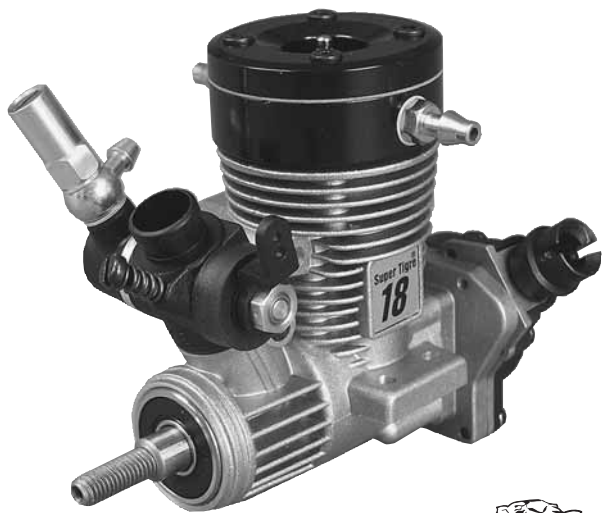


# Super TIGRE<sup>®</sup>

## **.18 MARINE ENGINE**



**Important:** Please fully read this instruction manual before operating your engine. These instructions have been written so that you may get the greatest satisfaction from the operation of your new engine.



## **SPECIFICATIONS:**

**ABC Piston and Sleeve**

**Bore: .662"**

**Stroke: .535"**

**Displacement: .184ci (3cc)**

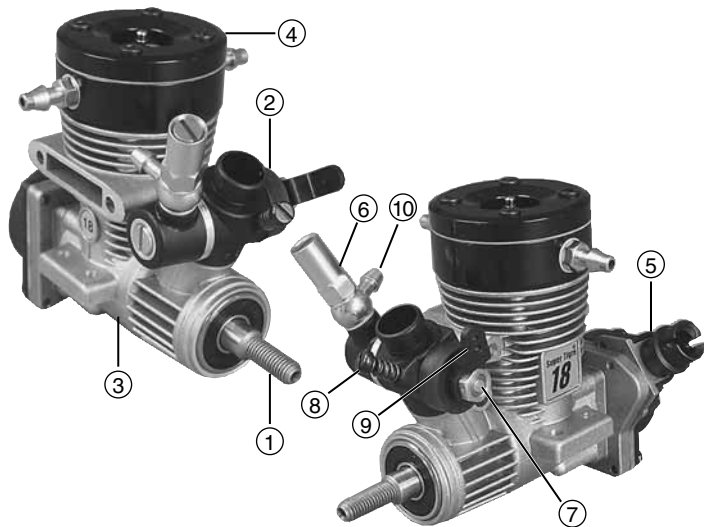
**Power Output: 1.35 hp @  
28,000 RPM**

**Crankshaft Thread Size: 5mm**

**Carburetor type: Rotary Barrel**

**Glow Plug: #4 Hot SUPG1201**

## **ENGINE PARTS:**



1. Crankshaft

2. Carburetor

3. Crankcase

4. Water Jacket

5. Super Start System

6. High Speed Needle (HSN)

7. Low Speed Needle (LSN)

8. Idle Stop Screw

9. Throttle Arm

10. Fuel Inlet Nipple

### **ITEMS NEEDED TO OPERATE YOUR ENGINE:**

- Flywheel (AQUB6701)
- Exhaust System (SUPG6003)
- Engine Cable Coupler (AQUB7892)
- Super Start 12V Starting Handle (AQUP0001)
- Glow Igniter (HCAP2520)
- Boat Fuel
- Access to a 12V battery (car battery or HCAP0800 - Hobbico® TorqMaster™ LC 12V 7Amp Battery)

*For best performance use fuel specifically formulated for nitro marine engines. 30% to 50% nitro content fuels are best suited for your marine engine. Please avoid operating your marine engine using fuels formulated for RC car use.*

### **WARNING:**

- Never free rev your marine nitro engine with the boat out of the water. You could damage the engine.
- As a rule of thumb, you have about 2 minutes of out-of-the-water operation before your engine starts to overheat. It is best to get the boat into the water and underway as soon as possible.
- Watch out for the moving prop when carrying your boat! Never run while handling the boat.
- Never operate the engine without proper water cooling.
- Never “bench break-in” your new marine engine. It is best to install the engine in a boat and break the engine in with the boat in operation.

