INSTALLATION INSTRUCTIONS FOR HALF SURFACE HINGES

A211HD, A213HD, A450HD, A460HD, A530HD, A540HD & A550HD

A. All uncut standard length hinges are non-handed and can be used for right or left hand doors.

B. Standard length hinges are supplied slightly shorter than nominal door height to accommodate threshold and carpeting clearances.

CUTTING THE HINGE TO FIT

Keep hinge in the closed position. If necessary remove door leaf caps.
Determine **HANDING** if required.
Cut one end of the hinge only. The hinge becomes handed after cutting and must be installed with the cut end at the bottom to keep the templated hole pattern at the top.
Use a Metal Cutting Saw cut through the gear cap first.

Note: *If cut length interferes with a set screw bearing remove it and switch it with a plain bearing above the cut location.*

ATTACHING THE HINGE TO THE FRAME

With the hinge in the open position

1. Locate the top of the hinge 1/8" below the header and hold tight against the frame.
2. Mark or Center Punch hole locations: two holes at the top and two at the bottom.
3. Using the provided Flathead Self Drilling/Thread Forming Screws please proceed to fasten the frame leaf in marked holes.

Note: *If using wood screws drill a 5/32" pilot hole*

PREPARE THE DOOR

4. Position Door in the opening and shim for proper clearances.
5. Align the top end of the hinge to be absolutely flush with the top of the door.
6. Mark the four LOCATOR HOLE locations (shown on template) using the provided small center punch.
7. Using a #3 philips head bit, attach the door leaf to the door through the LOCATOR HOLES with the provided pan head screws
8. Remove any shims and check for proper clearances and door operation.
9. If door sags slightly, note amount of adjustment needed to bring door back into alignment.
   DO NOT PROCEED UNTIL DOOR OPERATES PROPERLY
10. Locate and mark for the thru-bolts in the door using the large punch provided.
11. Remove door and use a 3/8" drill bit to drill holes at marked locations.

ATTACHING THE HINGE

12. Attached the door using the provided thru-bolts and shoulder screws

Note: *Always install the shoulder screws on the secured side of the door*

13. Mark or Center Punch the remaining frame leaf hole locations. Using the flathead self drilling/thread forming screws completely fasten the frame leaf.

INSTALL THE LEAF COVERS

Note: Before installing the door leaf cover make sure the the set screws do not protruded into the interior of the cover.

14. Line up the end of the door leaf cover with the top end of the hinge
15. Starting at the top, apply pressure along the length of the cover and snap into place as you go down the length of the hinge.
16. When the cover is on tighten the set screw to secure it.

Note: *If using a hammer, use a block of wood to protect the cover.*

REINFORCING AND RIVNUTS

No reinforcing is necessary except on extremely high-frequency, extremely heavy or extra-wide doors.
Rivnuts are recommended for use in the frame when the door exceeds 450lbs.
Note:*RIVNUTS are **not** to be used with Fire Rated Hinges*

GROUT/SLUSHED-IN FRAMES

It is recommended that a mudguard be installed behind the frame for ease of installation. Do not use self-drill screws with grouted steel frames without a mudguard. If no mudguard has been used, drill holes through frame and remove grout for screw clearances. Do not oversize hole.

SCREW DETAIL	
FRAME	12-24 x 3/4" PHILLIPS FLAT HEAD, UNDERCUT, SELF DRILLING, THREAD FORMING TEK MACHINE SCREW
DOOR	1/4-20 x 1-1/4" x 3/8 DIA. SEX BOLT & 1/4-20 x 1-1/4" PH. HEAD SHOULDER SCREW
	12-24 x 1" PH. PN. HD. SELF DRILLING TEK SCREW (LOCATOR HOLE)

Note: *#12 x 1-1/2" FLAT HEAD UNDERCUT WOOD SCREWS AVAILABLE UPON REQUEST*

The following actions will void any warranty, expressed or implied.

Failure to Install the hinge according to ABH's specifications and requirements
Use of Fasteners other than those supplied with the hinge.
Unauthorized field modifications including removing any of the bearings, altering the original finish or painting the hinge.