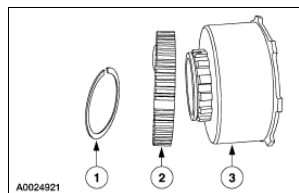


**Intermediate One-Way Clutch****Intermediate Clutch Cylinder Disassembled View**

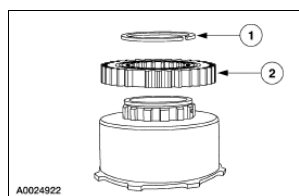
Item	Part Number	Description
1	391267-S	Retaining ring
2	7A089	Intermediate one-way clutch assembly
3	7D044	Reverse clutch drum

**Disassembly**

1. **NOTE:** One tab that locks the reverse clutch drum into the reverse sun shell may be removed. This is done for balancing purposes.

Remove the intermediate one-way clutch.

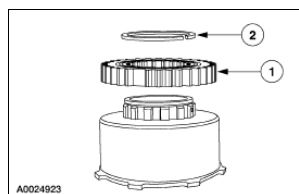
1. Remove the snap ring.
2. Remove the intermediate one-way clutch.

**Assembly**

1. **NOTE:** The intermediate one-way clutch must rotate counterclockwise when installed on the reverse clutch drum and will make a ratchet sound.

Install the intermediate one-way clutch.

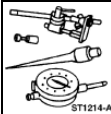



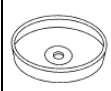
1. Install the intermediate one-way clutch.
2. Install the snap ring.





**Reverse Clutch**

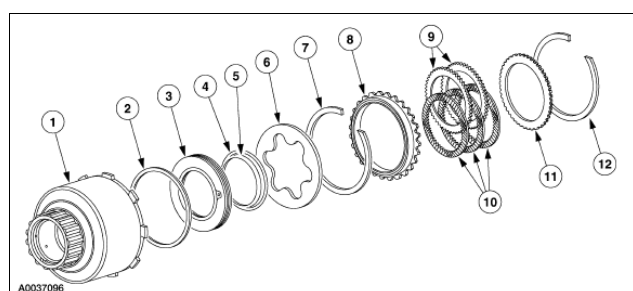
Special Tool(s)

	Dial Indicator Gauge with Holding Fixture 100-002 (TOOL-4201-C)
	Compressor, Clutch Spring 307-015 (T65L-77515-A)
	Protector, Transmission Reverse Clutch Outer Fluid Seal 307-424
	Protector, Transmission Reverse Clutch Inner Fluid Seal 307-425
	Compressor, Clutch Spring 307-086 (T80L-77405-A)

Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM, XT-5-DM	MERCON® V

**Reverse Clutch Disassembled View**

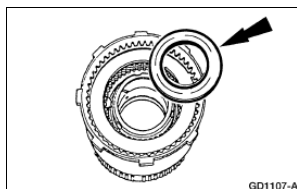


Item	Part Number	Description
1	7D044	Reverse clutch drum
2	7D403	Reverse clutch piston outer seal
3	7D402	Reverse clutch piston
4	7D404	Reverse clutch piston inner seal
5	7D256	Reverse clutch piston spring pressure ring
6	7B070	Reverse clutch piston spring
7	7A577	Reverse clutch piston spring ring

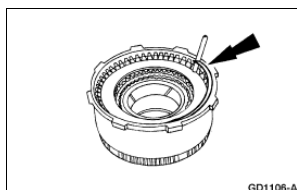
8	7B066	Reverse clutch front pressure plate
9	7B442	Reverse clutch external spline plates (steel)
10	7B164	Reverse clutch internal spline plates (friction)
11	7B066	Reverse clutch rear pressure plate
12	7D483	Reverse clutch retaining ring (select fit)

