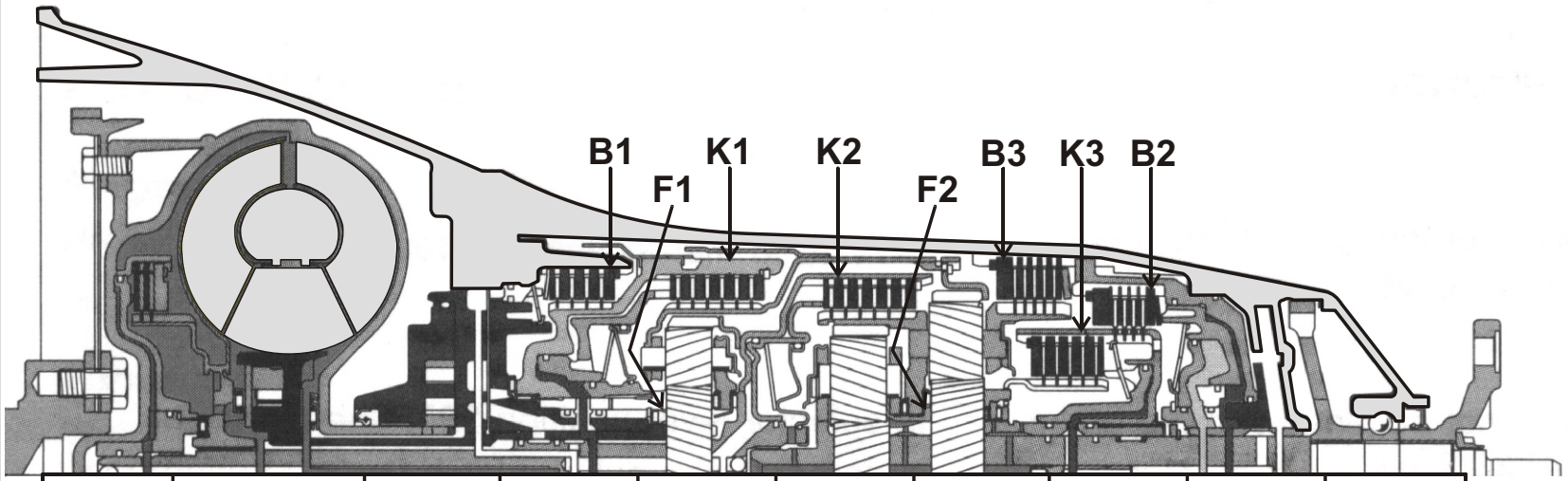
