



# Technical Service Information

## ZF5HP24

### DELAY OR SLIPPING FORWARD AND/OR REVERSE/ 5-4 KICK-DOWN FLARE

**COMPLAINT:** ZF5HP24 transmissions may exhibit a slipping or delayed engagement into reverse and or drive before and after overhaul. A flare on a kick down shift to 4th may also occur.

**CAUSE:** Inside the lower rear valve body there are two hard plastic damper pistons (Figure 3), one for the A clutch and the other for the C clutch. The A clutch is used for forward while the C clutch is used for reverse (Figure 2). The original design has a center pedestal at the bottom of the piston which punches out over time causing a leak in their respective circuits (Figure 1). Damage to the A or C clutch may occur and if the valve body is not disassembled during the re-build, the original complaint will remain.

In a past ATSG seminar (2003) we have noted that the EDS 5 solenoid pressure circuit has a rubber damper (bladder) in the channel plate that ruptures causing a dumping to neutral on medium to heavy throttle take off and/or a neutralizing during a 5-4 kick-down shift (Figure 4). Many kits come through with a new bladder to be used when rebuilding the unit.

**CORRECTION:** The punched out piston will need to be replaced. There is now an updated piston which eliminates the original bottom center pedestal stop (Figure 1). The new design piston has split pedestal which has been increased slightly in thickness and diameter. The original ZF part number remains the same when ordering from an authorized ZF distributor for all models except Audi. They have an aluminum version that resembles the first design. Both the updated hard plastic design split pedestal stop and the aluminum single center pedestal stop damper pistons are dimensionally the same and will interchange. The major difference is price. The aluminum wholesales at approximately \$ 27.00 while the hard plastic wholesales at approximately \$ 4.00.

#### SERVICE INFORMATION:

Updated Damper Piston.....ZF Part # 1058-327- 017  
Audi Aluminum Piston.....ZF Part # 1058-327-087

