



Technical Service Information

FORD/MAZDA FNR5/5NR5

SHORT 3-4 BIND-UP SHIFT

COMPLAINT: Ford/Mazda vehicles equipped with the FNR5/5NR5 transmission may exhibit a complaint of a short bind-up during the 3-4 upshift.

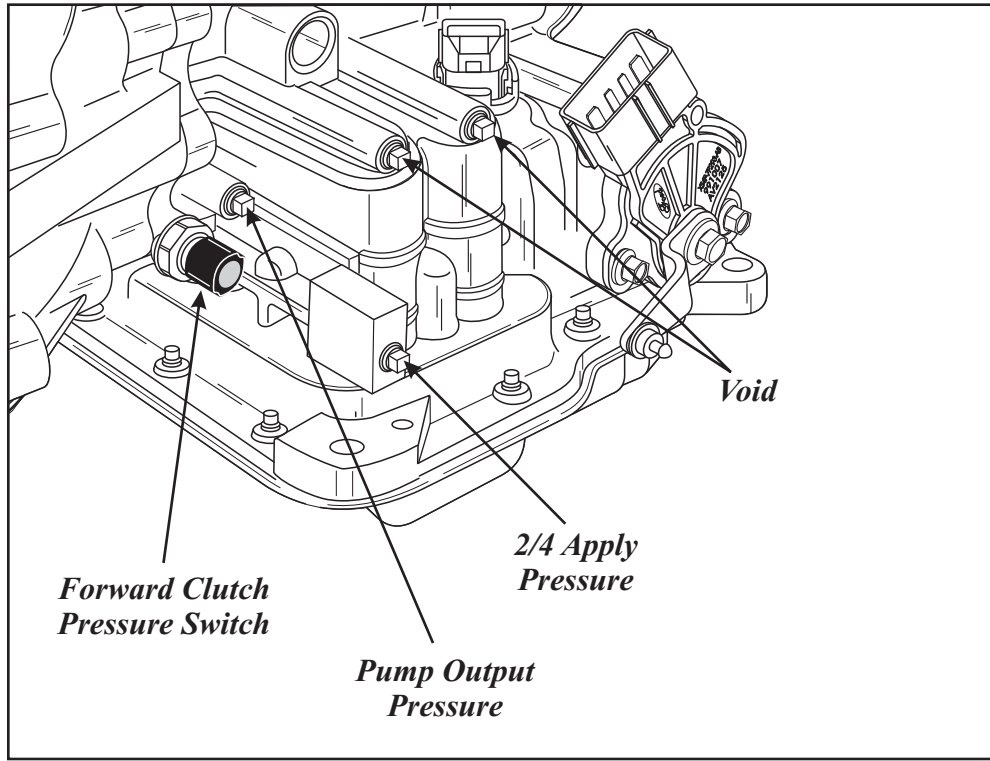
CAUSE: The cause may be that during overhaul of the transmission, the clearance in the Forward drum was adjusted too tight. Refer to Figure 1 in the application chart and note that during the 3-4 upshift the Forward Clutch is turned Off. If the clearance is too tight in this clutch there will be a short momentary bind-up. The PCM is monitoring the Forward Clutch pressure switch's opening and closing to help adjust the Forward Clutch adaptives, shown in Figure 2. It can not change the adaptives enough for a Forward Clutch Pack that is stacked too tight.

CORRECTION: To correct this condition, refer to Figure 3 for a breakdown of the Forward Clutch and Figure 4 for a clearance check for the Forward Clutch and be sure that the minimum clearance is no less than .059." Note: There are selective snap rings listed in the chart in Figure 4 that are for the 4F27E that are the same for the FNR5.

FNR5/5NR5 TRANSAXLE COMPONENT APPLICATION CHART									
RANGE	Forward Clutch	2-4 Brake Band	3rd&4th Clutch	Reverse Clutch	Low/Rev Clutch	Low One-Way Clutch	Direct Clutch 5th	Reduction Brake & OWC*	Gear Ratio
PARK								ON	
REVERSE				ON	ON			ON	3.40
NEUTRAL								ON	
DRIVE-1st	ON					HOLD		ON	3.61
DRIVE-2nd	ON	ON						ON	1.92
DRIVE-3rd	ON		ON					ON	1.28
DRIVE-4th		ON	ON					ON	0.93
DRIVE-5th		ON	ON				ON		0.69
MANUAL-2nd	ON	ON						ON	1.92
MANUAL-1st	ON				ON			ON	3.61
<p>NOTE: Failsafe on this unit is 3rd gear in all forward ranges.</p> <p>*OWC = One Way Clutch, which is locked when the Reduction Brake is ON</p> <p>Copyright © 2012 ATSG</p>									