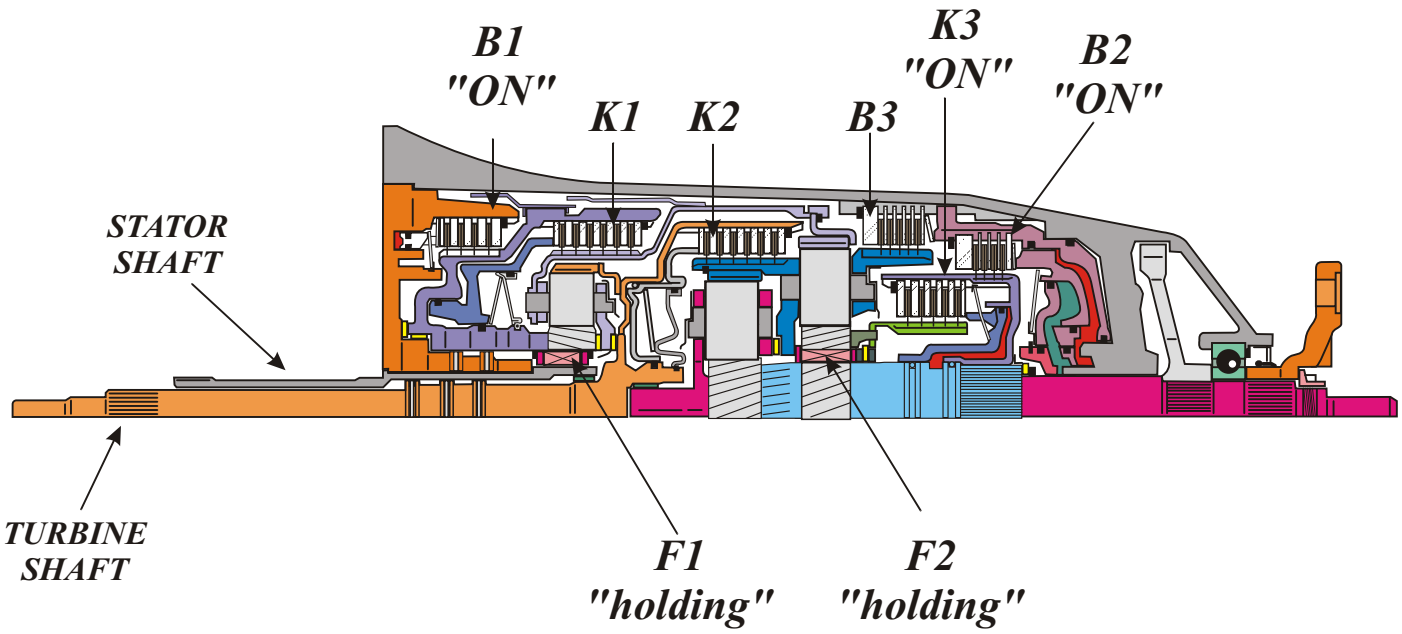


