SELF SEALING HYDRAULIC COUPLER

ABSTRACT

A hydraulic coupler 34 for providing fluid communication between adjacent members 30, 32 that includes a two way check valve formed from a double headed poppet 48 set in a hollow cylinder 54 with corrugated bellows like walls 60. Contoured bores 57, 59 are provided in the ends of the cylinder 54 and the heads 51, 52 on the poppet 48 are profiled to match the contour of the bores 57, 59. When the heads 51, 52 are seated in the bores 57, 59 they form a sealing surface to block fluid from flowing through the coupler 34. Compressively preloading the cylinder 54 before assembly provides a sealing force between the heads 51, 52 and the bores 57, 59. Axially compressing the cylinder 54 with respect to the poppet 48 unseats the heads 51, 52 from the bores 57, 59 to form a flow path through the coupler 34.

Figure 2