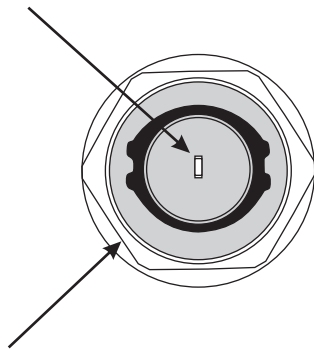
Figure 1

FORWARD CLUTCH PRESSURE SWITCH LOCATION

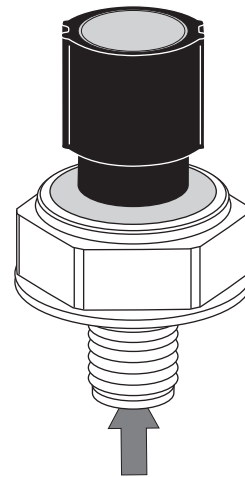


FORWARD CLUTCH PRESSURE SWITCH OPERATION

*Connect Positive lead here
(Single terminal)*



*Connect Negative lead here
(Casing of the switch)*



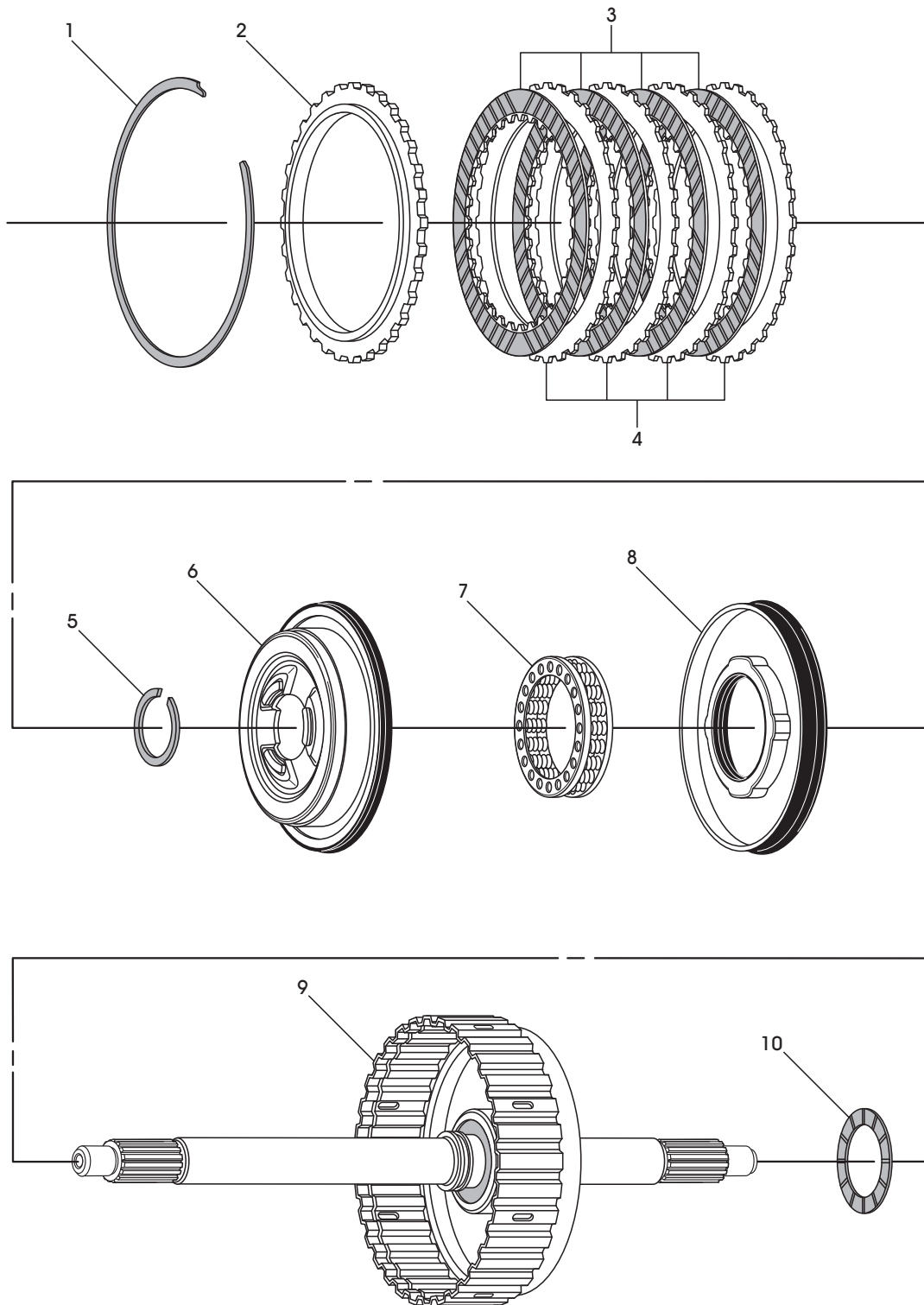
Apply air pressure here

The Forward Clutch Pressure switch is a Normally Open switch. It closes at approximately 40 psi. This switch provides information to the TCM during Drive engagement and for passing gear, to ensure smooth engagements and downshifts.

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Figure 2

FORWARD CLUTCH EXPLODED VIEW



1. FORWARD CLUTCH BACKING PLATE SNAP RING *(SELECTIVE)*.
2. FORWARD CLUTCH BACKING PLATE.
3. FORWARD CLUTCH FRICTION PLATES (4).
4. FORWARD CLUTCH STEEL PLATES (4).
