

DATA SHEET 25

Handraulic002/1_07/07

STARTER UNIT ALIGNMENT TOOL 75/684 A/B

Starter unit alignment tool (75/684) should be used on new applications or old applications where alignment is suspect, usually highlighted by miss-starts, excessive dog or pinion wear or noisy engagement. The method of use is as follows:

1. NEW INSTALLATIONS

- 1.1 Fit the engine dog adaptor to the pulley or crank-shaft – securely tighten bolts, nuts etc.
- 1.2 Fit the six off starter securing studs to the starter mounting plate / bracket.
- 1.3 Where loose starter mounting plate supports are used these should now be fitted to the engine.
- 1.4 Fit the alignment tool to the mounting plate secure with suitable nuts and washers. Note the tool must be fitted with its 75mm diameter spigot away from the starter mounting face.
- 1.5 Using 3/6 capscrews supplied fit the starter mounting plate / bracket and toll assembly to the engine dog adaptor.

Because of dimensional errors or tolerance build up it may be necessary to interpose shims between the alignment tool and the starter mounting plate / bracket to ensure correct positioning. 2 Off shims are supplied with each starter set for this purpose.

- 1.6 Rotate the plate (and crankshaft) to its final position.
- 1.7 If required mark off and drill (and tap) holes for securing bolts, clear any swarf and burrs.
- 1.8 Fit securing bolts and fully tighten. Note 3.10.
- 1.9 Note – if separate mounting plate supports are used it may be necessary to fit suitable shims between the support and the mounting plate.
- 1.10 Drill and ream suitable holes and fit 2 off 6mm or 1/4" diameter dowels (1 either side) to the mounting plate.
- 1.11 Remove fitting tool.
- 1.12 To overcheck, rotate engine crankshaft some 180° and replace the alignment tool in position. It should slide easily over the engine dog adaptor spigot and into the starter unit recess.
- 1.13 Remove alignment tool.
- 1.14 Fit engine dog, securely tighten the capscrews.
- 1.15 Fit the starter unit, retaining any shim(s) already fitted.
- 1.16 Fit remainder of starter equipment in accordance with instruction given in the Operators Handbook (Publication ST4M).

2. EXISTING INSTALLATIONS

- 2.1 Refer to the Operators Handbook and de-pressurise the hydraulic system.
- 2.2 Drain the hydraulic system or secure the relay operating lever in the operating position (90° to axis of relay). This prevents tank draining.
- 2.3 Remove the starter unit.
- 2.4 Remove the engine dog.
- 2.5 Loosen or remove the starter mounting plate / bracket attachment bolts and remove any dowels if fitted.
- 2.6 Secure the alignment tool to the starter mounting plate / bracket with the 75mm diameter boss away from the starter mounting face.
- 2.7 Rotating the crankshaft as required, secure the alignment tool / starter mounting plate assembly to the engine dog adaptor.
- 2.8 Shim the mounting faces of the starter mounting plate / bracket and / or between the alignment tool and the starter mounting plate / bracket.
- 2.9 Tighten the attachment bolts, or if necessary, drill new holes, refit bolts and tighten.
- 2.10 Note – if the mounting plate / bracket distorts on tightening the bolts then the shimming is incorrect.
- 2.11 Drill and ream suitable holes and fit 2 off new 6mm or ¼” dia dowels (1 either side) to the mounting plate).
- 2.12 Remove fitting tool.
- 2.13 To overcheck, rotate engine crankshaft some 180° and replace the alignment tool in position. It should slide easily over the engine dog adaptor spigot and into the starter unit recess.
- 2.14 Remove alignment tool.
- 2.15 Refit the engine dog (replace if worn or damaged).
- 2.16 Refit the starter unit (replacing if necessary).
- 2.17 Refill and vent the hydraulic system in accordance with instructions given in the Operators Handbook.