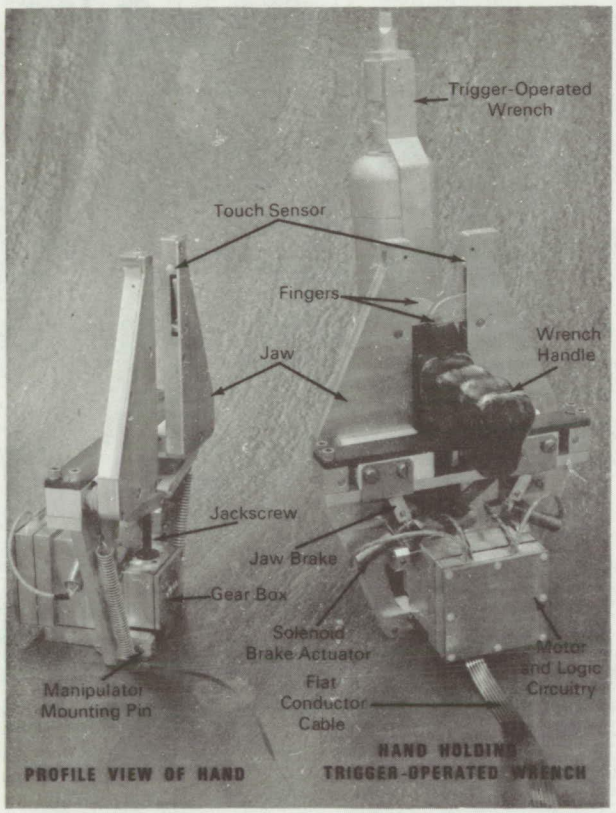
May 1970

Brief 70-10348

NASA TECH BRIEF

Electromechanical Hand Incorporates Touch Sensors and Trigger Function



The electromechanical hand shown in the photograph incorporates three new features to improve the capability of remotely controlled manipulator assemblies or teleoperator systems. These features are touch sensors, concealed fingers that can be commanded to pull or release the trigger on a hand tool (such as a pneumatic wrench), and a structural geometry that allows the hand to hold a tool or workpiece on a flat surface. The touch sensitivity built into the hand ensures safe and uniform grasping of an object. Thus when the motor is switched on to close the hand jaws, the first jaw (right or left) to touch (sense) the object will stop and the other jaw will continue to close until its sensor also touches the object. Both jaws then close together until they apply a uniform gripping force to the object. The jaws automatically recenter when switched to open.

Notes:

1. The hands can be mounted on most types of existing manipulators either directly or by means of suitably modified mounting brackets.
2. Requests for further information may be directed to:

   Technology Utilization Officer
   Code A & TS-TU
   Marshall Space Flight Center
   Huntsville, Alabama 35812
   Reference: B70-10348

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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Category 07