## **ENGINE BREAK IN:**

It can be somewhat difficult to tune and break in a marine glow engine, as tuning and break-in are best done with the boat on the water. Take your time and do not hurry the break in. If you operate the engine too lean in the early break-in stages, you could damage it.

Factory needle settings: HSN: 4 turns out  
LSN: 2-1/2 turns out

**NOTE:** *Due to atmosphere changes the factory needle setting could be too rich or too lean. It is important to note that as long as the engine is running rich during the initial break-in, it is safe from any damage. If you live near or at sea level, you might want to open (turn out, counterclockwise) the HSN 1/2 turn before attempting to operate the engine.*

- **Run 1:** Run the boat at the richest setting your boat will continue to operate at for a full tank of fuel.
- **Run 2:** Repeat run one
- **Runs 3 – 6:** Lean the HSN 1/16 to 1/8 turn between each run. If you notice the engine start to sag the closer you get to the 6<sup>th</sup> run, you are getting the engine too lean. Do not over lean the engine. Richen the engine back up 1/8 turn and finish breaking in the engine at that setting. It is important to remember that it might not take 6 runs to get to the proper break-in needle setting, but you still want to run the engine for at least 6 runs before trying to tune it further.

## **Get to know the sounds and sights of your nitro marine engine:**

- Rich needle setting means less than maximum RPM. The engine will operate with a break in the exhaust note. Also take note that when rich, your engine is going to use more fuel than normal and you're going to end up with a lot of oil and smoke coming out of the exhaust pipe.

If the engine RPM speeds up as the boat goes around the corner, your engine is likely rich. It is also a good idea to look at the glow plug element after the first few runs. If it looks new and shiny, your engine is running rich. I also like to change the glow plug after the first 5 runs or so. As your engine is breaking in, microscopic particles from inside the engine are coming loose and washing out with the extra oil from exhaust. As the particles pass through the engine some of them attach to the element, reducing the coil's ability to light properly.

- Lean needle setting means lots of RPM followed by lean sags in the exhaust note. Fuel consumption will be minimized and you will not see much oil or smoke exit the exhaust pipe. If the engine RPM drops off in the corner, your engine is likely running too lean. Again it's a good idea to inspect the glow plug element. A lean engine run will show a plug with a distorted coil, broken coil, or missing coil. It's also important to note that a lean needle setting will minimize the dependability of the engine. **TIP:** Most of the time if the engine quits during a run, the engine was lean.

If you suspect your engine is running lean, bring the boat to shore as soon as possible and richen the HSN.

- The perfect needle setting means good RPM and a clean, clear sound. You'll see some light oil and smoke from the exhaust pipe and a tanned, slightly dull but not distorted glow plug element. **TIP:** At the risk of a slower operating boat, it is best to err on the rich side of the needle setting. Your engine will last a lot longer and provide you with winning performance race after race.

### ***GLOW PLUGS:***

The glow plug that comes with the engine (SUPG1201) is your best bet for a replacement plug. However, if you would like to experiment with different plugs, there are a few basic guide lines to follow:

- You want to tune your engine to the hottest plug you can and not burn the plug element out. This will provide you with the most speed and coolest operation.
- Hotter plugs advance the timing in the engine and should be used with lower nitro fuels. Be warned this can cause pre-detonation.
- Colder plugs retard the timing in the engine and are typically used with higher nitro fuels.

### ***ENGINE PROPELLER RECOMMENDATIONS:***

Choosing the proper propeller will depend a lot on the type of hull you are placing the engine in. We have found that in most monoplane and sport hydroplane applications, propellers from around 36 to 40mm diameter seem to work best. In an outrigger hydroplane you can run propellers up to 42mm diameter.

### ***OPTIONAL BELT STARTING SYSTEM***

If you would like to update you engine to belt start, here is a list of the components you will need:

- SUPG2052 – SuperTigre Standard Back Plate .18 Marine
- AQUB9531 – AquaCraft™ 17" Starting Belt
- HCAP3200 – Hobbico TorqMaster™ 90 Deluxe 12V Starter
- HCAP0800 – Hobbico TorqMaster LC 12V 7Amp Battery

### **AFTER RUN MAINTENANCE:**

After you are done boating for the day, you are going to want to add some after-run oil to the engine to protect the internal parts. We recommend removing the glow plug, opening the carburetor all the way, and placing 10 to 12 drops of after-run oil down the barrel of the carburetor. Place a rag over the glow plug hole and turn the engine over with the starter. Repeat this step at least one more time to make sure the inside of the engine is fully coated.

