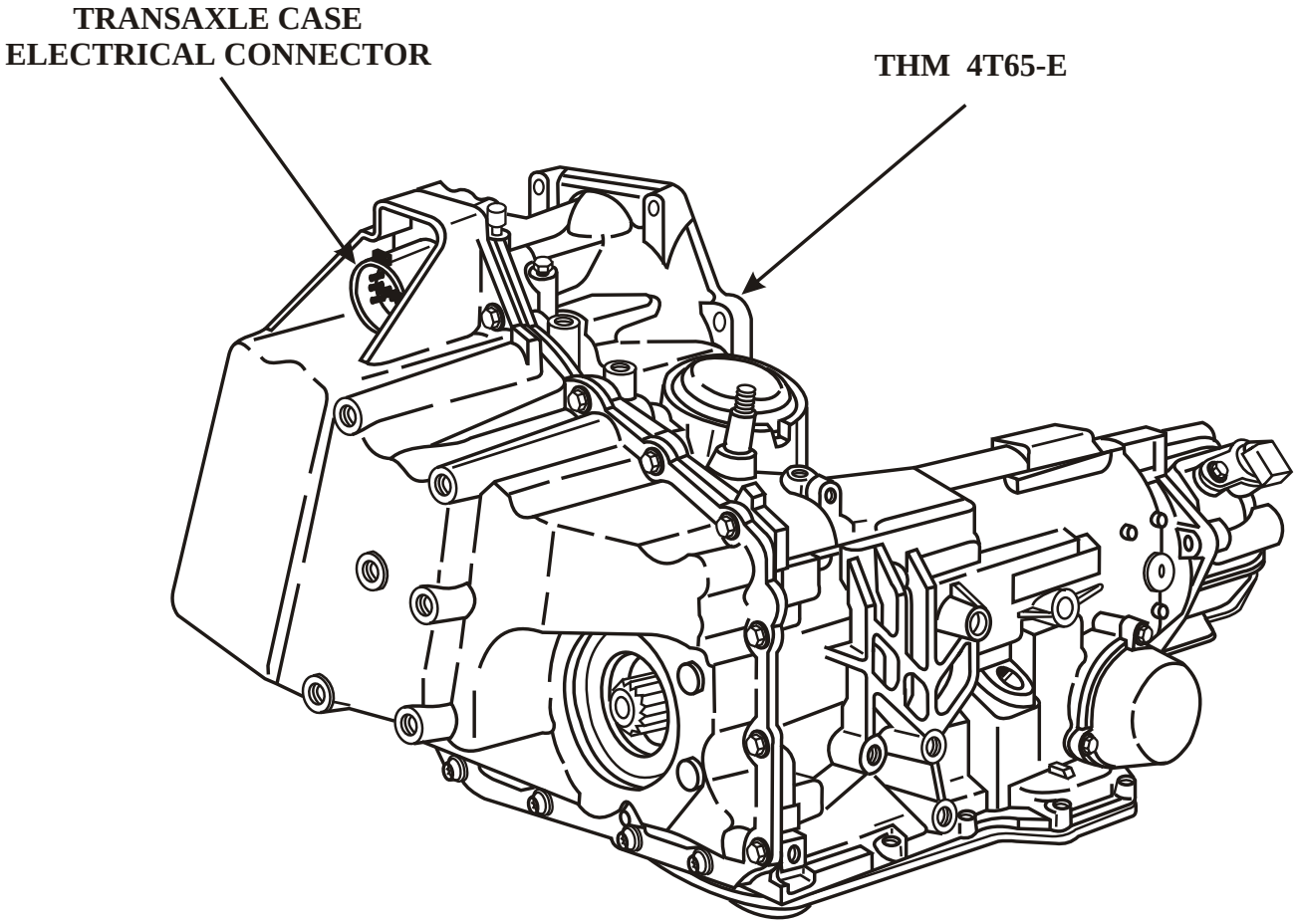
THM 4T65-E
PRELIMINARY INFORMATION



FOUND IN THE FOLLOWING 1997 MODELS;

Buick Park Avenue (C-Body), 3.8L and 3.8L Supercharged
Buick Riveria (G-Body), 3.8L and 3.8L Supercharged
Oldsmobile Eighty Eight (H-Body), 3.8L Supercharged
Pontiac Bonneville (H-Body), 3.8L Supercharged
Buick Regal (W-Body), 3.8L Supercharged
Chevrolet Lumina/Monte Carlo (W-Body), 3.4L V6 DOHC
Pontiac Grand Prix (W-Body), 3.8L Supercharged