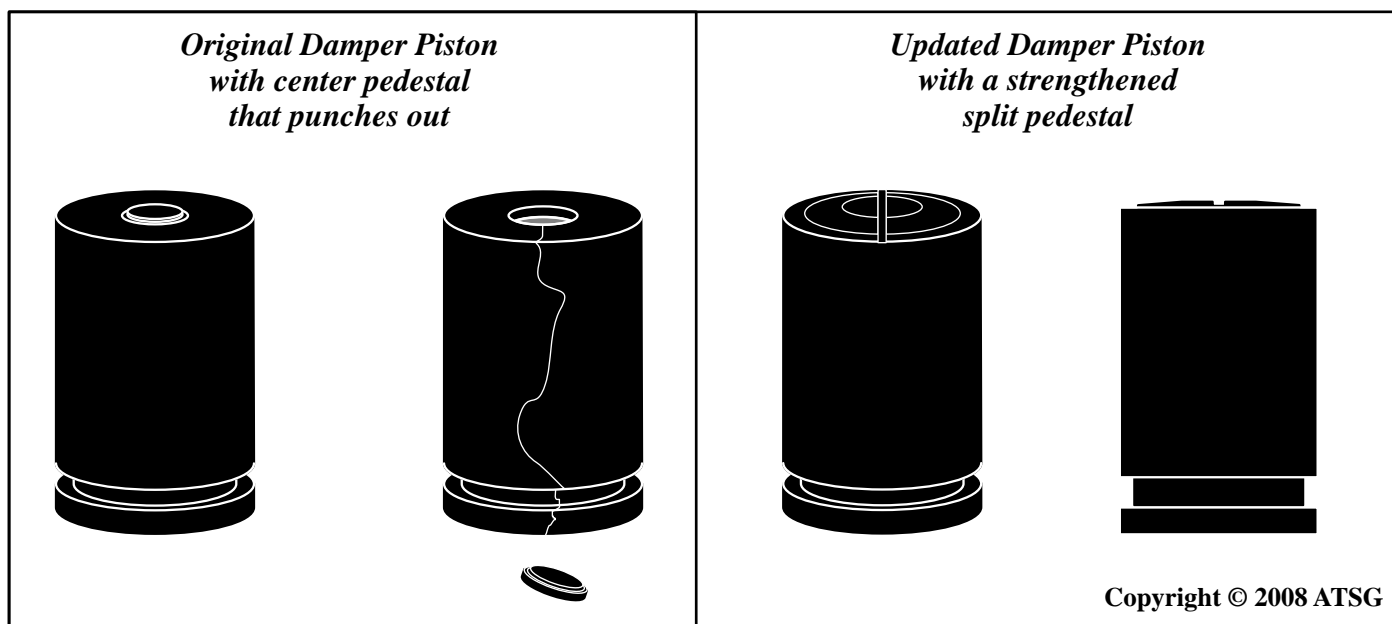
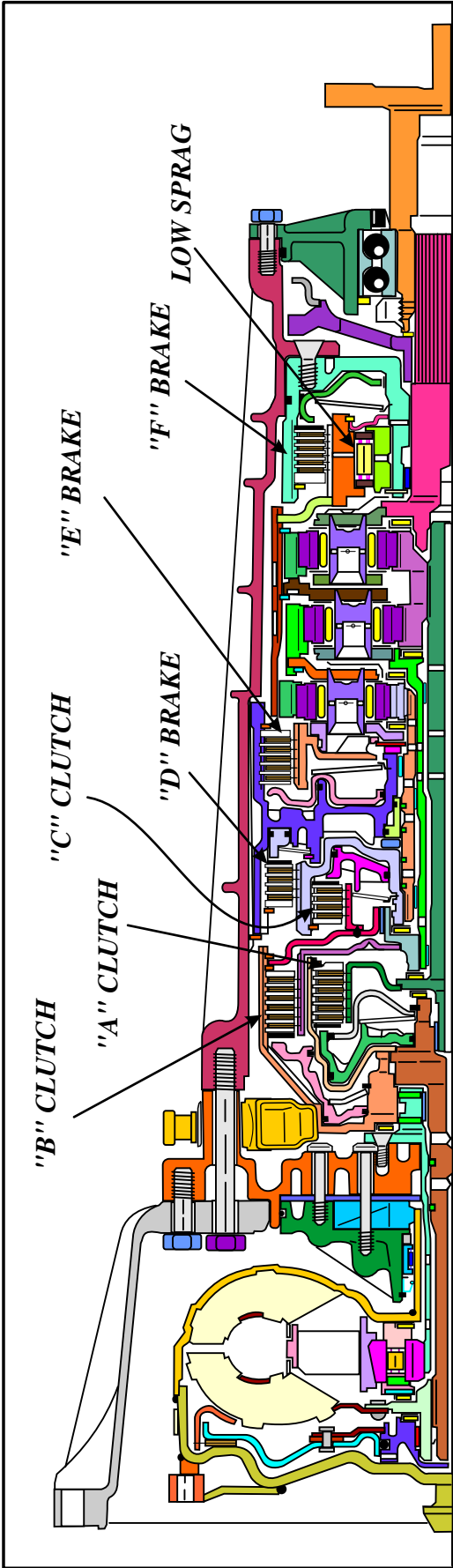


