# Contents

## 1.    About this document

These instructions describes the Service menu of the machine in which various functions are tested and machine specific parameters may be modified.

**Please carefully read the operating instructions provided with the machine prior to all work in the service menu and pay particular attention to the safety and warning indications contained therein.**

**These instructions are intended for trained personnel.**

## 2.    Navigation in service menu

Use keys E, I, II and III to navigate in the service menu. The operating of further menu items is analogous to the example provided below:
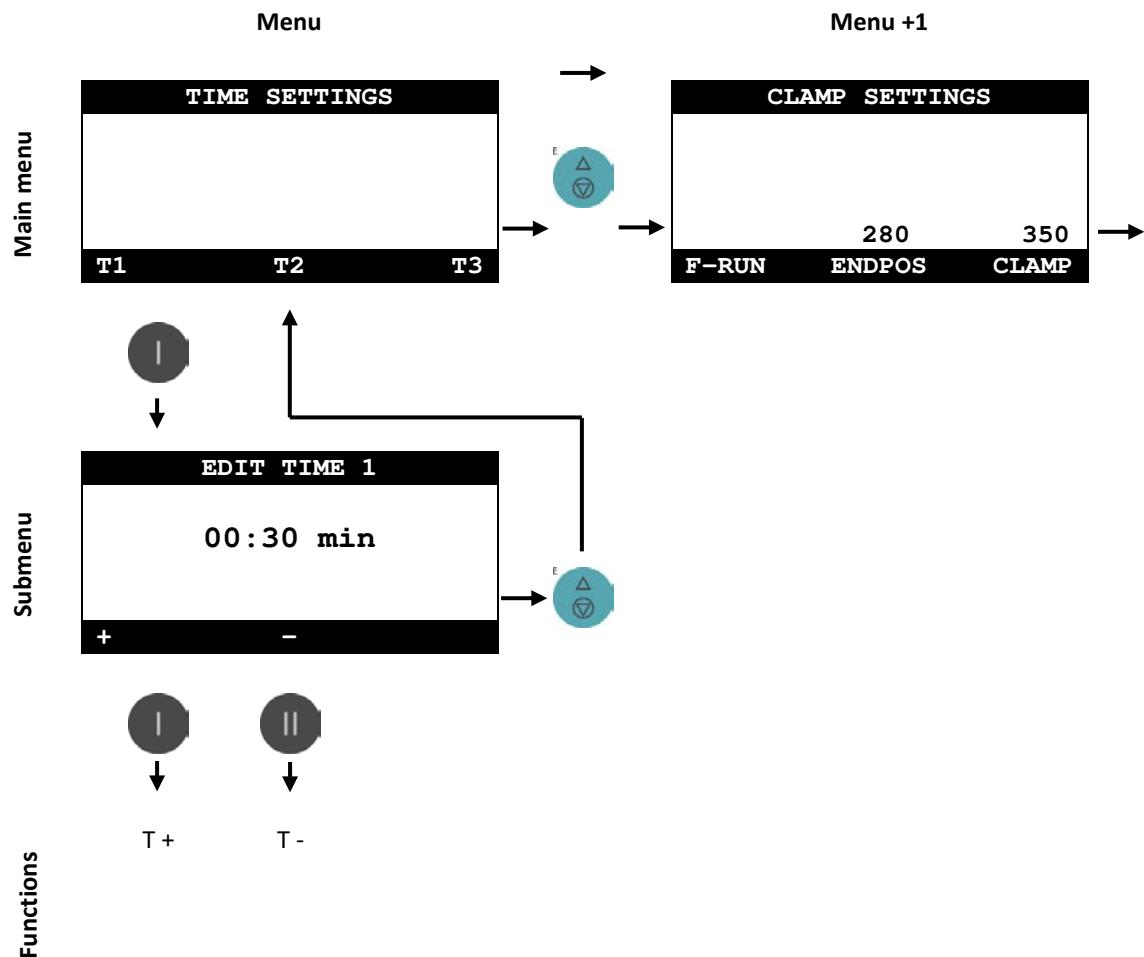


## 2.1    Keys function

| | | |
|---|---|---|
|  | **Key for DOOR** | • Opening of the door |
|  | **Key E** | • Calling up next menu item<br>• Back to main menu<br>• Confirm entries |
|  | **Key I** | • Calls up left submenu<br>• Activates left function |
|  | **Key II** | • Calls up middle submenu<br>• Activates middle function |
|  | **Key III** | • Calls up right submenu<br>• Activates right function |