POWERFLOW CHART										
RANGE	INPUT CLUTCH	SECOND CLUTCH	THIRD CLUTCH	FOURTH CLUTCH	FORWARD BAND	D-2 BAND	REVERSE BAND	INPUT SPRAG	1-2 ROLLER	THIRD SPRAG
PARK	ON*							ON*		
REVERSE	ON						ON	HOLD		
NEUTRAL	ON*							ON*		
"D"- 1ST	ON				ON			HOLD	HOLD	
"D"- 2ND	ON*	ON			ON			F/W	HOLD	
"D"- 3RD		ON	ON		ON			F/W	F/W	HOLD
"D"- 4TH		ON	ON	ON	ON			F/W	F/W	F/W
"3"- 1ST	ON				ON			HOLD	HOLD	
"3"- 2ND	ON*	ON			ON			F/W	HOLD	
"3"- 3RD	ON	ON	ON		ON			HOLD	F/W	HOLD
"2"- 1ST	ON				ON	ON		HOLD	HOLD	
"2"- 2ND	ON*	ON			ON	ON		F/W	HOLD	
"1"- 1ST	ON		ON		ON	ON		HOLD	HOLD	HOLD

Figure 1

SHIFT SOLENOID CHART			
RANGE	1-2 SHIFT SOLENOID	2-3 SHIFT SOLENOID	GEAR RATIO
PARK	ON	ON	
REVERSE	ON	ON	2.38:1
NEUTRAL	ON	ON	
1ST GEAR	ON	ON	2.92:1
2ND GEAR	OFF	ON	1.56:1
3RD GEAR	OFF	OFF	1.00:1
4TH GEAR	ON	OFF	0.70:1

Figure 2

DIAGNOSTIC TROUBLE CODE (DTC) IDENTIFICATION			
DTC	**DESCRIPTION**	**DTC TYPE***	**DEFAULT ACTION**
P0218	Automatic Transmission Fluid Overtemperature	D	1 DTC P0218 is stored in PCM memory 2 Disable shift adapts
P0502	Vehicle Speed Sensor Circuit Low Input	B	1 DTC P0502 is stored in PCM memory 2 Maximum line pressure 3 Disable shift adapts 4 Calculate VSS from ISS and comanded gear
P0503	Vehicle Speed Sensor Circuit Performance	B	1 DTC P0503 is stored in PCM memory 2 Maximum line pressure 3 Disable shift adapts 4 Calculate VSS from ISS and comanded gear
P0560	System Voltage Malfunction	D	1 DTC P0560 is stored in PCM memory 2 Disable shift adapts 3 Inhibit TCC
P0711	Automatic Transmission Fluid Temperature Sensor Circuit Performance	B	1 DTC P0711 is stored in PCM memory 2 Disable shift adapts 3 The PCM calculates a default TFT from the ECT and IAT
P0712	Automatic Transmission Fluid Temperature Sensor Circuit Low Input	D	1 DTC P0712 is stored in PCM memory 2 Disable shift adapts 3 The PCM calculates a default TFT from the ECT and IAT
P0713	Automatic Transmission Fluid Temperature Sensor Circuit High Input	D	1 DTC P0713 is stored in PCM memory 2 Disable shift adapts 3 The PCM calculates a default TFT from the ECT and IAT
P0716	Automatic Transmission Input Speed Sensor Circuit Performance	B	1 DTC P0716 is stored in PCM memory 2 Disable shift adapts 3 The PCM calculates a default TFT from the ECT and IAT
P0717	Automatic Transmission Input Speed Sensor Circuit No Signal	B	1 DTC P0717 is stored in PCM memory 2 Disable shift adapts 3 The PCM calculates a default TFT from the ECT and IAT

***DTC TYPES**

A - Emission-related, turns the MIL "ON" after the 1st failure.

B - Emission-related, turns the MIL "ON" after two consecutive trips with failure.

D - Non-emission-related, no lamps and no message.