Figure 1

**ZF-5HP-24**

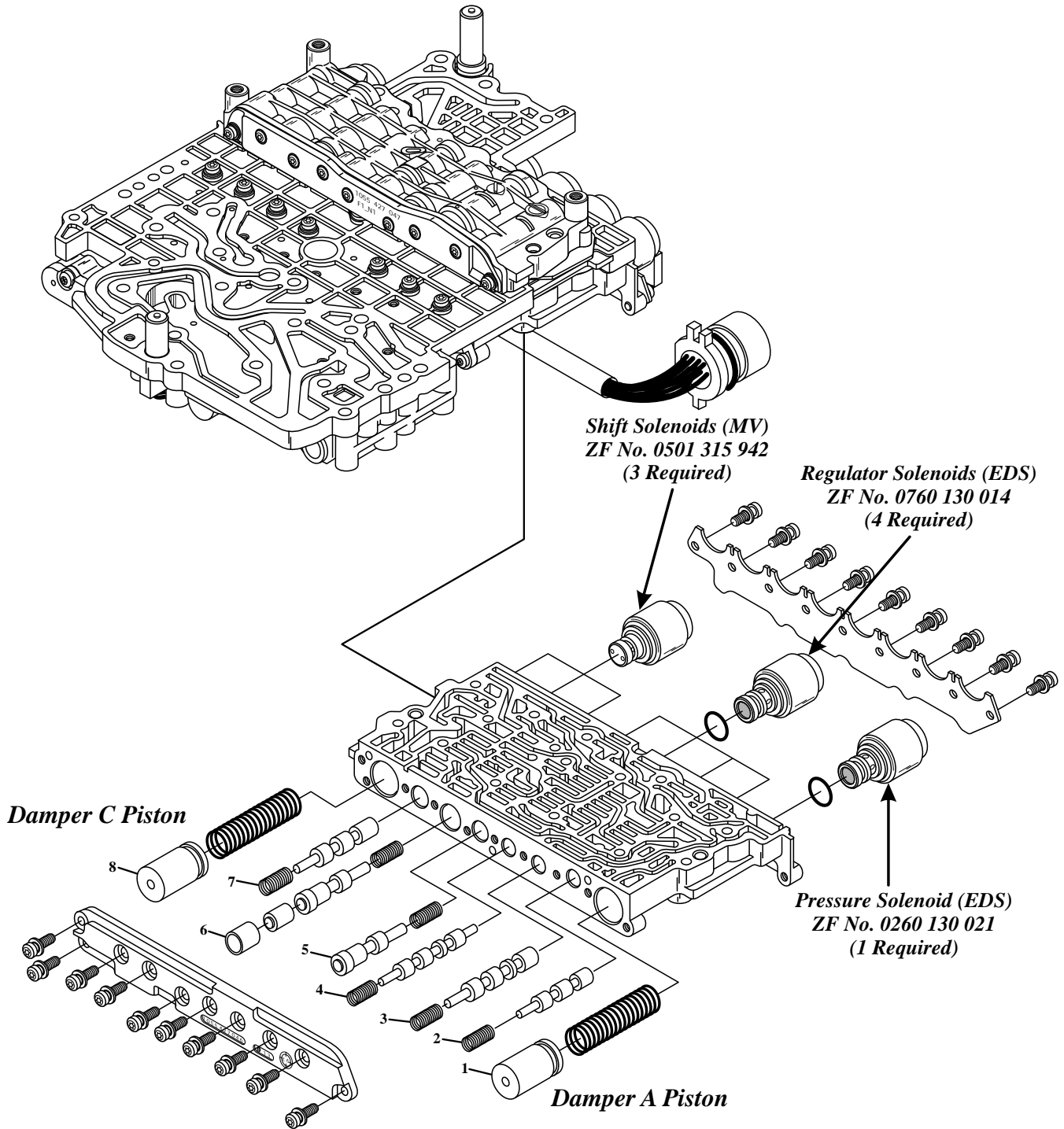


*APPLICATION CHART*

GEAR	"A" CLUT	"B" CLUT	"C" CLUT	"D" BRAK	"E" BRAK	"F" BRAK	LOW SPRAG	GEAR RATIO
PARK						ON		
REV			ON			ON		4.10:1
NEUT						ON		
D-1ST	ON						HOLD	3.57:1
D-2ND	ON				ON			2.20:1
D-3RD	ON			ON				1.51:1
D-4TH	ON	ON						1.00:1
D-5TH		ON		ON				0.80:1
M-1	ON					ON	HOLD	3.57:1

Figure 2

## ZF-5HP-24 LOWER REAR VALVE BODY



1. "A" Clutch Accumulator Line-Up (D-A).
2. Shift Valve Number 1 (SV-1).
3. Shift Valve Number 2 (SV-2).
4. Shift Valve Number 3 (SV-3).
5. Switch Valve For "D" Clutch (ABSCH-V-D).
6. Clutch Valve "D" Line-Up (KV-D).
7. Reverse Gear Valve Line-Up (RG-V).
8. "C" Clutch Accumulator Line-Up (D-C).