Figure 77

GEAR	RATIO	B1	B2	B3	K1	K2	K3	F1	F2
1	3.59	X[3]	X				X[3]	X	X
2	2.19		X		X		X[3]		X
3	1.41		X		X	X			
4	1.00				X	X	X		
5	0.83	X				X	X	X[3]	
N	-	X					X		
R[1]	-3.16	X[3]		X			X	X	
R[2]	-1.93			X	X		X		

1 - Mode Selector Switch in the “S” Position
2 - Mode Selector Switch in the “W” Position
3 - Shift components are required for engine breaking during coasting conditions

1st GEAR



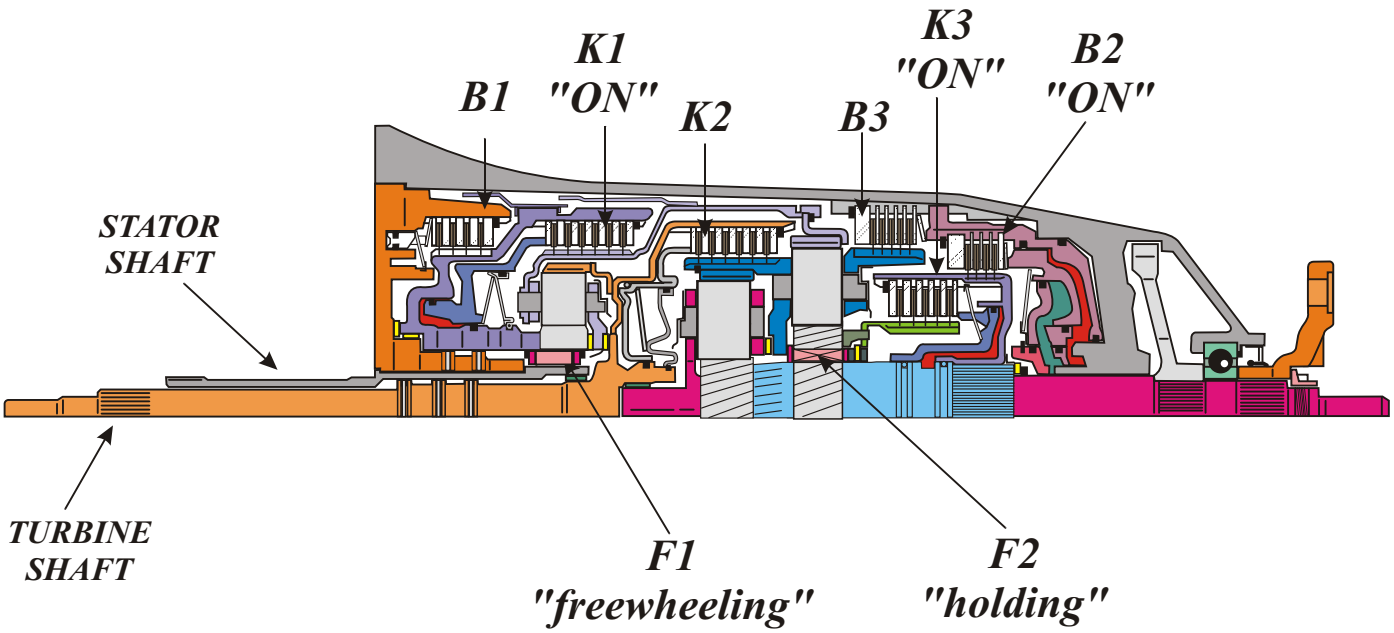
Expanded Summary: The turbine shaft drives the front planetary ring gear. The B1 brake is on to lock the K1 drum which is connected to the front planetary assembly's sun gear (which prevents the F1 freewheel from overrunning). This forces the front planetary pinions to rotate around the held front sun gear. The front planetary ring gear is linked to the rear planetary ring gear, (thru the rotating front planetary carrier), which in-turn forces the rear planetary pinions to rotate around the held rear planetary sun gear. The rear planetary carrier is connected to the center planetary's ring gear, which in-turn drives the output shaft (which is the center planetary's carrier) around the held center planetary sun gear. The B2 brake is on which locks the K3 drum, which is connected to the center planetary sun gear. The K3 drum is on which locks the rear planetary sun gear, which is the outer race for the F2 freewheel. This prevents the F2 freewheel from overrunning.