Figure 3

DIAGNOSTIC TROUBLE CODE (DTC) IDENTIFICATION			
DTC	**DESCRIPTION**	**DTC TYPE***	**DEFAULT ACTION**
P0719	TCC Brake Switch Circuit Low	D	1 DTC P0719 is stored in PCM memory 2 Disregards brake swirch input for TCC operation under the following conditions a. Throttle position greater than 6% b. Vehicle speed is greater than 44 MPH c. Throttle positionwas previously greater than 12% while the vehicle speed was greater than 47 MPH d. Brake switch has not been OFF for more than 2 seconds in this ignition cycle
P0724	TCC Brake Switch Circuit High	D	1 DTC P0724 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure
P0730	Undefined Gear Ratio	D	1 DTC P0730 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure
P0741	Torque Converter Clutch System Stuck OFF	B	1 DTC P0741 is stored in PCM memory 2 Disable shift adapts 3 Inhibits TCC 4 Inhibits 4th gear in Hot Mode
P0742	Torque Converter Clutch System Stuck ON	A	1 DTC P0742 is stored in PCM memory 2 Disable shift adapts 3 TCC commanded ON at maximum capacity
P0748	Pressure Control Solenoid Electrical	D	1 DTC P0748 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure
P0751	1-2 Shift Solenoid Performance	B	1 DTC P0751 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure 4 Inhibits 3-2 downshifts when the vehicle speed is greater than 30 MPH
P0753	1-2 Shift Solenoid Electrical	A	1 DTC P0753 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure 4 Inhibits 3-2 downshifts when the vehicle speed is greater than 30 MPH

***DTC TYPES**

A - Emission-related, turns the MIL "ON" after the 1st failure.

B - Emission-related, turns the MIL "ON" after two consecutive trips with failure.

D - Non-emission-related, no lamps and no message.

Figure 4

DIAGNOSTIC TROUBLE CODE (DTC) IDENTIFICATION			
DTC	**DESCRIPTION**	**DTC TYPE***	**DEFAULT ACTION**
P0756	2-3 Shift Solenoid Performance	A	1 DTC P0756 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure 4 Defaults to 3rd gear 5 Inhibits TCC
P0758	2-3 Shift Solenoid Electrical	A	1 DTC P0758 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure 4 Defaults to 3rd gear 5 Inhibits TCC
P1810	Automatic Transmission Fluid Pressure Manual Valve Position Switch Circuit Malfunction	B	1 DTC P1810 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure 4 PCM assumes D4 for shifting
P1811	Maximum Adapt and Long Shift	D	1 DTC P1811 is stored in PCM memory 2 Disable shift adapts 3 Maximum line pressure
P1860	Torque Converter Clutch Pulse Width Modulation Solenoid Electrical	A	1 DTC P1860 is stored in PCM memory 2 Disable shift adapts 3 Inhibits TCC 4 Inhibits 4th gear in Hot Mode
P1887	Torque Converter Clutch Release Switch Circuit Malfunction	B	1 DTC P1887 is stored in PCM memory 2 Disable shift adapts 3 Inhibits TCC 4 Inhibits 4th gear in Hot Mode

***DTC TYPES**

A - Emission-related, turns the MIL "ON" after the 1st failure.

B - Emission-related, turns the MIL "ON" after two consecutive trips with failure.

D - Non-emission-related, no lamps and no message.

