Description

General
The LT 230SE transfer box is mounted at the rear of the gearbox and transmits drive via high or low reduction ratios to the front and rear axles via the propeller shafts. The high/low ratios are 1.211:1 and 3.32:1 respectively.

Transfer boxes fitted to this model have the prefixes 41D and 42D to the unit serial number. Prefix 41D denotes that the unit is not fitted with interlock whilst 42D denotes that interlock is fitted.

Vehicles up to 03 model year – Whilst similar to LT230Q transfer boxes fitted to other models, the LT230SE transfer box has certain engineering modifications incorporated which are as follows:
- Uprated torque capacity
- Modified front and rear output and cross shaft housings
- Intermediate gear bearing pre-load now controlled by a selective, non-collapsible spacer
- Speedometer drive and driven gears not fitted for this application
- Modified high/low sleeve
- Modified front output flange and mud shield
- Differential lock fitted to certain vehicles, but no longer driver operated
- Fixed setting of differential lock warning lamp switch on vehicles fitted with differential lock

Vehicles from 03 model year – The LT230SE transfer box is as described above for vehicles up to 03 model year with the following modifications:

The following items are introduced on vehicles from 03 model year
- Ribs added to main casing to reduce operating noise
- Revised machining process for intermediate gears to reduce operating noise
- Bearing retaining nut on the differential carrier has patchlock added to the threads
- Interlock solenoid moved from main casing to selector lever assembly
- Intermediate gears modified with machined internal shoulder and bearing circlips deleted
- Driver operated differential lock
- High/Low selector shaft fitted with spring assist
- Existing differential lock switch replaced by 2 new switches of improved design with the additional switch installed adjacent to the existing switch location.

Construction
The transfer box comprises three main assemblies; the main casing, the front output housing and the rear output housing. Both output housings and all cover plates are sealed to the main casing by sealant; mud and water ingress being prevented by mud shields located on the output flanges.

Main casing
The main casing carries the mainshaft input gear, the intermediate gears and the differential, together with the high/low range gears, selector shaft and fork. The front and rear output housings are bolted to either side of the main casing.

Transmission neutral sensor
A transmission neutral sensor is fitted on automatic gearbox vehicles for North America and Japan. The sensor is connected to the BCU and is normally in the open position. The sensor provides an earth path for the BCU which then interprets the signal and activates an audible warning generated by the IDM if neutral is selected on the transfer box when the ignition is on.

Transfer box interlock solenoid - Automatic gearbox vehicles
An interlock solenoid is fitted for North America and Japan. The solenoid is located on the top of the transfer box main casing on vehicles up to 03 model year or on the selector lever assembly on vehicles from 03 model year. The solenoid is connected to the transfer box relay which, in turn, is controlled by the IDM. The purpose of the solenoid is to prevent neutral being selected on the transfer box when the ignition key is removed, thereby locking the box in either high or low ratio.