



Addendum to the Assembly and Operating Instructions



Parallel shaft helical gear unit / helical-bevel gear unit

Screw Conveyor Drive Option

FAS/KAS 37 to 97



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1 Addendum to the Operating Instructions

INFORMATION

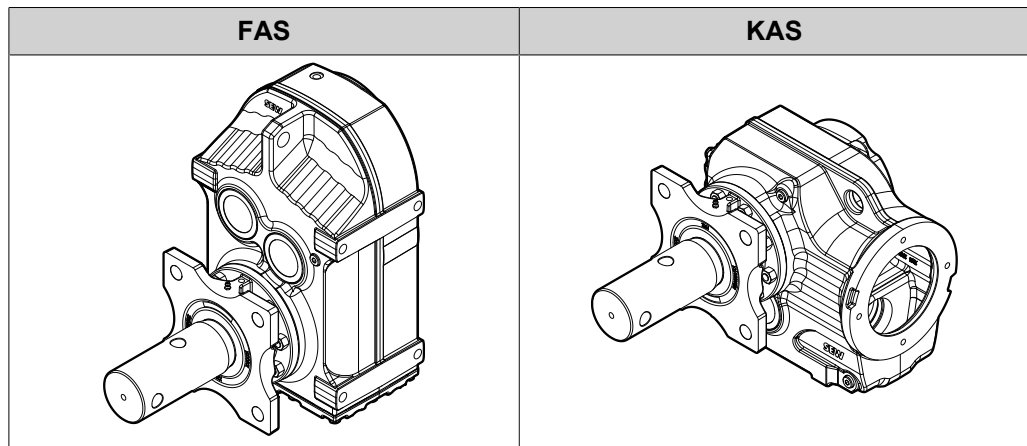


This addendum provides important additional information to the operating instructions for R..7, F..7, K..7 gear units with flange coupling.

