

```
Start Page Main Initialize Autonomous OperatorControl Straight_Drive_PID_Loop X
// Difference PID Loop...
Diff_Error = ( Left_Drive_Encoder - Right_Drive_Encoder ) ;
Diff_Integral = ( Diff_Integral + Diff_Error ) ;
Diff_Deriv = Diff_Error + Prev_Diff_Error ;
Prev_Diff_Error = Diff_Error ;
Diff_Output = ( ( Diff_Error * Diff_P ) + ( Diff_Integral * Diff_I ) + ( Diff_Deriv * Diff_D ) ) ;
// Difference PID Loop...
Left_Drive = Left_Drive + Diff_Output ;
Right_Drive = Right_Drive + Diff_Output ;
if ( Right_Drive > Max_Drive_Speed )
{
    Right_Drive = Max_Drive_Speed ;
}
if ( Right_Drive < ( -Max_Drive_Speed ) )
{
    Right_Drive = ( -Max_Drive_Speed ) ;
}
if ( Left_Drive > Max_Drive_Speed )
{
    Left_Drive = Max_Drive_Speed ;
}
if ( Left_Drive < ( -Max_Drive_Speed ) )
{
    Left_Drive = ( -Max_Drive_Speed ) ;
}
SetMotor ( 2 , Left_Drive ) ;
SetMotor ( 3 , -Right_Drive ) ;
Wait ( 10 ) ;
}
Diff_Integral = 0 ;
Prev_Diff_Error = 0 ;
```

CAP| NUM| STM32F103VD | Program size: Unknown | Line: 1 of 60 | 12:50 PM