SIMPLIFIED

3 RING GEARS DRIVING
3 CARRIERS AROUND
3 STATIONARY SUN GEARS

Figure 78

2nd GEAR



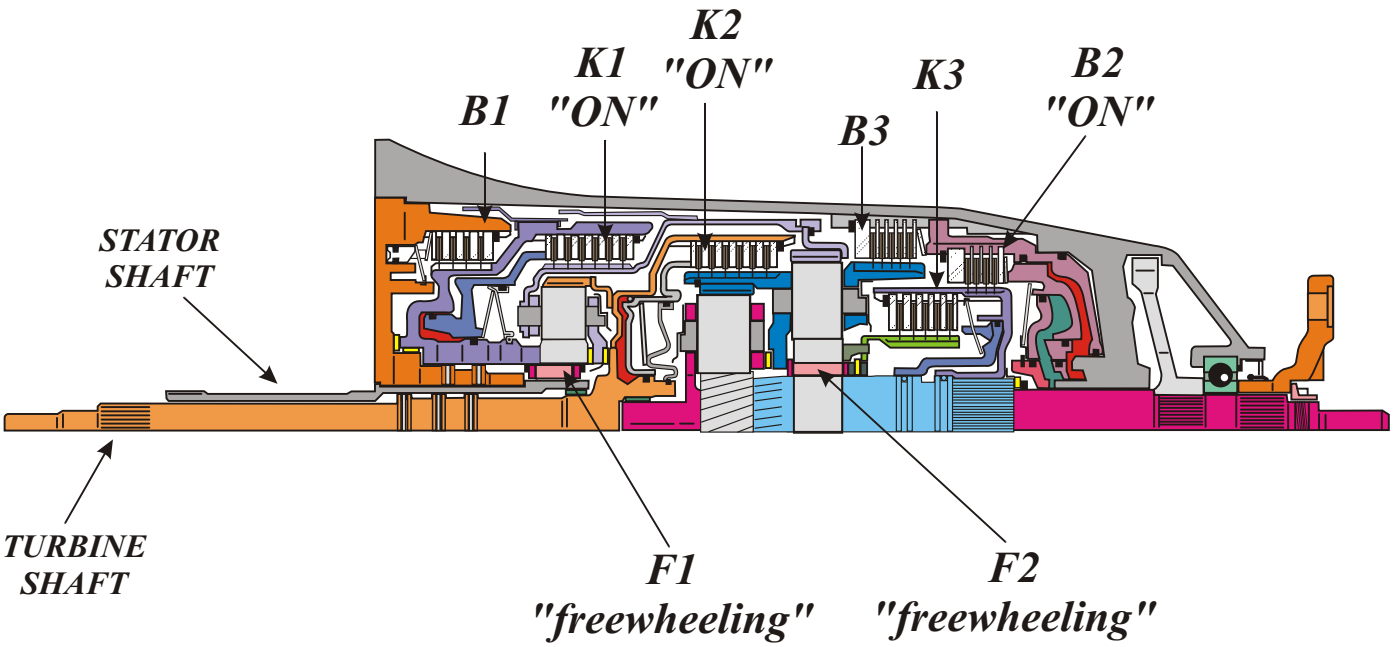
Expanded Summary: The turbine shaft drives the front planetary ring gear. The B1 brake is turned off and the K1 clutch, which is connected to the front planetary carrier, is turned on. This forces the front planetary assembly to rotate at a 1:1 ratio. The F1 freewheels as a result of the sun gear (which is connected to the K1 clutch) rotating with the complete front planetary assembly. The front planetary ring gear is linked to the rear planetary ring gear, (thru the rotating front planetary carrier), which in turn forces the rear planetary pinions to rotate around the held rear planetary sun gear. The rear planetary carrier is connected to the center planetary ring gear, which in-turn drives the output shaft (which is the center planetary's carrier) around the held center planetary sun gear. The B2 brake is on which locks the K3 drum, which is connected to the center planetary sun gear. The K3 drum is on which locks the rear planetary sun gear, which is the outer race for the F2 freewheel. This prevents the F2 freewheel from overrunning.

SIMPLIFIED

FRONT PLANETARY (locked) 1:1
DRIVING THE CENTER AND REAR RING GEARS
THRU THE CENTER AND REAR CARRIERS
AROUND THE CENTER AND
REAR STATIONARY SUN GEARS

