

## Aisin AS68RC Technical Info.

The AS68RC transmission is a 6 speed automatic computer controlled transmission, with lock up torque converter.

In the drive position you will have 6 forward speeds. When pressing the “tow haul” switch or “O/D off” switch on the end of the shifter handle once you will omit 6<sup>th</sup> gear and have later upshifts into all other gears.

Press the switch a 2<sup>nd</sup> time and you will omit both 5<sup>th</sup> and 6<sup>th</sup> gears.

Pressing 3<sup>rd</sup> time will give you full upshifts of all 6 gears again.

Manual 3 will allow only 1,2 and 3<sup>rd</sup> gears and engine braking

Manual 2<sup>nd</sup> will allow only 1 and 2<sup>nd</sup> gears and engine braking

Manual low will give you low gear only and engine braking.

This transmission is rated up to 26000 GVW weight and has PTO capability. Comes in both 2WD and 4WD configurations.

COMPONENT APPLICATION CHART										
RANGE	<i>K-1 Clutch</i>	<i>K-2 Clutch</i>	<i>K-3 Clutch</i>	<i>B-1 Clutch</i>	<i>B-2 Clutch</i>		<i>F-1 Sprag</i>		<i>Torq Conv Clutch</i>	<i>Gear Ratio</i>
<i>Park</i>					<i>On</i>					
<i>Reverse</i>			<i>On</i>		<i>On</i>					<i>3.54</i>
<i>Neutral</i>					<i>On</i>					
<i>"D"-1st</i>	<i>On</i>				<i>On</i>		<i>Hold</i>			<i>3.74</i>
<i>"D"-2nd</i>	<i>On</i>			<i>On</i>					<i>Applied*</i>	<i>2.00</i>
<i>"D"-3rd</i>	<i>On</i>		<i>On</i>						<i>Applied*</i>	<i>1.34</i>
<i>"D"-4th</i>	<i>On</i>	<i>On</i>							<i>Applied*</i>	<i>1.00</i>
<i>"D"-5th</i>		<i>On</i>	<i>On</i>						<i>Applied*</i>	<i>0.77</i>
<i>"D"-6th</i>		<i>On</i>		<i>On</i>					<i>Applied*</i>	<i>0.63</i>

Clutch application chart.

<i>AS68RC SHIFT SOLENOID APPLICATION CHART</i>																
	<i>On/Off Solenoids (1)</i>				<i>Linear (PWM) Solenoids (2)</i>				<i>Pressure Switches (3)</i>							
<i>RANGE</i>	<i>S1</i>	<i>S2</i>	<i>S3</i>	<i>S4</i>	<i>"A"</i>	<i>"B"</i>	<i>"C"</i>	<i>"D"</i>	<i>PS-1</i>	<i>PS-2</i>	<i>PS-3</i>	<i>PS-4</i>	<i>PS-5</i>	<i>PS-6</i>	<i>PS-7</i>	<i>PS-8</i>
<i>Park</i>	<i>Off</i>	<i>On</i>	<i>On</i>	<i>On</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>O</i>	<i>O</i>
<i>Reverse (HT)</i>	<i>On</i>	<i>Off</i>	<i>On</i>	<i>On</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>	<i>O</i>	<i>C</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>O</i>	<i>O</i>
<i>Reverse</i>	<i>On</i>	<i>On</i>	<i>On</i>	<i>On</i>	<i>Low</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>O</i>	<i>C</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>O</i>
<i>Neutral</i>	<i>Off</i>	<i>On</i>	<i>On</i>	<i>On</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>O</i>	<i>O</i>
<i>Neut/Dr (T)</i>	<i>Off</i>	<i>On</i>	<i>On</i>	<i>On</i>												
<i>Dr-1st (Stop)</i>	<i>Off</i>	<i>On</i>	<i>On</i>	<i>On</i>	<i>Low</i>	<i>High</i>	<i>High</i>	<i>Low</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>
<i>Dr-1st</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>On</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>Low</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>O</i>	<i>C</i>
<i>Dr/1-2 (T)</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>On</i>												
<i>Dr-2nd</i>	<i>Off</i>	<i>Off</i>	<i>Off</i>	<i>Off</i>	<i>High</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>C</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>
<i>Dr/2-3 (T)</i>	<i>Off</i>	<i>Off</i>	<i>Off</i>	<i>On</i>												
<i>Dr-3rd</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>Off</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>	<i>High</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>
<i>Dr/3-4 (T)</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>On</i>												
<i>Dr-4th TCC</i>	<i>On</i>	<i>On</i>	<i>Off</i>	<i>Off</i>	<i>High</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>C</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>
<i>Dr/4-5 (T)</i>	<i>On</i>	<i>On</i>	<i>Off</i>	<i>On</i>												
<i>Dr-5th TCC</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	<i>On</i>	<i>Low</i>	<i>Low</i>	<i>High</i>	<i>High</i>	<i>O</i>	<i>C</i>	<i>O</i>	<i>C</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>
<i>Dr/5-6 (T)</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	<i>On</i>												
<i>Dr-6th TCC</i>	<i>Off</i>	<i>On</i>	<i>Off</i>	<i>On</i>	<i>High</i>	<i>High</i>	<i>High</i>	<i>High</i>	<i>C</i>	<i>O</i>	<i>O</i>	<i>C</i>	<i>O</i>	<i>O</i>	<i>O</i>	<i>C</i>
<i>Man-1st</i>	<i>Off</i>	<i>Off</i>	<i>On</i>	<i>On</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>	<i>O</i>	<i>C</i>	<i>O</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>O</i>	<i>C</i>

