

# ZF 5HP19 5 Speed

## Mercury3 TCU Layout

Wire Colors		Sim leds	Software Selectable		Mercury3 TCU Layout			Software Selectable		Wire Colors		
			Priority2	Priority1				Priority1	Priority2			
<b>M70-P1</b>	<b>M71-P1</b>				<b>P1 - 12 Way Input</b>					<b>M71-P1</b>	<b>M70-P1</b>	
Yellow/Red	Yellow/Red			Oil Temp 2K	Water Temp	7	1	Air Temp	Low Range		Yellow/Black	Yellow/Black
Yellow/Green	Yellow/Green			Shifter Switch	Lambda	8	2	TPS	TPS		Yellow	Yellow
Red	Red				.+5 Volt Out	9	3	MAP			N/C	N/C
Orange	Orange				.+12 Volt Ign	10	4	GND			Black	Black
Blue	Blue			Speed	TDC Sensor	11	5	Cam2 Sensor			N/C	N/C
Blue	Green			RPM	Crank Sensor	12	6	Cam1 Sensor			N/C	N/C
	<b>M72-P2 / M68-P2</b>				<b>P2 - 10 Way Output</b>						<b>M72-P2 / M68-P2</b>	
	Red/Yellow	P2		Tiptronic LED	P2 12 Volt	6	1	P1 12 Volt	Lockup LED	P1	Red/White	
	Red/Green	P4		Overdrive LED	P4 12 Volt	7	2	P3 12 Volt	2nd Start LED	P3	Red/Orange	
	Red/Black	P6			P6 12 Volt	8	3	P5 12 Volt	Low Range LED	P5	Red/Blue	
	N/C	E Rel			Electronic Relay	9	4	Relay Out		Relay	Blue/Red	
	Red				.+12 Volt In	10	5	.+12 Volt In			Red	
	<b>M73-P3</b>				<b>P3 - 8 Way Output</b>						<b>M73-P3</b>	
	Black/Red	N6		Retard	N6 Ground	5	1	N5 Ground	MV3 Rev Lockout	N5	Black/Purple	
	Black/Brown	N4		EDS3 Shift Pres2	N4 Ground	6	2	N3 Ground	EDS2 Shift Pres1	N3	Black/Orange	
	Black/Yellow	N2		Lockup Pres EDS4	N2 Ground	7	3	N1 Ground	EDS1 Line Pres	N1	Black/White	
	Green	RPM			RPM Out	8	4	GPN1 Ground	GP1	GP1	Blue/Orange	
	<b>M74-P4</b>				<b>P4 - 6 Way In/Output</b>						<b>M74-P4</b>	
	Brown			4 Map Switch	Fuel Sensor	4	1	GPN2 Ground	GP2	GP2	Blue/White	
	Green/Yellow	N7	Up Switch	Overdrive	POT	5	2	Altitude	Second Start	Down Switch	N8	Purple
	Red				.+5 Volt Out	6	3	GND			Black	
	<b>M75-P5</b>				<b>P5 - 4 Way Output</b>						<b>M75-P5</b>	
	Blue/Red			MV2 Shift Sol 2	N8 Ground	3	1	N7 Ground	MV1 Shift Sol 1		Blue/Grey	
	Red/Black	P8		Reverse Lights	P8 12 Volt	4	2	P7 12 Volt	Starter Lockout	P7	Red/Blue	
	<b>USB</b>				<b>Comms - 6 Way USB/Firm</b>						<b>USB</b>	
	N/C				Programmer 2	4	1	Programmer 1			N/C	
	Yellow				Receive	5	2	Transmit			Green	
	Red				.+5 Volt Out	6	3	GND			Blue	

Firmware Program

**Mercury2 TCU Advance 29 ZF 5HP19 Ver 3.3D**

Firmware Class Advance

2 GP output available

Only 2K oil temperature sensor selection is allowed.

When overdrive or second start is selected then the tiptronic buttons will be disabled and there functions changed to these functions.

Low range, Overdrive and Second Start could be used with different map selections without connections to the tranny or buttons.

Shifter	Gear allowed	Engine Break
P	1	
R	1	
N	1	
D	1,2,3,4,5	
4	1,2,3,4	
3	1,2,3	
2	1,2	