Figure 79

3rd GEAR



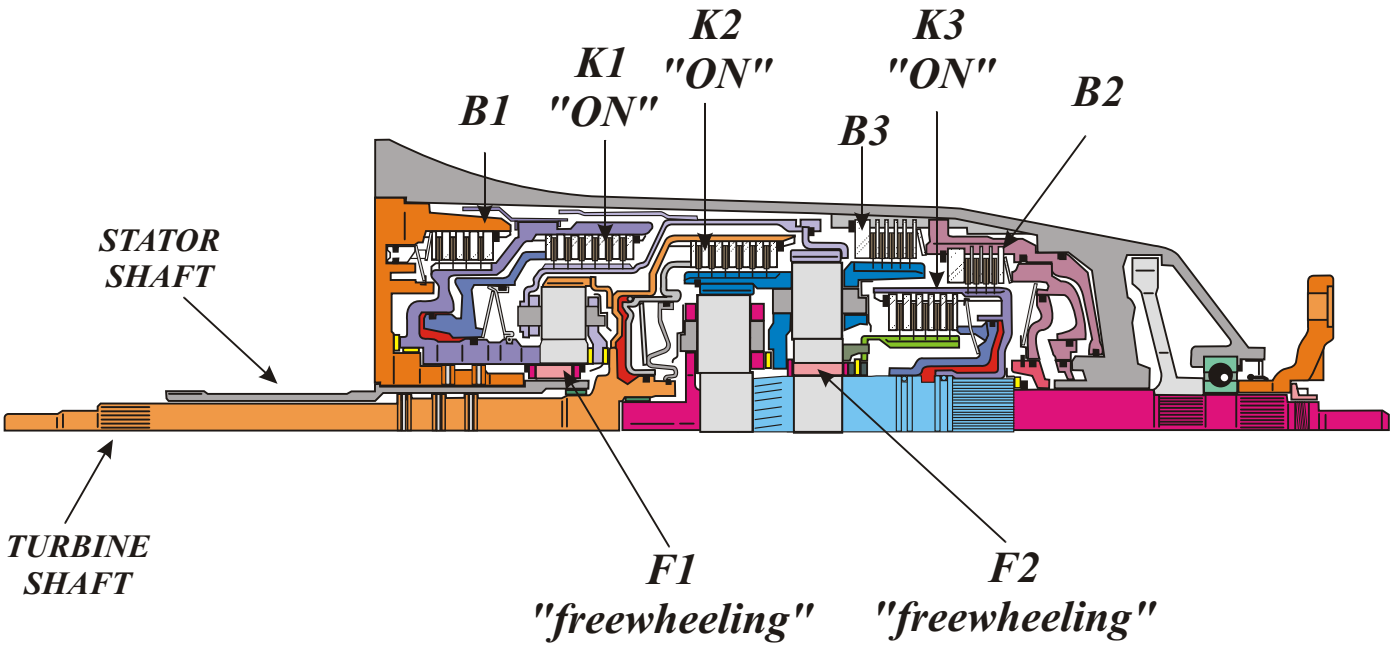
Expanded Summary: The turbine shaft drives the front planetary ring gear. The K1 clutch, which is connected to the front planetary carrier, is on. This forces the front planetary assembly to rotate at a 1:1 ratio. The F1 freewheels as a result of the sun gear (which is connected to the K1 clutch) rotating with the complete front planetary assembly. The front planetary ring gear is linked to the rear planetary ring gear, (thru the rotating front planetary carrier). The K2 clutch, which is connected to the rear carrier, is turned on and forces the rear planetary assembly to rotate at a 1:1 ratio. The F2 freewheels as a result of the sun gear (which is connected to the K3 clutch hub) rotating with the complete rear planetary assembly. The rear planetary carrier is connected to the center planetary ring gear, which in turn drives the output shaft (which is the center planetary's carrier) around the held center planetary sun gear. The B2 brake is on which locks the K3 drum, which is connected to the center planetary sun gear.

SIMPLIFIED

FRONT PLANETARY (locked) 1:1
REAR PLANETARY (locked) 1:1
DRIVING THE CENTER RING GEAR
AND CARRIER AROUND
THE CENTER STATIONARY SUN GEAR

