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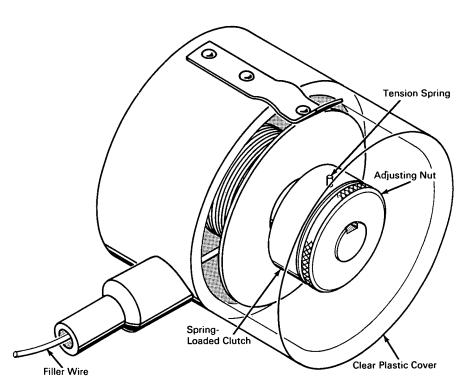
Brief 66-10236

NASA TECH BRIEF



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Automatic Reel Controls Filler Wire in Welding Machines



The problem:

Present automatic welding equipment does not provide for takeup of the slack in the reel-fed filler wire when each welding operation is terminated. The springy wire frequently unwinds, snarls and slips over the reel flange and becomes fouled when the feed motor is restarted. Because of the rework caused by these problems, the quality of the weld may be affected.

The solution:

An automatic filler wire reel for use on automatic welding equipment. The reel maintains constant,

adjustable tension on the wire during welding operations and rewinds the wire from the wire feed unit when welding operations are terminated.

How it's done:

A spring loaded clutch mechanism has sufficient tension to maintain the filler wire in a taut condition during welding operations. The wire feed unit, however, has sufficient power to cause the clutch to slip and this feeds the wire smoothly to the electrode/ workpiece area. Upon completion of the welding operation, the wire feed unit releases the wire and the clutch spring unloads, causing the reel to rewind (continued overleaf)

This document was prepared under the sponsorship of the National Aeronautics and Space Administration. Neither the United States Government nor any person acting on behalf of the United States Government assumes any liability resulting from the use of the information contained in this document, or warrants that such use will be free from privately owned rights. the unused portion of filler wire. An adjusting nut in the reel permits setting of the clutch spring tension and travel limits to accommodate a range of lengths of wire plus wire feed unit power.

Notes:

- 1. Several of these units are presently being used on automatic welding equipment to fabricate hard-ware for the Apollo program.
- 2. This device is readily adaptable for use with existing automatic welding equipment without modifications.
- 3. Inquiries concerning this invention may be directed to:

Technology Utilization Officer Manned Spacecraft Center Houston, Texas, 77058 Reference: B66-10236

Patent status:

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

Source: Alma V. Millett of North American Aviation, Inc. under contract to Manned Spacecraft Center (MSC-416)