

Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2016 FORD Flex OEM Service and Repair Workshop Manual

[Go to manual page](#)

		Installation).
	C clutch piston return spring	<p>DISASSEMBLE and INSPECT the C clutch piston return spring for damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Overhaul).</p>
	C clutch friction plates	<p>DISASSEMBLE and INSPECT the C clutch friction and steel plates for wear and damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Overhaul).</p>

Copyright © Ford Motor Company

Sample

	Installation).
	<p>DISASSEMBLE and INSPECT the main control valve body and separator plate passages for debris, blockage and leaks. CLEAN as necessary.</p> <p>REFER to: Main Control Valve Body (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Removal and Installation).</p>
D clutch hydraulic circuits blocked/leaking	<p>CARRY OUT the air pressure test on the D clutch.</p> <p>REFER to: Special Testing Procedures (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).</p> <p>If a leak is detected, INSPECT the front support assembly, input shaft Teflon seals and D clutch piston seals for leaks. INSTALL new components as necessary. REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>
CDF clutch cylinder, planetary carrier no. 3	<p>DISASSEMBLE and INSPECT the CDF clutch cylinder and planetary carrier no. 3 for wear and damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>
D clutch piston seals	<p>DISASSEMBLE and INSPECT the D clutch piston seals for wear and damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>
D clutch friction plates	<p>DISASSEMBLE and INSPECT the D clutch friction and steel plates for wear and damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission</p>

	D clutch friction plates	<p>DISASSEMBLE and INSPECT the D clutch friction and steel plates for wear and damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission</p> <p>(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>
D clutch delayed/soft/slipping apply	Incorrect transmission strategy programmed into PCM (powertrain control module) / TCM (transmission control module) .	<p>CARRY OUT the Transmission Strategy Download and the Adaptive Learning Drive Cycle.</p> <p>REFER to: Transmission Strategy Download</p> <p>(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).</p> <p>REFER to: Adaptive Learning Drive Cycle</p> <p>(307-01B Automatic Transmission - 10-Speed Automatic Transmission – 10R80 MHT, General Procedures).</p>
	Low line pressure	<p>CARRY OUT the line pressure test. If line pressure is low, REFER to the Line Pressure Diagnosis Chart.</p> <p>REFER to: Special Testing Procedures</p> <p>(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).</p>
	SSD (shift solenoid D) mechanically sticking	<ul style="list-style-type: none"> • CARRY OUT the PCM (powertrain control module) / TCM (transmission control module) - Transmission Accelerated Main Control Break In Routine 3 times using the diagnostic scan tool. • CARRY OUT the adaptive learning drive cycle procedure. REFER to: Adaptive Learning Drive Cycle(307-01B Automatic Transmission - 10-Speed Automatic Transmission – 10R80 MHT, General Procedures). • If the Transmission Accelerated Main Control Break In Routine and adaptive learning drive

		<p>REFER to: Special Testing Procedures (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).</p> <p>If a leak is detected, INSPECT the front support assembly, input shaft Teflon seals and D clutch piston seals for leaks. INSTALL new components as necessary. REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>
	D clutch piston seals	<p>DISASSEMBLE and INSPECT the D clutch piston seals for wear and damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>
	D clutch friction plates	<p>DISASSEMBLE and INSPECT the D clutch friction and steel plates for wear and damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>
D clutch harsh apply	Incorrect transmission strategy programmed into PCM (powertrain control module) / TCM (transmission control module) .	<p>CARRY OUT the Transmission Strategy Download and the Adaptive Learning Drive Cycle.</p> <p>REFER to: Transmission Strategy Download (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).</p> <p>REFER to: Adaptive Learning Drive Cycle (307-01B Automatic Transmission - 10-Speed Automatic Transmission – 10R80 MHT, General Procedures).</p>
	High line pressure	<p>CARRY OUT the line pressure test. If line pressure is high, REFER to the Line Pressure Diagnosis Chart.</p> <p>REFER to: Special Testing Procedures (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and</p>

