



Use of these table values without training in MTM-1 and MTM-MEK will lead to erroneous results.

<b>Fasten</b> - 1 -		<b>Code</b>	<b>TMU</b>	<b>EH</b>	<b>ET</b>	Supplementary values				
						<b>Tool</b>			<b>Part</b>	
						<b>A-EH</b>			<b>A-ET</b>	
						<b>3</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>5</b>
<b>Without tool</b>						60	120	150	70	100
	≤ M10	<b>A-SAA</b>	260		+					
	> M10 ≤ M20	<b>A-SBA</b>	280		+					
<b>With tool easy access / turning</b>										
<b>without reposition</b> screwdriver, revolving tool, ratchet	≤ M10	<b>A-SAB</b>	300	+	+					
	> M10 ≤ M20	<b>A-SBB</b>	370	+	+					
	> M20 ≤ M36	<b>A-SCB</b>	640	+	+					
	> M36 ≤ M52	<b>A-SDB</b>	740	+	+					
	> M52 ≤ M68	<b>A-SEB</b>	800	+	+					
<b>with reposition</b> open-end wrench, box wrench, Allen wrench	≤ M10	<b>A-SAC</b>	400	+	+					
	> M10 ≤ M20	<b>A-SBC</b>	590	+	+					
	> M20 ≤ M36	<b>A-SCC</b>	1050	+	+					
	> M36 ≤ M52	<b>A-SDC</b>	1350	+	+					
	> M52 ≤ M68	<b>A-SEC</b>	1500	+	+					
<b>with process time</b> power screwdriver	≤ M10	<b>A-SAD</b>	190	+	+					
	> M10 ≤ M20	<b>A-SBD</b>	220	+	+					
	> M20 ≤ M36	<b>A-SCD</b>	310	+	+					
	> M36 ≤ M52	<b>A-SDD</b>	360	+	+					
	> M52 ≤ M68	<b>A-SED</b>	490	+	+					
<b>With tool difficult access / turning</b>										
<b>without reposition</b> screwdriver, revolving tool, ratchet	≤ M10	<b>A-SAE</b>	370	+	+					
	> M10 ≤ M20	<b>A-SBE</b>	530	+	+					
	> M20 ≤ M36	<b>A-SCE</b>	1000	+	+					
	> M36 ≤ M52	<b>A-SDE</b>	1200	+	+					
	> M52 ≤ M68	<b>A-SEE</b>	1300	+	+					
<b>with reposition</b> open-end wrench, box wrench, Allen wrench	≤ M10	<b>A-SAF</b>	890	+	+					
	> M10 ≤ M20	<b>A-SBF</b>	1150	+	+					
	> M20 ≤ M36	<b>A-SCF</b>	2550	+	+					
	> M36 ≤ M52	<b>A-SDF</b>	3150	+	+					
	> M52 ≤ M68	<b>A-SEF</b>	3400	+	+					
<b>with process time</b> power screwdriver	≤ M10	<b>A-SAG</b>	220	+	+					
	> M10 ≤ M20	<b>A-SBG</b>	250	+	+					
	> M20 ≤ M36	<b>A-SCG</b>	370	+	+					
	> M36 ≤ M52	<b>A-SDG</b>	440	+	+					
	> M52 ≤ M68	<b>A-SEG</b>	590	+	+					



