

# Tempest 3 (T3) Users Guide Yamaha GP1200R

- **Selecting an Advance Curve**
- **Set Power Valve Open/Close RPM**
- **Setting Rev Limit RPM**

**Caution:** Severe engine damage is possible if the Advance Curve is not properly set.

**Engine Advance Curve (Timing) Overview:** Proper engine timing is every bit as important as mixing oil with your gas. Engine timing (advance) must be selected on the engine's hardware configuration and type of riding you plan to do. Failure to properly set the ignition timing can lead directly to engine damage and costly repair bills.

## **Important Safety Note: Follow all instructions exactly!**

Set the timing advance curve to the exact setting indicated in the following section.

### Selecting an Advance Curve

**Curve Selection Overview:** The T3 Ignition has four built-in advance curves. The curve you select must be properly suited to the engine configuration and how you ride your boat. **Do not assume that the curve with the more advanced timing is the best. Selecting a curve with more timing can lead to a large engine repair bill. Please be careful!. See Figure 4 for information on selecting the correct advance curve.**

The best advance curve is the one that gives you the best performance. If you are not sure which curve to select, please consult with your local dealer or other qualified person to determine the optimum curve to use.

Figure 1 shows the timing advance curve selection switch settings on switch block B, switches 1 & 2. Each of the four curves installed in you ignition is designed for differences in type of pipe, cranking compression, fuel and riding style. Using Figure 1 as a guide, set Switch B, positions 1 and 2, to the desired curve.

The Advent Web site, [www.adventignitions.com](http://www.adventignitions.com) has all the popular timing advance curves and curve sets. Click on the "Timing Library" button and select curves by the Curve Set number (ei: D43) or the Curve Name. You can freely copy any curves you wish for your records.

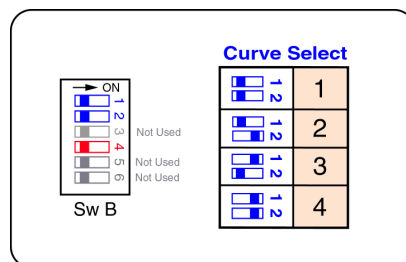


Figure 1

## Set the Power Valve Open/Close RPM

The Yamaha T3 Ignition provides enhanced control for the Power Valve System. The Power Valves are utilized to add additional levels of exhaust tuning, which helps broaden and even out the engine's power band. Without power valves, the engine performance would suffer greatly.

With the power valve system, the engine produces more power over a larger range of RPM, but only if the power valves open and close at the proper RPM. The proper open/close RPM is determined largely by the exhaust pipes installed on the engine.

The open/close RPM is called **Snap** because the T3 ignition causes the power valves to open and close as quickly as is possible, producing the strongest increase in power with a much more pronounced effect than the Yamaha OEM ignition is capable of producing.

Figure 2 shows the selection choices available for the Power Valve control settings. Switch Block B, switches 3 & 4 select one of four Snap RPM values. Select the Snap RPM in the Power Valve column, then set the switches as shown to the left of that setting RPM.

### Power Valve Settings Chart Description

- Snap 56 = Opens/Closes at 5600 RPM
- Snap 58 = Opens/Closes at 5800 RPM
- Snap 60 = Opens/Closes at 6000 RPM
- Snap 61 = Opens/Closes at 6100 RPM

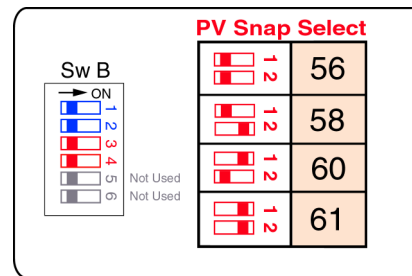


Figure 2

To determine the optimal Snap setting for your engine it is recommended that you experiment with the Snap settings to select a possible better setting.

### Snap setting too LOW

Start with a mid RPM setting such as Snap 60. Run the boat in the water through the 6000 RPM range and notice how the power behaves at the point just prior and just after the valve opens. If the power goes soft just after the valves open, the RPM setting is **too LOW**. Move to the next higher Snap RPM choice.

### Snap setting too HIGH

Start with a mid RPM settings such as Snap 60. Run the boat in the water through the 6000 RPM range and notice how the power behaves at the point just prior and just after the valve opens. If the power goes soft before the valves open, the RPM setting is **too HIGH**. Move to the next lower Snap RPM choice.

When the Snap function is properly set, you will feel a noticeable smooth increase in power as the power valve opens and closes. This is the optimum setting.

### Setting the Rev Limiter Switches

Proper setting of the Rev Limiter RPM is important to ensure that the engine is not damaged from over-revving. The following procedure is recommended for determining the ideal limiter setting.

1. Turn all five rev limiter-setting switches to the ON position (Switch A, positions 1 through 5). This sets the limit to its maximum setting of 9000 RPM.
2. Run your Yamaha on smooth water at the highest speed you can attain. Note the RPM reading on your tachometer
3. Return to shore and set the limiter RPM to your maximum tachometer reading plus 200 or 300rpm.

Figure 3 shows the selection choices available for the Rev Limiter settings (Switch Block A, Switch 1 through Switch 5). This figure shows the switch settings for 7800rpm

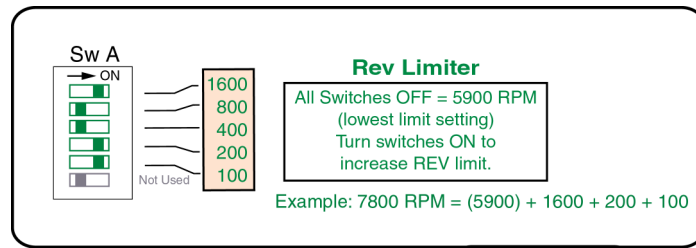


Figure 3

### Samples of setting the Rev Limit RPM

**Programming example as shown on label:  
Rev Limit RPM = 8200**

8200Rpm (Desired rev limit)  
-5900rpm (Minimum Rev Limit Value, Sw 1 through 5 OFF)  
 Program this RPM: **2300 = (1600 + 400 + 200 + 100)**

**Another example as shown on label:  
Rev Limit RPM = 7700**

7700Rpm (Desired rev limit)  
-5900rpm (Minimum Rev Limit Value, Sw 1 through 5 OFF)  
 Program this RPM: **1800 = (1600 + 200)**

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