

# Technical News Bulletin

Steinhausen, February 2010

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## Mechanism & Motor Tester

- Interface device allows the operator to program and to start/ stop the system.
- A single mechanism can be tested, including the 2 axes FlexPusher.
- All the mechanisms are tested with a preprogrammed profile in a fixed sequence.

## Introduction

In order to continue to focus on products to improve maintenance and reduce customer operating cost a “Mechanisms & Motor Tester” has been added to the Product Portfolio. The Tester will allow customer to repair and test motors or mechanisms.

## Description

The “Mechanism & Motor Tester” is a portable system designed for the test, on a test bench, of all the Emhart FlexIS servomechanisms or to rotate all the different types of flex-motors.

A single mechanism can be tested, including the 2 axes FlexPusher.

The system consists of a cabinet with the dimensions of 600x 800x 300 mm. equipped with:

JetControl 647 with 1 CPU basic module and 2 I/O modules

2 Drives Jet Move 215 B

1 Power Supply

1 MS push button connected with the safety relay of the MS circuit

1 Set of cables 5 meter long (motor, motor with brake, resolver and mechanism)

The interface device allows the operator to program and to start/ stop the system.



This terminal is a 4 line display equipped with a pushbutton wired on the MS circuit of the cabinet.

The first two lines of the display are text lines and the other two lines are divided in six functions keys.

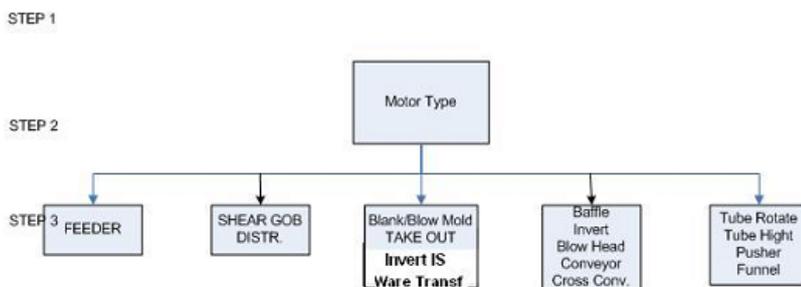
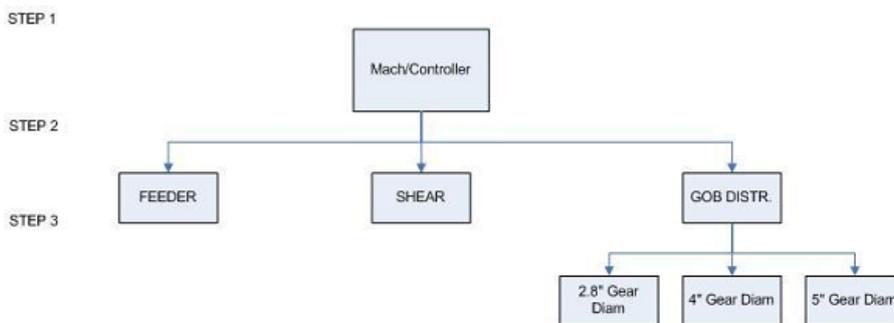
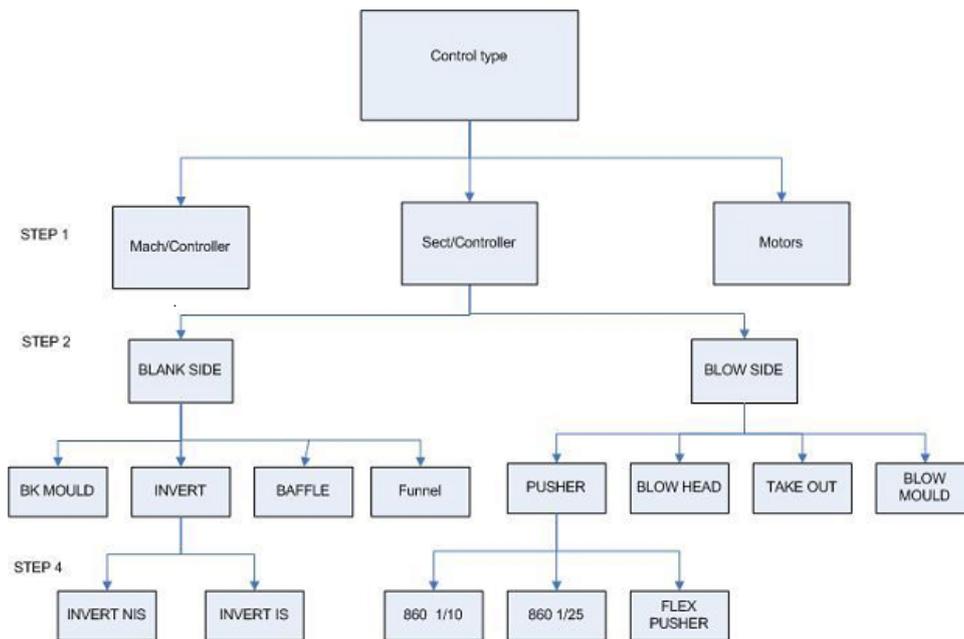
At the start, as described on the flow diagram below, the operator scrolling through the menu chooses the type of mechanism or motor that must be tested. The controller loads the parameters and the programmed profile of each mechanism to the drive, than after the calibration, it is possible, using the LCD 54 terminal, to start and stop the movement of the mechanism.

