

## Now lighter than ever before

# The 2012 Model Yamaha F350 V8 Outboard Motor

In 2007, Yamaha raised the bar when it released the F350A, sporting the largest engine displacement of any production outboard motor in the world. The power and thrust of the 5.3L 60° V8 32-valve DOHC engine came with the reliability, durability and efficiency that made it possible for boats sized around 30-40 feet to employ quiet, flexible, and fuel efficient outboard motors instead of expensive inboard or stern mounted motors without sacrificing power and torque.

For 2012, the internals of the F350A have been redesigned with the latest Yamaha technologies. The compact in-bank exhaust system was integrated into a new resin cylinder head, the intake structure of the long intake manifold was changed and the pistons were casted. These design changes resulted in a staggering total weight reduction of 14kg while maintaining the F350A's industry-leading performance, usability and adherence to the world's strictest emissions standards (2010 E.P.A., C.A.R.B. 2008, E.U. 2006).

### Electronic single throttle/ Long intake manifold

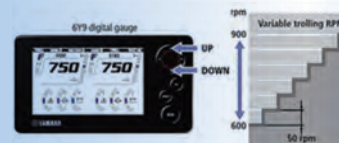


The electronically controlled single throttle and long intake manifold with its changed intake structure provides the optimum amount of air to the combustion chambers, enabling the engine to produce maximum torque.

### Durable lower unit bearings



An engine with as much power and torque as this needs lower unit bearings and bearing surfaces that stand up to the test. Yamaha has not only changed the type of bearings and / or increased their size, but also hardened the surfaces on which they ride, for increased reliability.



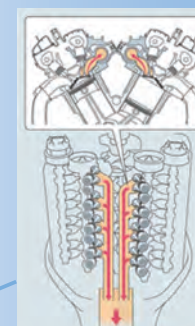
### Variable trolling RPM

Allows the adjustment of desired trolling speed at every 50 rpm between 600 and 1000 rpm.



### Oversized strong mounting bracket

The bracket and mount system with forged parts and oversized mounting bracket provide plenty of durability and help protect the motor from shocks during offshore cruising in rough waters.



### Compact in-bank exhaust

The in-bank exhaust system helps enhance engine performance by sending exhaust gases out more efficiently and reducing exhaust pressure.



### Digital electronic throttle & shift

Eliminates remote control cable. Ensures smooth throttle and sure shifting for reliable operability.



### VCT: Variable Camshaft Timing

This system regulates intake valve open/close timing according to engine load. It heightens air intake efficiency and increases torque in the low to mid RPM range.







The Souq Sharq Marina in Kuwait City is packed full and the enthusiasm in Kuwait for pleasure boats is high.

**T**he State of Kuwait has an area of around 17,818 km<sup>2</sup>. Despite its small size, its oil reserves provide it with great wealth that the country's economic structure revolves around. Ninety-four percent of the country's citizens are public servants or work in state-run businesses.

The Yamaha distributor in Kuwait is Sultan Al-Salem & Sons, a company employing 180 people and handling sales of not only Yamaha outboard motors but also WaveRunner personal watercraft (PWC), Yamaha motorcycles, ATVs and more. They certainly don't have any snowmobiles, but they bring the Yamaha brand image and ideals of "offering vehicles that move you in a variety of fields" to Kuwait.

## Cooperating with popular boat builders to expand package sales of outboard motors

Sultan Al-Salem & Sons (Kuwait Development & Trading Co.) began handling outboard motors in 1971. At the time, an American brand held the top market share, but as in other areas Yamaha products were noted for their endurance and



Abdullah Abdul Rehman of Sultan Al-Salem & Sons.

reliability in the commercial market. Today, Yamaha holds almost 100% of outboard motor market share in Kuwait. There is a dock at the fish market in Kuwait City and when the fishermen return with their boats loaded with the day's catch, almost every boat is mounting a Yamaha outboard motor. Now, at Sultan Al-Salem & Sons the direction for the future is developing demand and



Yamaha outboard motors are the only brand seen on the fishing boats gathering at the market near the Souq Sharq Marina.

rolling out sales promotions in the pleasure-use market and the company is putting its fullest efforts into various activities.

The sales promotions are diverse and all kinds of ideas are discussed and swiftly implemented throughout the year. Offering a fishfinder or other accessories packaged with an outboard motor purchase in areas where sport fishing is more popular is one such idea. Since 2010, the company has been particularly aggressive about pursuing tie-ups with highly popular boat builders in the Middle East like Sea Hawk and SilverCraft, which has resulted in Sultan Al-Salem & Sons becoming their distributor, and now capable of expanding boat and outboard motor sales packages.

However, one problem in Kuwait is its lack of a sufficient number of boat mooring facilities. There are several excellent marinas like the one at Souq Sharq that can also serve as venues for boat shows, but they are all already filled to capacity. If work continues on expanding marinas and new demand can be created, the future market share for Yamaha outboards

could reach even greater heights.