Figure 80

4th GEAR



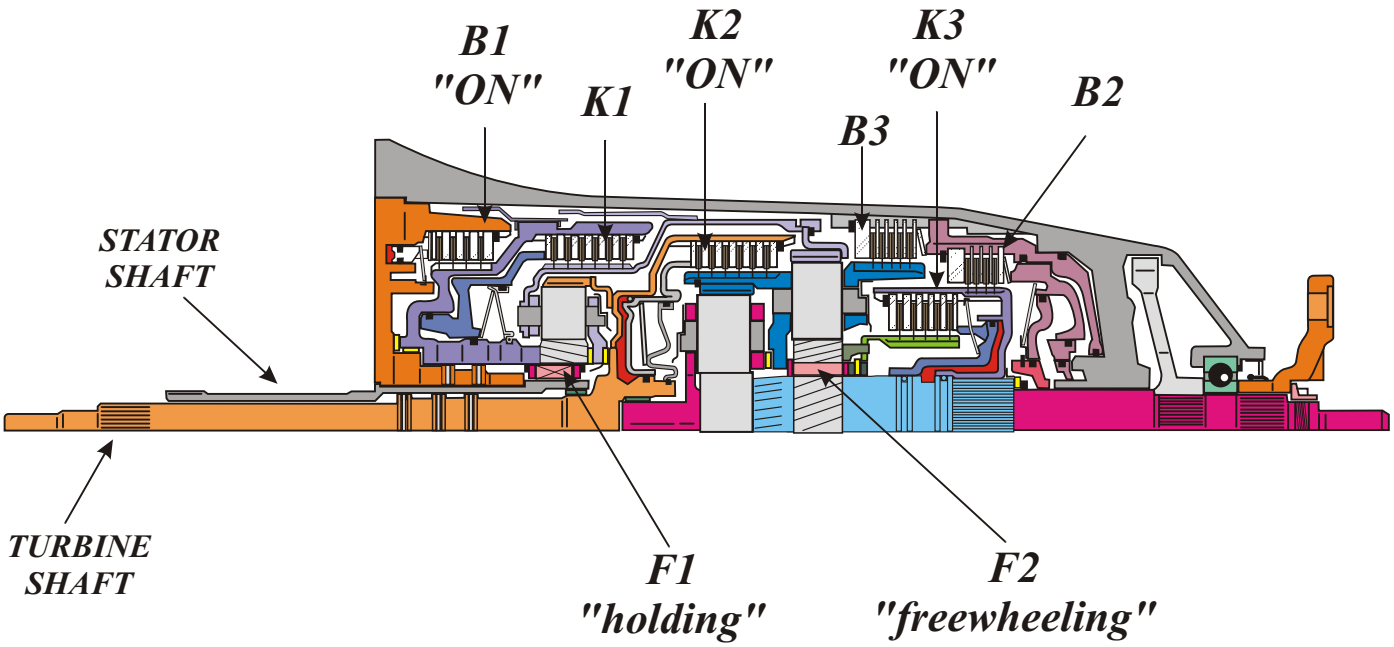
Summary: *The turbine shaft drives the front planetary ring gear. The K1 clutch, which is connected to the front planetary carrier, is on. This forces the front planetary assembly to rotate at a 1:1 ratio. The F1 freewheels as a result of the sun gear (which is connected to the K1 clutch) rotating with the complete front planetary assembly. The front planetary ring gear is linked to the rear planetary ring gear, (thru the rotating front planetary carrier). The K2 clutch, which is connected to the rear carrier, is turned on and forces the rear planetary assembly to rotate at a 1:1 ratio. The B2 brake is turned off and the K3 clutch , which is connected to the center planetary's sun gear, is turned on. This forces the center planetary assembly to rotate at a 1:1 ratio.*

SIMPLIFIED

FRONT PLANETARY (locked) 1:1
CENTER PLANETARY (locked) 1:1
REAR PLANETARY (locked) 1:1

Figure 81

5th GEAR



Expanded Summary: The turbine shaft drives the front planetary ring gear. The K1 clutch is turned off and the B1 brake is turned on. This locks the K1 drum, which is connected to the front planetary assembly's sun gear (this prevents the F1 freewheel from overrunning). This forces the front planetary carrier to rotate around the held front sun gear. The front planetary ring gear is linked to the rear planetary ring gear, (thru the rotating front planetary carrier). The K2 clutch, which is connected to the rear carrier, is on. The K3 clutch , which is connected to the rear planetary's stationary sun gear, is on. This forces the center planetary assembly to rotate the output shaft in an overdrive ratio.

SIMPLIFIED

FRONT PLANETARY ASSY. IN REDUCTION DRIVING
THE REAR INTERNAL RING GEAR IN REDUCTION
REAR CARRIER DRIVEN AT INPUT SPEED
REAR AND CENTER SUN GEAR DRIVING
CENTER CARRIER IN OVERDRIVE

Figure 82