

## Performance Converter Kit

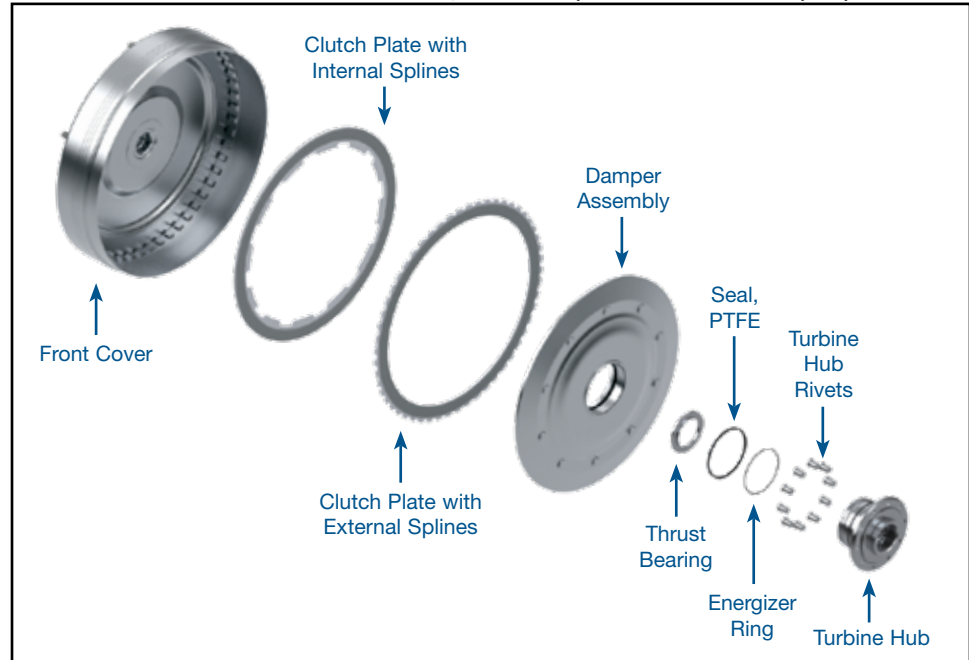
**Part No.**  
**FD-RK-12A**

- Front Cover
- Clutch Plate w/Internal Splines
- Clutch Plate w/External Splines
- Damper Assembly
- Thrust Bearing
- Seal, PTFE
- Energizer Ring
- Turbine Hub Rivets (10)
- Turbine Hub

Patent No. 7,770,704

## Ford 5R110W, 6-Stud, Multi-Plate

Unit Size: 12.5" • Core: Ford 5R110W, 6-Stud • Dampened: Yes • Turbine Hub Input Spline Count: 31



### 1. Impeller Assembly

- Clean and inspect OE impeller.
- If impeller blades are loose, repair by brazing/welding or locate a defect-free impeller.
- Remove OE impeller hub and replace with Sonnax impeller hub **FD-90-59G** (early) or **FD-90-65G** (late).

### 2. Stator Assembly

- Disassemble OE stator assembly.
- Clean and inspect the stator.
- Upgrade to Sonnax impeller-side stator cap **FD-WS-33**, which requires the use of Sonnax snap ring **FD-SR-2**.
- Install Sonnax thrust bearing **FD-N-10** and Sonnax bearing race **FD-N-11**.
- Replace turbine-side stator cap with Sonnax bearing adapter **FD-WA-18** and Sonnax thrust bearing **CH-N-1**.

### 3. Turbine Assembly

- Remove rivets and separate turbine hub and reinforcement ring from OE turbine.
- Clean and inspect turbine. If any blades are loose, repair by brazing/welding or locate a defect-free turbine.
- Install Sonnax turbine hub and rivets from damper side.

- Place reinforcing ring over rivets on the opposite side of turbine and peen rivets.

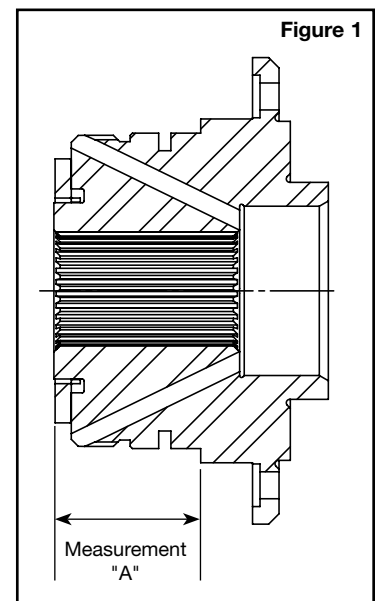
**NOTE:** On high-torque applications, turbine hub can be welded in for extra security.

- Install Sonnax energizer ring (O-ring) into groove on turbine hub. Install Sonnax PTFE seal into the same groove.
- Install Sonnax thrust bearing onto the turbine hub.

### 4. Measure & Set Clutch Release Clearance

**NOTE:** Clutch release clearance should be measured and adjustments made if necessary.

- Measure from shoulder of turbine hub to thrust face of bearing ("A" in **Figure 1**).



#### 4. Measure & Set Clutch Release Clearance (continued)

- Place clutch plates and piston into the front cover (**Figure 2**). Measure from inner lip of piston bore to the thrust face on front cover ("**B**" in **Figure 2**).
- The difference between the two measurements (A-B) is the amount of clutch release clearance. Recommend setting clutch release clearance from .040" to .060".
- If there is too much clutch release clearance, machine thrust surface of the front cover to bring clearance into specification (**Figure 3**). Maintain a RA 32 surface finish and keep the thrust surface parallel to the mounting pads within .002".

If increasing clearance is necessary, machine lockup surface of the front cover by the amount you want to increase the clearance (**Figure 3**). Make sure to keep the surface finish better than RA 20 and parallel to the mounting pads within .003".

- After machining front cover, remeasure dimensions "A" and "B" to verify correct clutch release clearance.

#### 5. Cover Assembly

Clean inside of cover.

#### 6. Final Assembly

- Install Sonnax internally-splined (dual friction) clutch plate into front cover (**Figure 4**).
- Install Sonnax externally-splined (single friction) clutch plate into front cover, friction side facing out, steel side toward cover (**Figure 4**).
- Install piston and rotate to engage the internally splined clutch plate.
- Continue converter assembly. Endplay should be between zero and .010" and internal clearance should be between .100–.110" for maximum efficiency after welding. The stator should be able to turn freely. Pressure check, then balance finished unit.

