

NEWAGE
Driveline Solutions



AUSA
SERVICE MANUAL

G2000/14A231 Series Transfer Gearbox

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1 INTRODUCTION

Spare parts for Newage transfer gearboxes may only be obtained from the original equipment manufacturer and not directly from Newage. Always quote your vehicle/machine serial number transfer gearbox serial number – see section titled 'Identification.'

If possible, the repair/service should be carried out in a clean environment. Where this is not possible and the work must be completed on site, appropriate measures must be taken to ensure that dirt or foreign matter does not enter the unit. Newage transfer gearboxes are designed to operate in the arduous conditions found in the construction industry; providing they are maintained regularly they will provide the service our customers expect from Newage products.

2 GENERAL DESCRIPTION

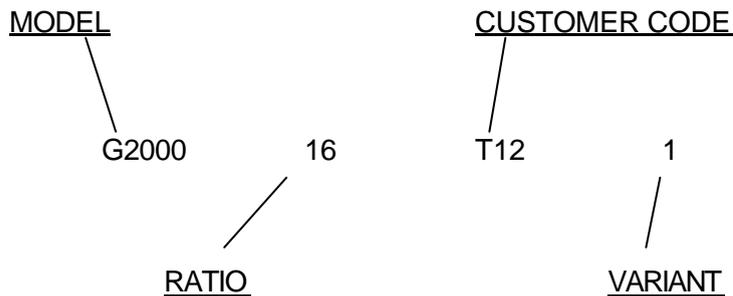
The G2000 series free standing transfer gearbox is primarily for use in 4 wheel drive off-road applications.

3 IDENTIFICATION

If spares are required, please quote the transfer gearbox series and the vehicle/machine model and serial number. We offer input couplings to suit individual customer requirements, therefore it is important to identify the transfer gearbox correctly.

The part number allocated to each transfer gearbox describes the basic specification as below.

EXAMPLE



4 GENERAL SERVICE INFORMATION

4.1 Routine Maintenance

/// /// Check for oil leaks around joints and seals:	Weekly
/// Check case half bolts:	Monthly
/// Check coupling bolts:	Monthly

4.2 Lubricants

Only those lubricants shown below, or their direct equivalents must be used.

- ~~///~~ MOBIL HD80
- ~~///~~

The oil is added via the filler plug positioned on the case.

(Approximate oil capacity is 0.4 litre / 0.7 pint).

4.3 Greases

Pack the gaps between oil seal lips at major overhauls, or whenever a repair to these areas is performed.

- ~~///~~ BP "ENERGREASE LC2"
- ~~///~~ MOBIL "MOBILGREASE XHP 222"

4.4 Liquid Sealant

The half case joint faces must be sealed with either of the following:

- ~~///~~ LOCTITE "595"
- ~~///~~ HERMETITE "RED"
- ~~///~~

4.5 Fasteners – Tightening Torque

/// Half case bolts (M10)	30 Nm	(22 lbf.ft)
/// Coupling bolts (M16)	270 Nm	(200 lbf.ft)
/// Idler Shaft Location bolt	56 Nm	(40 lb.ft)

5  **TRANSFER BOX DESIGNATION**

ALL GEARS WITH 15 DEGREE HELIX ON TEETH

G2000/12	A	29 TEETH HELICAL INPUT GEAR
	B	34 TEETH HELICAL IDLER GEAR
	C	35 TEETH HELICAL OUTPUT GEAR
G2000/14	A	26 TEETH HELICAL INPUT GEAR
	B	35 TEETH HELICAL IDLER GEAR
	C	36 TEETH HELICAL OUTPUT GEAR
G2000/16	A	22 TEETH HELICAL INPUT GEAR
	B	37 TEETH HELICAL IDLER GEAR
	C	35 TEETH HELICAL OUTPUT GEAR
ALL UNITS	D	LEFT HAND CASE(blind input)
	E	RIGHT HAND CASE(open input)

