


Direct Clutch Assembly

Special Tool(s)

 <p>ST2719-A</p>	<p>Aligner, Clutch Spring Compressor 307-455</p>
 <p>ST1190-A</p>	<p>Compressor, Clutch Spring 307-015 (T65L-77515-A)</p>

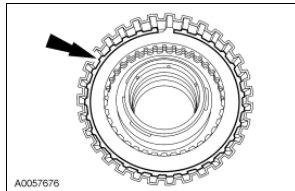
Material

Item	Specification
<p>MERCON® SP Automatic Transmission Fluid XT-6-QSP (US); CXT-6-LSP12 (Canada)</p>	<p>MERCON® SP</p>

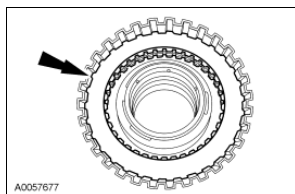
Disassembly

NOTE: Soak all friction clutch plates in clean transmission fluid.

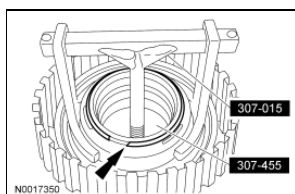
1. Remove the snap ring.



2. Remove the direct clutch plates.

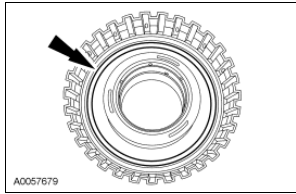


3. Using the special tools, remove the snap ring.

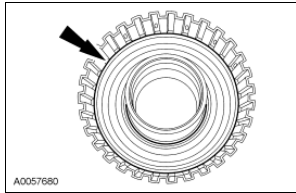


4. **NOTE:** Note the orientation of the return spring.

Remove the direct clutch balance piston and return spring. Discard the direct clutch balance piston.



5. Remove and discard the direct clutch piston.

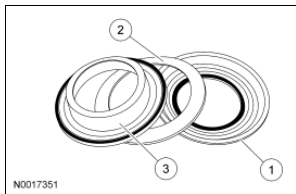


6. Clean and inspect all components for damage.

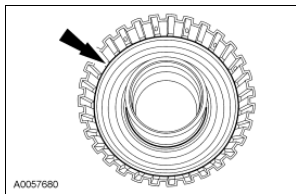
Assembly

1. Lightly lubricate the new pistons with petroleum jelly.

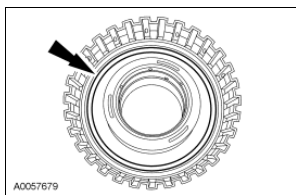
1. Direct clutch piston.
2. Direct clutch return spring.
3. Direct clutch balance piston.



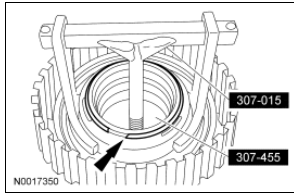
2. Install a new direct clutch piston.



3. Install the direct clutch return spring and a new balance piston.



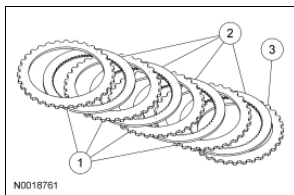
4. Using the special tools, install the snap ring.



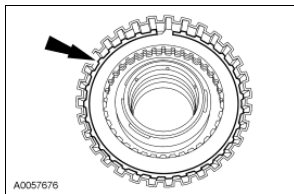
5. **NOTE:** The direct clutch plates are installed in an alternating sequence, starting with an externally splined steel plate, then an internally splined friction plate, with the pressure plate on the top just under the snap ring.

Install the plates.

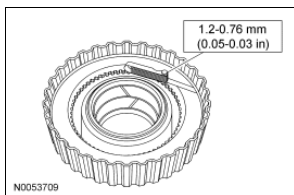
1. Externally splined steel plates.
2. Internally splined friction plates.
3. Pressure plate.



6. Install the snap ring.



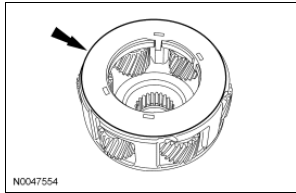
7. Using a feeler gauge, measure the clearance between the snap ring and the pressure plate.



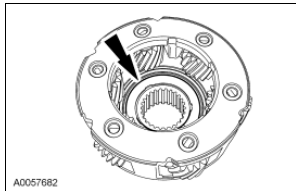
Forward Planet Assembly**Disassembly and Assembly**

NOTE: Individual parts of the planet assemblies are not repairable.

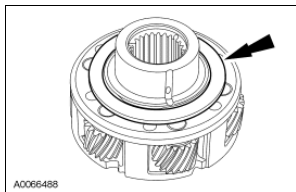
1. Remove the lube slinger.



2. Remove the No. 12 forward clutch thrust bearing.

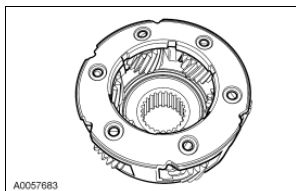


3. Remove the No. 11 thrust bearing.



4. Inspect the forward planet assembly.

- The pins and shafts in the planet assemblies should be checked for loose fit or damage. Use a new planet assembly if either condition exists.
- Inspect the pinion gears for damaged or excessively worn teeth.
- Check for free rotation of the pinion gears.