5. RETURN SPRING RETAINER/BALANCE PISTON SNAP RING.
6. RETURN SPRING RETAINER/BALANCE PISTON.
7. FORWARD CLUTCH PISTON RETURN SPRING ASSEMBLY.

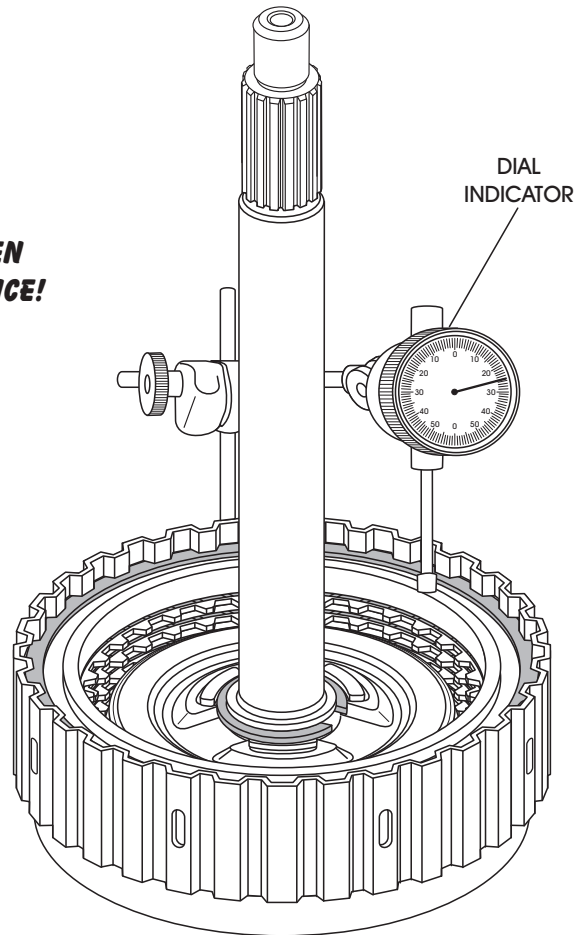
8. FORWARD CLUTCH APPLY PISTON.
9. FORWARD CLUTCH HOUSING ASSEMBLY.
10. FORWARD CLUTCH HOUSING TO STATOR THRUST WASHER.

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Figure 3

FORWARD CLUTCH CLEARANCE SHOULD BE 1.5 - 1.8 MM (.059" - .071")

**DO NOT TIGHTEN
CLUTCH CLEARANCE!**



4F27E/FNR5 Selective Snap Ring Thickness Available
 1.15 - 1.25 mm (.045" - .049").....XS4Z-7D483-CA
 1.35 - 1.45 mm (.053" - .057").....XS4Z-7D483-CB
 1.55 - 1.65 mm (.061" - .065").....XS4Z-7D483-CC
 1.75 - 1.85 mm (.069" - .073").....XS4Z-7D483-CD
 1.95 - 2.05 mm (.077" - .081").....XS4Z-7D483-CE
 2.15 - 2.25 mm (.085" - .089").....XS4Z-7D483-CF

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Figure 4