Solenoid application chart with pressure switch states.

All 8 pressure switches are normally “open” meaning they make contact when there is pressure in the circuit.

Shift sol. 1,2,3 and 4 are normally “closed” on /off solenoids.

Linear sol. “B” is PWM sol. Normally applied.

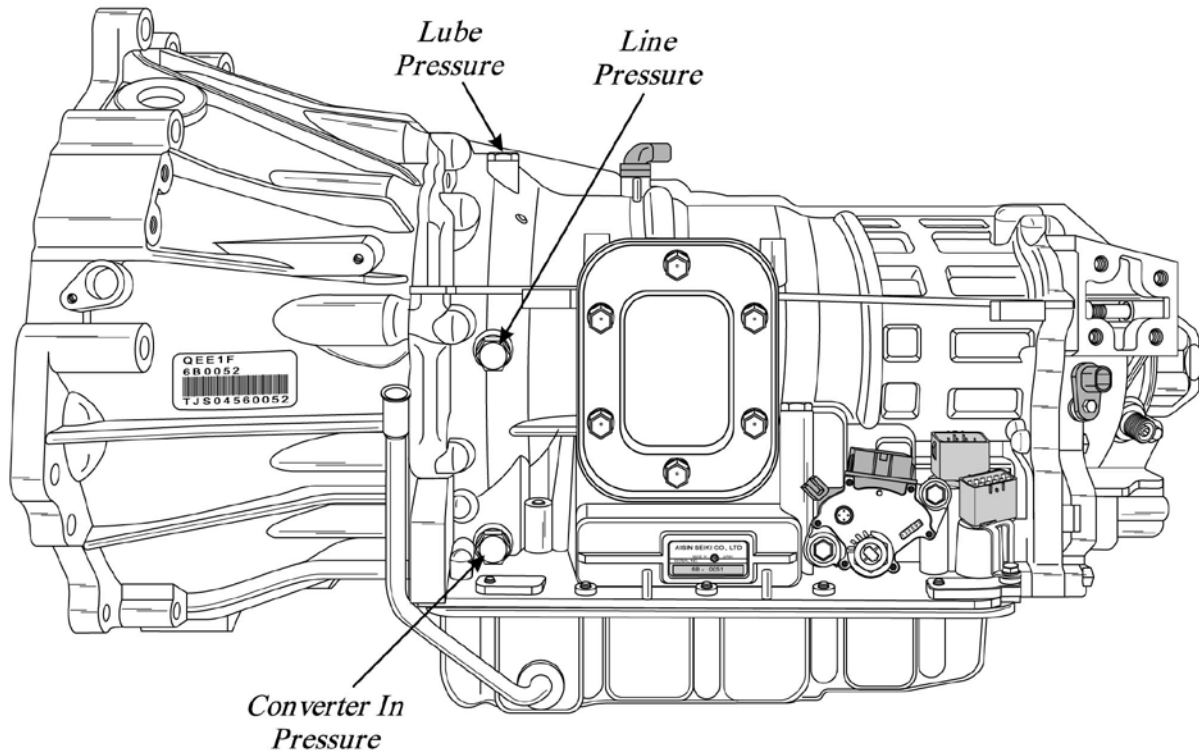
Linear sol. A,C are PWM sol’s and D are normally vented.

Limp in mode works as follows: if a fault occurs in 4<sup>th</sup>, 5<sup>th</sup>, or 6<sup>th</sup> gear unit will fail to 5<sup>th</sup> gear until safe to downshift to 3<sup>rd</sup>.

If fault occurs in 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> gear unit will fail to 3<sup>rd</sup> gear.