	<p>clutch control valve. If the bore or valve is damaged, INSTALL a new main control valve body.</p> <p>REFER to: Main Control Valve Body(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Removal and Installation).</p>
D clutch hydraulic circuits blocked/leaking	<p>DISASSEMBLE and INSPECT the main control valve body and separator plate passages for debris, blockage and leaks. CLEAN as necessary.</p> <p>REFER to: Main Control Valve Body (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Removal and Installation).</p>
D clutch piston return spring	<p>DISASSEMBLE and INSPECT the D clutch piston return spring for damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>
D clutch friction plates	<p>DISASSEMBLE and INSPECT the D clutch friction and steel plates for wear and damage. INSTALL new components as necessary.</p> <p>REFER to: Transmission (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Overhaul).</p>

Start/Run/Move > Moving > No Engagement > Reverse	GO to Pinpoint Test B
Start/Run/Move > Moving > Shift Quality Steady State > Always	GO to Pinpoint Test G
Start/Run/Move > Moving > Shift Quality Steady State > Always	GO to Pinpoint Test H
Start/Run/Move > Moving > Upshift Quality > Always	GO to Pinpoint Test J
Start/Run/Move > Moving > Downshift Quality > Always	GO to Pinpoint Test I
Start/Run/Move > Moving > Downshift Quality > Always	GO to Pinpoint Test J
Start/Run/Move > Fluids > Transmission > Overfill	GO to Pinpoint Test L
Start/Run/Move > Fluids > Transmission > Visible Leak	GO to Pinpoint Test L
Start/Run/Move > Fluids > Transmission > Contamination	GO to Pinpoint Test L
Start/Run/Move > Noise > Moving/Driving > Always	GO to Pinpoint Test M
Start/Run/Move > Noise > Moving/Driving > Intermittent	GO to Pinpoint Test M
Start/Run/Move > Vibration > Moving/Driving > Always	GO to Pinpoint Test M
Start/Run/Move > Vibration > Moving/Driving > Intermittent	GO to Pinpoint Test M

Pinpoint Tests

PINPOINT TEST A : NO ENGAGEMENT - FORWARD

Normal Operation and Fault Conditions

- **No forward**

- Check the A clutch for a does not apply condition. REFER to: [A Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- Check the E clutch for a does not apply condition. REFER to: [E Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- Check low one-way clutch for a slipping condition. REFER to: [Low One-Way Clutch Assembly](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).

Possible Sources

- Clutch fault

- Inspect the turbine shaft splines on the transmission input shaft and in the torque converter turbine. INSTALL new components as necessary. REFER to: [Transmission](#)(307-01B Automatic Transmission - 10-Speed Automatic Transmission – 10R80 MHT, Overhaul).
- Inspect the internal transmission components for damage. INSTALL new components as necessary. REFER to: [Transmission](#)(307-01B Automatic Transmission - 10-Speed Automatic Transmission – 10R80 MHT, Overhaul).

Possible Sources

- Low transmission fluid level
- Low line pressure
- Clutch fault
- Damaged turbine shaft splines
- Internal transmission components
- Transmission fluid pump

Diagnostic steps are not provided for this symptom or DTC. REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).

