

## ZF 4HP22/24 4 Speed

Wire Colors		Firmware		Mercury2 Input / Outputs				Firmware		Wire Colors	
		Priority2	Priority1					Priority1	Priority2		
<b>MTSX01/2</b>	<b>MTWX01/2</b>			<b>P1 - 12 Way Input</b>						<b>MTWX01/2</b>	<b>MTSX01/2</b>
Green	Green		Oil Temp 2K	Water Temp	7	1	Air Temp	Low Range		Yellow	Yellow
Blue	Blue		Shifter Switch	Lambda	8	2	TPS	TPS		Yellow	Blue
Red	Red			.+5 Volt Out	9	3	MAP			Blue	Blue
Orange	Orange			.+12 Volt Ign	10	4	GND			N/C	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>MTSX01/2</b>	<b>MTWX01/2</b>			<b>P2 - 10 Way Output</b>						<b>MTWX01/2</b>	<b>MTSX01/2</b>
Red/Yellow	Red/Yellow		Tiptronic LED	P2 12 Volt	6	1	P1 12 Volt	Lockup LED		Red/White	Red/White
Red/Green	Red/Green		Overdrive LED	P4 12 Volt	7	2	P3 12 Volt	2nd Start LED		Red/Orange	Red/Orange
Red/Black	Red/Black			P6 12 Volt	8	3	P5 12 Volt	Low Range LED		Red/Blue	Red/Blue
N/C	N/C			Electronic Relay	9	4	Relay Out			Blue/Red	Blue/Red
Red	Red			.+12 Volt In	10	5	.+12 Volt In			Red	Red
<b>MTSX01/2</b>	<b>MTWX01/2</b>			<b>P3 - 8 Way Output</b>						<b>MTWX01/2</b>	<b>MTSX01/2</b>
Black/Red	Black/Red		Retard	N6 Ground	5	1	N5 Ground	Lockup Pres		Black/Purple	Black/Purple
Black/Brown	Black/Brown		Line Pres	N4 Ground	6	2	N3 Ground	Reverse Lockout		Black/Orange	Black/Orange
Black/Yellow	Black/Yellow		SHIFT2	N2 Ground	7	3	N1 Ground	SHIFT1		Black/White	Black/White
Green	Green			RPM Out	8	4	GPN1 Ground	GP1		Blue/Orange	Blue/Orange
<b>MTSX01/2</b>	<b>MTWX01/2</b>			<b>P4 - 6 Way In/Output</b>						<b>MTWX01/2</b>	<b>MTSX01/2</b>
Blue	Blue		4 Map Switch	Fuel Sensor	4	1	GPN2 Ground	GP2		Blue/White	Blue/White
Red	Red	Up Switch	Overdrive	POT	5	2	Altitude	Second Start	Down Switch	Blue	Blue
Red	Red			.+5 Volt Out	6	3	GND			Black	Black
<b>MTSX01/2</b>	<b>MTWX01/2</b>			<b>P5 - 4 Way Output</b>						<b>MTWX01/2</b>	<b>MTSX01/2</b>
Blue	Blue			N8 Ground	3	1	N7 Ground	Starter Lockout		White	White
Green	Green		Reverse Lights	P8 12 Volt	4	2	P7 12 Volt			Yellow	Yellow
<b>USB</b>	<b>USB</b>			<b>Comms - 6 Way USB/Firm</b>						<b>USB</b>	<b>USB</b>
N/C	N/C			Programmer 2	4	1	Programmer 1			N/C	N/C
Yellow	Yellow			Receive	5	2	Transmit			Green	Green
Red	Red			.+5 Volt Out	6	3	GND			Blue	Blue

### Firmware Program

#### Mercury2 TCU Advance ZF4HP20\_24 Ver 3.3B

Reverse lockout is only on the 5 solenoid model.

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	3,4
3	1,2,3	2,3
2	1,2	1,2
1	1	1