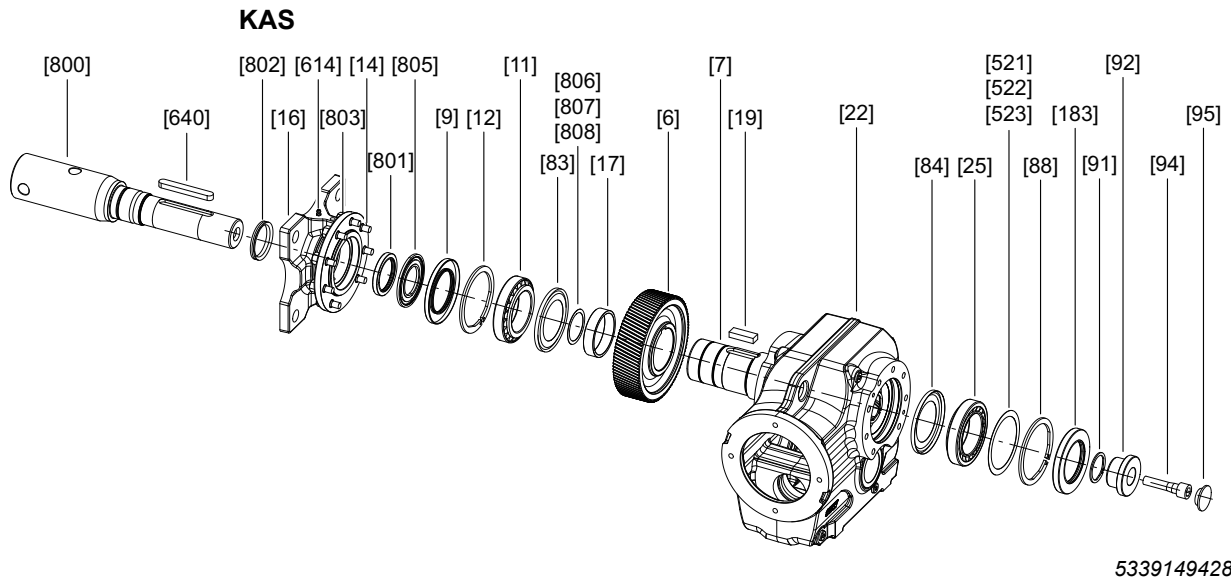
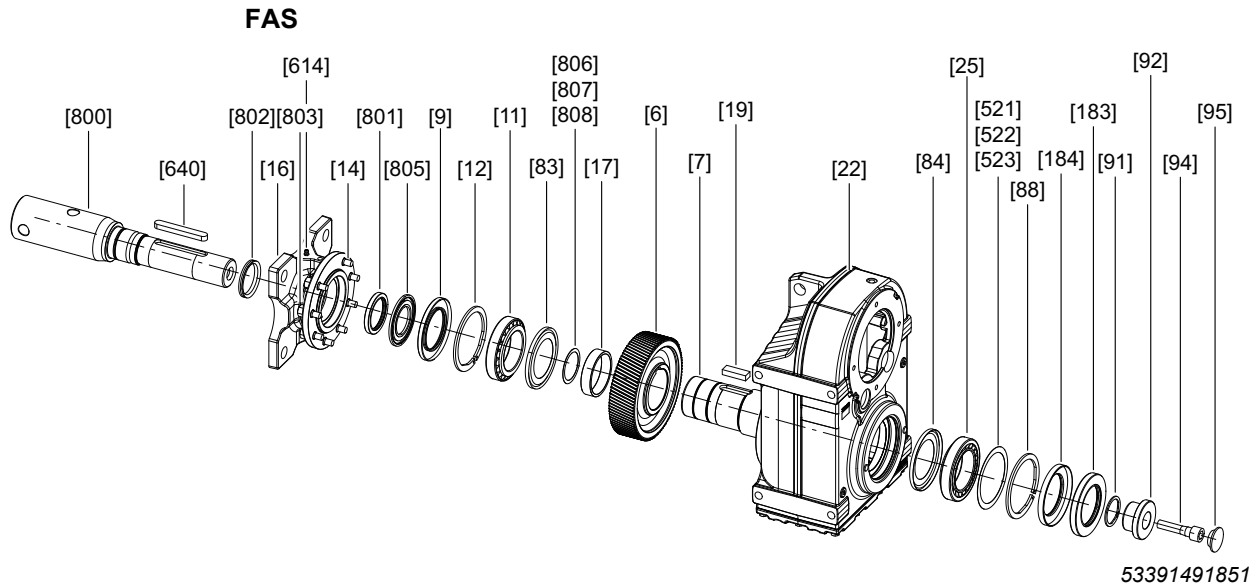
Please use the technical data specified in this document. This document does not replace the "R..7, F..7, K..7, S..7, SPIROPLAN® W Series Gear Units" operating instructions.

2 Content of this documentation

This addendum to the operating instructions describes a gear unit for a screw conveyor application according to the CEMA standard.



3 Structure



Please note, sealing flange 85 is only used on certain sizes. For further details please see document 63127237 (parts list).

3.1 Application

The screw conveyor drive option is available as FAS and KAS gear units from size 37 to 97. The screw conveyor drive option is available for all mounting positions.

4 Operating principle

4.1 Main components

The screw conveyor drive option consists of two main components:

- Sealed flange
- Stub shaft

4.1.1 Sealed flange

The screw conveyor sealed flange (16) is similar in operating principle to the gear unit F and Z flange options. The flange has clearance holes for mounting the gear unit to the customer conveyor trough. The clearance hole mounting pattern of the flange conforms to CEMA standards.