**Disassembly**

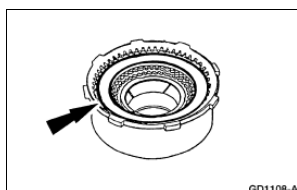
1. Inspect the clutch cylinder thrust surfaces, piston bore and clutch plate serrations for scores or burrs. Minor scores or burrs may be removed with a crocus cloth. Install a new clutch cylinder if badly scored or damaged.
2. Check fluid passage in the clutch cylinder for obstructions. Clean out all fluid passages. Inspect the clutch piston for scores and install new if necessary. Inspect check balls for freedom of movement and correct seating.
3. Check clutch release spring for distortion and cracks. Install a new spring (including the wave spring) if distorted or cracked.
4. Inspect the composition clutch plates, steel clutch plates and clutch pressure plate for worn or scored bearing surfaces. Install new parts if they are deeply scored or burred.
5. Check the clutch plates for flatness and fit on clutch hub serrations. Discard any plate that does not slide freely on serrations or that is not flat.
6. Check clutch hub thrust surfaces for scores and clutch hub splines for wear.
7. Remove the No. 2 forward clutch bearing.



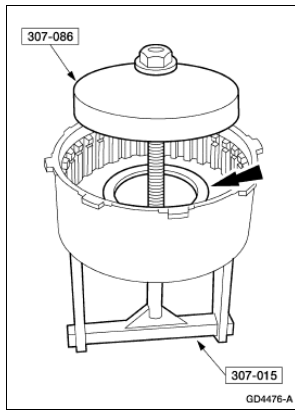
8. Remove the reverse clutch selective retaining ring.



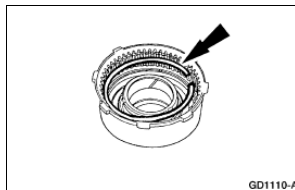
9. Remove the reverse clutch pack.



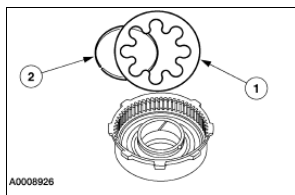
10. Using the special tools, compress the reverse clutch piston spring.



11. Remove the reverse clutch piston spring retaining ring.

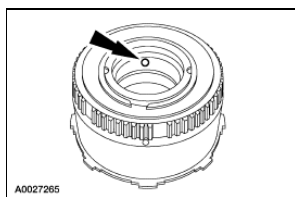


12. Remove the reverse clutch piston spring pressure ring.  
 1. Remove the reverse clutch piston spring.  
 2. Remove the reverse clutch piston spring pressure ring.

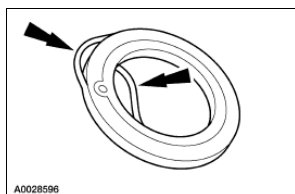


13. **NOTE:** To ease reverse clutch piston removal, it may be necessary to apply air pressure to the reverse clutch drum. Block the opposite hole.

Remove the reverse clutch piston.



14. Remove the reverse clutch piston inner and outer seals.



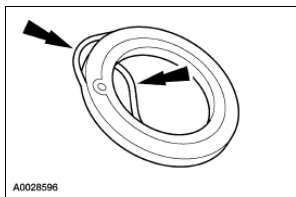
### Assembly

1. **NOTE:** One tab that locks the reverse clutch drum into the reverse sun shell may be removed. This is done for balancing purposes.

Inspect the clutch cylinder thrust surfaces, piston bore and clutch plate serrations for scores or burrs. Minor scores or burrs may be removed with crocus cloth. Install a new clutch cylinder if badly scored or damaged.

