

## COMPLAINT

SECONDARY COMPLAINTS

## Insufficient line rise, 3-4 clutch failure

## CAUSE

A worn boost sleeve can allow torque signal and reverse oil cross leakage or leakage to sump.

## CORRECTION

Sonnax valve and sleeve kits restore hydraulic integrity and prevent leakage. Kits are available in both stock replacement and increased boost ratio sizes.

## Reverse Boost Valve & Sleeve Kits

**77898E-K** Oversized  
.490" EPC spool diameter for early pumps

**77898E-4K** OEM Ratio  
.470" EPC spool diameter for early pumps

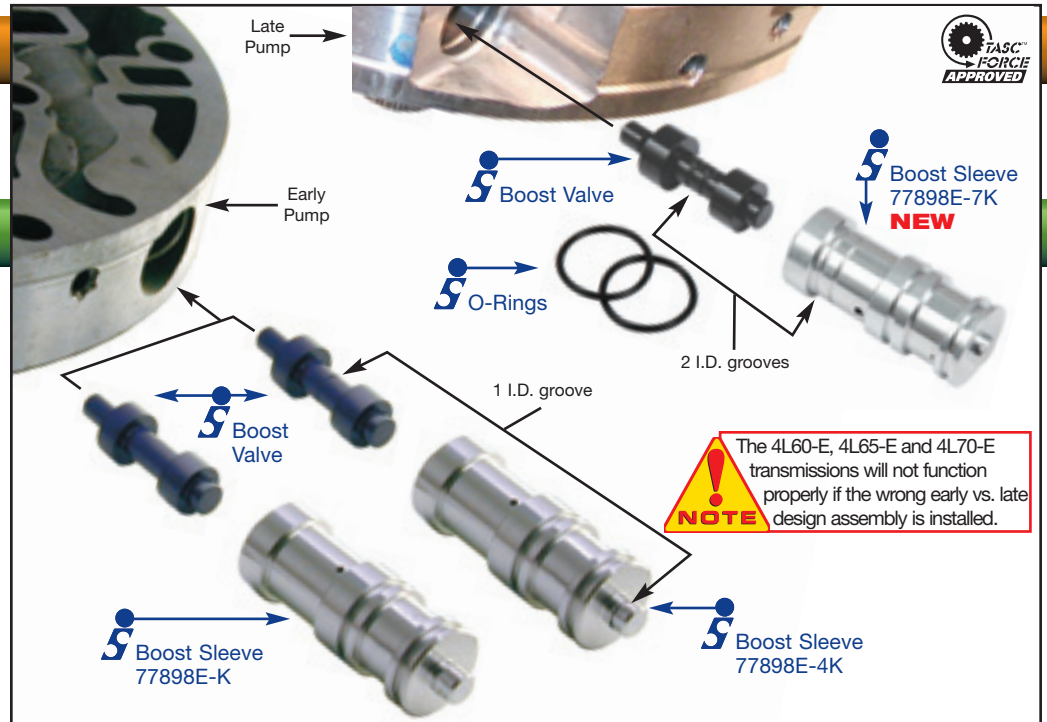
**NEW PRODUCT**  
**77898E-7K** Oversized  
.490" EPC spool diameter for late pumps

Each includes the following

- 1 Boost Valve
- 1 Boost Sleeve
- 2 O-Rings

**Note:** U.S. Patent No. 6,619,323

### • Poor shift quality



### Sonnax Part Summary

Vehicles with a 4L60-E, 4L65-E or 4L70-E transmission frequently have poor line rise, which can result in 3-4 clutch, 2-4 band failure or poor shift quality. The duty cycle of the EPC solenoid causes the boost sleeve to wear quickly. Oil entering the torque signal orifice leaks past the boost valve and exhausts at the reverse orifice, resulting in poor line rise. Reverse oil can exhaust both to the sump and back through the torque signal orifice. The outside diameter of the boost sleeve also allows some leakage through the pump body, which decreases pressure rise. Sonnax has developed three o-ringed version reverse boost valve and sleeve kits, **77898E-4K** for OEM ratio (.470" EPC spool diameter) early pumps; **77898E-K** for oversized ratio (.490" EPC spool diameter) early pumps; and **77898E-7K** for oversized ratio (.490" EPC spool diameter) late pumps.

PUMP DESIGN	OEM		SONNAX WITH O-RINGS		SONNAX "FACTORY" STYLE		
	VALVE	SLEEVE	VALVE	SLEEVE	VALVE	SLEEVE	
1.907" LONG SLEEVE	EARLY DESIGN	1 BAND	NO END GROOVE				
		.421" EPC					
	EARLY DESIGN	2 BANDS	1 END GROOVE	1 GROOVE	1 GROOVE NUB END	1 GROOVE	1 GROOVE NUB END
		.470" EPC		.470" EPC 77898E-4K	.470" EPC 77898E-6K		
1.810" SHORT SLEEVE	EARLY DESIGN	INCREASED RATIO VERSION OEM REPLACEMENT .470"		NO GROOVE	NO GROOVE	NO GROOVE	NO GROOVE
				.490" EPC 77898E-K	.490" EPC 77898E-3K		
	LATE DESIGN	3 BANDS	NO END GROOVE				
	LATE DESIGN	.421" EPC					
	LATE DESIGN	4 BANDS	1 END GROOVE				
		.470" EPC					
	LATE DESIGN	INCREASED RATIO VERSION OEM REPLACEMENT .470"		2 GROOVES	2 GROOVES ON PR END		
				.490" EPC 77898E-7K			

