CHRYSLER A604

2ND GEAR STARTS AND NO UPSHIFT, EVEN AFTER IGNITION CYCLE

COMPLAINT: 2nd gear starts and no upshifts occur even after an ignition cycle. A code 15 may be accompanied with this complaint.

CAUSE: The cause may be a loss of voltage supply to pin number 4 at the solenoid body which is controlled by the EATX relay. The EATX relay (Electronic Automatic Transaxle) is operated by the controller. Its purpose is to provide battery voltage to the solenoids and switches. When the controller receives an ignition run signal from the ignition switch, it will first perform a number of circuit checks and a EATX relay check. The controller will initialize and activate the EATX relay if no circuit problems are found. One side of the EATX relay coil is grounded and the controller applies battery voltage to the opposite side. This power comes from the controllers direct battery supply circuit. When the EATX relay contacts close, battery voltage is supplied to pin number 4 at the solenoid body and pins 16 & 17 on the controller. This is referred to as switched battery voltage (See Figure 1). The controller uses pins 16 & 17 to monitor the relay function and applied voltage. If the contacts in the EATX relay cannot close, switched battery voltage cannot be supplied to pin number 4 at the solenoid body or pins 16 & 17 at the controller causing the 2nd gear starts and no upshifts even after an ignition cycle. Fault code 15 may be accompanied with this fault which means EATX relay off.

CORRECTION: NEW YORKER, DYNASTY", IMPERIAL and FIFTH AVENUE ONLY.
(1) Locate the EATX relay in the Power Distribution Center as shown in Figure 2.

(2) With the ignition OFF, remove the relay and refer to figure 3 for cavity identification.

(3) Re-install the EATX relay into the cavity so that pins make contact with the cavity terminals, leaving room to back probe relay pin. NOTE: FOLLOWING TEST CANNOT BE MADE WITH RELAY REMOVED.

(4) Using a Volt Meter set to DC volts, place the positive lead onto terminal B and the negative lead on the ground post of the battery. Battery voltage should be seen here with the ignition switch either on or off. If no voltage appears, inspect and repair the wiring for an open or a blown fusible link. If there Is battery voltage, go to step 5.

(5) Using an OHM meter, place the positive lead onto terminal C and the negative lead to a good ground and check for continuity. If there is continuity, go to step 6. If there is no continuity, the wire coming out of cavity C has a bad ground. Repair the ground wire coming out of cavity C and repeat this check to insure that you have good continuity.

(6) Using a volt meter set to DC volts, place the positive lead onto terminal A and the negative lead onto the ground post of the battery. Battery voltage should be seen here when the ignition switch is turned on. If no battery voltage is seen, check continuity between cavity A at the relay and terminal 15 atthe controller (See figure 4 for terminal location at the controller). If there is continuity, go to step 7. If there is no continuity, the wire from terminal 15 at the controller to cavity A at the relay has an open. Repair the wire and repeat this step to insure that you have continuity across this wire.

CONTINUED: (7) Using a volt meter set to DC volts, place the positive lead onto terminal A and the negative onto terminal C. Battery voltage should be seen here with ignition switch on. If battery voltage is not seen, replace the controller. If battery voltage is seen, go to step 8.

(8) Using a volt meter set to DC volts, place the positive lead onto terminal D and the negative lead on the ground post of the battery. Battery voltage should be seen here with ignition switch on. If battery voltage is not seen, replace the EATX relay. If battery voltage is seen, go to step 9.

(9) Using an OHM meter, check for continuity between cavity D at the relay and terminal 4 at the solenoid body connector. See figure 5 for solenoid connector terminal Identification. If there is no continuity, the wire from cavity D at the relay to terminal 4 in the solenoid connector has an open. Repair the wire and repeat this check to insure that you have continuity across this wire.

CORRECTION: SPIRIT, ACCLAIM, LEBARON, DAYTONA, SHADOW, SUNDANCE, CARAVAN, and VOYAGER ONLY.
(1) Locate the EATX relay location by using figure 6 and refer to figure 7 for cavity identification.

(2) Carefully bend the EATX relay bracket to gain access to back probe the connector. NOTE: FOLLOWING TEST CANNOT BE MADE WITH CONNECTOR REMOVED.