4.1.2 Stub shaft

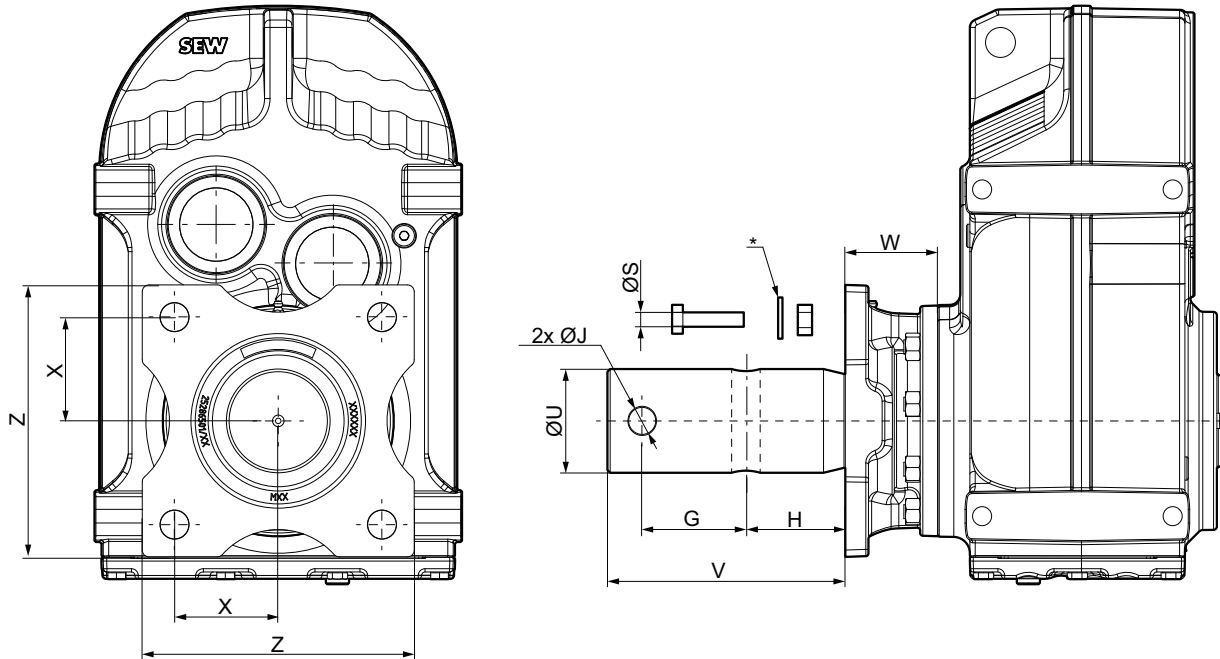
The stub shaft (800) is fixed in the gear unit hollow bore with mounting hardware (91 – 94). The stub shaft extends through the sealing flange and has a CEMA compliant solid shaft output with cross hole pattern for mounting customer conveyor screw. Multiple seals (801/802/805) along the shaft and flange prevent screw conveyor material from flowing back into the flange and gearbox.

4.2 Features

Gearbox bore size, reinforced bearings, special seals and other features are selected automatically when the screw conveyor drive option is chosen.

5 Mechanical installation

CEMA standards recommend the size of the mounting holes, but do not recommend the hardware type or size. Shown below are the SAE bolt sizes (S) that correspond to the CEMA mounting hole sizes. Recommend suitable grade 5 or grade 8.8 bolts to match the CEMA clearance hole, torqued to approximately 75 % of the hardware proof strength. Washers should be included for slotted mounting holes.



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* use washer for slotted holes

U Ø	V	G	H	J Ø	X	Z	S Bolt
1.5"	6.00	3.00	2.125	0.531	2.000	5.375	1/2"
2.0"	6.00	3.000	2.125	0.656	2.563	6.500	5/8"
2 7/16"	6.69	3.000	2.750	0.656	2.813	7.375	5/8"
3.0"	6.88	3.000	2.875	0.781	3.000	7.750	3/4"
3 7/16"	9.13	4.000	3.875	0.906	3.375	9.250	3/4"

For 3 hole shaft dimensions, increase dimension V by dimension G.

