

## **MTM-UAS from 1.1.2017**

### **Release notes MTM-UAS training material AA/AF**

In November 2016 the training material was improved and adopted in German and English. These changes were approved by the IMD and the training and examination board of German MTM Association. The following topics were changed:

#### **In general:**

- In order to enable an international consistent use of copyrights on the training manuals, datacards, etc. the copyrights were clarified and a mandatory imprint were defined.

#### **Part II: MTM-UAS-Basic Operations**

- The statements to classify bulkiness was adopted on p. II-26; as well as the presented example and the note.
- p. II-27/28: sentences to explain the subsequent tables.
- p. II-29 and S. II-32: Changes in table: „without“ resp. „with“ control was changed to „with low/medium control“ and „with high control“.
- p. II-30: decision scheme and the description were removed. Valid for high degree of control are:
  - the criteria defined on p. II-29
  - table on p. II-29,
  - rule A4 as well as
  - the special case presented in Example 5 on p. II-33.
- p. II-32: rule A3 was changed and the note referring to rule 4 regarding the sequence of the interaction basic operation was added.
- p. II-33 Example 5: time values and note were changed.
- The note referring to rule 4 was moved to p. II-33 due to reasons of space.
- p. II-46: decision scheme and the description were removed; valid are analogous the get and place regulations and the special case presented on p. II-46 and in example 2 on p. II-47.
- p. II-49: a sentence was added: Dependent on the typ of drawer, window or door additional operations (such as turning a knob, locking/unlocking a window/door latch) may occur. They have to be analyzed separately.
- p. II-52: new example for drawers and doors.

**Part III: MTM-UAS-Standardvorgänge**

- p. III-39: Description in header changed

**Presentation/slides:**

- slide 85 © data card
- slide 95 re. bulkiness
- slide 101 wording in matrix (p. II-29)
- old slides 102 and 103 removed
- current slide 106 rule A3
- current slide 107 note added, slide 108 is new
- current slide 114: Example 5 changed, slide 110 and 111 are new – note and example 6
- old slide 144/new slide 140: sentence „When Gets and Places aside of... “ adopted to sentence in manual
- old slide 140 deleted: decision scheme handle tool
- slide 149 new
- slide 155 new example added

**exemplary solutions to daily repetition questions:**

- 2. day: exercise 9 text adopted (simo)
- 3. day: exercise 13 to 17 FxQ adopted
- 4. day: exercise 4, 6 to 8 FxQ adopted.
- Multiple Choice questions added

**Exam**

- The Multiple Choice questions were revised. There have been created new test sets.

## **MTM-UAS - release notes December 2011**

### **Information about modifications in the MTM-UAS manual**

In December 2011 the IMD approved the master manual in English language. The following documents belong to the master:

- Manual including back-up analyses for the MTM-UAS Standard Operations
- Presentation for the manual
- Data cards for MTM-UAS Basic Operations and MTM-UAS Standard Operations
- Daily repetition exercises for 2nd until 4th day
- Training films (705, 712, 717, 720, 723, 733, 755)
- Examination - 2 parts (Part 1: Multiple choice with 61 questions, Part 2: Production analysis according to film 721, 809 or 810)

Further modifications have been made to the structure and the content of the manual:

Part I: General introduction to MTM (this part shall be the same for all building block systems of the Technical Platform)

- The MTM application within the overall production cycle is updated (instead of planning process).
- The new description for EAWS (Ergonomic Assessment Worksheet) is recorded.

Part II: MTM-UAS Basic Operations

- The analysis according to general conditions is pictured with more details.
- On the data Card the columns Get and Place with weights  $\leq 1$  kg, have an additional heading "Case of Get" and "Case of Place".
- For the classification whether a part is bulky or not, only the surfac area, defined by the two main dimensions,  $> 900 \text{ cm}^2$  is considered; and no longer the 2 main dimensions  $> 30$  cm.
- Two decision models for simultaneous motions in Get and Place and for simultaneous use of two tools are included to support the UAS-user.
- A chapter with indications for work design is also included.

### Part III: MTM-UAS Standard Operations

- No changes have been made considering the architecture of the Standard Operations
- There is no claim to completeness of all user-neutral Standard Operations applicable. Therefore Standard Operations like e.g. electric assemble cables or assemble standard parts that are mainly used in vehicle assembly have been left off. Main focus of the training is to understand the architecture of the core and supplementary values, to be able to apply existing Standard Operations, but most of all to be able to create company specific Standard Operations.

For the instructor there is a **presentation** that is adjusted to all changes made in the manual.

The daily repetition exercises are also adjusted to the changes.