CLAIMS

1. An actuating support member (27, 62) for a deployable structure which comprises a plurality of interconnected elongate support members (27, 29, 31), the structure being deployable from a stowed state to a deployed, expanded, state in which the support members are arranged in a ring; each support member being provided with a connector (28) mounted on the support member for longitudinal movement with respect to the support member when the structure is being changed between the stowed state and the expanded state;

   wherein the actuating support member comprises a drive member (50) mounted for longitudinal movement with respect to the actuating support member, and an electromechanical device (47) arranged to drive the drive member in one direction with respect to the actuating support member; the drive member being connected to the connector by a lost motion connection so that the drive member causes the connector to move in said one direction when the drive member is moved by the electromechanical device in said one direction, and wherein the drive member and the connector are arranged to detach from each other such that the connector is capable of moving in said one direction even if the drive member is not moved by the electromechanical device,

   wherein the lost motion connection between the drive member and the connector is provided by a portion of the drive member abutting against a portion of the connector.

2. An actuating support member (27, 62) as claimed in claim 1, wherein the connector (28) is able to be separated from the drive member (50) at any point along the length of travel of the drive member when the deployable structure is being deployed from its stowed state to its deployed state.

3. An actuating support member (27, 62) as claimed in claim 1 or 2, wherein the connector (28) is able to be separated from the drive member (50) whenever the drive member is not moved in the one direction by the electromechanical device (47).

4. An actuating support member (27, 62) as claimed in claim 1, 2 or 3, wherein the actuating support member comprises a hollow portion and at least part of the drive member (50) and/or the electromechanical device (47) is contained within the hollow portion of the actuating support member.

5. An actuating support member (27, 62) as claimed in claim 4, wherein the electromechanical device (47) is arranged to rotate an elongate drive shaft (48) extending longitudinally inside the actuating support member.

6. An actuating support member (27, 62) as claimed in claim 5, wherein the electromechanical device (47) is contained at least partly within the hollow portion of the actuating support member.

7. An actuating support member (27, 62) as claimed in claim 5 or 6, wherein the drive shaft is in the form of a lead screw (48) which engages in a threaded portion of the drive member (50), so that rotation of the lead screw cause longitudinal movement of the drive member.

8. An actuating support member (27, 62) as claimed in any preceding claim, wherein the connector (28) is in the form of a collar (32) mounted on the outside of the actuating support member.

9. An actuating support member (27, 62) as claimed in claim 8, wherein the actuating support member has a longitudinally extending slot (55, 63), so that a connection can be established between the drive member (50) and the collar (32).

10. An actuating support member (27, 62) as claimed in claim 9, wherein a projection (64, 65) of the drive member (50) extends through the slot (55, 63) and abuts against a portion of the collar (32).

11. An actuating support member (27, 62) as claimed in claim 10 wherein there are two diametrically opposed slots (55, 63) and the drive member (50) has two projections (64, 65), one extending through each slot.

12. An actuating support member (27, 62) as claimed in claim 1 or 2;

    wherein the actuating support member comprises a hollow portion, and the connector is in the form of a collar (32) mounted on the exterior of the actuating support member for longitudinal movement with respect to the actuating support member when the structure is being changed between the stowed state and the expanded state;

    the actuating support member is provided with two longitudinally extending slots (55, 63) which provide communication between the interior of the actuating support member and the exterior of the actuating support member;

    wherein the electromechanical device (47) is mounted in the interior of the actuating support member and is connected to a drive shaft (48) and configured to turn a drive shaft which extends longitudinally in the interior of the actuating support member;

    the drive shaft is connected to the drive member (50) provided in the interior of the actuating support member, so that rotation of the drive shaft causes longitudinal movement of the drive member within the actuating support member;

    and connecting portions extend through the slots to provide the lost motion connection between the drive member and the collar, such that movement of the drive member in one direction with respect to the actuating support member urges collar in said one direction, and wherein the drive member and the collar are arranged to detach from each other such that movement of the collar in said one direction can be effected even if the drive member remains stationary,

    wherein the lost motion connection between the drive member and the collar is provided by a portion of the drive member abutting against a portion of the collar.

13. A deployable structure which comprises a plurality of interconnected elongate support members (27, 29, 31), the structure being deployable from a stowed state to a deployed, expanded, state in which the support members are arranged in a ring; each support member being provided with a connector (28) mounted on the support member for longitudinal movement with respect to the support member when the structure is being changed between the stowed state and the expanded state;

    wherein at least one of the support members comprises an actuating support member (27, 62) as claimed in any preceding claim, wherein the actuating support member is arranged to deploy the deployable structure from its stowed state to its deployed state.

14. The deployable structure as claimed in claim 13, wherein the deployable structure comprises a plurality of actuating support members (27, 29, 31), wherein plurality of actuating support members are arranged such that if one of the drive members (50) remains stationary, at least one of the other actuating support members is capable of operating to deploy the deployable structure owing to the lost motion connection between the stationary drive member and the connector (28).

15. The deployable structure as claimed in claim 14, wherein the at least one of the other actuating support members (27, 29, 31) is arranged to actuate the connector (28) associated with the stationary drive member (50) in said one direction even if the stationary drive member is not moved by the electromechanical device (47).