STEP-BY-STEP GUIDE TO USING
THE FABMASTER HAND-GROOVE DUCTBOARD SYSTEM:
RIGHT-HANDED SHIPLAP METHOD

IMPORTANT NOTE BEFORE BEGINNING: Your FabMaster hand tools are shipped with the finest blades available in the industry, complete with black-oxide coating to prevent corrosion of the blade in shipping. This same coating will create initial friction for the first few passes through the fiberglass duct board, but will soon disappear to allow almost effortless hand tool flow through the material.

COMPONENTS - SHIPLAP SET

FABMASTER SQUARE complete with indexing scale along bottom squaring arm. Fully reversible for left-hand use. Equipped with knurled angle-positioning screw and retaining wire.

HANDGROOVING TOOLS complete with heat-treated precision edged blades.

#1 TOOL - makes female shiplap groove; see step #2 below.
#2/4 TOOL - makes right-hand shiplap groove; see steps #3 & #5 below.
#3 TOOL - makes left-hand shiplap groove; see step #4 below.
#5S TOOL - makes staple flap; see step #6 below.
#6 TOOL - used primarily in fitting fabrication for cutting M-F (male-female) shiplap joints.

OPTIONAL TOOLS referred to in this instruction booklet (such as the CUTSALL TOOL & PEELER KNIFE) are also available from GM.

CertainTeed Machine Works • 101 Hatfield Rd • Winter Haven FL 33880 • (800) 874-9135 • www.glass-master.com
FABRICATION PROCEDURE

1. Begin by removing folded SQUARE from carrying case. Locate knurled thumbscrew at approximately the middle of the assembly. Loosen screw, unfold SQUARE to the 90 degree position, and replace screw through hole in FLAT BAR and into the threaded insert marked 90 degrees on INDEX CHANNEL. You will note that your SQUARE comes equipped with other threaded inserts for settings of 75, 67.5, 60, and 45 degrees. These positions are used primarily as an aid in the proper fabrication of fittings, and are addressed in the Glass Master Fitting Fabrication Manual. Your SQUARE also comes factory set in the RIGHT-HANDED position. Since this is by far the most common configuration, our primary discussion will address the RIGHT-HANDED SHIPLAP method of fabrication with instructions on the LEFT-HANDED SHIPLAP method of fabrication to follow. Start by facing the factory molded MALE SHIPLAP EDGE of a 4 ft. section of duct board. You may, if you wish, begin by facing the female edge, but most people prefer to operate from the MALE end (the end with the loose foil flap on the shiplap).

2. Push the #1 TOOL along the left-hand edge of the duct board, making sure that the tool’s guide flange travels flush against the board edge. This will produce a FEMALE SHIPLAP groove very much like the one cut by the #1 or #R1 blades on our grooving machines.

3. See Figure at top of Page 3.
Place FABMASTER SQUARE on top of duct board using the INDEX CHANNEL on the SQUARE to butt against MALE SHIPLAP, and the GUIDE EDGE on the SQUARE to run along the length of the duct. For our purposes here, we will base these instructions on the fabrication of a 10" WIDE by 8" HIGH duct section. Simply align the exact desired inside duct WIDTH dimension (10"ID) found on the INDEX CHANNEL with the right-hand edge of cut produced by #1 TOOL. Now position the #2/4 TOOL flush against the GUIDE EDGE and push the #2/4 TOOL through the duct board. This produces the RIGHT-HAND SHIPLAP GROOVE.
4. Shift SQUARE to right and align the exact desired inside duct HEIGHT dimension (8"ID) with the right-hand edge of the previous cut. Place the #3 TOOL against the GUIDE EDGE and push the #3 TOOL through the duct board. This produces the LEFT-HAND SHIPLAP GROOVE.

5. Repeat step #3 using the #2/4 TOOL, indexing for desired duct WIDTH dimension (10"ID) at the right-hand groove edge of the previous cut. This produces another RIGHT-HAND SHIPLAP groove.

6. See Figure at top of Page 4.
Shift SQUARE one last time for STAPLE FLAP cut, indexing again for desired duct HEIGHT dimension (8" ID) at right-hand groove edge of previous cut. Push the #5S TOOL along the GUIDE EDGE to scoop a 1.75" wide section of fiberglass from the foil scrim surface. You will very quickly develop a "feel" for the proper pressure to apply in order to clean the glass completely to the foil. If you are unable to adequately clean the foil or if the blade cuts through the foil, a simple blade adjustment will correct the problem.
7. For the final step, use a **PEELER KNIFE** (or other knife) to cut completely through the foil along the right-most blade cut produced by the **#5S TOOL**. The scrap on the staple flap can then be easily rolled of the scrim by hand without scraping since the **#5S TOOL** has already separated the fiberglass from its foil surface.

You have now fabricated a perfectly dimensional and consistently square section of fiberglass duct. And more importantly, you have gained all of the many advantages of the **SHIPLAP METHOD** of duct fabrication for proper fitting construction.

This completes our discussion of the **RIGHT-HANDED SHIPLAP** method of hand fabrication. The following pages will illustrate the proper procedures for converting your **SHIPLAP KIT** to the **LEFT-HANDED** configuration:
STEP-BY-STEP GUIDE TO USING
THE FABMASTER HAND-GROOVE DUCTBOARD SYSTEM:
LEFT-HANDED SHIPLAP METHOD

COMPONENTS -SHIPLAP SET (see Page 1 for illustration)

FABMASTER SQUARE complete with indexing scale along bottom squaring arm. FULLY REVERSIBLE FOR LEFT-HAND USE. Equipped with knurled angle positioning screw and retaining wire.