Figure 5

TRANSAXLE ELECTRONIC CONTROLS

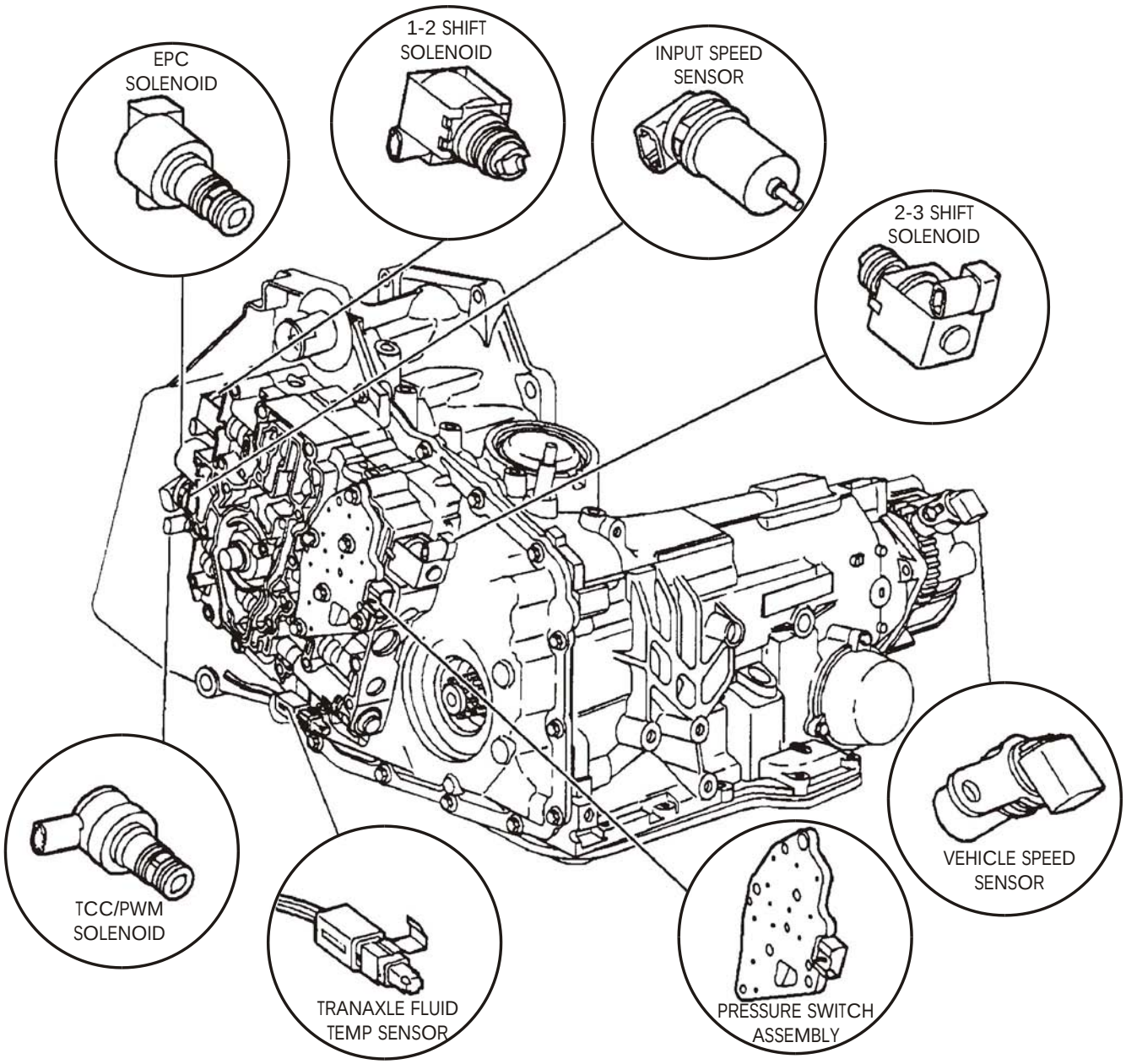
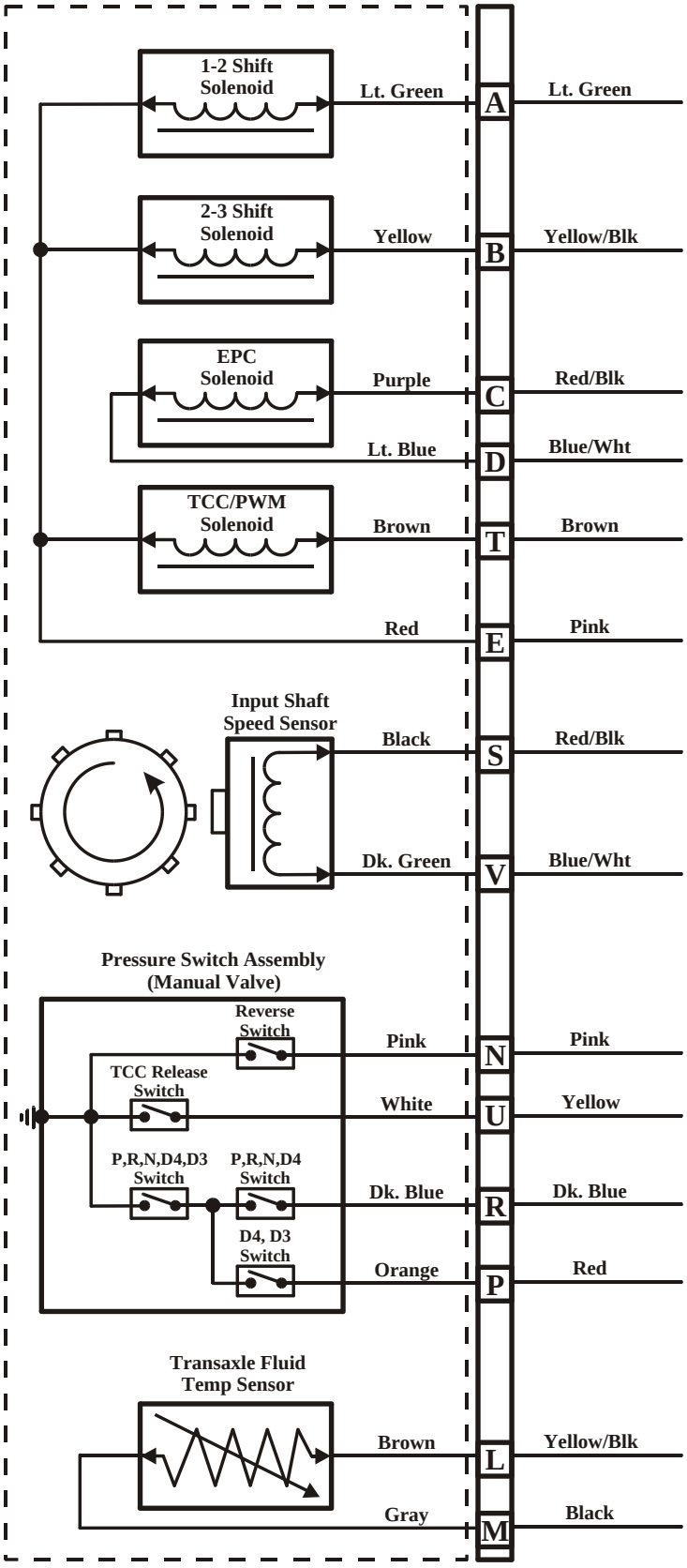
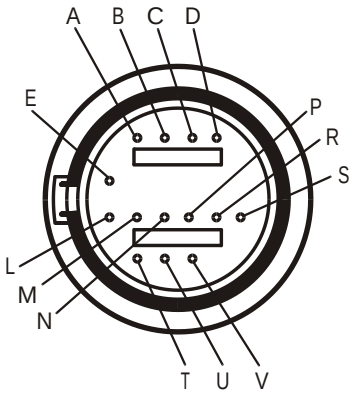