A new, spacious showroom is soon due to be opened. Beginning with the marina located at the resort area of Al Khiran, steady progress is being made towards establishing the foundation for a new Yamaha service base. The stage is set for new pleasure-use market and 4-stroke outboard motor sales promotions to begin.



Opening soon, this new showroom will welcome visiting customers with a display of boats, outboard motors, accessories and more.



The parts center before renovation. The stock of parts is excellent and can accommodate a variety of needs.



The service warehouse at the Al Khiran marina.





The secret to Yamaha's high share in Oman is the distributors' supply policy.

The beautiful country of Oman lies along the southeast coast of the Arabian Peninsula and has a long and rich history with the sea. Its main industries are oil-related industry, tourism, agriculture and fishery. The government is promoting globalization of the domestic economy and privatization of industry. With oil and gas income as a foundation, expansion of manufacturing industries began with the aim of developing other new industries.

In the marine market, the pleasure-use market is growing, but the majority of outboard motor demand comes from the fishing industry. The beaches of the fishing villages of Seed, Haradi and Barka are all packed with fishing boats, and it can be said that almost all of them mount Yamaha outboard motors, which command a market share of nearly 100%.

## Solid Communication of the Latest Information between Dealers and Workshops

The reason why the market share of Yamaha outboard motors is so high in Oman can be attributed to the honest and market-oriented business style of distributor OHI Marine (OHI Marine Equipment LLC). What characterizes this the most are its activities to build business partnerships with the private

service workshops and dealerships. OHI Marine puts information tools and promotional goods together into a set they call a "Schoolbag" and distributes them to domestic dealers and private workshops. One of the contents is the latest list of parts. The parts lists are created for each market

based on an analysis of what the best-selling products are and the most up-to-date version is distributed. All kinds of information were digitized for more convenience, but there are some areas and regions where it cannot be viewed or the information does not reach as far as intended. To respond to this, OHI Marine makes sure to visit these sites and hand-deliver the information and materials. As a result, the latest information is relayed to the private workshops and dealerships OHI Marine is doing business with and mistakes in work operations and parts orders are decreased. At the same time, by meeting face-to-face with the dealers and service people, OHI Marine is able to gain the latest information about the market and the sales network, allowing them to gauge what the current market environment is like. This method also allows them to give guidance to dealers in the sales network and the service workshops.

The building of strong relationships with the sales network, with its important function as the point of contact with the customers, also helps build customer trust and faith in the Yamaha brand.

OHI Marine also distributes Yamaha Schoolbags with the latest service manuals, parts lists and SST manuals to local government officials in printed and CD form.

### Contents of a "Yamaha Schoolbag"

#### To dealers and service workshops

- ① Latest parts list (printed copies)  
\*Printed copies are used as some locations are unable to view digital data
- ② Yamaha LED light
- ③ Yamalube T-shirt from Yamaha Motor Distribution Singapore Pte. Ltd. (YDS)
- ④ Yamaha coin case
- ⑤ Yamaha ballpoint pen
- ⑥ Yamaha bag

#### To the government

- ① Latest service manual (CD and printed copies)
- ② Latest parts list (CD and printed copies)
- ③ Latest SST manual (CD and printed copies)



Visits include not just distributing tools but offering guidance and maintaining close communication as well.



The relationship between the distributor and the dealers and workshops is very good, and that also connects to satisfied users.

# How to extend and tighten a torque wrench

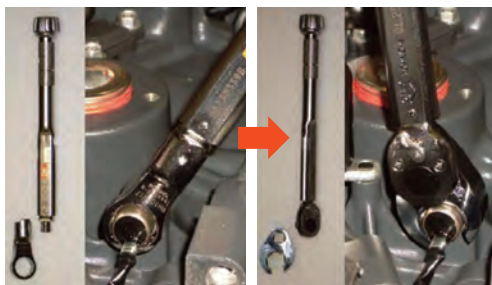
Up until now, this One-point Service Advice column has been mainly devoted to explanations of basic service operations and use of tools. From this issue I want to change directions and talk about the kinds of advice a veteran mechanic can give to new ones who still lack experience. There are a lot of things that a veteran mechanic has learned from experience that aren't written in the textbooks. And, a lot of the things that veteran has learned are very important, but they are also things that are rarely taught to the beginner. Those are the kinds of important lessons I want to talk about from here on in this column.

For our first topic, I will talk about how to extend and tighten a torque wrench.

## When the job can't be done as usual

Let's imagine you are attaching an engine temperature sensor. At the final stage of the operation where you need to use a torque wrench to ensure the required level of tightening, for some reason you don't have the interchangeable head type torque wrench you usually have on hand.