## 3.    Activate service menu

### 3.1      Call up login

In order to call up the service menu first use the main switch to switch the machine off. Simultaneously press keys E and III and keep pressed down whilst you switch the machine on via the main switch. After a short period **ENTER CODE** will appear on the display.

```
┌─────────────────────────┐
│       ENTER CODE         │
│                          │
│     CODE : 0000          │
│     ENTER WITH E         │
│                          │
│ +          −          >  │
└─────────────────────────┘
```
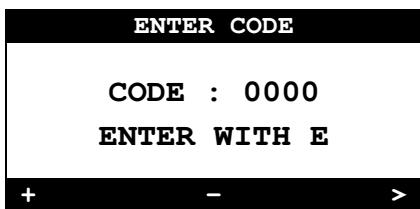
### 3.2      Enter code

Enter the coder **3970** on the keypad to activate the service menu and finish the entry with key E.

### 3.3      Code entry error

With incorrect code entry the display will flash; switch the machine off via the main switch and repeat the entry procedure.

```
┌─────────────────────────┐
│       ENTER CODE         │
│                          │
│     CODE : 0000          │
│     INVALID CODE         │
│                          │
│ +          −          >  │
└─────────────────────────┘
```

## 4.     Menu structure

```
┌─────────────────────────┐
│          TEST           │
├───────────┬─────────────┤
│ D-LOCK  * │ FUSE      * │
│ DOOR    - │ E STOP    * │
│ POS     - │ M-LCK    -- │
├───────────┴─────────────┤
│ F-RUN           M-LOCK  │
└─────────────────────────┘
```

↓

```
┌─────────────────────────┐
│      SELECT MOTOR       │
│                         │
│                         │
│                         │
├─────────────────────────┤
│ DOOR            SLIDER  │
└─────────────────────────┘
```

At BIAX 45S and BIAX 45P only.

↓

```
┌─────────────────────────┐
│        SET TIME         │
│                         │
│                         │
│ 0:30     1:00     2:00  │
├─────────────────────────┤
│ T1       T2        T3   │
└─────────────────────────┘
```

↓

```
┌─────────────────────────┐
│     SET CLAMP FORCE     │
│                         │
│                         │
│                   247   │
├─────────────────────────┤
│                   HIGH  │
└─────────────────────────┘
```

↓

```
┌─────────────────────────┐
│      SET CLAMP PAR      │
│                         │
│                         │
│          280            │
├─────────────────────────┤
│ F-RUN   ENDPOS          │
└─────────────────────────┘
```