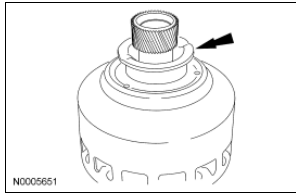
5. To assemble, reverse the disassembly procedure.

- Lightly lubricate the thrust bearings with petroleum jelly to hold them in place during assembly.
- The No. 12 thrust bearing must be installed with the notched inner race facing outward.

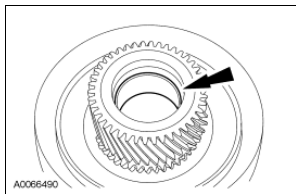
Input Shell Assembly

Check

1. Clean and inspect the forward/reverse sun gear and input shell assembly. Check the sun gear teeth, lug teeth and thrust surface for damage. If any evidence of damage is found, a new input shell assembly must be installed.





2. Inspect the front bushing for damage. If any damage is found a new input shell assembly must be installed.



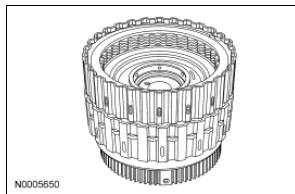
Forward Geartrain — Assembly

Special Tool(s)

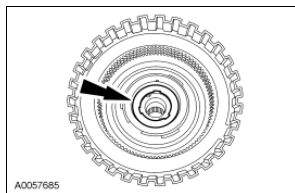
 <p>ST2723-A</p>	<p>Adapter (use with 307-436) 307-436-02</p>
 <p>ST2544-A</p>	<p>Installer, Transmission Forward Clutch Assembly 307-436</p>

Assembly

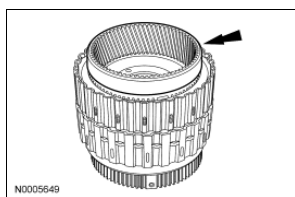
1. Install the forward clutch assembly into the direct clutch assembly.



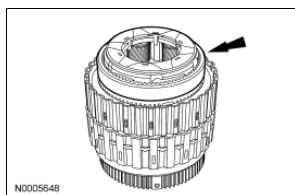
2. Install the No. 9 forward clutch bearing.



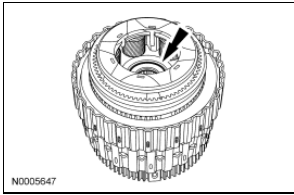
3. Install the forward hub and ring gear assembly.



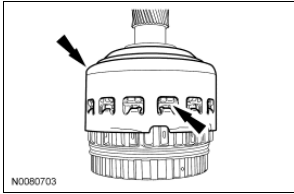
4. Install the planet carrier and bearing assembly.



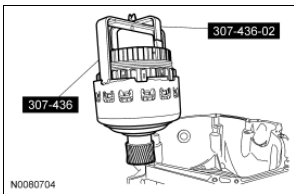
5. Install the No. 12 thrust bearing onto the forward carrier assembly.



6. Install the input shell assembly.
 - Make sure the tab is engaged in the forward clutch assembly.



7. Install the Transmission Forward Clutch Assembly Installer and Adapter. Position aside to use during transmission assembly.



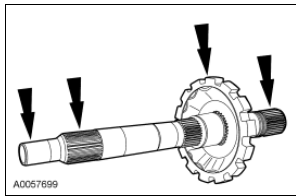
Output Shaft

Check

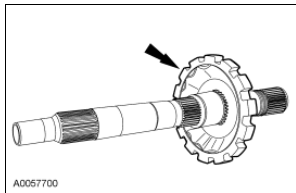
1. **NOTICE: Buildup of contamination can block the flow of lubricant behind the cup plug and cause transmission assembly damage.**

Inspect the output shaft for damage. If damage is found, install a new shaft.

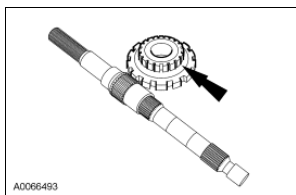
- Inspect the output shaft.
- Inspect the park and Output Shaft Speed (OSS) sensor gear.
- Inspect the bearing surfaces of the output shaft for wear or scores. If excessive wear or scoring is found, install a new output shaft and inspect the mating components.
- Check the splines on the output shaft for wear. Install a new output shaft if the splines are excessively worn. Inspect all the bushings for wear. Install new if worn or damaged.



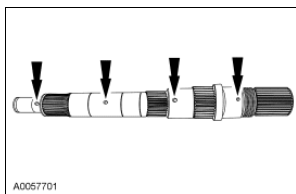
2. Remove the park gear.



3. Inspect the park and OSS sensor gear.



4. Inspect the output shaft. Make sure the lube passages through the output shaft are clean and free of foreign material. Install new as required.



5. Inspect the orifice cup plug on the end of the output shaft for foreign material, if foreign material is

found, remove the orifice plug, flush out the foreign material and install a new orifice plug.