6 Inspection / Maintenance

6.1 Required tools / resources

- Set of wrenches
- Grease gun (cone type)
- Lubricant (e. g. NOCO fluid)
- Rubber mallet and/or flat screwdriver

6.2 Weekly maintenance

The inspection hole located on top/bottom of the CEMA flange should be examined for the presence of grease and/or debris. The presence of material in the inspection hole(s) indicates the gear unit seals require replacement.

6.3 Regreasing

Approximately every 1000 hours pump grease into the grease port (614).

1. Fill until grease appears from either the grease purge hole (bottom of flange) or out of the gap between shaft and flange.
2. Examine the inspection hole after grease fill.

Grease in the inspection hole indicates the internal flange seal requires replacing.

7 Gearbox maintenance

7.1 Gearbox removal, leaving shaft/flange in place

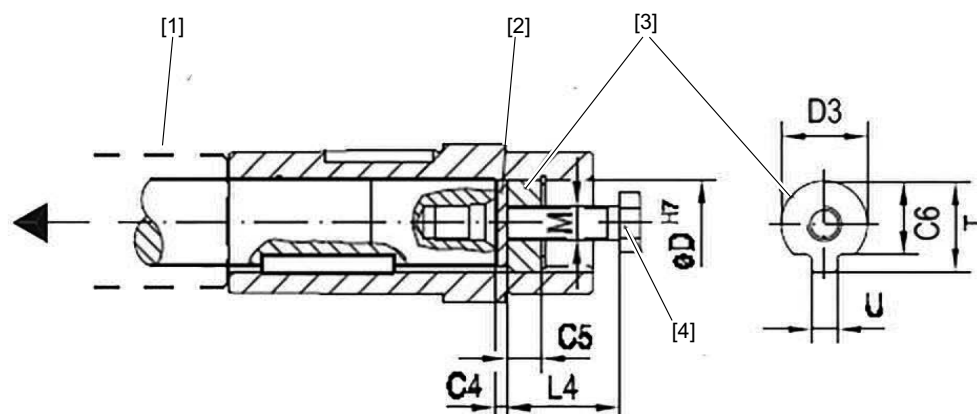
1. Loosen and remove flange nuts (14).
2. Remove the stub shaft hardware (91-94).
3. Separate the gearbox from flange using a flat screwdriver and tap the gearcase off with rubber mallet.
4. For difficult shaft removal, a shaft removal kit may be used. See diagram below for shaft removal part numbers.

7.2 Gearbox re-installation

1. Ensure seals are undamaged (801/805).
2. If damaged, replace seals.
3. Seals should be pressed into place (on flange 16, shaft 800) before gearbox is installed.
4. Place anti-seize lubricant on the shaft and/or gearbox bore.
5. Slide the gearbox onto the shaft and fix into place with nuts (614) and hardware (91-94).

7.3 Shaft removal tool

Kit dimensions and part numbers:

