Claims

1. A method involving a panel, comprising:

drilling a first aperture in the panel, the panel extending between a panel first surface and a panel second surface arranged opposite the panel first surface, the first aperture projecting into the panel along a first centerline from the panel first surface, and the first centerline angularly offset from the panel first surface by a first angle;

arranging a first tool with the panel, the first tool including a support structure, a locator and a drill guide, the locator mounted to the support structure and projecting into the first aperture, and the drill guide mounted to the support structure and arranged adjacent the panel second surface; and

drilling a second aperture in the panel using the drill guide, the second aperture projecting into the panel along a second centerline from the panel second surface to the first aperture, and the second centerline coaxial with the first centerline;

wherein the first angle is an acute angle, and the first centerline is perpendicular to the panel second surface.

2. The method of claim 1, wherein the acute angle is between eighty-five degrees and eighty-nine degrees.

3. The method of claim 1, wherein the locator comprises a cylindrical pin.

4. The method of claim 1, wherein

the drill guide comprises a bushing; and

the second aperture is drilled using a drill bit that extends through a bore of the bushing.

5. The method of claim 1, wherein

the support structure includes a first support, a second support and a channel between the first support and the second support;

the first support is located adjacent the panel first surface, and the locator is mounted to the first support;

the second support is located adjacent the panel second surface, and the drill guide is mounted to the second support; and

the panel projects into the channel.

6. The method of claim 5, wherein the locator projects through the first support into the first aperture.

7. The method of claim 5, wherein the drill guide projects into the second support.

8. The method of claim 5, wherein the first support is connected to the second support by an adjustable joint.

9. The method of claim 8, wherein

the second support comprises a slot; and

the first support is connected to the second support by a fastener mated with the slot.

10. The method of claim 1, further comprising:

arranging a mount with the panel, the mount comprising a fastener aperture;

wherein the first aperture is drilled using a drill bit that extends through the fastener aperture.

11. The method of claim 10, further comprising:

arranging a second tool with the mount, the second tool comprising a second support structure and a second drill guide mounted to the second support structure;

wherein the drill bit extends sequentially through a bore of the second drill guide and the fastener aperture to the panel.

12. The method of claim 11, further comprising moving the second tool along the mount to align the bore of the second drill guide with the fastener aperture.

13. The method of claim 11, further comprising:

moving the second support structure along the mount to align the bore of the second drill guide with the fastener aperture;

wherein the second tool further comprises a frame, and the second support structure is configured to translate within the frame.

14. The method of claim 10, wherein

the panel comprises an acoustic panel; and

the mount comprises an attachment ring for the acoustic panel.

15. A method involving a panel and a mount, comprising:

arranging the mount with the panel, the mount comprising a fastener aperture, the panel extending from a panel first surface to a panel second surface opposite the panel first surface, and the mount engaged with the panel first surface;

arranging a first tool with the mount, the first tool comprising a drill guide, and the first tool configured to adjust alignment of a bore of the drill guide with the fastener aperture along a plurality of directions;

inserting a drill bit sequentially through the bore of the drill guide and the fastener aperture to the panel first surface;

drilling a first aperture in the panel, the first aperture projecting into the panel along a first centerline from the panel first surface, and the first centerline angularly offset from the panel first surface by an acute angle;

arranging a second tool with the panel, the second tool including a second support structure, a locator and a second drill guide, the locator mounted to the second support structure and projecting into the first aperture, and the second drill guide mounted to the second support structure and arranged adjacent the panel second surface; and

drilling a second aperture in the panel using the second drill guide, the second aperture projecting into the panel along a second centerline from the panel second surface to the first aperture, and the second centerline coaxial with the first centerline.

16. The method of claim 15, wherein

the panel comprises a first skin, a second skin and a cellular core between and connected to the first skin and the second skin, the first skin forms the panel first surface, and the second skin forms the panel second surface; and

the first aperture is drilled such that the first aperture projects through the first skin and at least partially into the cellular core without extending through the second skin.

17. An assembly for drilling a panel, comprising:

a support structure including a first support, a second support and a channel, the first support comprising a first leg and mechanically attached to the second support by an adjustment device, the second support comprising a second leg, and the channel formed between the first leg and the second leg;

a locator connected to the first leg, the locator projecting out from a first surface of the first leg along a first centerline into the channel towards the second leg, the locator configured to mate with a first aperture in the panel, and the first centerline angularly offset from the first surface by an acute angle; and

a drill guide connected to the second leg, a bore extending through the drill guide along a second centerline that is coaxial with the first centerline, and the drill guide configured to receive a drill bit within the bore for drilling a second aperture into the panel that extends to the first aperture.