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DEPRAG HORIZONTAL 2-Spindle Screwdriving Station with automatic Screwfeeding – Stand-Alone Unit

Main Assembly Steps:

- 1st Step: Drive setscrews to a predetermined height
 2nd Step: Counter lock both hinge parts into place by driving setscrews to torque with automatic shutoff

Cycle Description: The hinge, consisting of 3 parts (hinge, hinge-plate and the center slide), will be loaded into the sliding part-fixture. Once the sliding part-fixture is manually pushed into the machine, a predetermined angle pushes the hinge plate below a down-holder. A lateral counter-holder will align the hinge-plate with the hinge to eliminate the unintended movement of the parts during screw-assembly. With the first assembly step, the left spindle drives the flat-tipped setscrew into a predetermined depth to lock the hinge into place. The achieved depth position is verified. The tightening of the right screw by the right screwdriver spindle is made to a preset torque. Both Screwdriver Spindles can rotate in right- as well as left direction. Once the require depth is reached, the driver is stalled-out, by blasting full air into both the reverse port and the main air-inlet port.

After the 1st assembly step, the height adjustment, is completed, the hinge is pushed into the 2nd assembly position by a positioning slide. Here, both hinge parts will be locked into position by driving the sharp-tipped setscrews. During this assembly sequence, first the right- and then the left screwdriver spindle is activated. The DEPRAG controller LC1plus controls the complete assembly process and an **O.K. / NOT O.K.** signal informs the Operator, whether a part was assembled correctly. Once the part is completely assembled, the sliding part fixture will automatically eject for unloading.

This months' Assembly Machine was designed for the assembly of safety hinges on **Schüco Doors**.

The requirement was the tightening and locking to depth of one flat- and one sharp-tipped setscrew into a pre-positioned door hinge.

Total cycle time: **11.2 seconds.**

Solution:

One DEPRAG 2-Spindle-Screwdriving Unit, designed as a stand-alone unit, consisting of the following components:

- Base Frame (Bosch) with Safety Cover
- Part Fixture with auto lock device
- Slide for Part Fixture
- 2 x **1-Spindle SFM** (Screwdriver Function Module)
- 2 x DEPRAG Screwdriver Spindles **347-520-31U**
- 2 Screwfeeder Model **0511-2-P/0,75**
- 2 Refill **Hoppers B10**
- **E-Controller LC1plus** (programmed)
- 1 DEPRAG **OP-Interface TP1plus**