HANDGROOVING TOOLS Complete with heat-treated precision edged blades.
- #1 TOOL - makes female shiplap groove; see step #2 below.
- #2/4 TOOL - makes right-hand shiplap groove; see step #4 below.
- #3 TOOL - makes left-hand shiplap groove; see steps #3 & #5 below.
- #5S TOOL - makes staple flap; see step #6 below.
- #6 TOOL - used primarily in fitting fabrication for cutting M-F (male-female) shiplap joints.

OPTIONAL TOOLS referred to in this instruction booklet (such as the CUTSALL TOOL & PEELER KNIFE) are also available from GM.

IMPORTANT NOTE BEFORE BEGINNING (see Page 1)

FABRICATION PROCEDURE

1. Begin by removing folded SQUARE from carrying case. Locate knurled thumbscrew at approximately the middle of the assembly. Loosen screw, unfold SQUARE to the 90 degree position, and replace screw through hole in FLAT BAR and into the threaded insert marked 90 degrees on INDEX CHANNEL. You will note that your SQUARE comes equipped with other threaded inserts for settings of 75, 67.5, 60, and 45 degrees. These positions are used primarily as an aid in the proper fabrication of fittings, and are addressed in the GLASS MASTER FITTING FABRICATION MANUAL. Your SQUARE and the #5S TOOL come factory set in the RIGHT-HANDED POSITION.

*** IN ORDER TO USE THESE TOOLS FOR THE LEFT-HANDED SHIPLAP METHOD, YOU MUST FIRST MODIFY BOTH THE #5S TOOL AND THE SQUARE.

You may convert your #5S tool by simply removing four screws which attach the two blades to the tool body, reversing the blades’ direction, and re-attaching them to the other end of the tool body (marked by "#5V" decal). Be sure to adjust the blade height as referred to in STEP #6 below.
In order to modify your SQUARE, first remove the knurled thumbscrew from its threaded sleeve, but leave attached to the retaining wire. Then remove the bolt and nut assemblies holding the 47" long GUIDE EDGE to the 38" long INDEX CHANNEL and the 22" long FLAT BAR to the GUIDE EDGE. Invert the GUIDE EDGE "end-for-end" so that the GUIDE EDGE FLANGE is on the left side. Reinstall bolt and nut through lowermost hole in GUIDE EDGE (end opposite that from which you removed it) and the INDEX CHANNEL (same hole as before). Now rotate INDEX CHANNEL until it extends to the right at a 90 degree angle to the GUIDE EDGE. Re-attach FLAT BAR (same hole as before) to lower middle hole of GUIDE EDGE. Now insert knurled thumbscrew through the FLAT BAR and into the threaded sleeve marked "90 deg" on INDEX CHANNEL. You are now ready to begin the LEFT-HANDED SHIPLAP method of fabrication. (See figure below for correct configuration of SQUARE).

Start by facing the factory molded MALE SHIPLAP EDGE of a 4 ft. section of duct board. You may, if you wish, begin by facing the female edge, but most people prefer to operate from the MALE end (the end with the loose foil flap on the shiplap).

2. Push the #1 TOOL along the right-hand edge of the duct board, making sure that the tool’s guide flange travels flush against the board edge. This will produce a FEMALE SHIPLAP groove very much like the one cut by the #1 or #R1 blades on our grooving machines (opposite of view on PAGE 2, step #2).
3. Place FABMASTER SQUARE on top of duct board using the INDEX CHANNEL on the SQUARE to butt against MALE SHIPLAP, and the GUIDE EDGE on the SQUARE to run along the length of the duct. For our purposes here, we will base these instructions on the fabrication of a 10" WIDE by 8" HIGH duct section. Simply align the exact desired inside duct WIDTH dimension (10"ID) found on the INDEX CHANNEL with the left-hand edge of cut produced by #1 TOOL. Now position the #3 TOOL flush against the GUIDE EDGE and push the #3 TOOL through the duct board. This produces the LEFT-HAND SHIPLAP GROOVE.

4. Shift SQUARE to left and align the exact desired inside duct HEIGHT dimension (8"ID) with the left-hand edge of the previous cut. Place the #2/4 TOOL against the edge cutting guide and push the #2/4 TOOL through the duct board. This produces the RIGHT-HAND SHIPLAP GROOVE.

5. Repeat step #3 using the #3 TOOL, indexing for desired duct WIDTH dimension (10"ID) at the left-hand groove edge of the previous cut. This produces another LEFT-HAND SHIPLAP groove.
6. Shift SQUARE one last time for STAPLE FLAP cut, indexing again for desired duct HEIGHT dimension (8"ID) at left-hand groove edge of previous cut. Push the #5V (converted #5S) TOOL along the GUIDE EDGE to scoop a 1.75" wide section of fiberglass from the foil scrim surface. You will very quickly develop a "feel" for the proper pressure to apply in order to clean the glass completely to the foil. If you are unable to adequately clean the foil or if the blade cuts through the foil, a simple blade adjustment will correct the problem.

7. For the final step, use a PEELER KNIFE (or other knife) to cut completely through the foil along the left-most blade cut produced by the #5V TOOL. The scrap on the staple flap can then be easily rolled off the scrim by hand without scraping since the #5V TOOL has already separated the fiberglass from its foil surface (opposite of view on PAGE 4, STEP #7).

You have now fabricated a perfectly dimensional and consistently square section of fiberglass duct. And more importantly, you have gained all of the many advantages of the SHIPLAP METHOD of duct fabrication for proper fitting construction.

This completes our discussion of the LEFT-HANDED SHIPLAP method of hand fabrication. If you need further information about the use of these tools, please do not hesitate to call Glass Master or your local distributor.