6 TRANSFER BOX ASSEMBLY

6.1 Dis-assembly procedure

1. Drain oil by removing drain plug (41) and washer (40). Replace the plug and washer when oil is drained.
2. Lay unit on a flat surface.
3. Remove input coupling bolt (12) and washers (10 & 11) and withdraw the coupling (8).
4. Remove output coupling nuts (22) and washers (23) and withdraw 1 coupling only

(Note: if changing output seals only, the output shaft MUST remain in position. If the shaft is withdrawn, the spacers (28) will fall into the bottom of the case, necessitating a complete strip of the gearbox.
5. Withdraw the output shaft (26).
6. Using the top left and bottom right threaded bolt holes, and 4 screws, split the case.
7. Lift output gear (29) and 2 off spacers (28 & 32) from case.
8. Remove idler lock bolt (46) and washers (45 & 44)
9. Press out idler shaft (14).
10. Remove 2 off o-rings (13) from shaft.
11. Press 1 off bearing (16) from the idler gear. Remove circlip (16) and press off the other bearing (15).
12. Refit input coupling(9) to the input shaft (1), tighten finger tight. Tap the underside of the coupling with a soft mallet to remove the input shaft, remove coupling and press input shaft through the gear and bearings.

6.2 Assembly procedure

Gear case half D

1. Press bearing (27) into output bore.
2. Turn case over and press output seal(25) into both case D and case E.
3. Press bearing(2) onto input shaft(1).
4. Press input shaft into blind bore of case.
5. Place spacer(3) over input shaft.
6. Fit input gear(4) to spline.
7. Fit spacer(5) over input shaft.
8. Fit output shaft(26) into bearing(31).
9. Place spacer(28) over output shaft.
10. Fit output gear(29) to spline of output shaft.
11. Place second spacer(30) over output shaft.
12. Fit circlip(16) into bore of idler gear(18).
13. Press 2 bearings(15 & 17) into bore of idler gear.
14. Fit circlip(18) to inner groove of idler shaft(14).
15. Press idler shaft through bearings in idler gear.
16. Fit circlip(21) to idler shaft inner groove.
17. Fit 2 off 'o'rings(13) to outer grooves on idler shaft.
18. Press idler shaft S/A into case (NOTE: position of slot in shaft to plain dia. In case half, slot facing up in line with input shaft).
19. Fit 2 off dowels(48) to D side of case.

Gear case half E

1. Apply a continuous bead of liquid sealant(Hermetite or similar) to joint face.
- 2.Place case E on top of case D and tap together.
- 3.Press bearing(2) into input bore over input shaft.
4. Fit circlip(7) into input bore.
5. Press oil seal(8) into bore, Hermetite OD of seal before fitting.
6. Turn complete unit on its side, with the input shaft on right hand side.
7. Fit eight bolts(36), NOTE: heads to the left hand side.
8. Fit spring washers(38) and nuts(39) on bolts(input side) torque to 22 lbft/ 30 Nm.
- 9.Secure idler shaft with key washer(44) to slot.
10. Fit dowty washer(45) and screw(46), torque to 40 lbft / 56 Nm.
11. Apply grease to oil seals (25) and fit 2 off couplings(24) to the output shaft.
12. Apply jointing compound to spacer faces.
- 13.Place spacers into couplings, sealant face innermost against the coupling face.
- 14.Secure with nut(19), torque to 200 lbft / 270 Nm.
15. Apply grease to oil seal(8) and fit input coupling(9) over input shaft through oil seal.
- 16.Apply jointing compound to spacer(10) and fit to input shaftwith sealant face innermost against coupling face.
- 17.Fit tab washer(11).
- 18.Secure with bolt(12), torque to 40 lbft / 56 Nm.
19. Fit drain plug(43) and bonded seal(42).
20. Fit valve(47).
21. With unit in position, fill with oil as per point 4.2, or to level hole.
22. Fit level plug(41) and bonded seal(40).

Transfer Box

