Set a few 2 x 4's on the floor to prepare for the next step.



Fig 12

3.3 Frame Assembly

1. Place the frame sections face down on the 2 x 4's so that the leg brace flanges are facing up (Fig 13).

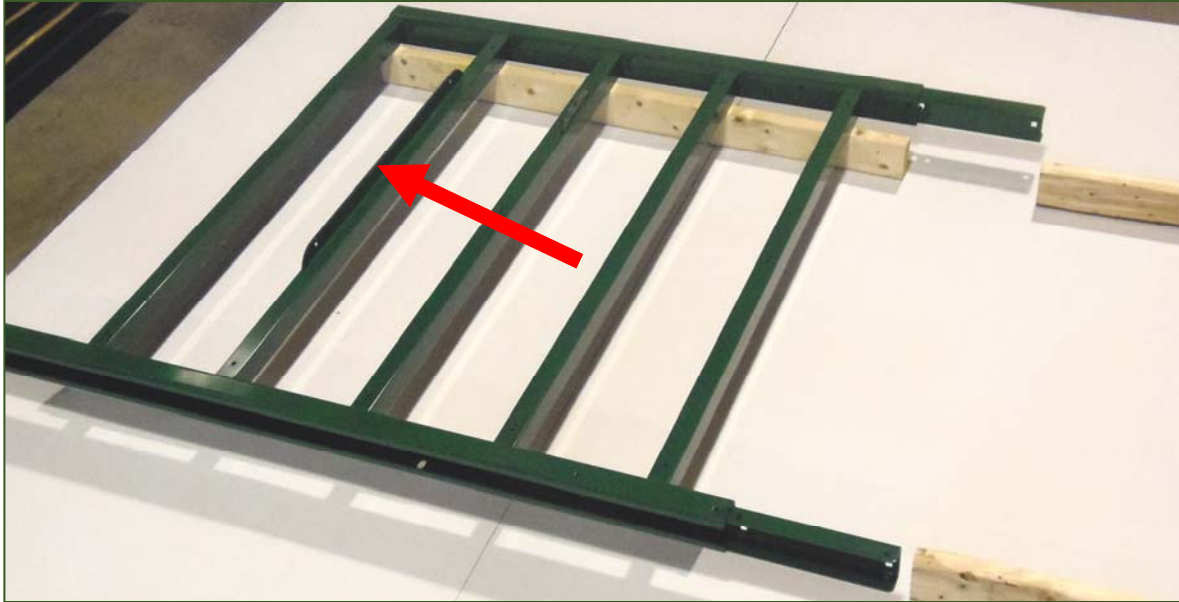


Fig 13

2. Position splice brackets inside the frame C-channels on the LEFT FRAME.
3. Use the AT Race Splice hardware pack (Pack #1). Align the holes in the splice bracket with the holes in the frame. Insert the carriage bolts, from the outside in, into the frame and through the splice bracket. **Loosely** tighten the nuts onto the carriage bolts (Fig 15). Do Not Overtighten.



Fig 14



Fig 15

Slide the RIGHT FRAME over the splice brackets and align the holes. Insert the 5/16" Carriage Bolts from outside the frame and into the splice bracket. **Loosely** tighten the nuts onto the carriage bolts. Do Not Overtighten!



Fig 16

5. Using a 1/2" Socket with Ratchet Extension tighten the nuts against the back of the channel. Remove the Ratchet Extension and use the just the 1/2" socket to tighten the nuts on the side of the channel.

3.4 Attaching the Legs

1. Use the AT Race Leg Brace Hardware pack (Pack #2) for installing the legs. The legs bolt onto the longer flange on the back side of the table frame.
2. Have someone hold the leg while you fasten it to the frame using the 3/8-16 x 3/4" Carriage Bolts. The flat part of the angle iron should face the inside of the leg channel. The nuts are easiest to tighten if the head of the bolts are inserted from inside the leg channel.



Fig 17



Fig 18

3. Attach the leg support braces using bolts supplied. Repeat this process for the other side.



Fig 19

4. Roll the assembly onto the legs by rolling it first over the top tube, then onto the leg backs, and finally up and into a fully upright position.



Fig 20



5. Check that all the leg braces and bolts are securely tightened.

3.5 Fence Installation

1. Attach the fences using the 1/4-20 Flat Head bolts [F44134], aluminum spacers [N00344] and the 1/4-20 Kep Nuts [F01422] found in Hardware Pack #3.

NOTE: The holes closest to the bottom left side of the table frame are round and the holes going away from the lower left corner grow slightly to an obround at the upper left side of the table and towards the middle of the bottom beam of the table frame. This allows for adjustment to insure that the fences are square to each other.