(3) Using a volt meter set to DC volts, take the positive lead and carefully back probe the D terminal (Red with white strip wire). Place the negative lead onto the ground post of the battery. Battery voltage should be seen here with Ignition switch either on or off. If no voltage appears, inspect and repair the wiring for an open or a blown fusible link. If there is battery voltage, go to step 4.

(4) Using an OHM meter, take the positive lead and carefully back probe the A terminal (Black with red strip wire) and put the negative lead to a good ground. If you have good continuity, go to step 5. If there *is* no continuity, the wire coming out of terminal A has a bad ground. Repair the ground wire coming out of terminal A and repeat this check to insure that you have good continuity.

(5) Using a volt meter set to DC volts, take the positive lead and carefully back probe the C terminal (Light green wire) and place the negative lead onto the ground post of the battery. Battery voltage should be seen here when the ignition switch is turned on. If no battery voltage is seen, check continuity between terminal C (Light green wire) at the relay and terminal 15 at the controller (See Figure 4 for terminal location at the controller). If there is continuity, go to step 6. If there is no continuity, the wire from terminal 15 at the controller to terminal C at the relay has an open. Repair the wire and repeat this step to insure that you have continuity.

(6) Using a volt meter set to DC volts, take the positive lead and carefully back probe terminal C (Light green wire). Take the negative lead and carefully back probe terminal A (Black with red strip wire). Battery voltage should be seen here with ignition switch on. If battery voltage is not seen, replace the controller, u battery voltage is seen, go to step 7.

CONTINUED: (7) Using a volt meter set to DC volts, take the positive lead and carefully back probe terminal B (Red wire). Place the negative lead onto the ground post of the battery. Battery voltage should be seen here with the ignition switch on. If battery voltage is not seen, replace the EATX relay. If battery voltage is seen, go to step 8.

(8) Using an OHM meter, check for continuity between terminal B (Red) at the relay and terminal 4 at the solenoid body connector. See figure 5 for solenoid connector terminal identification. If there is no continuity, the wire from terminal B (Red wire) at the relay to terminal 4 at the solenoid connector has an open. Repair the wire and repeat this check to insure that you have continuity across this wire.

