



**Xtreme-DI**  
GDI PERFORMANCE PARTS

DI Fuel Systems and Controls

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## **Calibration Settings for the XDI+75% Injectors on BMW B58 Gen1 stock ECU**

These are our current best known settings for basic operation of the XDI +75% injectors. To harness the full potential of the fuel system, there are more possible changes to the actual fueling strategy, which require in depth knowledge of DI-Fueling strategies. These settings are in constant development. We highly recommend working with one of our trained and authorized tuners.

Please send email to [sales@xtreme-di.com](mailto:sales@xtreme-di.com) when you encounter any issues.

Read the entire instructions before starting.



## Calibration Settings:

### 1) Injector Slope

Bosch Name "MK2TE"

Stock: 0.0899 ms/mg

XDI+75%: 0.0520 ms/mg (or value from individually provided Datasheet)

### 2) Fuel Rail Pressure Target Warm:

Bosch name: "KF\_PRAIL\_H" and "KF\_PRAIL\_HGD"

stock

		BMWrailco_rat_VabHom_sw (%)							
		12.01	20.02	35.01	39.99	60.01	79.98	120.0	140.0
Engine Speed (rpm)	900	<b>10</b>							
	1000								
	1200								
	1400	9.00	9.63	10.79	11.15	11.50	11.50	11.50	11.50
	2000	12.00	12.94	14.69	15.22	15.75	15.75	15.75	15.75
	3050	15.00	16.25	18.59	19.30	20.00	20.00	20.00	20.00
	3500	15.00	16.40	19.10	20.00	20.00	20.00	20.00	20.00
	6000	15.00	16.40	19.10	20.00	20.00	20.00	20.00	20.00

XDI+75

you can vary between 3-5MPa

		BMWrailco_rat_VabHom_sw (%)							
		12.01	20.02	35.01	39.99	60.01	79.98	120.0	140.0
Engine Speed (rpm)	900	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	1000	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	1200	6.00	6.31	6.90	7.08	7.25	7.25	7.25	7.25
	1400	9.00	9.63	10.79	11.15	11.50	11.50	11.50	11.50
	2000	12.00	12.94	14.69	15.22	15.75	15.75	15.75	15.75
	3050	15.00	16.25	18.59	19.30	20.00	20.00	20.00	20.00
	3500	15.00	16.40	19.10	20.00	20.00	20.00	20.00	20.00
	6000	15.00	16.40	19.10	20.00	20.00	20.00	20.00	20.00

### 3) Fuel Rail Pressure Target Cold:

Bosch name: "KF\_PRAIL\_H\_K" and "KF\_PRAIL\_HGD\_K"

## Stock

		BMWrailco_rat_VabHom_sw (%)							
		12.01	20.02	35.01	39.99	60.01	79.98	120.0	140.0
Engine Speed (rpm)	900	10							
	1000								
	1200								
	1400	9.00	9.63	10.79	11.15	11.50	11.50	11.50	11.50
	2000	12.00	12.94	14.69	15.22	15.75	15.75	15.75	15.75
	3050	15.00	16.25	18.59	19.30	20.00	20.00	20.00	20.00
	3500	15.00	16.40	19.10	20.00	20.00	20.00	20.00	20.00
	6000	15.00	16.40	19.10	20.00	20.00	20.00	20.00	20.00

## XDI+75

You can vary between 5-8MPa. Inj pulse is usually longer when cold.

		BMWrailco_rat_VabHom_sw (%)							
		12.01	20.02	35.01	39.99	60.01	79.98	120.0	140.0
Engine Speed (rpm)	900	5							
	1000								
	1200								
	1400	9.00	9.63	10.79	11.15	11.50	11.50	11.50	11.50
	2000	12.00	12.94	14.69	15.22	15.75	15.75	15.75	15.75
	3050	15.00	16.25	18.59	19.30	20.00	20.00	20.00	20.00
	3500	15.00	16.40	19.10	20.00	20.00	20.00	20.00	20.00
	6000	15.00	16.40	19.10	20.00	20.00	20.00	20.00	20.00

#### 4) Fuel Rail Pressure during start / cranking:

For perfect hot and cold start (especially on pump gas or low ethanol blends) limit the cranking fuel pressure to 8-10MPa.

Bosch Name: K\_PRAIL\_ST\_MAX

MHD name: "Max Rail Pressure for engine start"

#### 5) General Rail Pressure strategy

If you are still having issues with cold start, hot start, hot idle, cruising misfire, you might need to increase or decrease rail pressure again. Especially on full E85.

Ethanol blends burn better with high fuel pressure, so keep pressure up.

Pump gas needs lowest amount of fuel, so inj msec will tend to be low, take pressure down.

The injector pulse needs to stay above 0.8msec at all times, regardless the fuel type.

You might need to adjust fueling tables a bit as well at low loads. This all depends on the amount of changes in the build and calibration.

## 6) Data Logging

When tuning DI aftermarket parts, you should always log desired and actual rail pressure, HPFP duty cycle or delivery angle, DI injector pulse in msec, DI start of injection.

## Limitations:

The limits for the XDI-75% Injectors are:

**Rail Pressure = 220bar / 22MPa (250bar absolute limit for single pressure overshoots)**  
**minimum Pulsewidth = 0.8msec (please adjust desired rail pressure accordingly)**