In Igor7 and later you can add standard Igor annotations, including textboxes and colorscales, to a Gizmo window using Gizmo→Add Annotation. These annotations appear in an overlay in front of the 3D graphics and behave like annotations in a graph window.

Miscellaneous Gizmo Changes

In Igor7 and later arguments to the shininess attribute have changed to front and back values.

In Igor7 and later a Gizmo object optionally has an internal color attribute. When you create an object you have the option to specify a color or to leave it unspecified. If you specify a color, Gizmo creates a default color material for the object. The default color material has the GL_FRONT_AND_BACK and GL_AMBIENT_AND_DIFFUSE settings. If you don't specify a color then Gizmo does not create a default color material and you must create a color material yourself. This color material affects all objects that appear later in the display list if they have no default color material. This change was necessary in order to support creation of shiny surfaces.

Gizmo Hook Functions

This section is for advanced programmers only.

A hook function is a user-defined function called by Igor when certain events occur. It allows a programmer to react to events and possibly modify Igor's behavior. A window hook function is a hook function that is called for events in a particular window.

Igor's support for this feature is described under **Window Hook Functions** on page IV-293 and, as of Igor7, applies to Gizmo as well as other types of windows.

Because Gizmo was previously implemented as an XOP, it has its own hook function mechanism separate from the Igor mechanism. This section describes Gizmo's specific hook function support.

You can use either Igor hook functions or Gizmo hook functions or both for a Gizmo window. However using both may lead to confusion. If you install both an Igor hook function and a Gizmo hook function on a given Gizmo window, the Igor hook function is called first.

As in Igor itself, Gizmo originally had just one window hook function, installed by the ModifyGizmo hookFunction keyword. Later a named hook function, installed by ModifyGizmo namedHook, was added. Unnamed hooks are obsolete. We recommend that you use named hooks.

Gizmo Named Hook Functions

A named Gizmo window hook function takes one parameter - a WMGizmoHookStruct structure. This built-in structure provides your function with information about the status of various window events.

You install a named Gizmo hook function using **ModifyGizmo** with the namedHook or namedHookStr keywords. The hookEvents keyword is not relevant for named hook functions.

The hook function should usually return 0. In the case of mouse wheel hook events returning a non-zero value prevents Gizmo from rotating in response to the wheel.

The named window hook function has this format:

```
Function MyGizmoHook(s)
   STRUCT WMGizmoHookStruct &s

   strswitch(s.eventName)
      case "mouseDown":
         break
      case "mouseMoved":
         break
      case "rotation":
         break
```