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MAINTENANCE MATTERS

Get into gear with preventative transmission maintenance

Transmission trends have shifted over the last few years. Long gone are the days of clunky manual clutches, but traditional automatic transmissions are no longer the only players either. MCI operators today have a choice between an Allison or ZF AS Tronic transmission combined with either a Detroit Diesel or Cat C-13 engine. While both the Allison and AS Tronic are intelligent when it comes to warning a driver of a problem (via warning dash lights and the shift selector screen), preventative maintenance is still your best bet to extend operating life and avoid costly repairs.

Some service tips follow. For full information, check your maintenance and operation manuals. More service tips are available through MCI, Allison and ZF Astronic web sites.

Transmission B500 and B500R

The Allison B500 and B500R automatic transmissions operate in a similar manner to other automatic transmissions, but with some special features. A pre-selectable shift enables the operator to select any gear at any time, though the transmission will only shift to the selected gear once output RPMs reach sufficient speeds.

While the mode button, located on the shift selector pad, has multiple functions, its primary function is to allow switching between economy- and performance-shift modes. Economy mode is the startup mode. It allows early upshifting to improve fuel economy. In performance mode, the transmission remains in gear for slightly longer periods, allowing for better performance. Drivers can switch between modes even when the vehicle is in operation.

The B500 and B500R will take two different types of transmission oil. For basic transmission warranty, Allison recommends Dexron III. The initial oil change interval should happen at 5,000 miles. Periodic oil changes should take place every 25,000 miles or 18 months. If you have an extended transmission warranty, Allison requires Transynd Synthetic oil, with an initial oil change at 25,000 miles and every 100,000 miles thereafter.

To check the transmission oil level, park the coach on level ground with the transmission in neutral and with the park brake applied. Simultaneously depress both the up and down arrows once. This will start a countdown that will show on the selector pad display. If the oil is too hot or too cold, the display will signal a numeric code. Should this occur, allow the transmission to either warm up or cool down. When the temperature is correct, the oil level will then read either "OK," or the display will show one of the following two codes: O,L,O,1 when the oil level is low one quart, or O,L,H,I,1 when the oil level is high one quart.

Additionally, pressing the up and down arrows a second time will reveal all transmission error codes that have been experienced in the last 25 ignition cycles. If "Mode On" is illuminated when reading any of these codes, it means that the code is active and should be reviewed before any further operation. A total of five codes can be stored in memory and can be switched by depressing the mode button. Code clearing is done by depressing and holding the mode button for approximately 10 seconds until a second audible "beep" is heard.

ZF – AS Tronic Transmission Maintenance

One of MCI's newest additions to the powertrain family, the ZF AS Tronic transmission, offers greatly reduced maintenance costs. Currently 30 percent of new coaches are equipped with the AS Tronic, and MCI will soon offer an interarder option with the system. The AS Tronic retains all of the positive features of a manual transmission with the operational ease of automatic operation. There are no paper element filters to service and no oil cooler to replace. The oil capacity is three gallons and only requires changing every 185,000 miles or every two years. The AS Tronic requires Castrol Syntans, SAE 75W 85.

The AS Tronic was designed to take the worry out of transmission maintenance. The estimated clutch life exceeds 500,000 miles, and the driver's display will indicate "CW" when the clutch finally requires service — which should only be performed by an MCI service center or qualified ZF service center.

Aside from servicing the oil and clutch, no preventative maintenance is required, thanks to the microprocessor-controlled, self-adjusting system. The clutch push rod and fork do not need periodic lubrication. The release bearing is a lubed-for-life, sealed, self-centering unit.

Nevertheless, in order to ensure the long life and dependable operation of the AS Tronic, operators should carefully review all applicable manuals prior to operating the coach. A few important notes to consider:

1. Unless circumstances prove it necessary to use the manual shift mode, leave the transmission in auto mode by simply selecting "D," or drive.
2. Do not attempt to select a gear until the air low (AL) indication has stopped.
3. When shifting from drive to reverse, or from reverse to drive, first stop the coach. With the service brakes applied, select neutral first, then either drive or reverse.
4. The engine must be at normal idle before shifting. If the coach is at fast idle, turn fast idle off and wait for the idle speed to slow before shifting.
5. Select "N," neutral, if the coach will be stopped with the engine running for long periods.
6. During extreme cold weather startup (-4° to -22° Fahrenheit; -20° to -30° Centigrade) allow the AS Tronic at least 10 minutes of warm-up time prior to

...to ensure proper operation.
operation.

By following these steps and performing the required oil changes and clutch maintenance, the AS Tronic will provide years of trouble-free operation.

Even with great maintenance, bad things can occasionally happen to good transmissions. No matter which transmission option you choose, never ignore a problem. If either the dashboard warning lights or shift selector screen alert you or your driver to a malfunction, a technician should inspect the coach immediately.

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