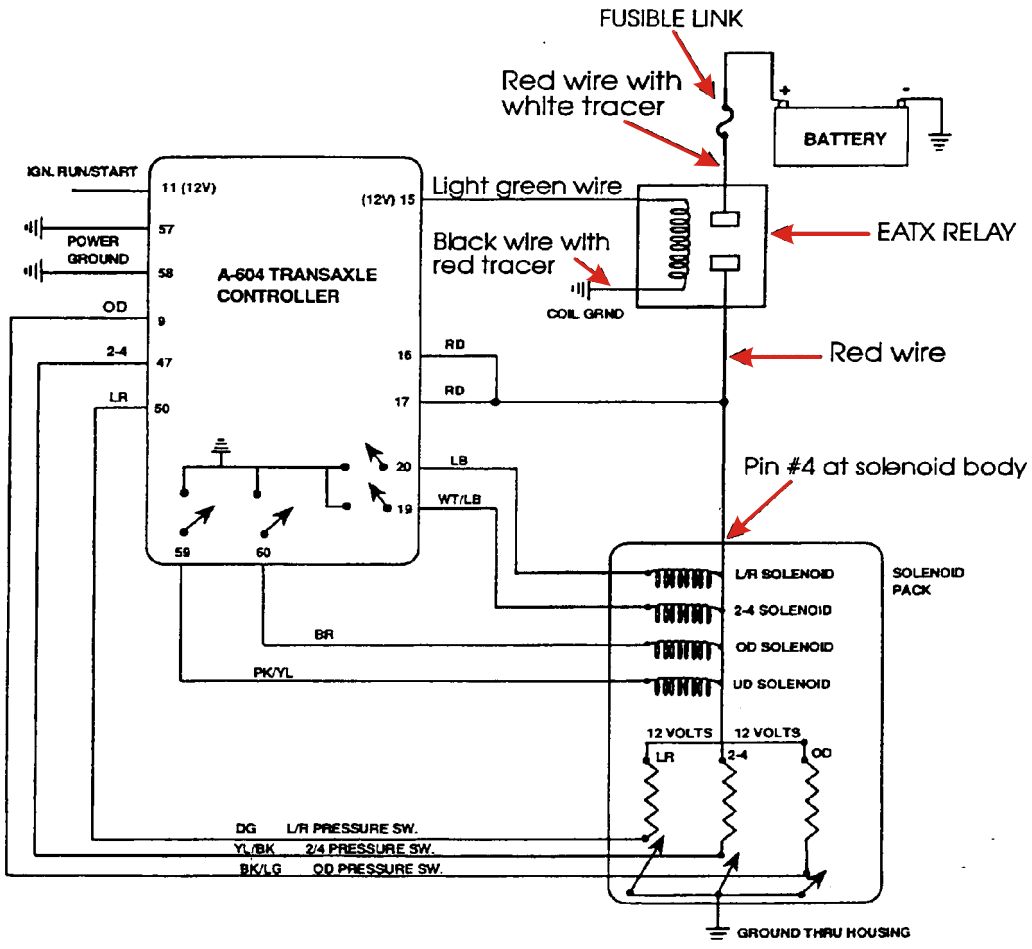


Figure 1

EATX RELAY LOCATION FOR NEW YORKER, DYNASTY, IMPERIAL AND FIFTH AVENUE.

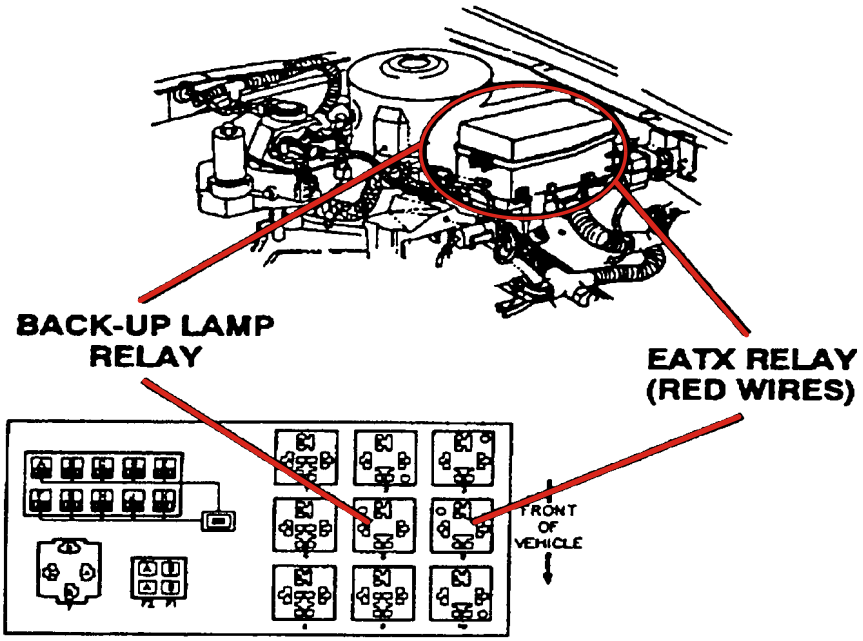
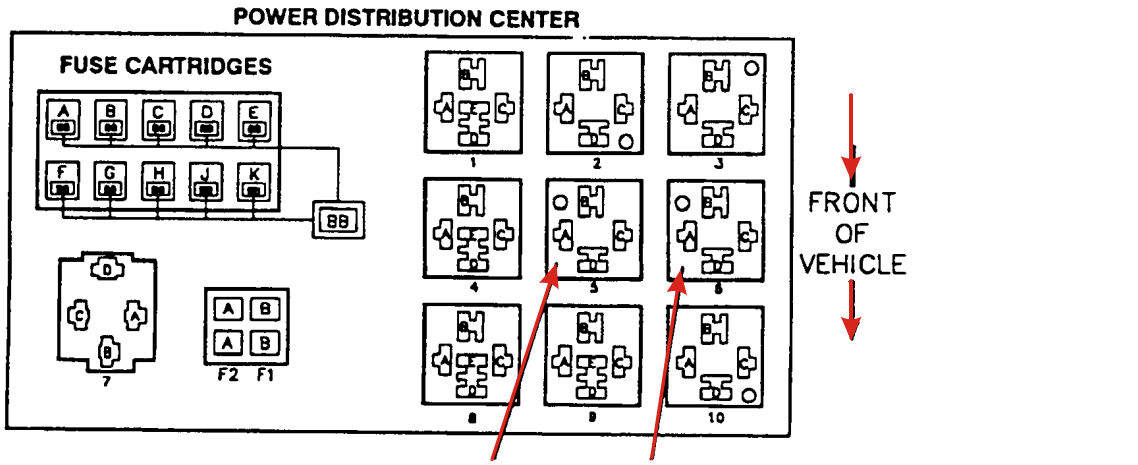
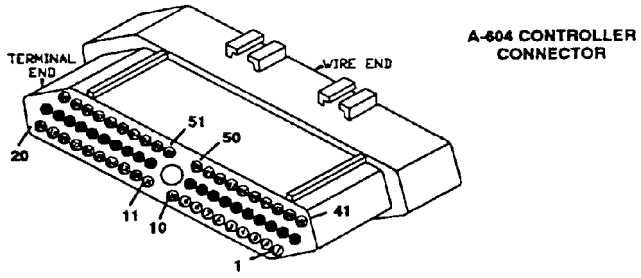