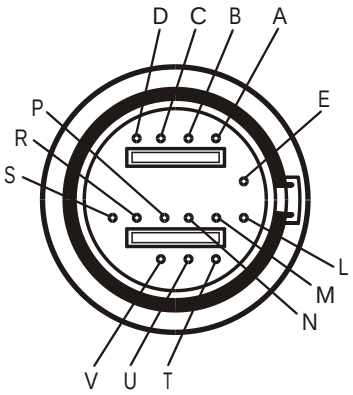
Figure 6

WIRE SCHEMATIC AND RESISTANCE CHART





View Looking Into Transaxle Case Connector



View Looking Into Vehicle Harness Connector

Ohms Resistance Chart

Cavities	Component	Resistance @ 68°F	Resistance @ 190°F
A-E	1-2 Shift Solenoid	19-24W	24-31W
B-E	2-3 Shift Solenoid	19-24W	24-31W
T-E	TCC/PWM Solenoid	10-12W	13-15W
C-D	EPC Solenoid	3-5W	5-6W
S-V	Input Speed Sensor	893-1127W	1132-1428W
M-L	TFT Sensor	3164-3867W	225-285W
	Output Speed Sensor	981-1864W	

Figure 7

CASE CONNECTOR PIN FUNCTION		
Pin	**External Wire Color**	**Function**
A	**Light Green**	**Ground signal from PCM for the 1-2 Shift Solenoid (A)**
B	**Yellow/Black**	**Ground signal from PCM for the 2-3 Shift Solenoid (B)**
C	**Red/Black**	**Electronic Pressure Control Solenoid, HIGH Control**
D	**Blue/White**	**Electronic Pressure Control Solenoid, LOW Control**
E	**Pink**	**Transaxle Solenoid 12V Power In**
L	**Yellow/Black**	**Transaxle Fluid Temperature (TFT) Sensor HIGH**
M	**Black**	**Transaxle Fluid Temperature (TFT) Sensor LOW**
N	**Pink**	**Pressure Switch Assembly, Range Signal "A"**
P	**Red**	**Pressure Switch Assembly, Range Signal "C"**
R	**Dark Blue**	**Pressure Switch Assembly, Range Signal "B"**
S	**Red/Black**	**Input Speed Sensor (ISS) signal HIGH**
T	**Brown**	**Ground signal from PCM for the TCC/PWM Converter Clutch Solenoid**
U	**Yellow**	**TCC Release Switch signal to the PCM**
V	**Blue/White**	**Input Speed Sensor (ISS) signal LOW**

