

OPERATION Allison 2500 Series

Driving the Allison 2500 Series Transmission

Allison 2500 Series is a fully automatic transmission, featuring a torque converter with a lock up clutch and five (5) forward and one (1) reverse gear ratios.

Procedure - Start Up

1. Ensure the park brake is applied.
2. Turn the ignition key to the **ON** position and observe that the check lamp function has momentarily illuminated both the SHIFT LIMIT and Automatic Transmission WARNING lights.
3. Ensure the Range Selector Lever is in the “N” position.
4. Start the engine.

Selecting a Starting Gear and Gear Shifting

1. Depress the brake pedal and with the engine at idle speed, select the required driving range ('R', 'OD', 'D', '2' or '1') and then wait approximately 1 second for full gear engagement.
2. Set the vehicle in motion by releasing the brake pedal and then the park brake whilst progressively applying the accelerator pedal.
3. When moving in the forward direction all gear ratio changes are performed automatically within the parameters of the mode selected.
4. When stopping the vehicle at traffic lights etc. hold the brake pedal depressed to prevent the vehicle from forward or rearward movement.

Procedure - Shut Down

1. Stop the vehicle and hold the brake pedal depressed.
2. With the engine stabilised to idle speed, select “N”.
3. Apply the park brake.
4. Turn the ignition key to the **OFF** position and release the brake pedal.

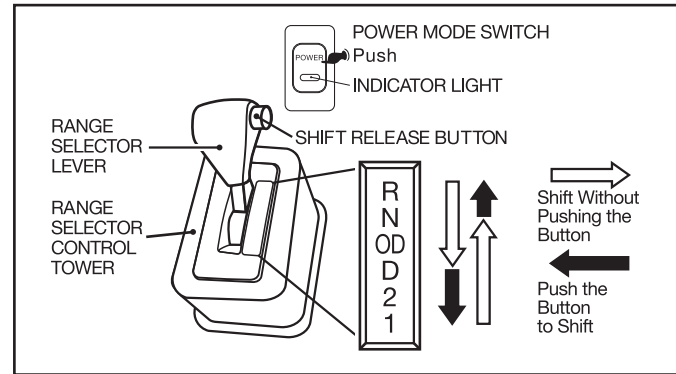
Notes:

- **Neutral Safety Function:** The starter cannot be activated unless the Range Selector Lever is in the 'N' position.
- **Range Shift Limit (engine and road speed) Function:** When shifting from 'N' to either a forward or reverse mode gear, the engine must be at idle speed and the vehicle stationary.

If this action is not adhered to the SHIFT LIMIT warning light will illuminate. If this occurs, stop the vehicle, hold the brake pedal depressed and with the engine at idle speed, select 'N' mode and then reselect the desired driving mode.

- **Extended Idling:** To prevent overheating of the transmission, always select 'N' if you need to idle the engine for more than 5 minutes.

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R Reverse Mode

“R” mode is used for moving the vehicle rearwards.

When shifting from 'N' to 'R' mode, the engine must be at idle speed and the brake pedal depressed holding the vehicle stationary. Refer note; Range Shift Limit Function.

N Neutral Mode

“N” mode is used when starting the engine, warming up the engine, extended idling periods and when stopped.

When shifting from 'N' to a driving range, the engine must be at idle speed and the brake pedal depressed holding the vehicle stationary.

Refer notes; Range Shift Limit Function and Extended Idling.

OD Overdrive Mode

“OD” mode is the position used for normal forward driving.

Shifting between forward gear ratios 1-5 is done automatically, according to engine load and road speed.

D Driving Mode

“D” mode is used when driving slowly in areas with heavy traffic, or when an additional amount of engine braking is required for descending inclines.

Shifting between forward gear ratios 1-4 is done automatically, according to engine load and road speed.

2 Second Range

“2” mode is used when descending steep inclines and increased engine braking performance is required.

Shifting between forward gear ratios 1-2 is done automatically, according to engine load and road speed.

1 First Range

“1” mode is used for manoeuvring the vehicle at low speed, or when maximum engine braking performance is required.

The transmission remains in 1st gear and does not shift.