The loaded parameters are the same used during the standard operation of the mechanism so current and torque are limited.

All the mechanisms are tested with a preprogrammed profile in a fixed sequence. It is not possible to change any parameters (stroke, position or speed).

The same principle is used to test the FlexPushers simulating the rotation using a fixed profile generated with default parameters.

MOTOR TESTER FLOW DIAGRAM

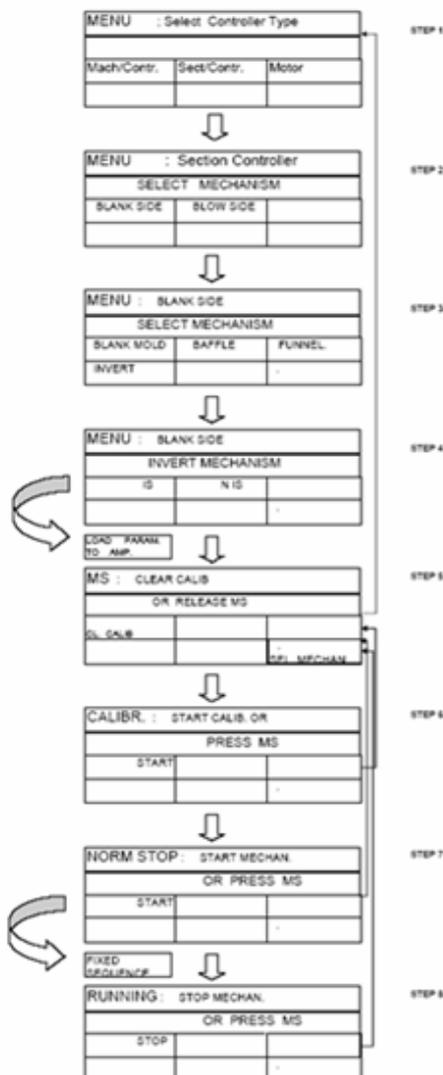


## Mechanism Calibration & Test Procedure

### MACHINE CONTROLLER MECHANISMS

**Feeder Mechanism** - At start is calibrated at the top of the stroke, as during the standard operation, then moves down into a zero position and starts to move up and down 50mm in a fixed sequence. The motor's brake is released during the movement.

**Shear Mechanism** - At start the motor opens the mechanism till when the Input is activated (zero position) then it moves to the start position and it starts to move forward and back 70mm. in a fixed sequence and speed.



**Gob Distributor**- Moves manually the scoop in the IN and CENTER position then starts calibration. The motor moves right and left until the input is activated. At start it moves to the right in 3 different steps then back to center and 3 steps to the left. The # of steps is different depending on the head selected and will correspond to sections #1, 2, 3 then 4, 5 and 6 of a six section gob distributor.

**Servo Invert LCD Menu**

## SECTION CONTROLLER MECHANISMS

**Blank & Blow Mold** - It is calibrating at the end of the stroke, and then moves back 150mm (zero position). At start it should moves forward and back 100mm in a fixed sequence.

**Invert, Baffle, Blow Head** - The mechanisms are calibrating at the top of the mechanism and they move down to the zero position. At start the mechanisms move up and down in a fixed sequence.

**Take Out** - Calibration, with the take out arm mounted, the mechanism moves to the out position then moves up to the kick-back position. At start it moves from take out in to take out with a fixed sequence and speed

**Flex Pusher** - After specifying the direction (left or right hand), the mechanism executes the calibration cycle and moves to the waiting position.

At start it is simulating the rotation using a profile generated with parameters calculated with "Mat Lab".

## MOTORS

After the selection of the motor type (all the motors used on FlexIS and WHC are selectable), the controller loads to the drive the related parameters and then it is possible to start the rotation of the motor.

For the feeder Motor the brake must be released.

This system is a test bench for repaired mechanisms or motor but cannot be used for training.

## Availability

**The Mechanism & motor Tester is available from now on and could be ordered with the P.N. 601-106**

**Revision Log:** With this revision please note that the part number has changed from **601-201-1** to **601-106**.