### **REPAIRS AND WARRANTY SERVICE:**

SuperTigre warrants its marine glow engines to be free from defects and workmanship for a period of 90 days from the date of purchase. During that time SuperTigre will repair or replace, at our option, any product that does not meet these standards. You will be required to provide proof of purchase date (receipt or invoice).

If, during the 90 day period, your SuperTigre engine shows defects caused by abuse, misuse, or accident, it will be repaired or replaced, at our option, at a service charge not greater than 50% of the current retail list price. Be sure to include your daytime telephone number in case we need to contact you about your repair.

Under no circumstances will the purchaser be entitled to consequential or incidental damages. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. If you attempt to disassemble or repair the unit yourself, it may void the warranty.

For service on your SuperTigre product, either in or out of warranty, send post paid and insured to:

*Hobby Services*  
3002 N. Apollo Dr., Suite 1, Champaign, IL 61822  
Phone: 217.398.0007  
**[www.hobbyservices.com](http://www.hobbyservices.com)**

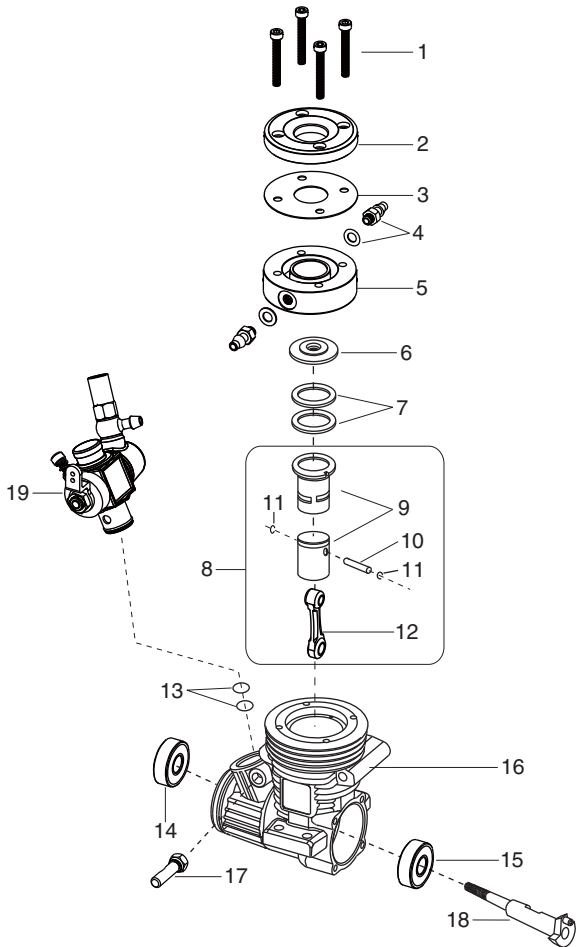
## ***ENGINE***

<b>#</b>	<b>Part #</b>	<b>Description</b>
1	SUPG5651	Head Bolt (4)
2	SUPG4050	Water Jacket Upper
3	SUPG4480	Head Gasket
4	SUPG5000	Cooling Head Nipples (2)
5	SUPG4051	Water Jacket Lower
6	SUPG2180	Head Button
7	SUPG6353	Head Shims (2)
8	SUPG3388	Piston and Sleeve Rod Assembly
9	SUPG3387	Piston and Sleeve
10	SUPG5095	Piston Pin
11	SUPG5099	Piston Pin Retainer (2)
12	SUPG2520	Connecting Rod
13	SUPG5061	Carburetor O-Ring (2)
14	SUPG5464	Ball Bearing Front
15	SUPG5466	Ball Bearing Rear
16	SUPG2615	Crankcase
17	SUPG2360	Carburetor Pinch Bolt
18	SUPG3110	Crankshaft
19	SUPG1750	Complete Carburetor

