Allison Transmission®

Service Manual

3000 Product Family

SM2148EN

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3000 PRODUCT FAMILY

Allison Transmission

Service Manual

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Allison Transmission
VOCATIONAL MODELS

3000 EVS		3500 EVS	
3000 HS		3500 HS	
3000 MH		3500 MH	
3000 PTS		3500 PTS	
3000 RDS		3500 RDS	
3000 SP	3200 SP	3500 SP	3700 SP
3000 TRV	3200 TRV		
MD 3060	MD 3066	MD 3560	MD 3070PT
MD 3060P	MD 3066P	MD 3560P	
MD 3060R	MD 3066R	MD 3560R	
MD 3060PR	MD 3066PR	MD 3560PR	
B 300	B 400		
B 300P	B 400P		
B 300R	B 400R		
B 300PR	B 400PR		
T 250	T 310		
T 255	T 325		
T 260	T 350		
T 265	T 375		
T 270			
T 280			

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ELECTRONIC CONTROL UNIT DISPLAYS AND BUTTON NAMES

Shift Selector button and display names are printed in bold capital letters ↑ (Up) arrow, ↓ (Down) arrow, **DISPLAY MODE**, **MONITOR**, **SELECT**, etc.).

The actual message displayed (text and/or letters) is printed within double quotation marks (“O L”, “O K”, etc.).

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IMPORTANT SAFETY NOTICE

IT IS YOUR RESPONSIBILITY to be completely familiar with the Warnings and Cautions described in this Service Manual. These Warnings and Cautions advise against the use of specific service methods that can result in personal injury, damage to the equipment, or cause the equipment to become unsafe. It is, however, important to understand that these Warnings and Cautions are not exhaustive. Allison Transmission could not possibly know, evaluate, and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Allison Transmission has not undertaken any such broad evaluation. Accordingly, ANYONE WHO USES A SERVICE PROCEDURE OR TOOL WHICH IS NOT RECOMMENDED BY ALLISON TRANSMISSION MUST first be thoroughly satisfied that neither personal safety nor equipment safety will be jeopardized by the service methods selected.

Proper service and repair are important to the safe, reliable operation of the equipment. The service procedures recommended by Allison Transmission and described in this Service Manual are effective methods for performing service operations. Some of these service operations require the use of tools specifically designed for the purpose. The special tools should be used when and as recommended.

WARNINGS, CAUTIONS, AND NOTES

Three types of headings are used in this manual to attract your attention:

WARNING!

is used when an operating procedure, practice, etc., which, if not correctly followed, could result in personal injury or loss of life.

CAUTION:

is used when an operating procedure, practice, etc., which, if not strictly observed, could result in damage to or destruction of equipment.

NOTE:

is used when an operating procedure, practice, etc., is essential to highlight.

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LIST OF WARNINGS

This manual contains the following warnings —

IT IS YOUR RESPONSIBILITY TO BE FAMILIAR WITH ALL OF THEM.

- **If you leave the vehicle and the engine is running, the vehicle can move suddenly and you or others could be injured. If you must leave the engine running, do not leave the vehicle until you: Put the transmission in N (Neutral)…and — Apply the parking brake and emergency brakes and make sure they are properly engaged…and — Chock the wheels and take any other steps necessary to keep the vehicle from moving.**
- **Avoid contact with the hot fluid or the sump when draining transmission fluid. Direct contact with the hot fluid or the hot sump may result in bodily injury.**
- **While conducting a stall check, the vehicle must be positively prevented from moving. Apply the parking brake and service brake, and chock the wheels securely. Warn personnel to keep clear of the vehicle and its travel path. Failure to do so can cause serious injury.**
- **Use appropriate safety equipment such as safety glasses, safety shoes, and gloves.**
- **Do not burn discarded Teflon® seals; toxic gases are produced by burning Teflon®.**
- **Never dry bearings by spinning them with compressed air. A spinning bearing can disintegrate, allowing balls or rollers to become lethal flying projectiles. Also, spinning a bearing without lubrication can damage the bearing.**
- **3000 Product Family transmission dry weights are as follows:**

—basic configuration	**243 kg (535 lb)**
—with PTO provision	**261 kg (575 lb)**
—with retarder	**279 kg (615 lb)**
—with PTO provision and retarder	**297 kg (655 lb)**
—with PTO provision, retarder, and integral sump cooler	**336.5 kg (740 lb)**
3700 SP and MD 3070PT	**530 kg (1170 lb)**

  Use proper tools and lifting equipment when installing or removing a transmission from the repair stand.
- **The transfer case module assembly weighs approximately 270 kg (595 lb).**
- **The control module assembly weighs approximately 25 kg (56 lb). Handle carefully to avoid personnel injury or control module damage. The control module assembly used in a 3700SP and MD 3070PT weighs approximately 29 kg (65 lb).**
- **The retarder module assembly weighs approximately 64 kg (141 lb). Use care to prevent injury to personnel while handling the retarder module assembly.**
- **Piston springs are highly compressed. Be extremely careful during removal and installation. Personal injury can occur if the spring force is not controlled.**
- **Transmissions installed in overhaul stands must be positioned vertically before installing control module. Failure to do so could result in personal injury.**

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