

Fault Code Retrieval/Clearing

Retrieving Fault Codes

- Place the shift lever in neutral.
- Set the parking brake.
- Turn the ignition key ON but do not start the engine. If the engine is already running, you may still retrieve codes, however, do not engage the starter if engine stalls.
- To Retrieve Active Codes:** Start with the key in the ON position. Turn the key OFF and ON two times within five seconds ending with the key in the ON position. After five seconds, the gear display begins flashing two-digit fault codes. If there are no active codes the gear display will show code 25. If there are inactive codes PD (Product Diagnostic mode) will be displayed. The vehicle will not start in PD mode. You must turn vehicle key OFF and allow the system to power down to exit PD mode before restarting. **To start engine turn key off and wait for the transmission to power down.**
- To Retrieve Inactive Codes:** Start with the key in the ON position. Turn the key OFF and ON four times within five seconds ending with the key in the ON position. After five seconds, the gear display begins flashing two-digit fault codes. If no codes are active, the gear display will flash code 25 (no codes).
- Two digit fault codes will be displayed in the gear display. Record the codes. A one or two second pause separates each stored code, and the sequence automatically repeats after all codes have been flashed.



Clearing Fault Codes

- Start with the key in the ON position. Turn the key OFF and ON six times within five seconds, ending with the key in the ON position.
Note: If the codes have been successfully cleared, the service lamp will come on and stay on for five seconds.
- Turn the key OFF and allow system to power down.

Fault Codes	Description	Fault Codes	Description
11	No ECU. Operation Test	43	Range Solenoid Valve
12	Improper ECU Configuration	44	Inertia Brake Solenoid Coil
13	J1939 Control Device	45	Inertia Brake Performance
14	Invalid Shift Lever Voltage	46	Splitter Solenoid Valve
16	High Integrity Link	51	Rail Position Sensor
17	Start Enable Relay	52	Gear Position Sensor
25	NO CODES	56	Input Shaft Sensor
26	Clutch Slip	57	Main Shaft Sensor
27	Clutch Disengagement	58	Output Shaft Sensor
28	Clutch System	61	Rail Select Motor
31	Momentary Engine Ignition Interrupt Relay MEIR	63	Gear Select Motor
32	Loss of Switch Ignition Power Test	71	Unable to Disengage Gear
33	Low Voltage Supply	72	Failed to Select Rail
34	Weak Battery Voltage Supply	73	Failed to Select Gear
35	J1939 Communication Link	74	Engine Failed to Respond
36	J1939 Engine Message Test	75*	Power Down in Gear
37	Power Supply	83	Shift Lever Missing
41	Range Failed to Engage	84	Shift Controller Device Not Configured
42	Splitter Failed to Engage	85	Shift Control Device Incompatible

An 88 may appear in the gear display which indicates self testing.

*This code only set inactive.

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Driver Instructions

AutoShift™ Gen3 with SmartShift™ Control



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Operation

Driving the AutoShift

Proper Start-up

1. Make sure neutral “N” is selected and the parking brake is set.
2. Depress the clutch pedal and turn the ignition key to “On”. Wait for a solid “N” to appear on the gear display.
3. Start the engine and release the clutch pedal to register proper input shaft speed. If the AutoShift does not see input speed, it will not shift into initial starting gear.



Selecting a starting gear

1. Select “Drive” on the outer edge of lever by moving the selector slide to “D” or “L”. At this point you can also move the toggle switch to either “MAN” (Manual) or “AUTO” (Automatic)
2. Depress the clutch pedal. A solid number on the gear display indicates that the gear is fully engaged. If flashing down arrows appear on the gear display, this indicates that the input shaft has not slowed down enough to engage the gear. Continue to depress the clutch pedal until the down arrows are off. If the down arrows are off and the gear number continues to flash, slowly let up on the clutch pedal to fully engage the gear.
3. Depending on how your vehicle is programmed, you can select different starting gears while in “D”, “MAN” or “AUTO” by moving the lever towards you for higher gears or away from you for lower gears. Remember to choose the correct starting gear for your load and grade. AutoShift will remember this starting gear until you select another starting gear or power the unit down.
4. Let out the clutch.