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Figure 3

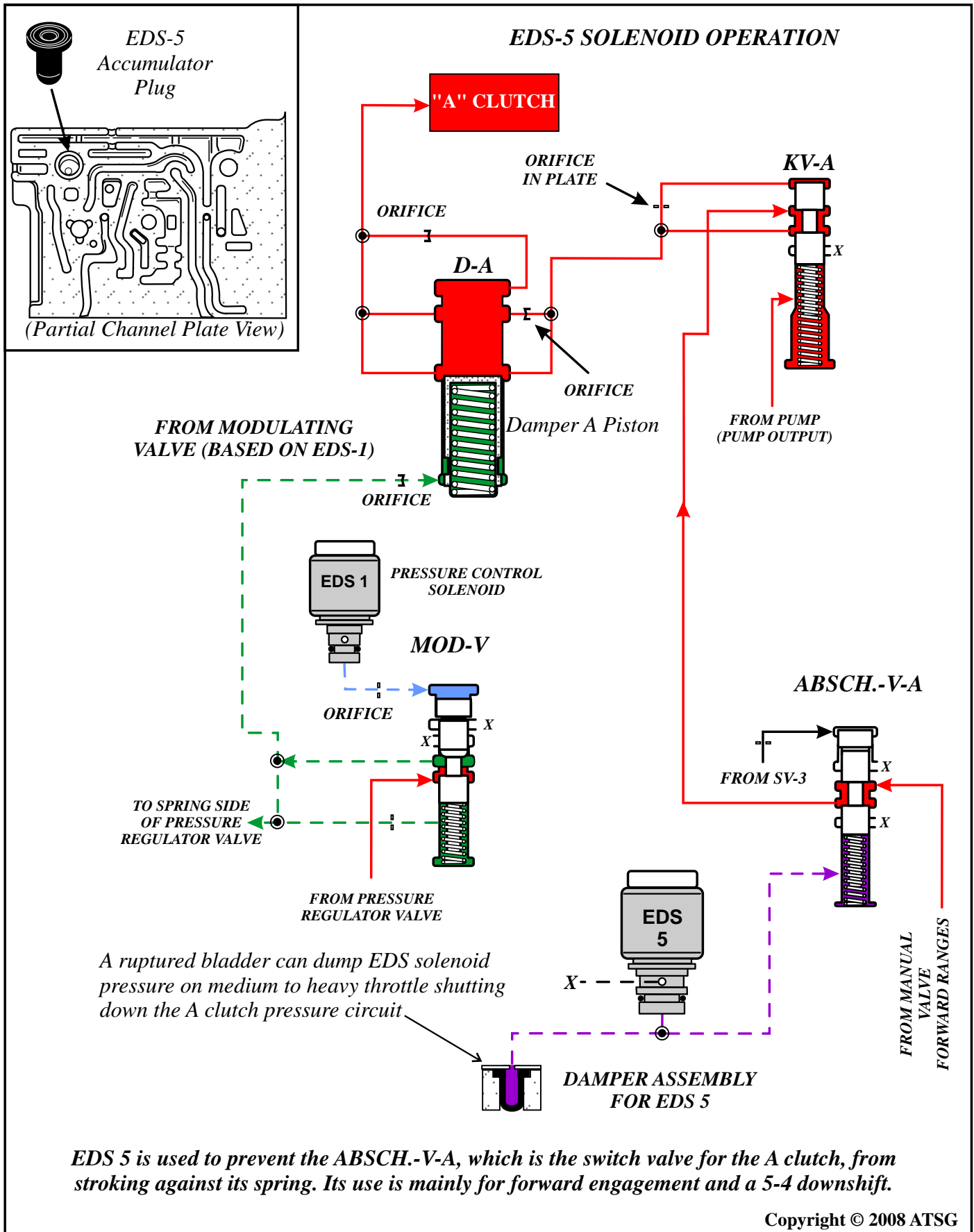


Figure 4