



Gearbox assembling Check Lists

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This check list pertains to assembling the Commando gearbox. It is assumed that the gearbox is completely dismantled and the bearings have been removed from the cases. For information on dismantling the gearbox see [Dismantling and inspecting the Commando gearbox](#). We will not go into detail on each step since that is covered in another article ([Assembling the Commando gearbox](#)), but just list the order of the steps to follow.

Line No.	Description	Check
1	Bead Blast the inner case and the gearbox shell.	.
2	Clean and polish the outer cover.	.
3	Thoroughly clean the gearbox shell, inside and outside.	.
4	Install the quadrant and cam bushings if required (04-0056).	.
5	Install the layshaft bearing (06-7710) in the gearbox shell.	.
6	Install the sleeve gear bearing (04-0098/S) in the gearbox shell.	.
7	Tape off the gearbox shell and paint.	.
8	For pre-MK3 gearboxes, upgrade the breather on the inner case (see Eliminating oil leaks due to pressure build up in the Commando gearbox).	.
9	Thoroughly clean the inner case, inside and outside.	.
10	Install the mainshaft bearing (04-0099) in the inner case.	.
11	For MK3 gearboxes, install the gearshaft bushing (06-5184, if required) and the Oil seal (06-5183) in the inner case.	.

12	Tape off the inner case and paint.	.
13	Install the sleeve gear oil seal (04-0132) in the gearbox shell.	.
14	Install the Plunger (04-0034), spring (04-0044), bolt (04-0036), washer (06-3447) and O-Ring (52-390015) in the gearbox shell.	.
15	Install the quadrant (04-0109 pre-MK3, 06-5148 MK3) in the gearbox shell.	.
16	For pre-MK3 install the quadrant O-Ring (04-0129), bolt (04-0136) and washer (00-0174). For MK3 install the quadrant O-ring (04-0129), washer (06-5149) and circlip (01-9512).	.
17	Install camplate (04-0108 pre-MK3, 06-5504 MK3) in the gearbox shell.	.
18	Install the camplate O-Ring (04-0129), bolt (04-0136) and washer (00-0174).	.
19	Check fit of camplate and add shim if required.	.
20	Install the sleeve gear (06-1057 or 06-5954).	.
21	Fit the 3rd gear lay (04-0634) and bushing (04-0047) on the layshaft (04-0025 or 06-6666).	.
22	Fit the 4th gear lay (06-1058) on the layshaft.	.
23	Fit the inner race (layshaft bearing (06-7710)) on the layshaft.	.
24	Insert the layshaft into the layshaft bearing in the gearbox shell.	.
25	Insert the mainshaft (06-0384) into the sleeve gear.	.
26	Fit 3rd gear main (04-0635) and its selector fork (04-0022) onto the main shaft.	.
27	Fit 2nd gear main (04-0418 or 06-4640) and its bushing (04-0048) on the main shaft.	.
28	Fit 2nd gear lay (04-0019 or 06-4639) and its selector fork (04-0022) on the layshaft.	.
29	Thread the selector fork spindle (04-0035) through both selector forks and screw into the shell.	.
30	Fit 1st gear lay (04-0115) to the layshaft.	.

31	Fit 1st gear main (04-0026) on the mainshaft.	.
32	Assemble the kickstart shaft (04-04770 or 06-6169).	.
33	Place the kickstart shaft into the inner case.	.
34	Dry fit the inner cover and check the layshaft end play. The gasket (04-0030) can be sealed to the shell side at this time and sealed to the inner cover in step 37. It is also advised that you dry fit the outer cover and verify that all four gears can be obtained. Mark the clutch cable location with a pencil for the alignment of the clutch operating lever in step 39.	.
35	Add any shims if required and check end play again.	.
36	Grease the quadrant and place the knuckle pin roller (04-0078 pre-MK3 or 06-5150 MK3) in the quadrant. Note: The MK3 roller can be installed after the inner cover is installed.	.
37	Install the inner cover to the gearbox shell using the gasket (04-0030). Torque all seven nuts to 10 to 15 ft. lbs. in a diagonal pattern.	.
38	Install the mainshaft nut (04-0023) on to the mainshaft. Torque to 40 to 50 ft. lbs.	.
39	Install the clutch operating lever body and all related parts on the inner case. Make sure the clutch operating ball (04-0031) is inside the body (04-0059) and the positioning is correct.	.
40	Install the kickstart return spring (04-0475)	.
41	Thoroughly clean the outer cover.	.
42	For MK3 gearboxes, install the gearshaft bush (06-5184).	.
43	For Mk3 gearboxes, install the kickstart shaft oil seal (06-6145).	.
44	For pre-MK3 gearboxes, install the shift shaft o-ring (04-0006) and the kickstart o-ring (04-0005).	.
45	Install the ratchet assembly in the outer cover.	.
46	Install the outer cover using gasket (04-0055).	.

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