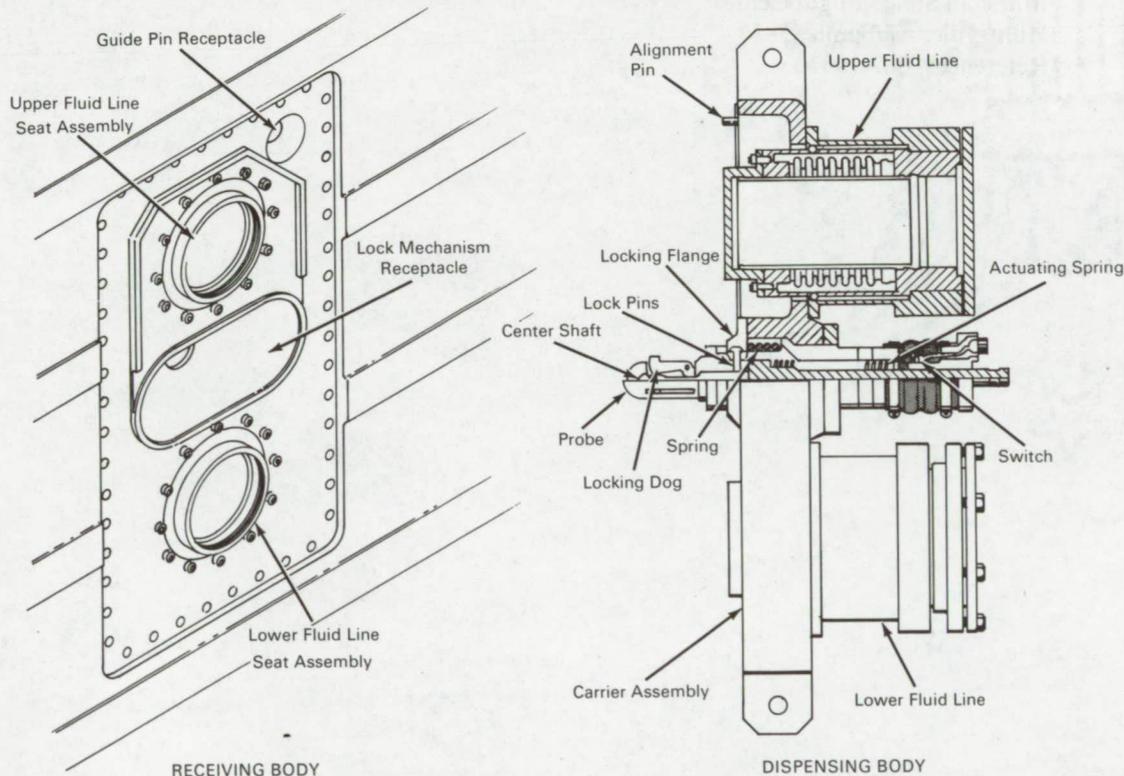


NASA TECH BRIEF



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Reconnect Mechanism



A mechanism has been designed and constructed whose function is to provide for remote de-mating of two bodies by unlock and withdrawal of one body from the other and, upon command, to extend, locate, remate, and relock the two bodies. The system has the capability of performing this remotely controlled function where relative motion exists between the two bodies. Specifically the system is designed to transfer fluids from a dispensing body to a receiving body.

In operation, the locking sequence begins when the dispensing body locking mechanism probe contacts the lock mechanism receptacle on the receiving body.

The probe is guided by the receptacle configuration to a hole in its bottom and aligned with assistance from a guide pin receptacle in the receiving body plate. Three locking dogs on the probe are held in retracted position by a system of springs and lock pins. As the probe enters the hole in the receptacle, the locking flange is pushed back, compressing the actuating spring. When the probe reaches maximum depth in the receptacle, the locking flange releases the lock pins, permitting the center shaft to move forward and forcing the locking dogs to pivot and lock on the inside surface of the receiving body plate.

(continued overleaf)

To de-mate the two bodies, a pneumatic system (not shown) is operated to retract the center shaft, withdrawing the locking dogs and releasing the two bodies. When the bodies are free of one another, a relatively high pneumatic pressure is applied in such a way that the two bodies are caused to separate at a controlled rate.

Mating and de-mating sequences are controlled from a central control system that reacts to a series of microswitches and other electrical sensors.

Note:

Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B67-10670

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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