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<b>Fasten</b> - 2 -		<b>Code</b>	<b>TMU</b>	<b>EH</b>	<b>ET</b>	<b>Supplementary values</b>				
						<b>Tool</b>			<b>Part</b>	
						<b>A-EH</b>			<b>A-ET</b>	
						<b>3</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>5</b>
<b>Additions</b>										
<b>additional tighten</b>	≤ M10	<b>A-SAH</b>	80	+		60	120	150	70	100
	> M10 ≤ M20	<b>A-SBH</b>	90	+						
	> M20 ≤ M36	<b>A-SCH</b>	110	+						
	> M36 ≤ M52	<b>A-SDH</b>	150	+						
	> M52 ≤ M68	<b>A-SEH</b>	190	+						
<b>dirty or damaged threads</b>	≤ M10	<b>A-SAI</b>	110			60	120	150	70	100
	> M10 ≤ M20	<b>A-SBI</b>	110							
	> M20 ≤ M36	<b>A-SCI</b>	600							
	> M36 ≤ M52	<b>A-SDI</b>	1250							
	> M52 ≤ M68	<b>A-SEI</b>	3000							
<b>2<sup>nd</sup> threaded part/locking wrench</b>		<b>A-SGA</b>	130	+	+					
<b>place locking wrench</b>		<b>A-SZA</b>	40	+						
<b>additional part (washer, spring washer)</b>		<b>A-SZB</b>	90		+					
<b>Wood or sheet metal screw, pre-bored</b>										
<b>without reposition screwdriver, revolving tool, ratchet</b>	length ≤ 25 mm	<b>A-SNE</b>	400	+	+	60	120	150	70	100
	> 25 ≤ 50 mm	<b>A-SPE</b>	1000	+	+					
	> 50 mm	<b>A-SQE</b>	1400	+	+					
<b>with reposition open-end wrench, box wrench, Allen wrench</b>	length ≤ 25 mm	<b>A-SNF</b>	1000	+	+	60	120	150	70	100
	> 25 ≤ 50 mm	<b>A-SPF</b>	1800	+	+					
	> 50 mm	<b>A-SQF</b>	2600	+	+					
<b>with process time power screwdriver</b>	length ≤ 25 mm	<b>A-SNG</b>	230	+	+	60	120	150	70	100
	> 25 ≤ 50 mm	<b>A-SPG</b>	290	+	+					
	> 50 mm	<b>A-SQG</b>	410	+	+					
<b>Wood screw with pre-punch</b>										
<b>without reposition screwdriver, revolving tool, ratchet</b>	length ≤ 25 mm	<b>A-SRE</b>	730	+	+	60	120	150	70	100
	> 25 ≤ 50 mm	<b>A-SSE</b>	1650	+	+					
	> 50 mm	<b>A-STE</b>	2250	+	+					
<b>with reposition open-end wrench, box wrench, Allen wrench</b>	length ≤ 25 mm	<b>A-SRF</b>	1650	+	+	60	120	150	70	100
	> 25 ≤ 50 mm	<b>A-SSF</b>	2850	+	+					
	> 50 mm	<b>A-STF</b>	4000	+	+					
<b>with process time power screwdriver</b>	length ≤ 25 mm	<b>A-SRG</b>	460	+	+	60	120	150	70	100
	> 25 ≤ 50 mm	<b>A-SSG</b>	520	+	+					
	> 50 mm	<b>A-STG</b>	640	+	+					



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# MTM-MEK

Standard Operations  
 Assembly

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<b>Clamp and Loosen</b>		<b>Code</b>	<b>TMU</b>	<b>EH</b>	<b>Supplementary values</b>		
					<b>Tool</b>		
					<b>A-EH</b>		
					<b>3</b>	<b>4</b>	<b>5</b>
<b>Portable clamping devices</b>					60	120	150
visе-grip		<b>A-FAA</b>	290	+			
hand vise		<b>A-FBA</b>	340	+			
screw clamp		<b>A-FCA</b>	390	+			
C-clamp		<b>A-FDA</b>	630	+			
parallel clamp		<b>A-FEA</b>	1100	+			
<b>Stationary clamping devices</b>							
clamping claw		<b>A-FLA</b>	860	+			
toggle clamp	manual	<b>A-FMA</b>	100	+			
	pneumatic	<b>A-FNA</b>	140	+			
vise	approximate	<b>A-FPA</b>	400	+			
	exact	<b>A-FQA</b>	670	+			
jaw chuck		<b>A-FRA</b>	520	+			
magnetic disk		<b>A-FSA</b>	40	+			
addition: additional tool / vise jaws		<b>A-FZA</b>	250	+			

<b>Unpack</b>		<b>Code</b>	<b>TMU</b>	<b>EH</b>	<b>Supplementary values</b>			
					<b>Tool</b>			
					<b>A-EH</b>			
					<b>3</b>	<b>4</b>	<b>5</b>	
<b>Remove/ Open cover</b>	by hand	20 × 20 cm	<b>A-AAB</b>	190		60	120	150
		50 × 50 cm	<b>A-AAC</b>	470				
		100 × 100 cm	<b>A-AAD</b>	790				
with tool		20 × 20 cm	<b>A-ABB</b>	140	+			
		50 × 50 cm	<b>A-ABC</b>	370	+			
		100 × 100 cm	<b>A-ABD</b>	590	+			
<b>Remove contents</b>	vacuum packing	20 × 20 cm	<b>A-ACB</b>	410	+			
		50 × 50 cm	<b>A-ACC</b>	610	+			
	foil packing	20 × 20 cm	<b>A-ADB</b>	320	+			
		50 × 50 cm	<b>A-ADC</b>	470	+			
carton		20 × 20 cm	<b>A-AFB</b>	180				
		50 × 50 cm	<b>A-AFC</b>	350				
<b>≤ 8 kg</b>	bag (foil, paper)	20 × 20 cm	<b>A-AGB</b>	230	+			
		50 × 50 cm	<b>A-AGC</b>	330	+			
cardboard, paper		20 × 20 cm	<b>A-AHB</b>	270	+			
		50 × 50 cm	<b>A-AHC</b>	490	+			



