



AUDI/VW/PORCHE TR60-SN/09D HARSH SHIFTS DURING ACCELERATION

COMPLAINT: A complaint of harsh shifting during acceleration through a 4 to 5, 6 to 4 and/or 5 to 3 shift may be present. In many instances this complaint may be accompanied with bumpy coast downshifts as well.

CAUSE: The solenoid modulating valves (figure 1) are prone to bore wear. This causes incorrect control of clutch pressure. The computer compensates for the observed shift error by increasing line pressure in an attempt to correct the shift error. As a result, too much line pressure is available when changing gears.

CORRECTION: Repair the valve body or replace with new. If a used valve body is acquired for replacement, it too will need to be inspected as this is a common problem.

Caution: when exchanging valve bodies, be aware that there are early and late valve bodies for two port converter clutch systems as well as three port converter clutch systems. These valve bodies are not interchangeable. Refer to Service Information for assistance with Audi and Volkswagen applications.

After all repairs are made a return to basic settings will need to be set followed by adaptation programming.

Adaptation programming starts with warming up the engine so that the ATF temperature is between 66 and 110°C. Do not raise temperatures by stalling the converter. Let temperatures rise by idle or normal driving.

Stationary adaptation procedure:

1. In a vehicle that is stationary with the engine running, press the brakes.
2. Change from N to D and hold for 5 seconds.
3. Repeat 5 times.
4. Repeat the procedure 5 times but change from N to R.

Gear change adaptation procedure:

1. Accelerate in driving mode (D) with a throttle valve opening between 25 and 30% until you reach 6th gear and at least 80 km/h.
2. Release the accelerator pedal and let the vehicle roll to standstill. Stay in driving mode (D).
3. After 60 seconds at the latest, stop the vehicle by braking lightly.
4. Repeat 10 times.



Technical Service Information

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SERVICE INFORMATION:

Valve body casting number and matching spacer plate identification taken from VW Touareg applications:

A spacer plate is for a 3 Port early design valve body with casting number 8860-1*

B spacer plate is for a 2 Port early design valve body with casting number 8860-1*

*Just the spacer plate makes the difference between a 2 port and 3 port earl VB versions

C spacer plate is for a 3 Port late design valve body with casting number 8860-3

K spacer plate is for a 2 Port late design valve body with casting number 8860-AH5

Audi provides the following part number information for new valve bodies:

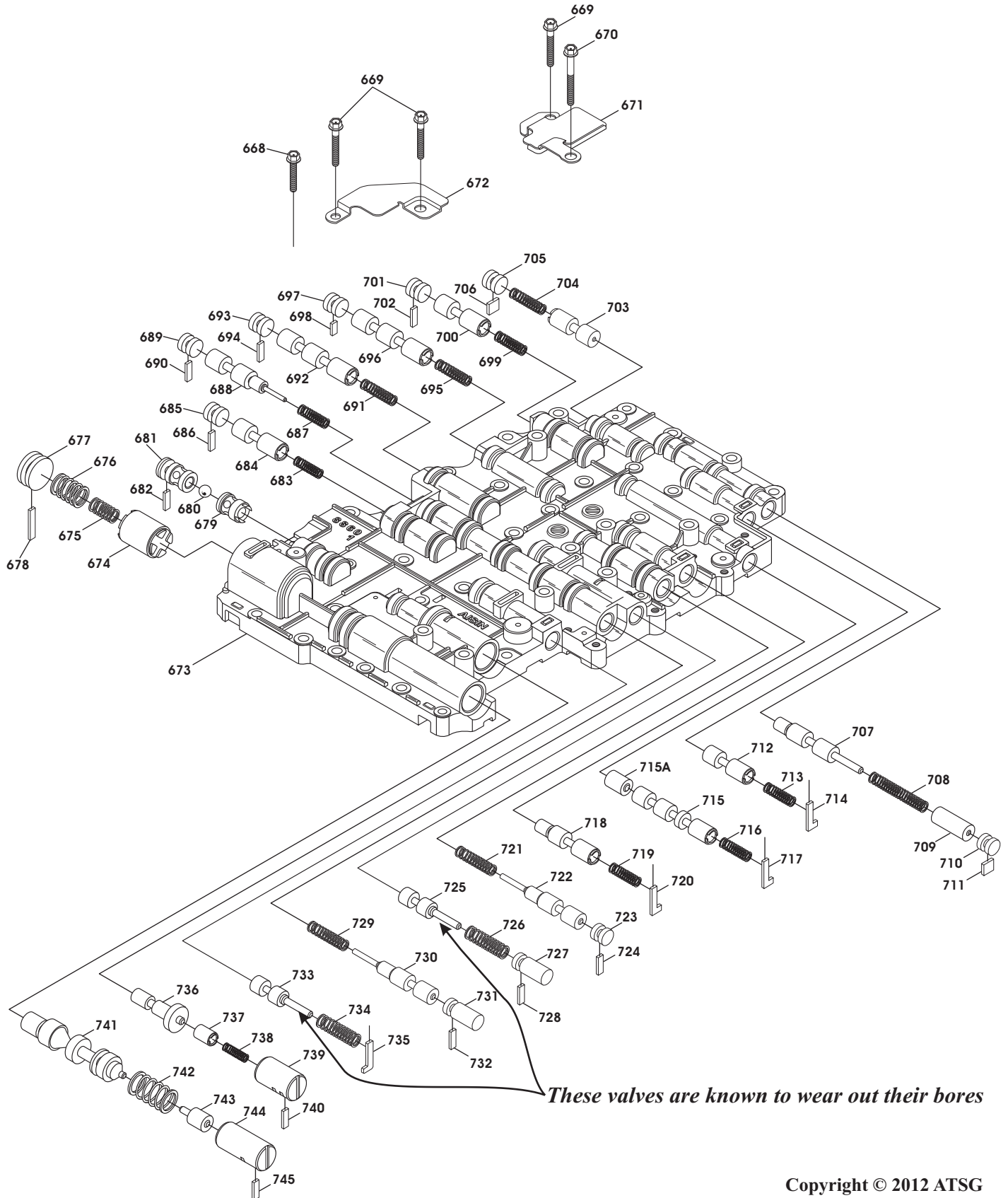
Valve body for transmission code HPH.....09D 325 039 B