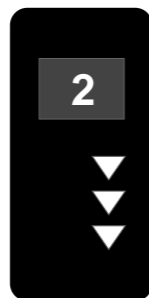


Illustration only.

AutoShift will automatically upshift and downshift in Drive “D”.

Operation

“MAN” Manual Mode

1. Can be selected while moving or from a stop.
2. Must use the lever to change gear, towards you for higher gears and away from you for lower gears.
3. Shifter will “beep” if shift cannot be completed due to engine RPM and road speed.

“L” Low Mode

1. Can be selected while moving or from a stop.
2. Selecting “L” from a stop engages and maintains 1st gear.
3. Selecting “L” while moving will allow for downshifts only and downshifts will be performed at a higher RPM to maximize engine braking.

“R” Reverse Mode

1. Selecting Reverse from Neutral will engage Low Reverse and an “R” will appear on the gear display.
2. Transmission models with multiple reverses must use the lever to select other reverse gears. Remember to select the proper reverse gear for your load and grade condition.
3. All reverse gears can only be engaged when the vehicle is stationary.

Proper Shut Down Procedure

1. Remember to depress the clutch when stopping the vehicle.
2. **Select Neutral and make sure a solid “N” appears on the gear display.**
3. Set the parking brake.
4. Turn the key off and release the clutch pedal.

NOTE: It is very important that you “do not” shut the truck off or stall the engine while the transmission is in gear. This will cause the transmission to lock in gear and the engine will not restart.



1. SmartShift Control
2. Forward Driving Mode Switch (slide switch)
3. MAN Switch Position
4. AUTO Switch Position
5. Upshift Direction (in manual mode, pull upward)
6. Reverse Selector Position
7. Mode Selector Switch
8. Neutral Selector Position
9. Drive Selector Position
10. Low Selector Position
11. Downshift Direction (in manual mode, push downward)

Operation

Driving Tips

The clutch is only needed at Start-up, when selecting a starting gear, and when stopping. “D”, “M” and “L” can be selected at any speed.

If the down arrows continue to flash after selecting a starting gear even after pushing the clutch pedal all the way to the floor and waiting several seconds, it means that the input shaft has not slowed down enough to engage the gear. This could be caused by a misadjusted clutch or a faulty clutch or clutch linkage.

When first starting up and after changing loads, AutoShift needs to adapt to the changing conditions of the vehicle. If the transmission holds a gear while in “D”, simply pull the lever towards you and the shift will be completed. This may have to be done several times before the transmission learns.

When AutoShift is downshifting in “D” it will not complete the shifts below a preset gear (normally 9th gear in an 18 speed transmission) and the vehicle will “coast down” until the driver gets back on the throttle.

Manual Mode “M” should be used whenever you want to control the shifts, such as moving around the yard, going up a grade, or in poor traction situations.

Low Mode “L” should be used anytime you want to maximize the engine brake such as going down a long grade, or when coming to a stop.

AutoShift can activate the engine brake to make shifts faster. This can happen even if-the engine brake dash switch is off.

If a shift is required while in cruise, AutoShift will interrupt cruise while performing the shift and automatically re-engage cruise after the shift is complete.

If AutoShift has detected a fault in the system you will see an “F” in the gear display. Note the conditions at which the fault occurred (hot/cold, wet/dry, on a grade/flat terrain) and get the vehicle to a service facility. Some faults will not allow the AutoShift to shift into other gears. You can try to reset the system by powering the system down for 5 minutes which may clear the fault long enough to get to a service facility.

If the engine is shut off, stalls while in gear, or a dash “-” appears on the gear display after power up, perform the following procedure to try to get the transmission back into neutral:

1. Turn key “Off” and let transmission power down for at least 5 minutes.
2. Release parking brake and hold vehicle by using the brake pedal.
3. Depress clutch pedal but **DO NOT** push it all the way to floor making contact with the clutch brake.
4. Make sure shifter is in neutral.
5. Turn ignition key “On”.
6. Slightly release the brake pedal to let the torque off the driveline. AutoShift will attempt to shift into neutral. If neutral is achieved, the “N” will appear on the shift display and truck will start.

NOTE: If the above procedure does not work, get the vehicle to a service facility.