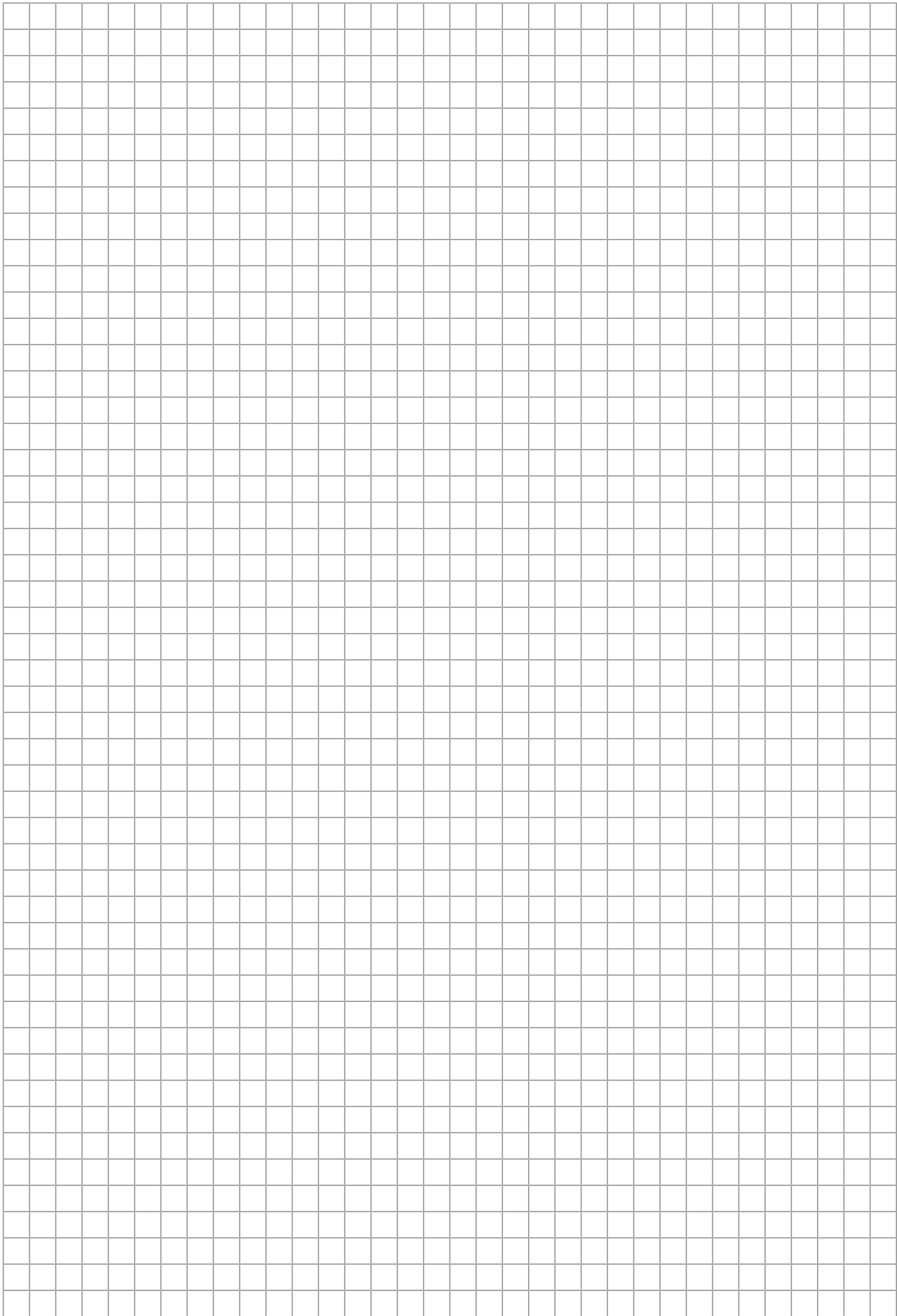


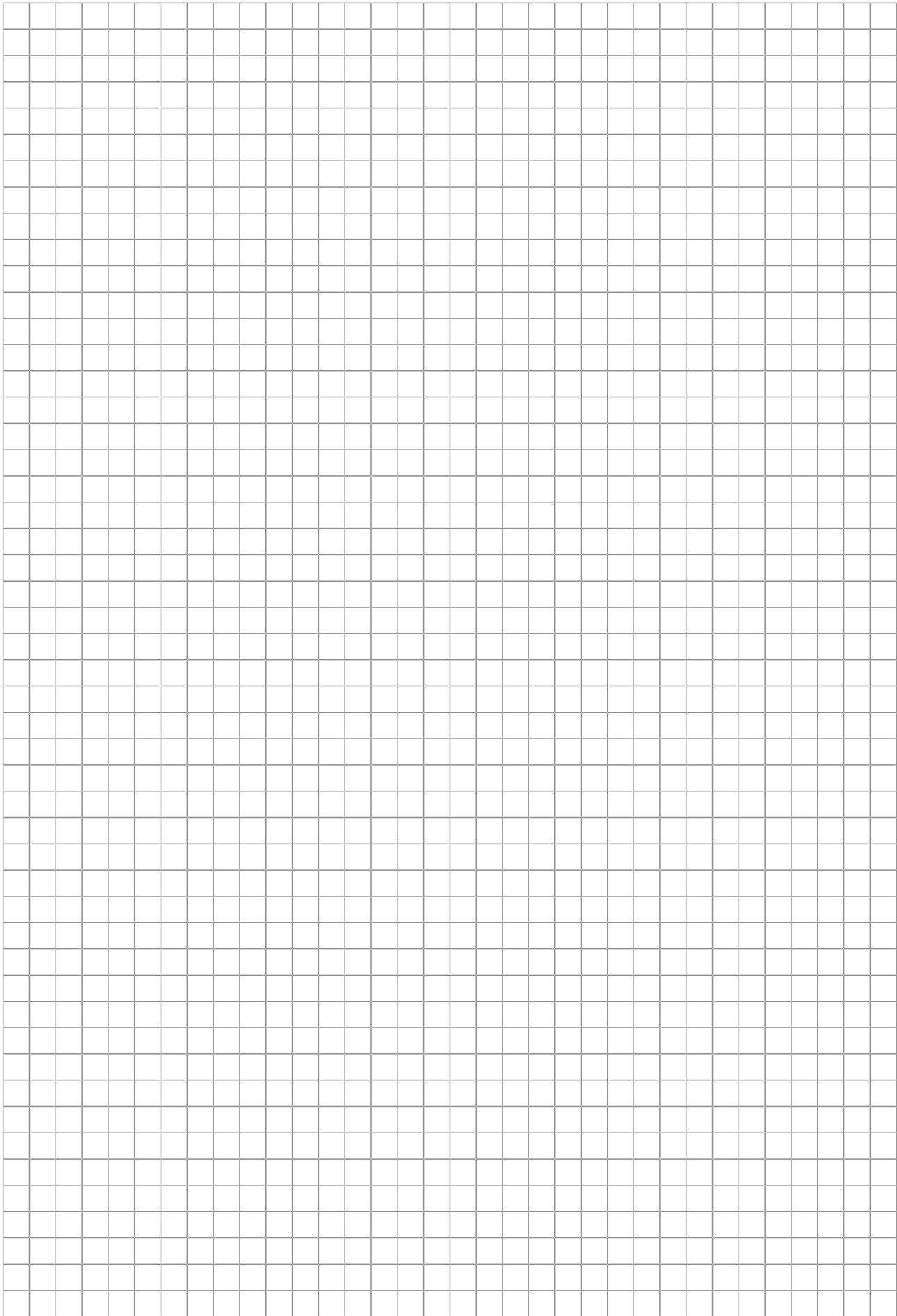
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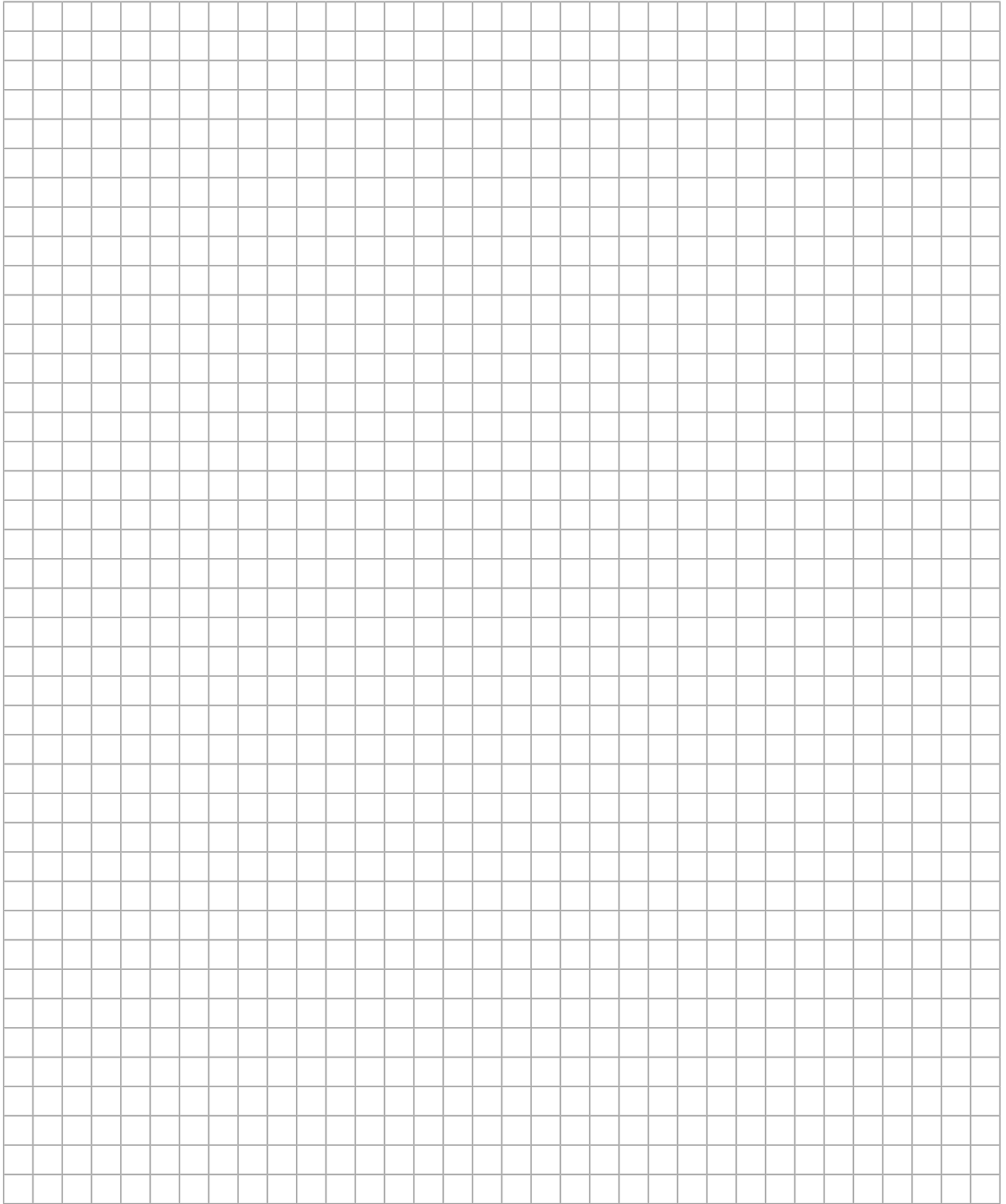
- [1] Shaft shoulder (if used)
- [2] Forcing washer
- [3] Locking nut
- [4] Longer retaining screw

7.3.1 Metric bores

Size	D [mm]	M [mm]	C4 [mm]	C5 [mm]	C6 [mm]	U ^{-0.5} [mm]	T ^{-0.5} [mm]	D3 ^{-0.5} [mm]	L4 [mm]	Kit Part Number
37/47	30	M10	5	10	25	7.5	33	29.7	35	643 685 4
57/67	40	M16		12	34	11.5	41.9	39.7	50	643 687 0
77	50				43.5	13.5	53.5	49.7		643 689 7
87	60	M20		16	56	17.5	64	59.7	60	643 690 0
97	70				65.5	19.5	74.5	69.7		643 691 9
107	80	M24		20	75.5	21.5	85	79.7	70	106 8211 2
107	90				80	24.5	95	89.7		643 692 7
127	100				89	27.5	106	99.7		643 693 5
157	120				107	31	127	119.7		643 694 3









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