CHAPTER 3 . . GEARBOX REPAIR

LIST OF SECTIONS

Summary of Repair Data

IMPORTANT

Filter gearbox fluid through lintless filter cloth or a 30 mesh filter—when washing parts use a brush, compressed air and clean fluid—Do not use rag.

KEEP EVERYTHING CLEAN

SCREW THREADS

Ensure, by running screws home fully with fingers, that threads are free. Use oil, and torque load to final tightness.

JOINTS

Renew external joint washers. Internal joints are made by specially machined joint faces; they do not require jointing compound and must not be refaced.

THRUST WASHERS

Label thrust washers during removal; exact knowledge of their running position will assist subsequent inspection and assembly.

NEW PARTS

Use the Spares Schedule (T.S.D. 498) for identification of parts. Ensure that bolts and screws have the correct thread.

LUBRICATION

Use gearbox fluid for oiling parts during assembly. If grease is necessary to hold parts in position, use petroleum jelly.

SUMMARY OF REPAIR DATA

The torque loadings given in this summary apply to nuts and bolts assembled with gearbox oil on the threads and the bolt or nut faces. Inspection and assembly check dimensions apply only to the methods described later in the sections.

SECTION 1 - REMOVING AND INSTALLING

Torus cover drain plug	6 to 7 lb. ft.
Torus cover to flywheel	27 to 32 lb. ft.
Bell housing halves	27 to 32 lb. ft.
Throttle lever to spindle	10 to 12 lb. ft.
Selector lever to shaft	10 to 13 lb. ft.

SECTION 2 - FLUID COUPLING

Mainshaft nut	50 to 60 lb. ft.
Bell housing to gearbox casing	70 to 75 lb. ft.
Relief valve retainer to torus hub	6 to 8 lb. ft.
Intermediate shaft end float	0.005 to 0.008 in.

SECTION 3 - SIDE COVER, SUMP AND FILTER

Side cover to gearbox casing	10 to 12 lb. ft.
Sump to gearbox casing	10 to 13 lb. ft.
Sump drain plug	35 to 45 lb. ft.

SECTION 4 - CONTROL VALVE UNIT

Control valve unit to gearbox casing	6 to 8 lb. ft.
Front body to inner valve body	3 to 4 lb. ft.
Outer body to inner valve body	3 to 4 lb. ft.
Overspeed valve body to inner valve body	3 to 4 lb. ft.
Front body cover plate to front valve body	3 to 4 lb. ft.
Compensator valve plate to outer valve body	3 to 4 lb. ft.
Selector plunger body to outer body	3 to 4 lb. ft.

SECTION 5 - PARKING BRAKE BRACKET

Parking brake bracket to gearbox casing	15 to 18 lb. ft.
Parking pawl support bolt	23 to 28 lb. ft.

SECTION 6 - FRONT AND REAR SERVO UNITS

Front servo body to cylinder	6 to 8 lb. ft.
Front servo to gearbox casing	23 to 28 lb. ft.
Front servo screwed plug	6 to 7 lb. ft.
Front servo valve body to servo body	6 to 8 lb. ft.
Rear servo strap to body	10 to 13 lb. ft.
Rear servo to gearbox casing	23 to 28 lb. ft.
Band adjusting screw lock nut	40 to 50 lb. ft.

SECTION 7 - REAR PUMP AND GOVERNOR UNIT

Rear pump and governor to gearbox casing	15 to 18 lb. ft.
Rear pump cover to pump body	8 to 10 lb. ft.
Governor body to driving flange	6 to 8 lb. ft.
G2 valve retaining plate to governor body	3 to 4 lb. ft.
Governor tower run-out	0.005 in. max.
Governor drive flange run-out	0.002 in. max.
Governor sleeve oil sealing ring gap	0.001 to 0.006 in.
Pump drive shaft end float	0.002 in. min.

SECTION 8 - PRESSURE CONTROL VALVE

Pressure control valve to gearbox casing	40 to 50 lb. ft.

SECTION 9 - FRONT PUMP AND DRIVE SHAFT

Body to cover	12 to 15 lb. ft.
Pump to gearbox casing	10 to 13 lb. ft.
Vanes diametrical clearance	0.001 to 0.003 in.
Slide end clearance	0.001 to 0.002 in.
Rotor end clearance	0.001 to 0.0015 in.
Cover sealing ring gap	0.005 to 0.010 in.
Bell housing-to-gearbox casing nip	0.003 to 0.013 in.

SECTION 10 - RIDE CONTROL PUMP

Driving key end float	0.020 to 0.040 in.

SECTION 11 - SPEEDOMETER DRIVE

Drive shaft end float	0.004 to 0.060 in.

SECTION 13 - REVERSE UNIT

Reverse housing to gearbox casing	28 to 33 lb. ft.
Drive flange to rear drum	10 to 13 lb. ft.
Main shaft end float	0.004 to 0.015 in.
Output shaft end nip	0.004 to 0.010 in.
Reverse planet carrier end float	0.004 to 0.010 in.

SECTION 14 - DRUM ASSEMBLY

Centre bearing cap to gearbox casing	40 to 50 lb. ft.
Rear planet pinion annulus gear to rear drum	3 to 4 lb. ft.
Oil delivery sleeve sealing ring gap..	0.001 to 0.006 in.
Front drum end float on intermediate shaft	0.005 to 0.008 in.

SECTION 15 - GEARBOX CASING

Oil pressure check point plug	15 to 18 lb. ft.