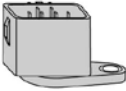
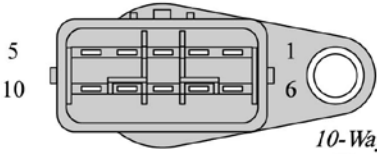
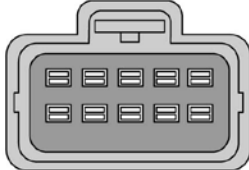
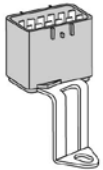
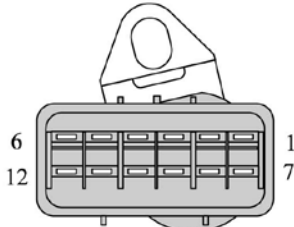
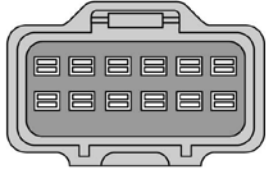
You will always have Reverse.

# Line pressure testing



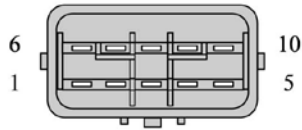
<i>Line Pressure Specifications</i>							
	<i>Line</i>	<i>K1</i>	<i>K2</i>	<i>K3</i>	<i>B1</i>	<i>B2*</i>	<i>TCC On</i>
<i>Park</i>	<i>110-250</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>70</i>	<i>0</i>
<i>Reverse</i>	<i>250</i>	<i>0</i>	<i>0</i>	<i>85-250</i>	<i>0</i>	<i>110-250</i>	<i>0</i>
<i>Neutral</i>	<i>115-250</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>70</i>	<i>0</i>
<i>First</i>	<i>250</i>	<i>75-250</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>110-250</i>	<i>0</i>
<i>Second</i>	<i>115</i>	<i>115</i>	<i>0</i>	<i>0</i>	<i>115</i>	<i>0</i>	<i>0</i>
<i>Third</i>	<i>115</i>	<i>115</i>	<i>0</i>	<i>115</i>	<i>0</i>	<i>0</i>	<i>115</i>
<i>Fourth</i>	<i>115</i>	<i>115</i>	<i>115</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>115</i>
<i>Fifth</i>	<i>115</i>	<i>0</i>	<i>115</i>	<i>115</i>	<i>0</i>	<i>0</i>	<i>115</i>
<i>Sixth</i>	<i>115</i>	<i>0</i>	<i>115</i>	<i>0</i>	<i>115</i>	<i>0</i>	<i>115</i>
<i>Checked at 1500 RPM</i>							
<i>* Need OSS signal in Manual L - Raise rear wheels or Transfer Case in Neutral.</i>							