Valve body for transmission code KMF.....09D 325 039 D

Valve body for transmission code JXS.....09D 325 039 G

Valve body for transmission code KRK.....09D 325 039 K

TYPICAL EXPLODED VIEW OF AN UPPER VALVE BODY



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Figure 1



AUDI/VW/PORCHE TR60-SN/09D HARSH SHIFTS DURING ACCELERATION

UPPER VALVE BODY LEGEND

659 ROUND SCREENS (2 REQUIRED).	720 B2 PORT CONTROL VALVE RETAINER.
660 VALVE BODY SPACER PLATE.	721 B1 RELAY VALVE SPRING (ORANGE).
668 UPPER VB TO LOWER VB BOLT, 22 MM (.866") (4 REQUIRED).	722 B1 RELAY VALVE.
669 UPPER VB TO LOWER VB BOLT, 28 MM (1.102") (25 REQUIRED).	723 B1 RELAY VALVE BORE PLUG.
670 UPPER VB TO LOWER VB BOLT, 40 MM (1.574") (10 REQUIRED).	724 B1 RELAY VALVE BORE PLUG RETAINER.
671 OIL BAFFLE NUMBER 2.	725 SOLENOID MODULATOR VALVE B VALVE.**
672 OIL BAFFLE NUMBER 1.	726 SOLENOID MODULATOR VALVE B VALVE SPRING (LT BLUE).
673 UPPER VALVE BODY CASTING.	727 SOLENOID MODULATOR VALVE B VALVE BORE PLUG.
674 K1 ACCUMULATOR PISTON.	728 SOLENOID MODULATOR VALVE B VALVE BORE PLUG RETAINER.
675 K1 ACCUMULATOR PISTON INNER SPRING (LT BLUE).	729 K3 RELAY VALVE SPRING (ORANGE).
676 K1 ACCUMULATOR PISTON OUTER SPRING (NONE).	730 K3 RELAY VALVE.
677 K1 ACCUMULATOR PISTON BORE PLUG.	731 K3 RELAY VALVE BORE PLUG.
678 K1 ACCUMULATOR PISTON BORE PLUG RETAINER.	732 K3 RELAY VALVE BORE PLUG RETAINER.
679 K3/B1 THREE WAY INNER SHUTTLE BALL SEAT.	733 SOLENOID MODULATOR VALVE A VALVE.**
680 SHUTTLE BALL (.250" DIAMETER STEEL).	734 SOLENOID MODULATOR VALVE A SPRING (LT BLUE).
681 K3/B1 THREE WAY OUTER SHUTTLE BALL SEAT.	735 SOLENOID MODULATOR VALVE A RETAINER.
682 K3/B1 THREE WAY OUTER SHUTTLE BALL SEAT RETAINER.	736 TCC APPLY CONTROL VALVE.
683 N283 SWITCH VALVE SPRING (PINK).	737 TCC APPLY CONTROL BOOST VALVE.
684 N283 SWITCH VALVE.	738 TCC APPLY CONTROL BOOST VALVE SPRING (TAN).
685 N283 SWITCH VALVE BORE PLUG.	739 TCC APPLY CONTROL BOOST VALVE SLEEVE.
686 N283 SWITCH VALVE BORE PLUG RETAINER.	740 TCC APPLY CONTROL BOOST VALVE SLEEVE RETAINER.
687 N90 SWITCH VALVE SPRING (ORANGE).	741 PRIMARY PRESSURE REGULATOR VALVE.
688 N90 SWITCH VALVE.	742 PRIMARY PRESSURE REGULATOR VALVE SPRING (PINK).
689 N90 SWITCH VALVE BORE PLUG.	743 LINE PRESSURE BOOST VALVE.
690 N90 SWITCH VALVE BORE PLUG RETAINER.	744 LINE PRESSURE BOOST VALVE SLEEVE.
691 K3 CONTROL VALVE SPRING (PINK).	745 LINE PRESSURE BOOST VALVE SLEEVE RETAINER.
692 K3 CONTROL VALVE.	746 LUBE CHECK VALVE SPRING (PINK).