↓

```
┌─────────────────────────────┐
│        SET SPEED            │
│                             │
│                             │
│                             │
│ 10                    130   │
│ LOCK                  FAST  │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│        SET DOOR             │
│                             │
│                             │
│  YES       NO        YES    │
│ DOOR      START     UCLMP   │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│      SET LANGUAGE           │
│                             │
│        ENGLISH              │
│                             │
│     Press E to quit         │
│        SELECT               │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│      SAVE CHANGES           │
│                             │
│                             │
│                             │
│ SAVE     RESTORE     EXIT   │
└─────────────────────────────┘
```
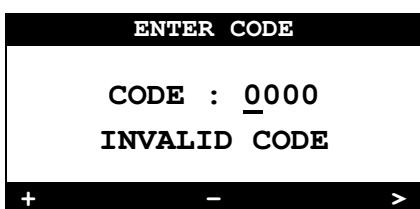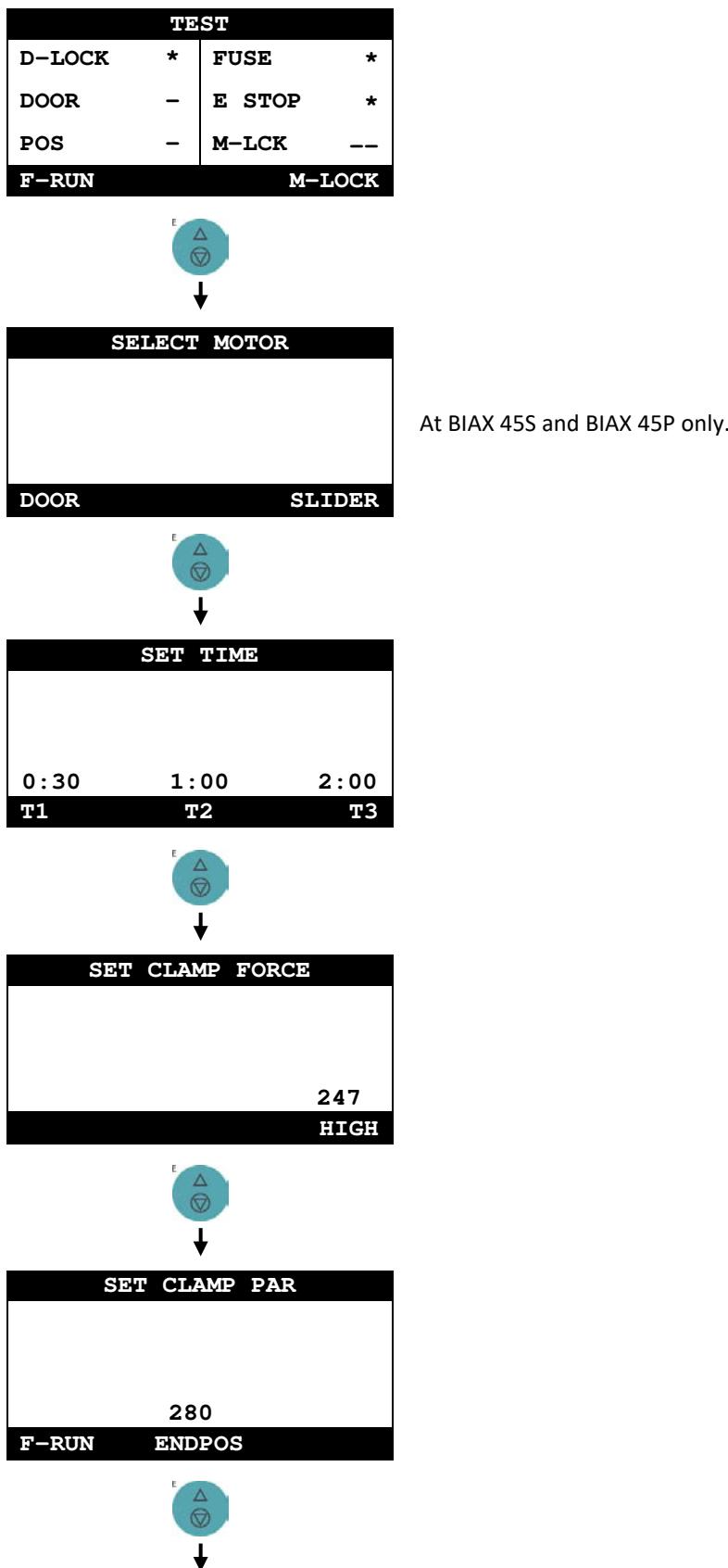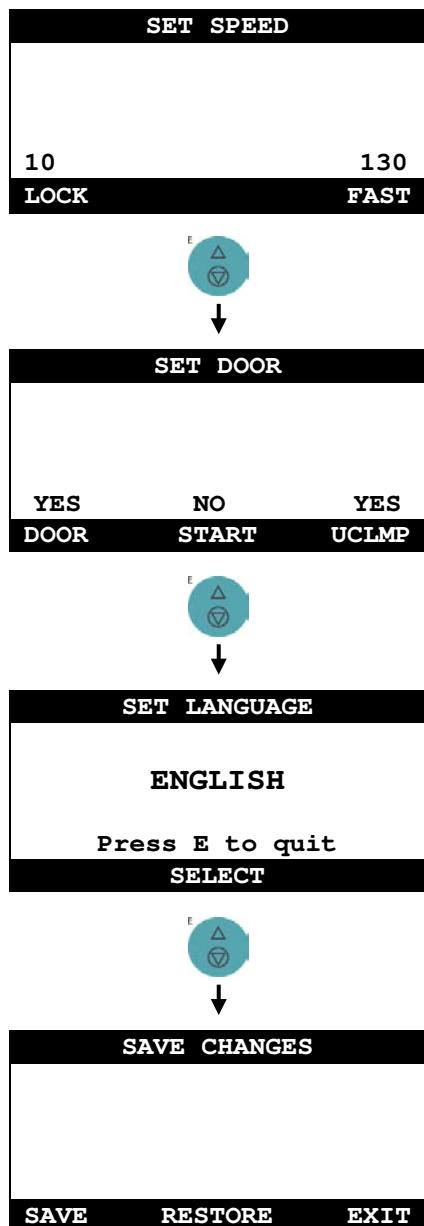
# 5.    Menu description

