TRANSMISSION TRANSISION

Research, development and production of new and alternative products for the A-Series goes on unabated at Mini Spares. Not only in the never ending quest for more power from the ever-green engine, but also in the components around it to usefully and reliably transmit that power to “terra-firma”.
The past 12 months has seen Mini Spares involved in much research and development in the gearbox department, trying to solve reliability, quality, and power transmission problems.

Current standard baulk rings produced in sintered metal are not man enough to deal with the demands of performance usage, in many instances only lasting one race before failure. The main reason is the incompatibility of the material specification with the usage to which it is being put. Basically it is too brittle. Mini Spares’ competition baulk ring is cast in a very high quality, high tensile manganese bronze alloy, then finish machined by hand to give an exact fit on the baulk ring cone. This provides an exceptionally strong, wear resistant ring.

The next component that came under scrutiny was the diff pin - an item that causes frequent distress amongst those with powerful road cars, auto testers, and all manner of racing where a standard diff has to be used. BL changed the pin a few times over the years, but made apparently little difference, especially to the modified market.
In-depth analysis over a couple of months accumulated the contributing factors to the horrendous wear rates and failures, enabling Mini Spares to produce a new generation pin that would all but eradicate the aforementioned problems. Production tolerances are tied down to exacting specifications, and material type upgraded, as was the heat-treatment. Planet wheel contact area is increased as is the core strength of the pin, combining with the finer finish ground surface to give a very tough and hard wearing component.

Layshafts have been giving more than their fair share of aggravation over the past couple of years. Basically it is just a case of cheap engineering - shafts produced down to a price rather than reasonable quality. The use of cheap materials, rapidly machined, then poorly heat treated results in a shaft that wears rapidly due not only to poor surface finish but also because of shaft flexing. The Mini Spares layshafts are produced as a precision component from high grade materials and meticulous attention to the heat treatment and finish grinding, thus providing a stronger, straighter, more resilient shaft. These are available for 3 and 4 syncro boxes, both single and dual step types.

C-22A1740
Competition baulk ring.

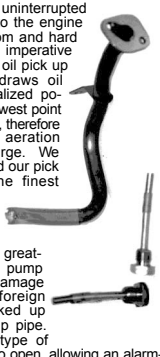
C-BTA166
Super strength diff pin.

C-22A1731
3 synchro hi-grade layshaft.

C-22A1738
4 synchro hi-grade layshaft single step pre A-Plus.

C-22A1739
4 synchro hi-grade layshaft dual step A-Plus.

CENTER OIL PICK-UP



To ensure an uninterrupted supply of oil to the engine during high rpm and hard cornering it is imperative to fit a center oil pick up pipe. This draws oil from a centralized position at the lowest point of the gearbox, therefore avoiding aeration caused by surge. We have designed our pick up to use the finest screen possible without reducing maximum oil flow. This greatly reduces oil pump and engine damage caused by foreign particles sucked up by the pick up pipe. The original type of screen was too open, allowing an alarming amount of debris to be circulated. An extended magnetic drain plug is also available.

DP1
Extended magnetic drain plug.

C-AHT54
Center oil pick up pipe. Fits all boxes although slight alteration may be needed due to inconsistent casting of the casings.

QUICK SHIFT KITS

A recent development is the quick shift gear lever kit. It has been designed to reduce the overall gear lever ratio from 8 to 1 to 4 to 1, thereby reducing the distance the lever has to be moved for gear selection.

C-22A1750
Quick shift gear change kit for remote type gear lever.

C-22A1751
Quick shift gear change kit for rod type gear lever.