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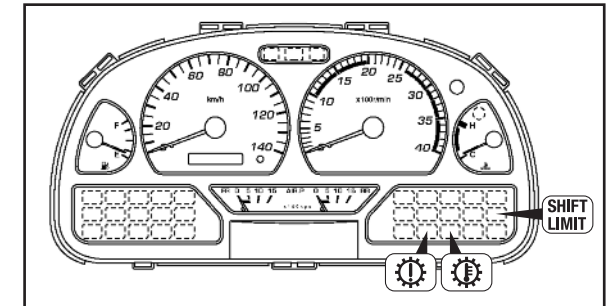
POWER Mode

When pushed once, the indicator light illuminates and the transmission selects POWER mode. This mode raises the gear shift points under both light and heavy vehicle acceleration modes.

Note: Excessive use of POWER mode may increase fuel consumption.

Switch Location: On the dash panel to the left of the steering column and in front of the Range Selector Lever.

WARNING LIGHTS



SHIFT LIMIT

Automatic Transmission SHIFT LIMIT

Under the following conditions, the ECU prohibits gear shifting for the purpose of protecting the transmission.

- Engine speed is greater than 1000 rpm when shifting from 'N'.
- Forward/Reverse Changeover: When the vehicle is moving and exceeds the specified speed.
- When the ECU receives an abnormal request signal, gear shifting is limited to protect the transmission from damage.

Automatic Transmission FLUID TEMPERATURE

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If the transmission fluid temperature rises above approximately 121°C, the warning light will illuminate and the warning buzzer will sound.

CAUTION: If the fluid temperature warning is activated, stop the vehicle, select 'N' mode and then operate the engine at 1200 ~ 1500 rpm until the fluid temperature returns to normal. It is also recommended that the transmission fluid level be checked - refer the Minor Maintenance section of the vehicle Owner's Manual.

Automatic Transmission WARNING

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The warning light illuminates when the transmission ECU detects a fault in the transmissions operation.

- ECU Reset Procedure (clearing intermittent faults): Select 'N' mode, turn the ignition switch to the OFF position and then restart the engine.

NOTE: If any of the above warning lights remain illuminated, contact your UD Trucks dealer for assistance (ph. 1300 289 283).

DRIVING TIPS Allison 2500 Series

Exhaust Brake - Interface

When the exhaust brake is activated the transmission will automatically perform downshifts at a higher road speed increasing the engine braking performance.

Descending Inclines

Taking into consideration the vehicle load and gradient conditions, select an appropriate gear range that in combination with the exhaust brake and intermittent application of the brake pedal will maintain a vehicle speed within the engine governed speed range (up to 2550 rpm).

CAUTION: DO NOT EXCEED THE ENGINE GOVERNED SPEED IN A LOWER GEAR RANGE AS THE TRANSMISSION MAY UPSHIFT TO THE NEXT HIGHER GEAR RANGE, RESULTING IN DIMINISHED VEHICLE CONTROL.

Cruise Control

- Cruise control can only be set or resumed between 35 ~ 100 km/h and when activated, the auto cruise control will continue to function within its operating range as the transmission automatically changes gear ratios.
- When driving in auto cruise, cruise control is cancelled when;
 - a) the vehicle speed drops below approximately 35 km/h or by the momentary operation of the
 - b) exhaust brake or
 - c) brake pedal.
- Once cancelled, it requires the driver to manually reactivate the cruise control by either pressing the RESUME switch if the original speed is required or the SET switch once the desired vehicle cruise speed is attained.

CAUTION: AS THE CRUISE CONTROL IS CANCELLED AUTOMATICALLY WHEN THE VEHICLE SPEED DROPS BELOW APPROXIMATELY 35 KM/H THE VEHICLE MAY LOSE ROAD SPEED RAPIDLY.

WHEN **CLIMBING HILLS** IT IS RECOMMENDED THAT THE DRIVER OVERRIDE THE CRUISE CONTROL BY APPLYING PRESSURE TO THE ACCELERATOR PEDAL.

Power Take Off (PTO)

When equipped with a transmission PTO, ensure that the PTO manufacturer's operating instructions are adhered to.



Driver Instructions MK6 Models with Allison 2500 Series 5-Speed Automatic Transmission



UD Trucks
120 Hume Highway
CHULLORA NSW 2190

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