## 5.1    TEST

```
        TEST
D-LOCK    *  | FUSE      *
DOOR      -  | E STOP    *
POS       -  | M-LCK    --
F-RUN           M-LOCK
```

The function of important components can be tested in the main menu under TEST.

| | | |
|---|---|---|
| D-Lock | = | Door locking system |
| DOOR | = | Safety switch |
| POS | = | Proximity switch position |
| FUSE | = | DC Safety fuse |
| E STOP | = | Emergency stop button |
| M-LCK | = | Mixing Unit locked/unlocked |

The door can be opened using the DOOR key in order to test the safety switch and door locking system function.

**\* = Funktion ON / - = Funktion OFF**

| | | |
|---|---|---|
| F-RUN | = | Submenu TEST FREERUN |
| M-LOCK | = | Latching pin Mixing Unit |

## 5.1.1    TEST FREERUN

```
     TEST FREERUN

  min     actual     max
   0       0000       0

CLOSE       OPEN
```

The function of the clamping motor is tested in the TEST FREERUN submenu

| | | |
|---|---|---|
| CLOSE | = | Close mixing unit |
| OPEN | = | Open mixing unit |

The clamping motor runs continously while the key is held down.

While running, the minimum, current and maximum performance of the mixing unit is shown in the display info area. This is a good indicator of the degree of soiling of the spindles.

## 5.2      SELECT MOTOR

```
        Select Motor



 DOOR                   SLIDER
```
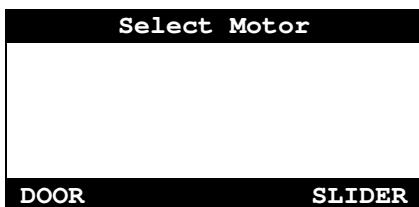
Testing slider and door motor. This funktion is only avalible at BIAX 45S and BIAX 45P

| | | |
|---|---|---|
| **DOOR** | **=** | **Test DOOR motor** |
| **SLIDER** | **=** | **Test SLIDER motor** |

**IMPORTANT:**

## 5.2.1    DOOR MOTOR

```
        DOOR Motor



 OPEN                    CLOSE
```

Testing the door motor.

| | | |
|---|---|---|
| **OPEN** | **=** | **Opens the sliding door** |
| **CLOSE** | **=** | **Closes the sliding door** |

**IMPORTANT:**
In order to test the slide motor, the door has to be opened first!

## 5.2.2    SLIDER MOTOR

```
        SLIDER Motor



 INIT        IN         OUT
```
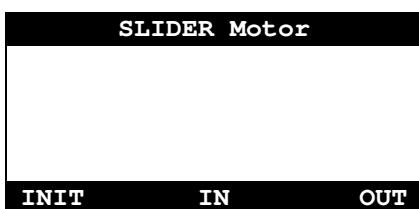
Testing the slide motor. This funktion is only avalible at BIAX 45S. The door has to be opened prior aktivating this funktion!

| | | |
|---|---|---|
| **INIT** | **=** | **Initializing the slide** |
| **IN** | **=** | **Moving the slide IN** |
| **OUT** | **=** | **Moving the slide OUT** |

**IMPORTANT:**

In case the slider is not in IN or OUT position an INIT shall be done.

**5.3     SET TIME**

```
+----------------------------+
|      TIME SETTINGS         |
|                            |
|                            |
|                            |
|                            |
| T1          T2          T3 |
+----------------------------+
```
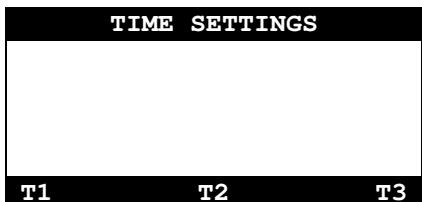
The mixing times 1-3 are set in SET TIME main menu.

**T1**        =     **Set mix time 1**

**T2**        =     **Set mix time 2**

**T3**        =     **Set mix time 3**

```
+----------------------------+
|       EDIT TIME 1          |
|                            |
|       00:30 min            |
|                            |
|                            |
| +           −              |
+----------------------------+
```

Keys I to III can be associated with 3 different mixing times. The work setting can be modified in 10s steps (m:ss) where necessary.