2. Only tighten the nuts at the lower left corner for the side fence and bottom left fence and at the bottom right corner of the bottom right fence. You will tighten the remaining nuts once the table top is installed.

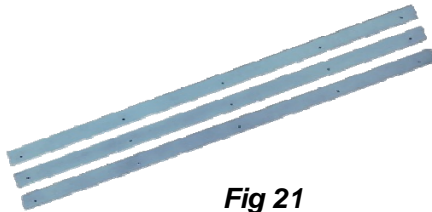


Fig 21



Fig 22

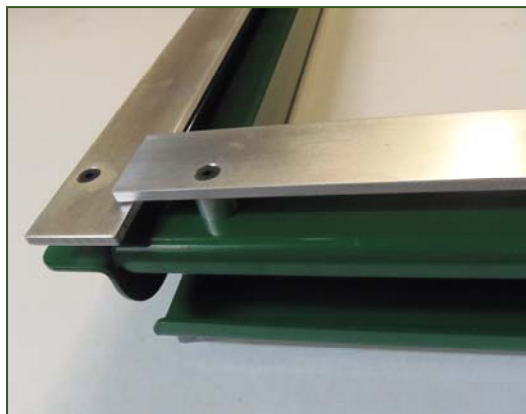


Fig 23

NOTE: When fastening the fences be sure to only tighten one bolt on each fence at the bottom left corner of the frame. You will tighten the rest later.

3.6 Worktop Installation

1. Place the left side of the table top onto the frame. Make sure the top is sitting as far left as it will go and flush with the bottom edge of the frame.
2. Slide the right side of the table top onto the frame. (Fig 24)
3. Push both sides together tightly from right edge.



Fig 24

4. Install (5) draw bolts at the rear of the table top to secure. (Fig 25)



Fig 25



Fig 26

5. Using the (30) #10 X 2-1/2" pan Phillips sheet metal screws [F10212] fasten the table down through the rear of the frame. (Fig 26)

6. Place a sheet of plywood measuring AT LEAST 4' x 8' on the table, and rest it on the bottom fence.



Fig 27

7. Push up on the end of the fence opposite the end with the tight bolts until the fence is flush with the wood.
8. Now tighten all of the bolts for the fences.

3.7 Open Back Beam Installation

NOTE: This part of the installation may require (2) two people



1. Install the Beam Brackets as shown. Note the position of the upper set screw. (Fig 28)

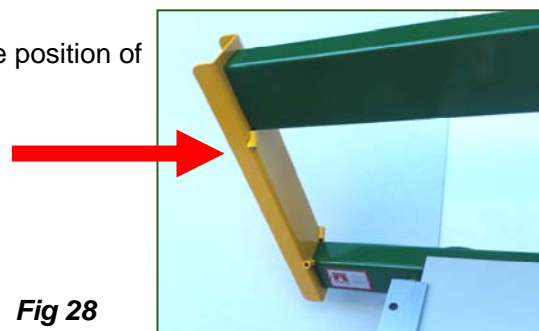


Fig 28

2. Slide the top beam through yellow bracket on one side of the table then on the other. (Fig 28a).



Fig 28a

3. Once the beam is in place tighten the set screws in the beam brackets in all (3) places on each using a 7/64" Allen Wrench. (Fig 29)



Fig 29

NOTE: For proper alignment of the upper beam to the table, use a framing square to insure that the beam is 90 degrees to the table. If not, loosen the set screws at the bottom of each [yellow] beam bracket and rotate the [green] beam up until it is 90 degrees to the table top.



3.8 Clamp Arm Installation

1. Once the beam is installed and secured the arm is installed.
2. Remove the bottom bearing assemblies on the upper bracket. (Fig 30 & 31)

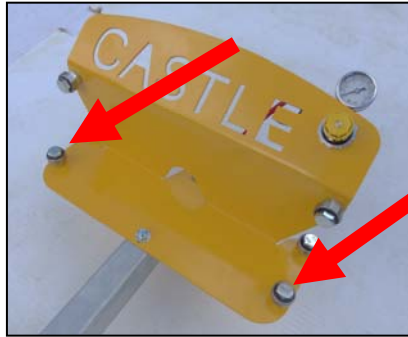


Fig 30



Fig 31

3. Tip the arm up and position the top bracket under the upper beam as shown. (Fig 32)
4. Rotate the beam and position the upper bearings on the top bracket on TOP of the upper beam. (Fig 33)
5. Swing the arm down so that the top bracket sits as shown. (Fig 34)



Fig 33



5. At the bottom of the arm, the bottom bracket bearings should rest above the table frame. (Fig 35).
6. Press down on the bottom bracket to position the spacers below the leg of the opening on the bottom channel of the frame. (Fig 36)