

longitudinally through the sections. An engine duct structure **78**, or engine casing, and an inner cooling liner structure **82** provide an annular secondary fan bypass flow path **86** around a primary exhaust flow path **E** within an exhaust section **80** of the engine **50**. The bypass flow path **86** receives bypass flow from the fan section **54**.

Referring now to FIGS. **3** and **4** with continuing reference to FIG. **2**, an example link **100** for securing the liner structure **82** relative to the engine duct structure **78** includes a longitudinally extending rod **104**. One end of the rod **104** terminates at a hemispherical end **108**. The other end of the rod **104** terminates at a rod end portion **112**. In this example, the rod **104** extends through a first aperture **114** defined by the first attachment structure **116** to position the hemispherical end **108** within the first attachment structure **116**. The rod **104** also extends through a second aperture **118** defined by a second attachment structure **120** to position the rod end portion **112** within the second attachment structure **120**.

A first recessed area **124** within the first attachment structure **116** holds the hemispherical end **108** to limit movement of the link **100** away from the first attachment structure **116**. That is, the hemispherical end **108** of the link **100** contacts the first recessed area **124** to limit further movement of the link **100** away from the first attachment structure **116**. The hemispherical end **108** pivots and rotates within the first recessed area **124** facilitating pivoting the link **100** about the first attachment structure **116**. In this example, the first recessed area **124** acts as a socket for receiving the hemispherical end **108**.

Movement of the example link **100** away from the second attachment structure **120** is similarly limited, but in a slightly different manner. In this example, a retaining feature **128** threadably connects to the rod end portion **112** to hold a hemispherical washer **132** near the rod end portion **112** within the second attachment structure **120**. A washer face **136** of the hemispherical washer **132** contacts an inner wall **140** of the second attachment structure **120** to limit movement of the link **100** away from the second attachment structure **120**.

A second recessed area **148** within the hemispherical washer **132** receives a hemispherical portion **152** of the hemispherical washer **132** to facilitate pivoting the link **100** relative to the second attachment structure **120**. As known, the hemispherical washer **132** permits pivoting type movements of the link **100** relative to the second attachment structure **120** similar to the hemispherical end **108** captured within the first recessed area **124**. Together, the hemispherical washer **132** and the hemispherical end **108** of the link **100** accommodate pivoting movements of the first attachment structure **116** relative to the second attachment structure **120**.

In this example, the first attachment structure **116** is secured directly to the liner structure **82** (FIG. **2**) and the second attachment structure **120** is secured directly to the engine duct structure **78**. The liner structure **82** thus remains secured relative to the duct structure **72** even when the liner structure **82** moves relative the duct structure **72**. Example relative movements include expansion or contraction of the liner structure **82** due to thermal growth within engine **50**.

As the hemispherical washer **132** is added to the rod end portion **112**, manufacturing the example link **100** does not require complex machining processes to provide pivoting movement of the link **100** relative to the second attachment structure. Further, as the hemispherical end **108** of the rod **104**, not the rod end portion **112**, is enlarged, the rod end portion **112** is insertable within the second aperture **118**, which simplifies assembly.

In this example, a collar **144** disposed about the rod **104** limits movement of the link **100** toward the second attach-

ment structure **120**. Further, the first attachment structure **116** houses a spring **156** for biasing the hemispherical end **108** of the link **100** toward the first recessed area **124**.

Referring now to FIGS. **5-5B**, in another example, a link **100a** incorporates a spherical bolt **160** to facilitate pivoting the link **100a**. A crowned area **162** of the spherical bolt **160** is received within a first recessed area **124a** of a first attachment structure **116a**. The crowned area **162** of the spherical bolt **160** moves within the first recessed area **124a** to facilitate pivoting and rotating the link **100a** relative the first attachment structure **116a**. Other examples include an entirely spherical end portion **164** received within the first recessed area **124a**, as shown in FIG. **5A**, instead of the spherical bolt **160**. Still other examples include a hemispherical washer **132a** secured directly to the link **100a** using a non-spherical bolt **162** or another suitable fastener, as shown in FIG. **5B**, instead of the spherical bolt **160**. The link **100a** may include a hex type recess **170** for a tool (not shown) to hold the link **100a** when installing the spherical bolt **160** or the non-spherical bolt **162**.

Referring now to FIGS. **6** and **7**, the example hemispherical washer **132** includes the hemispherical portion **152** extending within the second recessed area **148**. The hemispherical portion **152** moves against the second recessed area **148** to permit movement of an upper washer **168** relative to a lower washer **172**, which facilitates moving the link **100** (FIGS. **3** and **4**) in a similar manner to the hemispherical end **108** moving within the recessed area **124**.

Although a preferred embodiment has been disclosed, a worker of ordinary skill in this art would recognize that certain modifications would come within the scope of this invention. For that reason, the following claims should be studied to determine the true scope and content of this invention.

We claim:

1. A turbine engine assembly comprising:

- a first attachment structure secured directly to an engine liner;
- a second attachment structure secured directly to an engine casing, wherein the engine liner and the engine casing together establish a bypass flowpath of a turbine engine;
- a link having a rod portion extending longitudinally from a hemispherical end portion and terminating at a rod end portion, the hemispherical end portion received within a recess defined by the first attachment structure, the rod end portion secured relative to the second attachment structure; and
- a spring biasing the hemispherical end portion toward the recess defined by the first attachment structure, the hemispherical end portion extending away from the rod portion and terminating at a leading surface that does not extend past a perimeter of the hemispherical end portion, wherein the spring contacts the leading surface of the hemispherical end portion and the spring is housed within the first attachment structure.

2. The turbine engine assembly of claim **1** wherein the hemispherical end portion is removeably securable to the rod portion.

3. The turbine engine assembly of claim **1** including a hemispherical washer removeably secured to the rod end portion, the hemispherical washer received within a second recess defined by the second attachment structure.

4. The turbine engine assembly of claim **3** including a retainer feature removeably securable to the rod end portion, the retainer feature securing the hemispherical washer to the first end of the link.