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<b>Treat</b>			<b>Code</b>	<b>TMU</b>	<b>EH</b>	<b>Supplementary values</b>		
						<b>Tool</b>		
						<b>A-EH</b>		
						<b>3</b>	<b>4</b>	<b>5</b>
<b>Clean</b>	compressed air, brush, broom, rag, cloth	20 × 20 cm	<b>A-BAB</b>	80	+	60	120	150
		50 × 50 cm	<b>A-BAC</b>	180	+			
		100 × 100 cm	<b>A-BAD</b>	340	+			
	wire brush	20 × 20 cm	<b>A-BBB</b>	220	+			
		50 × 50 cm	<b>A-BBC</b>	820	+			
		100 × 100 cm	<b>A-BBD</b>	4000	+			
	scraper, putty knife	20 × 20 cm	<b>A-BCB</b>	340	+			
		50 × 50 cm	<b>A-BCC</b>	1400	+			
		100 × 100 cm	<b>A-BCD</b>	6000	+			
<b>Apply oil, paint, cleaning agent</b>	paintbrush, oil can, rag, cloth	point, line	<b>A-BHA</b>	80	+			
		20 × 20 cm	<b>A-BHB</b>	150	+			
		50 × 50 cm	<b>A-BHC</b>	260	+			
	spray can	20 × 20 cm	<b>A-BIB</b>	170	+			
		50 × 50 cm	<b>A-BIC</b>	470	+			
		100 × 100 cm	<b>A-BID</b>	1800	+			
grease gun	point	<b>A-BKA</b>	80	+				
<b>Apply adhesive, sealing compound</b>	paintbrush or putty knife	point, line	<b>A-BNA</b>	100	+			
		20 × 20 cm	<b>A-BNB</b>	400	+			
		50 × 50 cm	<b>A-BNC</b>	830	+			
	tube or twist tube	point, line	<b>A-BQA</b>	70	+			
		20 × 20 cm	<b>A-BQB</b>	180	+			
		50 × 50 cm	<b>A-BQC</b>	420	+			
<b>Additions</b>								
<b>mix two-component adhesive</b>	weight ≤ 6 g		<b>A-BZA</b>	990	+			
		weight > 6 ≤ 25 g	<b>A-BZB</b>	1750	+			
<b>open and close container</b>			<b>A-BZG</b>	310	+			
<b>hands</b>	wipe/dry off clean/wash		<b>A-BZH</b>	260	+			
			<b>A-BZI</b>	890	+			
<b>put on and take off gloves</b>			<b>A-BZK</b>	520	+			



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<b>Mark</b>		<b>Code</b>	<b>TMU</b>	<b>EH</b>	<b>ET</b>	Supplementary values				
						Tool			Part	
						<b>A-EH</b>			<b>A-ET</b>	
						<b>3</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>5</b>
<b>Center punch or figure stamp</b>	without inspection	<b>A-MAA</b>	100	+		60	120	150	70	100
	with inspection	<b>A-MAB</b>	230	+						
<b>Compass</b>	∅ ≤ 300 mm	<b>A-MBA</b>	140	+						
	addition for setting	<b>A-MBB</b>	160	+						
<b>Ruler, template</b>	scribe ≤ 1000 mm	<b>A-MCA</b>	250	+						
<b>Parallel scribe</b>	scribe ≤ 500 mm	<b>A-MDA</b>	80	+						
	addition for setting	<b>A-MDB</b>	470	+						
<b>Writing implement</b>	1 character	<b>A-MEA</b>	60	+						
	group of characters	<b>A-MEB</b>	180	+						
<b>Paintbrush, goniometer, electric writer</b>	10 characters	<b>A-MFA</b>	380	+						
	scribe ≤ 200 mm	<b>A-MHA</b>	160	+						
	per character	<b>A-MIA</b>	140	+						
<b>Label</b>	apply	<b>A-MLA</b>	230	+	+					
<b>Protective cover</b>	remove	<b>A-MLB</b>	110	+						
<b>Chalk line per worker</b>	length ≤ 4 m	<b>A-MMA</b>	380	+						
	addition for handling line	<b>A-MMB</b>	720		+					

<b>Assemble Standard Parts</b>		<b>Code</b>	<b>TMU</b>	<b>EH</b>	<b>ET</b>	Supplementary values				
						Tool			Part	
						<b>A-EH</b>			<b>A-ET</b>	
						<b>3</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>5</b>
<b>With one tool</b>	bushing, pin, nail, split pin, band clamp, spring, etc.	<b>A-NAA</b>	210	+	+	60	120	150	70	100
<b>With two tools</b>	split pin, pin, rivet, double cotter pin, etc.	<b>A-NBA</b>	260	+	+					
<b>Special tool</b>	E-ring, Seeger ring, blind rivet	<b>A-NCA</b>	200	+	+					
<b>Additions</b>	use additional tool	<b>A-NZA</b>	100	+						
	difficult or careful handling	<b>A-NZB</b>	80							