**IMPORTANT:**
A too long mixing time can heat up the mixture. This might result in a damage of the can and/or the mixture.

**5.4       SET CLAMP FORCE**

```
┌─────────────────────────────┐
│      SET CLAMP FORCE         │
│                             │
│                             │
│                             │
│                        227  │
│                       HIGH  │
└─────────────────────────────┘
```

The clamping pressures can be set in the SET CLAMP FORCE menu.

HIGH       =    **Clamping force**

**IMPORTANT:**
With a too low clamping force the can can become loose during the mixing process. With a clamping pressure set too high the can can burst when clamped.

After the clamping force has been set a test run must always be carried out with original material in original container.

**5.4.1      SET CLAMP HIGH**

```
┌─────────────────────────────┐
│       SET CLAMP HIGH         │
│                             │
│                             │
│                             │
│ +            +       CLAMP  │
└─────────────────────────────┘
```

The CLAMP HIGH parameter is valid for all cans sizes.

Setting of the clamp force.

+                   =    **Increase value**

-                   =    **Decrease value**

CLAMP            =    **Can is clamped**

```
┌─────────────────────────────┐
│        TEST CLAMP           │
│                             │
│    clamp: 227               │
│    pot clamped 227          │
│                             │
│                       OPEN  │
└─────────────────────────────┘
```
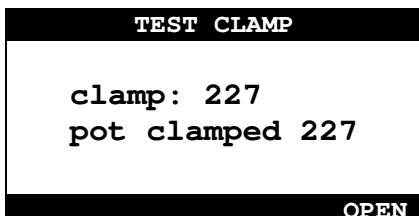
To test the clamping force place a suitable can or a measuring device in the centre of the clamping plate.

The clamping routine is started via the CLAMP function.

After the end of the clamping procedure "pot clamped XX" is shown on the display.

The mixing unit can subsequently be reopened via OPEN.

OPEN            =    **Mixing unit opens**

**IMPORTANT:**
The CLAMP parameter does not correspond to the clamping force. The clamping force resulting from the parameter must be determined with a suitable measuring device.

## 5.5 SET CLAMP PAR

```
      SET CLAMP PAR


            280
 F-RUN     ENDPOS
```
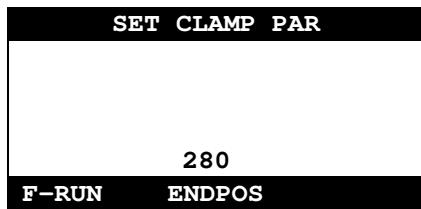
Setting of parameter for the clamping mechanism.

**F-RUN** = **TEST FREERUN**

**ENDPOS** = **Mixing unit end stop**

## 5.5.1 TEST FREERUN
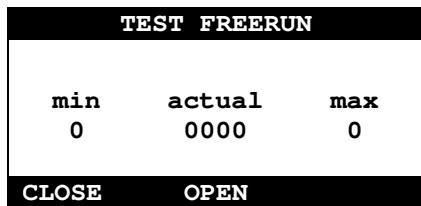
```
      TEST FREERUN

  min     actual     max
   0       0000       0

 CLOSE      OPEN
```

The function of the clamping motor is tested in the TEST FREERUN submenu

**CLOSE** = **Close mixing unit**

**OPEN** = **Open mixing unit**

The clamping motor runs continously while the key is held down.

While running, the minimum, current and maximum performance of the mixing unit is shown in the display info area. This is a good indicator of the degree of soiling of the spindles.

### 5.5.2    TEST ENDPOS

```
        TEST ENDPOS

            280

OPEN       CLOSE       EDIT
```

Set mixing unit end stop.

**OPEN**    =    **Test upper end stop**

**CLOSE**    =    **Test lower end stop**

**EDIT**    =    **Modify ENDPOS parameter**

```
        EDIT ENDPOS

            280

+              –
```

The mixing unit is opened and closed via a DC motor. The power consumption is monitored.

When the end stop is reached the power drawn by the motor exceeds the set value of the current threshold (ENDPOS) and the clamping motor is shut off.

The factory set parameter for the end stop has been selected so that the mixing unit reaches the end position without a prior switching off.

Before modifying the parameter check whether the threaded spindles are dirty or damaged. If necessary, clean and apply grease to the spindles as described in the operating instructions.

A larger value for the DC-MOT ENDPOS means a higher current intake and thereby a larger force of the clamping motor.