So, you have to perform the final tightening with a standard torque wrench. Since you can't use a socket head, you decide to tighten it using a crowfoot wrench.



## How do you determine the correct torque?



$$T1 = \frac{L1 + L2}{L2} \times T2$$

$$15 = \frac{20 + 162}{162} \times T2$$

$$T2 = 13.4$$



A torque wrench shows the amount of torque being applied at the drive point. But, in this case there is an offset between the drive and the bolt, so the amount of torque applied to the bolt will of course be different from the amount applied by a torque wrench.

So, we have to figure out the difference in actual applied torque that the offset will cause. The formula at left is used to calculate the difference based on the relationship between the effective length of the wrench and the torque applied.

Let's consider the case of tightening the engine temperature sensor of the F350A outboard

to the specified torque of 15Nm. Using the formula, the correct applied torque value for a torque wrench would be 13.4Nm.

However, this calculation is based on the condition that the center of the bolt  $\alpha$ , the center of the torque wrench drive  $\beta$  and the center of the wrench handle  $\gamma$  are all aligned

along the same axis, as in the illustration above the formula. If there is an angle at point  $\beta$ , as in the illustration below the formula, the relationship between T1 and T2 is changed and the formula is no longer valid. You have to keep this point in mind.

## If you have a question, research until you find the answer

In this discussion I used the example of a crowfoot wrench, but the same is true for the special service tool (SST) used on the Power Trim/Tilt (PTT) unit. Since you all use the SST for the PTT in your work, I'm sure you can visualize how the operation would go.

Recall the first time you performed this job. I'm sure you had questions about how many newtons (N) of torque the part should be fastened with and what the proper angle of the wrench should be. Then, you probably asked a veteran mechanic.

The internet now makes it easy to get answers without asking a veteran. The basic attitude of a mechanic is having the determination to search for and find answers to the questions

we have until we understand. Every time you find an answer, it becomes a valuable asset for you as a professional. And, the more assets you have, the more you will earn in your profession.



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## Joint Supply Chain Management (SCM) Activities in Qatar

In Qatar from January 6-16, 2012, Yamaha distributor Al Badi Trading & Contracting Co. Ltd. conducted a revamp of their spare parts stock and service counter. As a business partner with Al Badi, the SCM division at Yamaha Motor Distribution Singapore Pte. Ltd. (YDS) visited in November 2011 and provided on-site support and guidance with the project. An evaluation of Al Badi's supply chain management was conducted to determine where its strengths and weaknesses were, and what improvements could be made. Both Al Badi and YDS were in agreement to place priority on improving spare parts stock (high supply ratio) and

service counter (shorter waiting time) functions to build customer confidence. The result after the 11 days of work was a modernized and state-of-the-art storage system incorporating location barcodes to allow for higher accuracy of remaining stock, streamlined work flow and a system that provides customers with the right quantity of parts at the right place and the right time. YDS aims to continue to work with all distributors in the region in order to unleash potential and pursue SCM excellence to win satisfied, loyal customers.

*From Mr. Desmond & Mr. Clarence, YDS*



## Distributor Opens New Head Office

On February 11<sup>th</sup>, 2012, Yamaha distributor Supratechnic Malaysia held the official opening ceremony of its new Head Office in Shah Alam, located about 20 km west of the capital of Kuala Lumpur.

The new Head Office occupies almost 45,000 sq. ft. and boasts a lavish showroom, parts inventory center, warehouse, conference hall and a state-of-the-art workshop for excellent after-sales service. As part of the commitment to business partners and customers, the new Head Office will be able to provide one-stop solutions for their marine outboard engine needs.

A total of 100 guests were invited to the ceremony including bankers, customers, dealers, suppliers, service providers and members of the press. The guest of honor

was Mr. Akira Takeuchi, the General Manager of Service Division, Marine Engine Business Unit, Yamaha Motor Co., Ltd, Japan.

In his welcoming speech, Supratechnic Group of Companies Chairman Mr. Ridwan Kasenda said, "Supratechnic Malaysia has been growing and expanding its business since its incorporation in 1981. We are proud to be one of the top players in the marine outboard engine industry with the largest branch network and the strongest after-sales service team in Peninsular Malaysia."

With its new Head Office, Supratechnic Malaysia is poised to face the future, take full advantage of the opportunities that lie ahead and further strengthen Yamaha's position as No.1 in the Peninsular Malaysia market.



**YAMAHA OUTBOARDS WEB SITE** → <http://www.yamaha-motor.co.jp/global/consumer/outboards/index.html>

**WAVERUNNER FAN SITE** → <http://www.waverunner-fan.com/>

**Yamaha Outboards Channel is online on Youtube**

View waterside scenes and scenes of Yamaha outboards in use around the world

**Yamaha Outboards Channel** → <http://www.youtube.com/user/Yamahaoutboardmotors>