Figure 8

THM 4T65-E
VALVE BODY CHECKBALL LOCATIONS

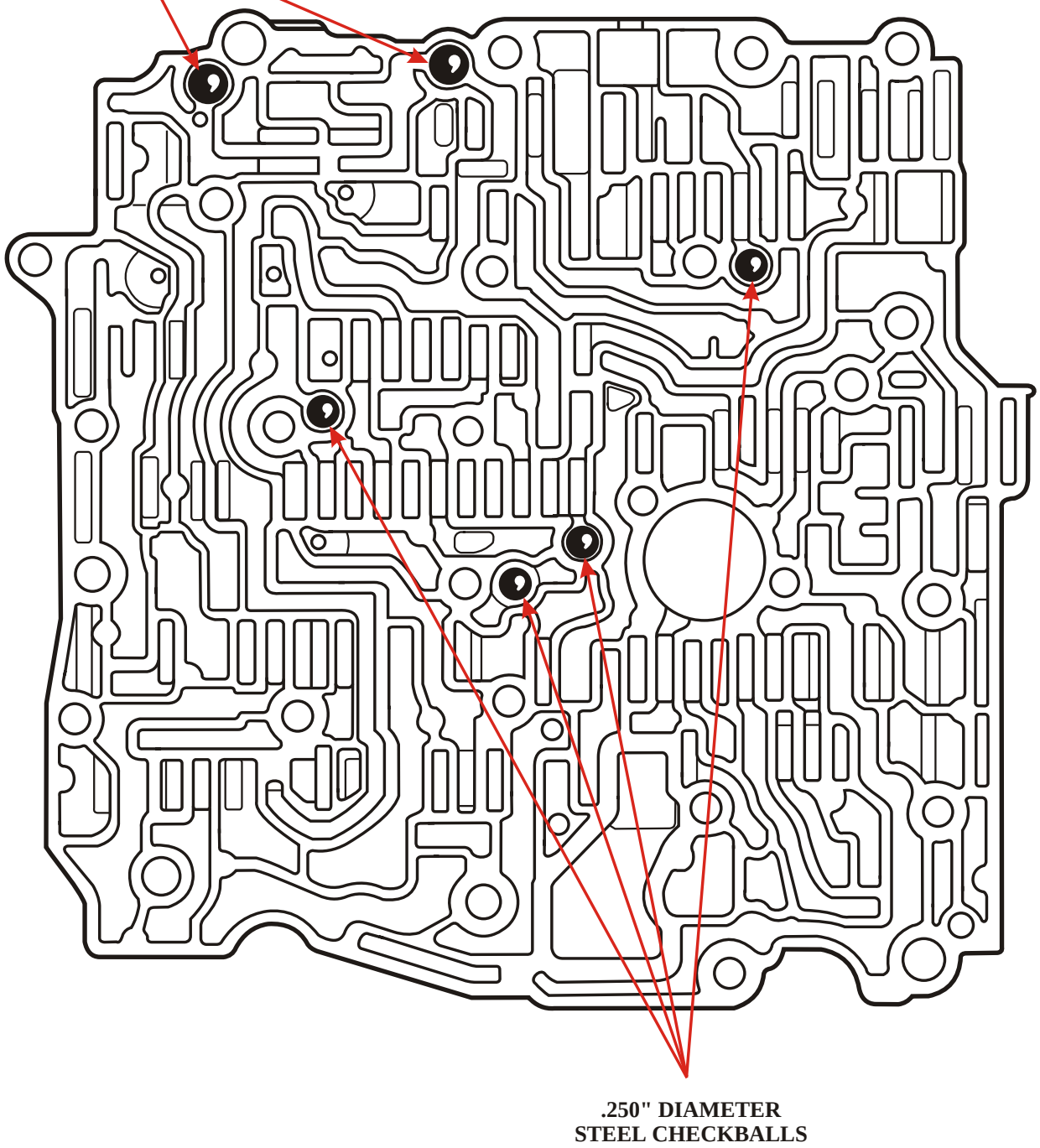


Figure 9