PINPOINT TEST D : ENGAGEMENT QUALITY - FORWARD

Normal Operation and Fault Conditions

- **Delayed/soft forward**
 - Check the transmission fluid level. REFER to: [Transmission Fluid Level Check](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).
 - Carry out the line pressure test. If line pressure is low, refer to the Line Pressure Diagnosis Chart for further diagnosis. REFER to: [Special Testing Procedures](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
 - Carry out the transmission strategy download and the adaptive learning drive cycle. REFER to: [Transmission Strategy Download](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).
REFER to: [Adaptive Learning Drive Cycle](#)(307-01B Automatic Transmission - 10-Speed Automatic Transmission – 10R80 MHT, General Procedures).
 - Check the A clutch for a slipping apply condition.REFER to: [A Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
 - Check the E clutch for a slipping apply condition. REFER to: [E Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
 - Check low one-way clutch for a slipping condition. REFER to: [Low One-Way Clutch Assembly](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- **Harsh forward**

PINPOINT TEST E : ENGAGEMENT QUALITY - REVERSE

Normal Operation and Fault Conditions

• Delayed/soft reverse

- Check the transmission fluid level. REFER to: [Transmission Fluid Level Check](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).
- Carry out the line pressure test. If line pressure is low, refer to the Line Pressure Diagnosis Chart for further diagnosis. REFER to: [Special Testing Procedures](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- Carry out the transmission strategy download and the adaptive learning drive cycle. REFER to: [Transmission Strategy Download](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).
REFER to: [Adaptive Learning Drive Cycle](#)(307-01B Automatic Transmission - 10-Speed Automatic Transmission – 10R80 MHT, General Procedures).
- Check the B clutch for a slipping apply condition. REFER to: [B Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- Check the D clutch for a slipping apply condition. REFER to: [D Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- Check the F clutch for a slipping apply condition. REFER to: [F Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).

• Harsh reverse

- Carry out the transmission strategy download and the adaptive learning drive cycle. REFER to: [Transmission Strategy Download](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).
REFER to: [Adaptive Learning Drive Cycle](#)(307-01B Automatic Transmission - 10-Speed Automatic Transmission – 10R80 MHT, General Procedures).
- Carry out the line pressure test. If line pressure is high, refer to the Line Pressure Diagnosis Chart for further diagnosis. REFER to: [Special Testing Procedures](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- Check the B clutch for a delayed apply condition. REFER to: [B Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- Check the D clutch for a harsh apply condition. REFER to: [D Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).
- Check the F clutch for a harsh apply condition. REFER to: [F Clutch](#)(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).

Possible Sources

- Corrupted transmission strategy
- Low transmission fluid level

- Clutch fault

Diagnostic steps are not provided for this symptom or DTC. REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).

PINPOINT TEST G : ENGAGEMENT QUALITY - PARK

Normal Operation and Fault Conditions

- **Stuck in park**

- To diagnose a stuck in park condition, REFER to: [External Controls - Vehicles With: Column Shift](#)(307-05C Automatic Transmission External Controls - 10-Speed Automatic Transmission – 10R80 MHT, Diagnosis and Testing).

REFER to: [External Controls - Vehicles With: Console Shift](#)(307-05C Automatic Transmission External Controls - 10-Speed Automatic Transmission – 10R80 MHT, Diagnosis and Testing).

- **Unable to engage park (vehicles equipped with a selector lever)**

- To diagnose a park does not engage condition, REFER to: [External Controls - Vehicles With: Column Shift](#)(307-05C Automatic Transmission External Controls - 10-Speed Automatic Transmission – 10R80 MHT, Diagnosis and Testing).

REFER to: [External Controls - Vehicles With: Console Shift](#)(307-05C Automatic Transmission External Controls - 10-Speed Automatic Transmission – 10R80 MHT, Diagnosis and Testing).

- **Delayed shift out of park when external temperature is less than -20°C (-4°F) (vehicles equipped with shift-by-wire)**

- Extremely cold ambient temperatures can delay the park lock pawl solenoid valve activation up to 10 seconds. To verify, test operation at operating temperatures.

Possible Sources

- Selector lever cable installation or adjustment
- Park is manually released
- GSM (gear shift module)
- Low line pressure
- Clutch fault
- Internal transmission components

Diagnostic steps are not provided for this symptom or DTC. REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).

PINPOINT TEST H : UPSHIFT QUALITY - SINGLE GEAR AFFECTED

Normal Operation and Fault Conditions