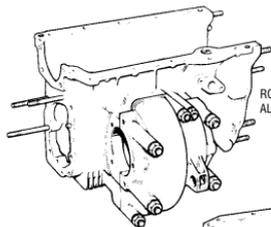


GEARBOX CASING AND PART NUMBERS

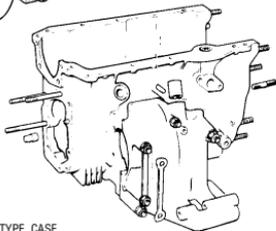
MAGIC WAND TYPE CASE
VARIOUS TO 1967



ROD CHANGE CASE
ALL MINIS FROM 1973



REMOTE TYPE CASE
ALL COOPER AND 'S', 998CC MINI
FROM 1967, 850CC FROM 1968



GEARBOX CASING AND PART NUMBERS

CASING No	PART No.	DESCRIPTION	
22A104		850cc Cone synchromesh, magic wand	NLA
22A363	22A361	850cc Cone synchromesh, magic wand	NLA
22G68		850/998cc Mini 997/998cc Cooper, 'A' and 'B' type remote or magic wand	NLA
22A1288		850/998cc Mini 'B' type magic wand	CWE
22G382		850/998cc Mini 'B' type magic wand	CWE
22G190	22G188	970/1071cc Cooper 'S' 'A' and 'B' type gears remote type	NLA
22G333	22G331	970/1275cc Cooper 'S' 'B' type	NLA
22A1228	22A1294	Non 'S' 'B' type remote type	NLA
22A1522	22A1529	Last 'B' type for Mini and 'S' 3 synchromesh remote type	NLA
22G1123	22G1338	All 4 synchro with remote	CWE
22G1832	22G2382	Rod change with small idler bearing	NLA
DAM4818	DAM3755	Rod change. A plus with 4 bolt bearing retainer	NLA
DAM2886	BHM5045	Rod change. A plus 4 bolt bearing retainer and stronger idler housing	NLA
DAM5626	BHM5093	A-Plus with 3 bolt bearing retainer	NLA

3 SYNCHROMESH

The original Mini's gears were known as cone type synchromesh, which had a brass baulk ring fitted to the gear. These were replaced in October 1962 by the conventional type of baulk ring as used today and became known as 'A' type gears. 'A' type gears were used up until September 1964 when 'B' type gears were introduced, which had to be fitted in complete sets if interchanging with exception to the Cooper 'S', which had a 22G204 laygear manufactured to accept 'B' type 1st and reverse gears 22A1021 and 22G202 respectively.

'A' type gears have a much steeper inclined helical cut which is very noticeable when placed side by side. The 'A' type 2nd and 3rd gear both run on bronze bushes whereas 'B' type run on 26 small rollers per gear. The 'A' type 3rd motion shaft (main shaft) has a smaller nose to accept the 1st motion shaft which has a fixed sleeve bearing which is obsolete and not replaceable. The 'B' type 1st motion shaft had a free fitting needle roller bearing, which slides in and out freely. Apart from the 22G204 laygear all 'A' type laygears had a circlip recess 1/10" from the ends to hold the layshaft bearings in. All 'B' type laygears plus 22G204 had the circlip recess 1" in to stop the bearings moving into the gear, but easily sliding in or out when the gear is not fitted.

4 SYNCHROMESH

At the end of 1968 the 4 synchromesh gearbox was introduced, which had all different gears and ratios. The bearing housing at the clutch end of the gearbox case, which housed the 1st motion shaft roller bearing was machined THINNER on the inside of the gearbox case to help accommodate the extra 1st gear.

ROD CHANGE 4 SYNCHROMESH

Beginning of 1973 the remote gear lever housing extensions were replaced by two external rods, hence the name rod change gearbox. Internally the three selector shafts were replaced by one.

About 1982 A-Plus gears started appearing, which were identified by having a groove mark in the middle of the teeth on 2nd/3rd gear, 1st motion and 4th gear on the laygear. These were cut at a different tooth angle making the gears (less noisy) with different ratios again.

About 1984 the center main double roller retainer was changed from 4 holes to 3 holes as the case tended to crack where one of the locating holes for the retainer was drilled.

5-SPEED

A 5-Speed overdrive transmission is currently available for the Mini. It is available in the latest Rod change configuration only. This is a completely new unit built from all new parts including special castings.