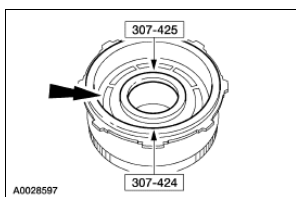
2. Check the fluid passage in the clutch cylinder for obstructions. Clean out all fluid passages. Inspect clutch piston for scores and install new if necessary. Inspect the check balls for freedom of movement and correct seating.
3. Check the clutch release spring for distortion and cracks. Install a new spring (including wave spring) if distorted or cracked.
4. Inspect the composition clutch plates, steel clutch plates and clutch pressure plate for worn or scored bearing surfaces. Install new parts if they are deeply scored or burred.
5. Check the clutch plates for flatness and fit on the clutch hub serrations. Discard any plate that does not slide freely on serrations or that is not flat.
6. Check the clutch hub thrust surfaces for scores and clutch hub splines for wear.
7. **NOTE:** The piston check ball must be present and moving freely.

Install a new reverse clutch piston inner and outer seals.



8. **NOTE:** Coat the reverse clutch piston inner seal, outer seal, drum sealing area and special tools with petroleum jelly.

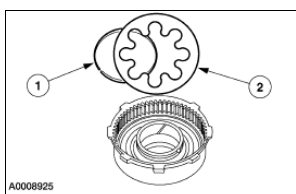
Using the special tools, install the reverse clutch piston using even pressure to push it to the bottom of the reverse clutch drum.



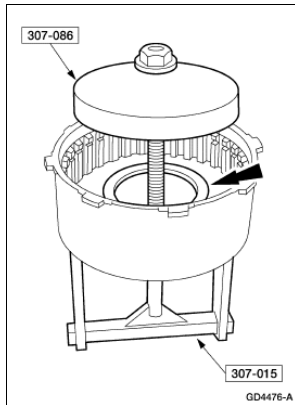
9. **NOTE:** The dished side of the reverse clutch piston spring must face the reverse clutch piston.

Install the reverse clutch piston spring.

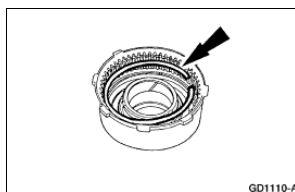
1. Install the reverse clutch piston spring pressure ring.
2. Install the reverse clutch piston spring.



10. Using the special tools, compress the reverse clutch piston spring.



11. Install the reverse clutch piston spring retaining ring.

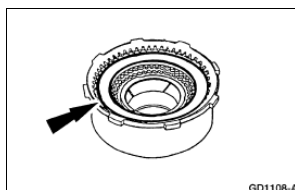


12. Remove the special tool.

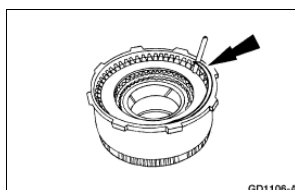
13. **⚠ CAUTION: Install the pressure plates with the flat sides facing the clutch pack.**

**NOTE:** Before assembly, soak the new clutch discs in clean automatic transmission fluid for 15 minutes.

Install the reverse clutch front pressure plate, clutch pack and reverse clutch rear pressure plate.

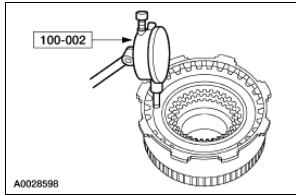


14. Install the reverse clutch pressure plate retainer snap ring.



15. Install the special tool on the reverse clutch pack.

- Push downward on the clutch pack.
- Release pressure and zero the dial indicator.

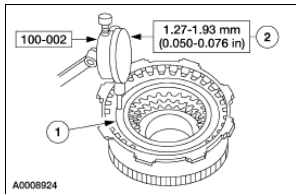


16. Using the special tool check the reverse clutch pack clearance.

1. Lift up on the clutch pack until it fully seats against the reverse clutch pressure plate retainer.
  2. Read the dial indicator.
- ◆ If clearance is not within specifications, install the correct size retaining ring.

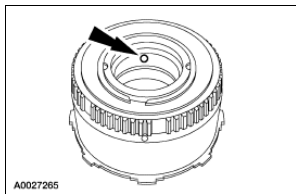
Selective Retaining Rings

Specification
1.52-1.62 mm (0.060-0.064 inch)
1.87-1.98 mm (0.074-0.078 inch)
2.23-2.33 mm (0.088-0.092 inch)
2.59-2.69 mm (0.102-0.106 inch)



17. Check the clutch for correct operation.

- Apply air pressure to the reverse clutch drum. The clutch should be heard and felt to work without leakage.