693 K3 CONTROL VALVE BORE PLUG.	747 LUBE CHECK VALVE, 9.98 MM (.392") DIAMETER.
694 K3 CONTROL VALVE BORE PLUG RETAINER.	748 SECONDARY REG. VALVE PLASTIC CHECK VALVE ASSEMBLY.
695 B1 CONTROL VALVE SPRING (PINK).	749 TCC APPLY LIMIT CHECK VALVE SPRING (VIOLET).
696 B1 CONTROL VALVE.	750 TCC APPLY LIMIT CHECK VALVE, 9.98 MM (.392") DIAMETER.
697 B1 CONTROL VALVE BORE PLUG.	751 N93 SOLENOID LIMIT CHECK VALVE SPRING (LT. BLUE).
698 B1 CONTROL VALVE BORE PLUG RETAINER.	752 N93 SOLENOID LIMIT CHECK VALVE, 11.98 MM (.471") DIAMETER.
699 K2 CONTROL VALVE SPRING (PINK).	753 REVERSE LIMIT CHECK VALVE SPRING (WHITE).
700 K2 CONTROL VALVE.	754 REVERSE LIMIT CHECK VALVE, 9.98 MM (.392") DIAMETER.
701 K2 CONTROL VALVE BORE PLUG.	755 REVERSE ORIFICE PLASTIC CHECK BALL, 5.5 MM (.217") DIA.
702 K2 CONTROL VALVE BORE PLUG RETAINER.	756 LINE PRESSURE LIMIT CHECK VALVE SPRING (NONE).
703 B2 SWITCH VALVE (MANUAL "1") VALVE.	757 LINE PRESSURE LIMIT CHECK VALVE, 9.98 MM (.392") DIAMETER.
704 B2 SWITCH VALVE (MANUAL "1") SPRING (WHITE).	758 REGULATED EXHAUST CHECK VALVE SPRING (WHITE).
705 B2 SWITCH VALVE (MANUAL "1") BORE PLUG.	759 REGULATED EXHAUST CHECK VALVE, 9.98 MM (.392") DIAMETER.
706 B2 SWITCH VALVE (MANUAL "1") BORE PLUG RETAINER.	760 B2 "SMALL" CAVITY PLASTIC CHECK BALL, 5.5 MM (.217") DIA.
707 B2 REGULATOR VALVE.	761 LUBE RELIEF CHECK VALVE, 9.98 MM (.392") DIAMETER.
708 B2 REGULATOR VALVE SPRING (VIOLET).	762 LUBE RELIEF CHECK VALVE SPRING (RED).
709 B2 REGULATOR PLUNGER.	763 K2 CLUTCH PLASTIC CHECK VALVE ASSEMBLY.
710 B2 REGULATOR VALVE BORE PLUG.	764 B1 CLUTCH PLASTIC CHECK VALVE ASSEMBLY.
711 B2 REGULATOR VALVE BORE PLUG RETAINER.	765 K3 CLUTCH PLASTIC CHECK VALVE ASSEMBLY.
712 PRESSURE MODIFIER VALVE.	766 K1 CLUTCH PLASTIC CHECK VALVE ASSEMBLY.
713 PRESSURE MODIFIER SPRING (WHITE).	767 DRIVE RANGE ORIFICE PLASTIC CHECK BALL, 6.35 MM (.250") DIA.
714 PRESSURE MODIFIER RETAINER.	768 COOLER CHECK VALVE.
715A NUMBER 2 RELAY VALVE PLUG.	769 COOLER CHECK VALVE SPRING (TAN).
715 NUMBER 2 RELAY VALVE.	770 MANUAL VALVE.
716 NUMBER 2 RELAY VALVE SPRING (WHITE).	771 MANUAL VALVE BODY CASTING.
717 NUMBER 2 RELAY VALVE RETAINER.	772 MANUAL VALVE BODY RETAINING BOLT, 38 MM (1.496") (7 REQ).
718 B2 PORT CONTROL VALVE.	
719 B2 PORT CONTROL VALVE SPRING (WHITE).	

**SPECIAL NOTE: VALVE NAMES SHOWN WERE
ASSIGNED BY ATSG BASED ON THEIR FUNCTION.**

**** = These Valves are known for bore wear out.**

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Figure 2