The value must not be set too high, otherwise the threaded spindle could jam.

**IMPORTANT:**
The ENDPOS parameter **does not influence the clamping force!**

## 5.6      SET SPEED

```
        SET SPEED

       Main motor

10                        130
LOCK                     FAST
```
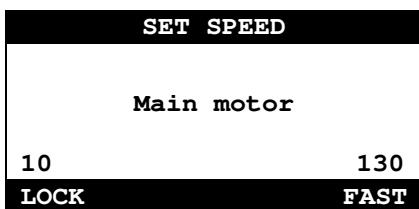
Setting the speed of the mixing unit.

LOCK          =      **Speed for positioning**

FAST          =      **Mixing speed**

### 5.6.1     EDIT SPEED LOCK

```
     EDIT SPEED LOCK


        10rpm

                     START
```
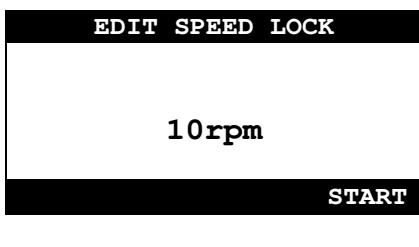
The LOCK speed is used to turn the mixing unit after finishing the mixing cycle back to 12 o'clock position.

A value of 10rpm is recommended for positioning and should not be changed!

To adjust the speed, first insert a suitable **empty** can according to the requirements described in operation manual.

```
     EDIT SPEED LOCK

    Lock: 12
    Speed: 10rpm

+            −       STOP
```
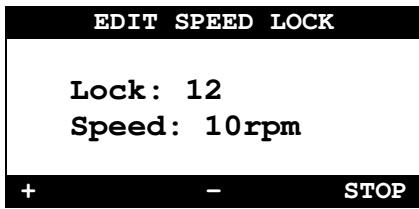
START         =      **Activating the mixing procedure**

Press START to activate the clamping procedure. The can will be clamped automatically and the mixing unit starts turning in LOCK speed afterwards.

+             =      **Increase value**

-             =      **Decrease value**

STOP          =      **Determinates the mixing**

Adjust the LOCK value until the requested LOCK speed (rpm) is shown in the display.

The update of the LOCK speed value (rpm) is slightly delayed. Therefore wait after changing the LOCK value until the speed value is updated.

To finish the adjustment press STOP, the mixing unit is automatically moved to 12 o'clock position and unclamped.

**IMPORTANT:**
The adjustment of any SPEED parameter in the service menu must be done with an empty can.
A trial run with a full can must be conducted when first starting the machine after any speed adjustment.

### 5.6.2     EDIT SPEED FAST

```
     EDIT SPEED Fast


        130rpm

                     START
```
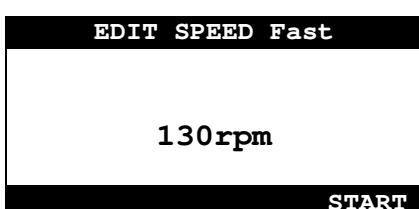
The SPEED FAST parameter is valid all cans sizes.

Adjusting SPEED HIGH is similar as described under 5.6.1 EDIT SPEED LOCK

**5.7      SET DOOR MENU**

```
        SET DOOR



 YES                    YES
 DOOR                 UCLMP
```

Setting of door options.

DOOR          =     **Door opens automatically after the mixing.**

UCLMP        =     **Manual release of mixing unit is permitted when the door is open.**

**5.8      SET LANGUAGE MENU**

```
      SET LANGUAGE

        ENGLISH

     Press E to quit
        SELECT
```
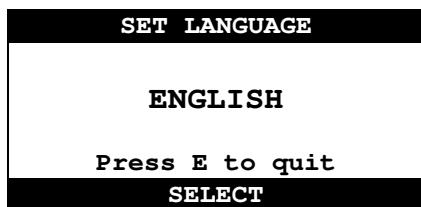
Language setting for the main menu

SELECT       =     **Language selection**

The service menu language cannot be modified.

**5.9      SAVE CHANGES MENU**

```
      SAVE CHANGES



 SAVE    RESTORE    EXIT
```

Save changes.

SAVE          =     **Saving of modifications**

RESTORE     =     **Restoration of previous parameter**

EXIT           =     **Leaving the service menu**

**IMPORTANT:**

To adopt the modifications in the service menu the SAVE function must be used.