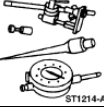








**Forward Clutch Cylinder**

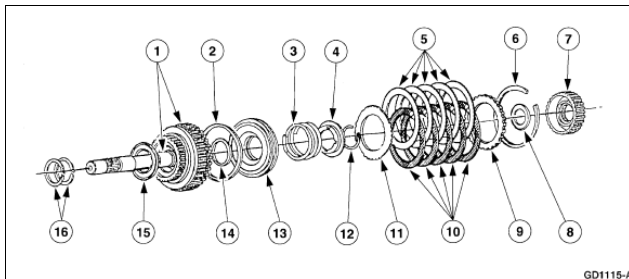
Special Tool(s)

	Dial Indicator Gauge with Holding Fixture 100-002 (TOOL-4201-C) or equivalent
	Compressor, Clutch Spring 307-096 (T81P-70235-A)
	Protector, Transmission Forward Clutch Outer Fluid Seal 307-423

Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM, XT-5-DM	MERCON® V

**Forward Clutch Disassembled View**



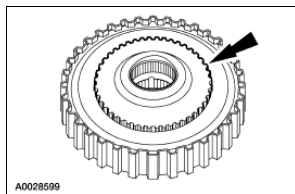
Item	Part Number	Description
1	7F207	Forward clutch cylinder and shaft
2	7A548	Forward clutch piston outer seal
3	7A480	Forward clutch piston return spring
4	7A527	Forward clutch retainer return spring
5	7B442	Forward clutch external spline plate (steel)
6	7D483	Retaining snap ring
7	7B067	Forward clutch hub
8	7F231	No. 3 forward clutch hub front bearing
9	7B066	Forward clutch pressure plate
10	7B164	Forward clutch internal spline plates (friction)
11	7E085	Forward clutch pressure spring
12	388099-S	Retaining snap ring
13	7A262	Forward clutch piston

14	7C099	Forward clutch piston inner seal
15	7A166	No. 2 forward clutch bearing
16	7B497	Input shaft seal

**Disassembly**

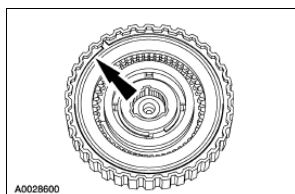
1. Inspect the clutch cylinder thrust surfaces, piston bore and clutch plate serrations for scores or burrs. Minor scores or burrs may be removed with crocus cloth. Install a new clutch cylinder if it is badly scored or damaged.
2. Check the fluid passage in the clutch cylinder for obstructions. Clean out all the fluid passages. Inspect the clutch piston for scores and install a new piston if necessary. Inspect check balls for freedom of movement and correct seating.
3. Check the clutch release spring for distortion and cracks. Install a new spring (including wave spring) if distorted or cracked.
4. Inspect the composition clutch plates, steel clutch plates and clutch pressure plate for worn or scored bearing surfaces. Install new parts if they are deeply scored or burred.
5. Check the clutch plates for flatness and fit on clutch hub serrations. Discard any plate that does not slide freely on serrations or that is not flat.
6. Check the clutch hub thrust surfaces for scores and clutch hub splines for wear.
7. **NOTE:** The forward clutch hub may remain in the shell during disassembly.

Remove the forward clutch hub and the No. 3 forward clutch hub front bearing.



8. **NOTE:** To aid handling, the forward clutch assembly may be set in the extension housing or a hole in the work bench.

Remove the forward clutch pack selective retaining ring.



9. Remove the following components.
  1. Remove the pressure plate.
  2. Remove the clutch pack.
  3. Remove the pressure spring.