THM 4T65-E
CHANNEL PLATE CHECKBALL LOCATIONS

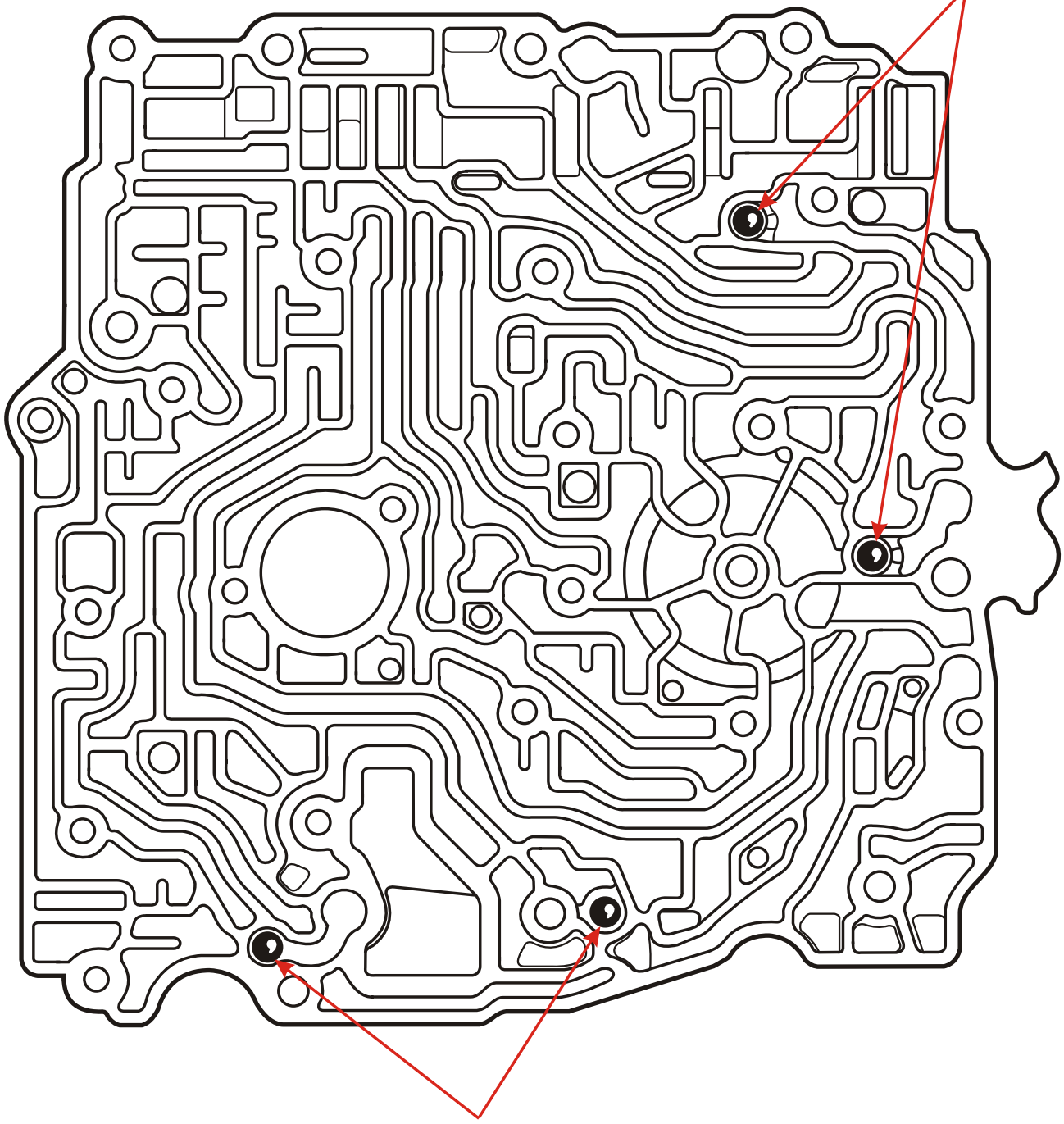


Figure 10