Figure 2



CAV	CIRCUIT	FUNCTION
A	T15 18LG	Relay Coil Power
B	A14 18RD/WT	Battery 12V
C	18BK/RD	Ground
D	T16 18RD	Relay Output
E		Not Used

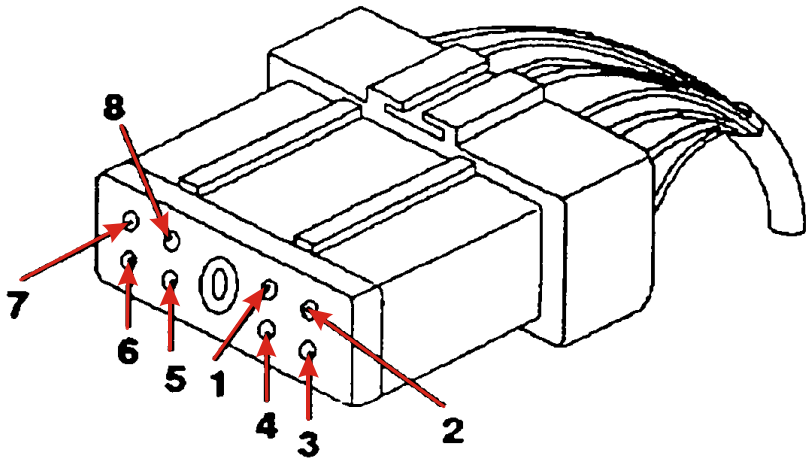
Figure 3



CAV.. CIRCUIT..... FUNCTION
1 ..... T01 -*BLG/*..... PRNDL(RL2)
2 ..... T02 18TN/BK ..... Back-up Lamp Relay. Coil Driver (RL3)
3 ..... T03 14VT ..... Neutral Start Switch (RL1)
4 ..... D0220PK7BK..... Bus (-)
5 ..... D01 20WT/BK .... Bus Bias (A Body Only)
6 ..... T4418TN/YL ..... (2.5L Turbo Only)
7 ..... Not Used
8 ..... A41 14YL ..... Crank Signal
9 ..... T09 18OR/BK..... OD Pressure Switch
10 ..... Not Used
11 .... A21 14DB..... Ignition (+)
12 .... K22 18OR/DB..... Throttle Position Sensor
13 .... T13 18DB/BK ..... Speed Sensor Ground
14 .... T14 18LG/WT..... Output Speed Sensor
15 .... T15 18LG ..... EATX Relay Coil (Power)
16 .... T16 16RD..... EATX Relay Output
17 .... T16 16RD..... EATX Relay Output
18 ..... Not Used
19 .... T19 18WT ..... 2-4 Solenoid Driver
20 .... T20 18LB ..... L/R Solenoid Driver
21-40 ..... Not Used
41 .... T41 20BR/YL ..... Neutral Start (NS1)
42 .... T4218VT/*..... PRNDL (NS2)
43 .... D01 20VT/BR ..... Bus (+)
44 .... D02 20WT/BK .... Bus Bias (A Body Only)
45 .... K24 18GY/BK..... Engine Speed Signal
46 ..... Not Used
47 .... T47 18YL7BK ..... 2-4 Pressure Switch
48 ..... Not Used
49 ..... Not Used
50 .... T50 18DG..... LR Pressure Switch
51 .... K04 18BK/LB ..... T.P.S. Ground
52 .... T52 18RD/BK..... Turbine Speed Sensor
53 .... Z14 188K/YL ..... Signal Ground
54 .... Z14 18BK/YL ..... Signal Ground
55 ..... Not Used
56 .... A1416RD/* ..... Battery Feed
57 .... Z13 18BK/RD ..... Power Ground
58 .... 213 18BK/RD ..... Power Ground
59 .... T59 18PK..... UD Solenoid Driver
60 .... T60 18BR..... OD Solenoid Driver

