```
#include "Main.h"
void OperatorControl ( unsigned long ulTime )
{
	int PressedCh8Up;
	int PressedCh8Left;
	int PressedCh8Dn;
	int Ch8UpUpper = 699;
	int Ch8UpLower = 682;
	int Ch8LeftUpper = 525;
	int Ch8LeftLower = 515;
	int Ch8DownUpper = 483;
	int Ch8DownLower = 477;
	int GoingDown;
	int GoingUp;
	int LowerTargetForChain;
	int UpperTargetForChain;
	int ChainMovingUp;
	int ChainMovingDown;
	// This program will look for Button 8, Left, Right, Up, and Down buttons being push¬
	ed
	// When the button is pushed, the motor will move UP or DOWN based
	// on its current position and direction.   There are global constants set for the t¬
	argets
	// The targets are pot values.   The right button is used to reset everything
	// to driver control.  Up, Down, Left are used for three preset heights
	// The heights obtained are determined by the global variables.
	// Since a pot does not give exact/repeatable values, a "range" of high and low valu¬
	es
	// are used for the target.  This also prevents oscillation of the arm
	StateCh8Up = 0 ;
	StateCh8Left = 0 ;
	StateCh8Dn = 0 ;
	GoingUp = 0;
	GoingDown = 0;
	while ( 1 ) // Insert Your RC Code Below
	{
		Tank4 ( 1 , 3 , 2 , 2 , 3 , 4 , 5 , 1 , 1 , 1 , 1 ) ;
		JoystickDigitalToMotor ( 1 , 7 , 1 , 127 , 2 , -127 , 9 ) ;
		JoystickDigitalToMotorAndLimit ( 1 , 5 , 1 , 127 , 2 , 2 , -127 , 1 , 6 ) ;
		PotValue = GetAnalogInput ( 1 ) ; // get the pot value
		// Check pot value to the target - this is for Button 8 Up press
		if ( PotValue > Ch8UpLower  && PotValue < Ch8UpUpper   && StateCh8Up == 1 ) //¬
		 This is the target range for the button push between Ch8UpLower and Ch8UpUppe¬
		r (constants)
		{
			SetMotor ( 1 , 0 ) ; // stop the motor
			StateCh8Up = 0 ; // reset the state
			if ( GoingDown == 1 ) // This code compensates for motor drift, this wil¬
			l reverse the motor for a short period of time
			{
				SetMotor ( 1 , 127 ) ;
				Wait ( 50 ) ;
				SetMotor ( 1 , 0 ) ;
				GoingDown = 0;
			}
		}
		// Check pot value to the target - this is for Button 8 Left press
		if ( PotValue > Ch8LeftLower  && PotValue < Ch8LeftUpper && StateCh8Left == 1 ¬
		) // This is the target range for the button push between 750 and 800 tighten ¬
		up as needed
		{
			SetMotor ( 1 , 0 ) ;
			StateCh8Left = 0 ;
			if ( GoingDown==1 )
			{
				SetMotor ( 1 , 127 ) ;
				Wait ( 50 ) ;
				SetMotor ( 1 , 0 ) ;
				GoingDown = 0;
			}
		}
		if ( PotValue > Ch8DownLower  && PotValue < Ch8DownUpper  && StateCh8Dn == 1 )¬
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 // This is the target range for the button push between 750 and 800 tighten u¬
p as needed
{
      SetMotor ( 1 , 0 ) ;
      StateCh8Dn = 0 ;
      if ( GoingDown==1 )
      {
            SetMotor ( 1 , 127 ) ;
            Wait ( 50 ) ;
            SetMotor ( 1 , 0 ) ;
            GoingDown = 0;
      }
}
// Get the current button being pushed
PressedCh8Dn = GetJoystickDigital ( 1 , 8 , 1 ) ;
PressedCh8Up = GetJoystickDigital ( 1 , 8 , 2 ) ;
PressedCh8Left = GetJoystickDigital ( 1 , 8 , 3 ) ;
// Compare the last button pushed to the last button pushed
// Set the "state" to be maintained
if ( PressedCh8Dn==1 && LastButtonCh8Dn==0 )
{
      StateCh8Up = 0 ;
      StateCh8Left = 0 ;
      StateCh8Dn = 1 ;
}
if ( PressedCh8Left==1 && LastButtonCh8Left==0 )
{
      StateCh8Up = 0 ;
      StateCh8Left = 1 ;
      StateCh8Dn = 0 ;
}
if ( PressedCh8Up==1 && LastButtonCh8Up==0 )
{
      StateCh8Up = 1 ;
      StateCh8Left = 0 ;
      StateCh8Dn = 0 ;
}
// Using the "state" and the PotValue, you need to determine whether the motor¬
 will be going UP or DOWN
// Ch8DownUpper and Lower are the targets from the Pot that you want to get to¬

// The same code is repeated for each of the three buttons (or the three targe¬
ts)
if ( StateCh8Dn ==1 && PotValue <  Ch8DownUpper  ) // cw is up is positive
{
      SetMotor ( 1 , 127 ) ;
      GoingUp=1;
      GoingDown=0;
}
else if ( StateCh8Dn ==1 && PotValue > Ch8DownLower  )
{
      SetMotor ( 1 , -127 ) ;
      GoingUp=0;
      GoingDown=1;
}
if ( StateCh8Left ==1 && PotValue <  Ch8LeftUpper  )
{
      SetMotor ( 1 , 127 ) ;
      GoingUp = 1;
      GoingDown=0;
}
else if ( StateCh8Left ==1 && PotValue > Ch8LeftLower  )
{
      SetMotor ( 1 , -127 ) ;
      GoingDown=1;
      GoingUp = 0;
}
if ( StateCh8Up ==1 && PotValue <  Ch8UpUpper  )
{
      SetMotor ( 1 , 127 ) ;
      GoingUp = 1;
      GoingDown=0;
```

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            }
            else if ( StateCh8Up ==1 && PotValue > Ch8UpLower  )
            {
                  SetMotor ( 1 , -127 ) ;
                  GoingDown=1;
                  GoingUp = 0;
            }
            // This is the key, checking the last state of the buttons and then compare to¬
             see if some other button was pushed
            LastButtonCh8Dn = GetJoystickDigital ( 1 , 8 , 1 ) ;
            LastButtonCh8Up = GetJoystickDigital ( 1 , 8 , 2 ) ;
            LastButtonCh8Left = GetJoystickDigital ( 1 , 8 , 3 ) ;
            // Cool - press 4 button and everything resets for driver to take control
            ResetAllStates = GetJoystickDigital ( 1 , 8 , 4 ) ;
            // The variables "StateCh8xx" indicates which button was pushed and which targ¬
            et is being used
            if ( ResetAllStates == 1 || (StateCh8Dn ==0 && StateCh8Left ==0 && StateCh8Up=¬
            =0) )
            {
                  StateCh8Dn = 0 ;
                  StateCh8Left = 0 ;
                  StateCh8Up = 0 ;
                  // Following just resets the arm motors to be used by the joystick
                  JoystickDigitalToMotor ( 1 , 6 , 1 , -127 , 2 , 127 , 1 ) ;
            }
      }
}
```