# Connector pinouts for solenoids and switches

SOLENOID CONNECTOR AND TERMINAL IDENTIFICATION				
				
	<i>10-Way Solenoid Harness "A"</i>	<i>10-Way Vehicle Harness</i>		
				
	<i>12-Way Solenoid Harness "B"</i>	<i>12-Way Vehicle Harness</i>		
<i>All Connector Views are "Face View"</i>				
<i>10-Way Solenoid Connector "A"</i>				
<i>Terminal</i>	<i>Function</i>	<i>TCM Conn. Number</i>	<i>Outside Wire Color</i>	<i>Inside Wire Color</i>
<i>1</i>	<i>Pressure Switch Number 7 (1/4" NPT)</i>	<i>C10</i>	<i>Dk Green/Violet</i>	<i>White</i>
<i>2</i>	<i>Pressure Switch Number 5 (1/8" NPT)</i>	<i>A11</i>	<i>Yellow/Dk Blue</i>	<i>Lt Green</i>
<i>3</i>	<i>TFT Sensor Voltage Signal</i>	<i>B15</i>	<i>Dk Green/Orange</i>	<i>Pink</i>
<i>4</i>	<i>Power Voltage for Linear Solenoid "C"</i>	<i>C5</i>	<i>Yellow/Brown</i>	<i>Dk Blue</i>
<i>5</i>	<i>Ground for Linear Solenoid "A"</i>	<i>C7</i>	<i>Dk Green/Lt Green</i>	<i>Black</i>
<i>6</i>	<i>Pressure Switch Number 8 (1/8" NPT)</i>	<i>C26</i>	<i>Dk Green/White</i>	<i>Black</i>
<i>7</i>	<i>Pressure Switch Number 4 (1/8" NPT)</i>	<i>A5</i>	<i>Dk Green/Brown</i>	<i>Orange</i>
<i>8</i>	<i>TFT Sensor Return</i>	<i>C28</i>	<i>Yellow/White</i>	<i>Tan</i>
<i>9</i>	<i>Ground for Linear Solenoid "C"</i>	<i>C15</i>	<i>Yellow/Pink</i>	<i>White</i>
<i>10</i>	<i>Power Voltage for Linear Solenoid "A"</i>	<i>C6</i>	<i>Dk Green/Tan</i>	<i>Yellow</i>
<i>12-Way Solenoid Connector "B"</i>				
<i>Terminal</i>	<i>Function</i>	<i>TCM Conn. Number</i>	<i>Outside Wire Color</i>	<i>Inside Wire Color</i>
<i>1</i>	<i>Pressure Switch Number 1 (1/4" NPT)</i>	<i>A6</i>	<i>Dk Green/Brown</i>	<i>Tan</i>
<i>2</i>	<i>Pressure Switch Number 6 (1/8" NPT)</i>	<i>A16</i>	<i>Dk Green/Orange</i>	<i>Yellow</i>
<i>3</i>	<i>On/Off Shift Solenoid 2 Power</i>	<i>C22</i>	<i>Dk Green/Yellow</i>	<i>Black</i>
<i>4</i>	<i>On/Off Shift Solenoid 4 Power</i>	<i>B19</i>	<i>Dk Green/Lt Blue</i>	<i>Orange</i>
<i>5</i>	<i>Power Voltage for Linear Solenoid "D"</i>	<i>C30</i>	<i>Yellow/Gray</i>	<i>Dk Blue</i>
<i>6</i>	<i>Ground for Linear Solenoid "B"</i>	<i>C8</i>	<i>Yellow/Red</i>	<i>Tan</i>
<i>7</i>	<i>Pressure Switch Number 2 (1/4" NPT)</i>	<i>A17</i>	<i>Dk Green/Red</i>	<i>Pink</i>
<i>8</i>	<i>Pressure Switch Number 3 (1/8" NPT)</i>	<i>A12</i>	<i>Dk Green/Pink</i>	<i>Black</i>
<i>9</i>	<i>On/Off Shift Solenoid 3 Power</i>	<i>C3</i>	<i>Dk Green/Dk Blue</i>	<i>Yellow</i>
<i>10</i>	<i>On/Off Shift Solenoid 1 Power</i>	<i>C1</i>	<i>Dk Green/Gray</i>	<i>Lt Green</i>
<i>11</i>	<i>Ground for Linear Solenoid "D"</i>	<i>C31</i>	<i>Yellow/Pink</i>	<i>White</i>
<i>12</i>	<i>Power Voltage for Linear Solenoid "B"</i>	<i>C9</i>	<i>Yellow/Brown</i>	<i>Pink</i>

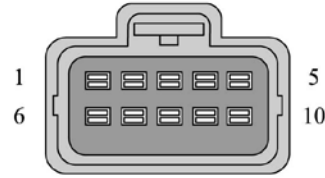
# Pinouts for Range sensor

## TRANSMISSION RANGE SWITCH TERMINAL IDENTIFICATION

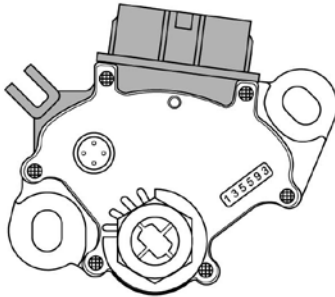


*Transmission Range Switch Connector*

*All Connector Views are "Face View"*



*Transmission Range Switch Vehicle Harness Connector*



Range	TRS 10-Way Connector									
	4	5	9	1	8	2	7	3	10	6
P	●	●							●	●
R	●		●							
N	●			●					●	●
D	●				●					
3	●					●				
2	●						●			
1	●							●		

### 10-Way Transmission Range Switch Connector

Terminal	Function	TCM Conn. Number	Outside Wire Color
1	Transmission Range Switch "Neutral"	C29	Dk Green/Dk Blue
2	Transmission Range Switch "3"	C18	Dk Green/Dk Blue
3	Transmission Range Switch "1"	C16	Dk Green/Dk Blue
4	Power In From Integrated Power Module (IPM)	(IPM) B1	Pink/White
5	Transmission Range Switch "Park"	C20	Yellow/Dk Blue
6	To Ground At "G100"		Black/Lt Green
7	Transmission Range Switch "2"	C17	Dk Green/Yellow
8	Transmission Range Switch "Drive"	C19	Dk Green/Lt Blue
9	Transmission Range Switch "Reverse"	C21	Dk Green/Dk Blue
10	Park/Neutral Switch Input To Integrated Power Module (IPM)	(IPM) B2	Yellow/Dk Blue