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<b>Inspect or Measure</b>		<b>Code</b>	<b>TMU</b>	<b>EH</b>	<b>Supplementary values</b>					
					<b>Tool</b>					
					<b>A-EH</b>					
					<b>3</b>	<b>4</b>	<b>5</b>			
<b>Gauge</b>										
<b>Dimension or shape</b>	≤ 150 mm	<b>A-PAA</b>	100	+	60	120	150			
	> 150 ≤ 500 mm	<b>A-PAB</b>	160	+						
	> 500 ≤ 2000 mm	<b>A-PAC</b>	200	+						
<b>Thread</b>	≤ 150 mm	<b>A-PBA</b>	280	+						
	> 150 ≤ 500 mm	<b>A-PBB</b>	520	+						
<b>Dial gauge</b>										
<b>Inspect dimension</b>	≤ 150 mm	<b>A-PCA</b>	100	+						
	> 150 ≤ 500 mm	<b>A-PCB</b>	160	+						
<b>Establish dimension</b>	≤ 150 mm	<b>A-PDA</b>	140	+						
	> 150 ≤ 500 mm	<b>A-PDB</b>	200	+						
<b>Direct-reading gauge</b>										
<b>Without movable parts</b>	≤ 150 mm	<b>A-PEA</b>	120	+						
	> 150 ≤ 500 mm	<b>A-PEB</b>	120	+						
	> 500 ≤ 2000 mm	<b>A-PEC</b>	230	+						
	addition for pull out/retract tape measure / unfold/fold folding ruler ≤ 2 m	<b>A-PGB</b>	200	+						
<b>With movable parts</b>	≤ 150 mm	<b>A-PFA</b>	270	+						
	> 150 ≤ 500 mm	<b>A-PFB</b>	300	+						
<b>Crank roll tape</b>	≤ 20 m	<b>A-PGA</b>	1600	+						
<b>Plumb line, per worker</b>	≤ 2,5 m	<b>A-PHA</b>	1900	+						
<b>Hand or noise inspection</b>		<b>A-PKA</b>	80							
<b>Additions</b>										
<b>Preparing and terminating measuring instrument after adjusting</b>	gauge block, 3 pieces	<b>A-PZA</b>	2500							
	goniometer	<b>A-PZB</b>	560							
	dial gauge	<b>A-PZC</b>	2500							
<b>Set range or set to zero</b>	≤ 150 mm	<b>A-PZF</b>	180	+						
	> 150 ≤ 500 mm	<b>A-PZG</b>	210	+						



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<b>Body Motions</b>		<b>Code</b>	<b>TMU</b>
<b>Climb up or down ladder</b>			
<b>8 rungs</b>	without impediment/load	<b>A-KAA</b>	200
	with impediment/load	<b>A-KBA</b>	400
<b>12 rungs</b>	without impediment/load	<b>A-KAB</b>	300
	with impediment/load	<b>A-KBB</b>	600
<b>28 rungs</b>	without impediment/load	<b>A-KAC</b>	700
	with impediment/load	<b>A-KBC</b>	1400
<b>Use ladder in 10 m range</b>			
<b>8 rungs</b>	obtain/position/put back reposition	<b>A-KCA</b>	960
		<b>A-KDA</b>	480
<b>12 rungs</b>	obtain/position/put back reposition	<b>A-KCB</b>	960
		<b>A-KDB</b>	480
<b>28 rungs</b>	obtain/position/put back reposition	<b>A-KCC</b>	1400
		<b>A-KDC</b>	700
<b>Climb over/ climb through</b>	obstacle/hatch	<b>A-KEA</b>	110
<b>Crawl</b>	per meter	<b>A-KFA</b>	120

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## Transport

**TMU per distance class  
 (longest transport distance in m)**

By hand			≤ 2	> 2 ≤ 10	> 10 ≤ 50
		Code	B	C	D
Shift		A-TAA.	190	440	1650
Exchange		A-TAB.	320	690	2500

Additions					
decant parts		A-TZAA	370		
accessibility (e.g., open and close door/drawer)		A-TZBA	130		

Hand trucks						
			Code	B	C	D
Without using device to lift			A-TBA.		450	1650
With using device to lift	manual	floor to floor	A-TBB.		2200	4000
	powered	floor to floor	A-TBE.		1850	3700

### Addition per another 10 m with transport distance > 50 m

manual	A-TZCA	250		
powered	A-TZDA	250		

### Addition per another 10 cm of raising and lowering

manual	A-TZEA	290		
powered	A-TZFA	50		