Figure 4

SOLENOID CONNECTOR TERMINAL IDENTIFICATION



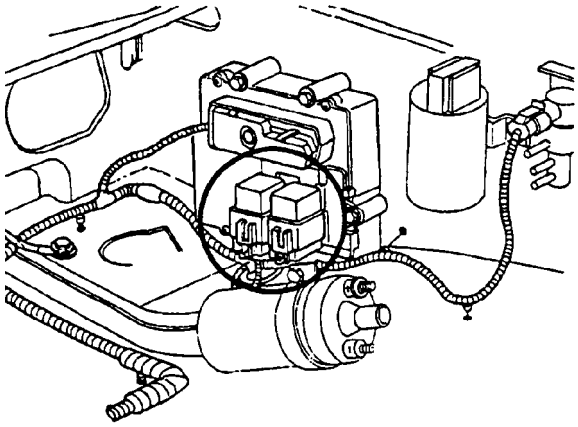
TRANSMISSION SOLENOID PACK CONNECTOR

CAV CIRCUIT ..... FUNCTION

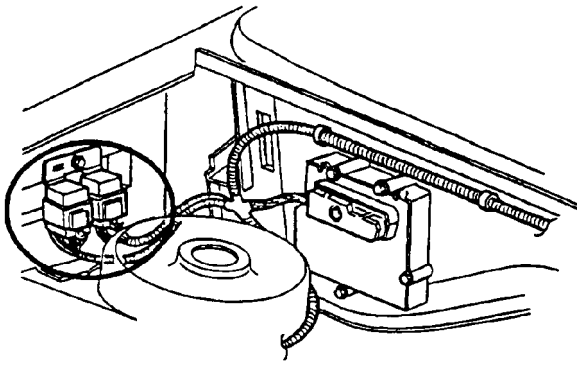
1 ..... T4718YL/BK..... 2-4 Pressure Switch
2 ..... T50 18DG ..... L7R Pressure Switch
3 ..... T9180R/BK ..... OD Pressure Switch
4..... T1618RD ..... Relay Output
5..... T5918PK..... UD Solenoid Driver
6 ..... T6018BR ..... OD Solenoid Driver
7 ..... T2018LB..... L7R Solenoid Driver
8..... T19 18WT ..... 2-4 Solenoid Driver

Figure 5

EATX RELAY LOCATION FOR SPIRIT, ACCLAIM, LEBARON, DAYTONA, SHADOW, SUNDANCE, CARAVAN and VOYAGER.

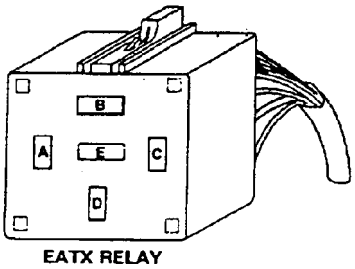


SPIRIT, ACCLAIM, LEBARON, DAYTONA, SHADOW and SUNDANCE.



CARAVAN and VOYAGER

Figure 6



EATX RELAY

CAV ..CIRCUIT .....FUNCTION
A.....213 18BK/RD .....Ground
B.....T16 18RD .....Relay Output
C.....T15 18LG ..... Relay Coil Power
D..... A14 18RD/WT .... Battery 12V
E.....Not Used

Figure 7