## ***OPTIONAL ITEMS***

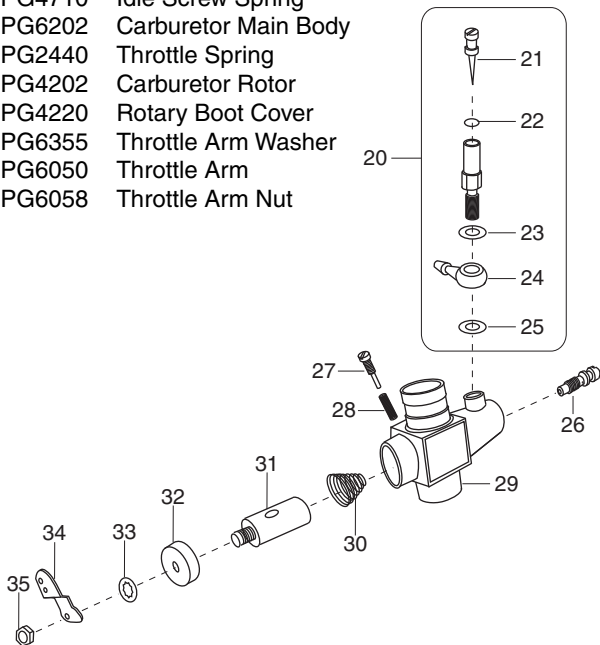
SUPG2052	Standard Back Plate
SUPG1201	#4 Hot Plug
AQUP0001	Super Start 12v Starter Handle
SUPG6003	Tuned Pipe System Q-18
SUPG4664	Exhaust Header
SUPG4665	Exhaust Header Coupler
SUPG4666	Exhaust Header Gasket and Screws
SUPG6004	Tuned Pipe Q-18
AQUB6597	ISO Engine Mount .18 Inboard





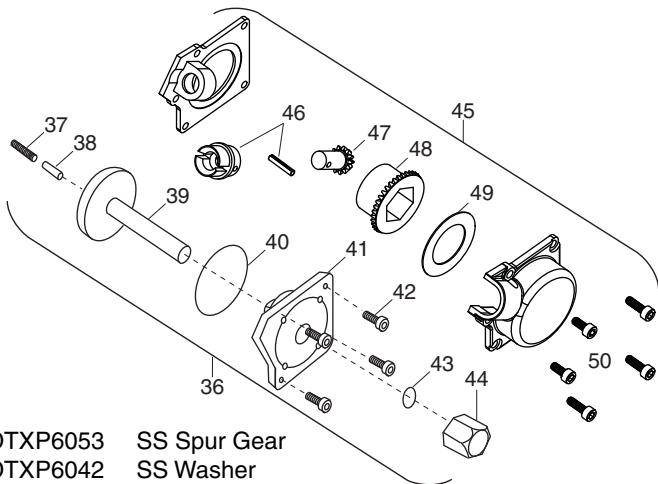
## **CARBURETOR**

#	Part #	Description
20	SUPG4881	Needle Valve Assembly
21	SUPG4840	High Speed Needle
22	SUPG5021	High Speed Needle Valve O-Ring
23	SUPG6351	Upper Needle Valve Washer (1)
24	SUPG4476	Fuel Nipple
25	SUPG6350	Lower Needle Valve Washer (1)
26	SUPG4900	Low Speed Needle Valve
27	SUPG5652	Idle Stop Screw
28	SUPG4710	Idle Screw Spring
29	SUPG6202	Carburetor Main Body
30	SUPG2440	Throttle Spring
31	SUPG4202	Carburetor Rotor
32	SUPG4220	Rotary Boot Cover
33	SUPG6355	Throttle Arm Washer
34	SUPG6050	Throttle Arm
35	SUPG6058	Throttle Arm Nut

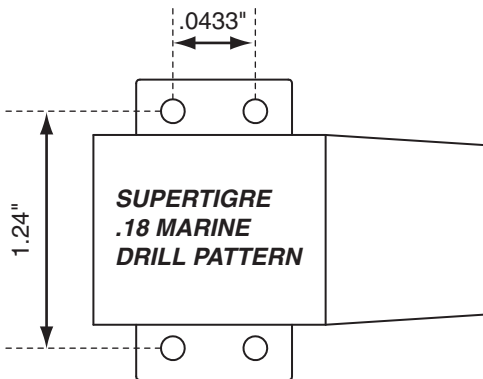


## STARTER ASSEMBLY

#	Part #	Description
36	SUPG2050	Adaptor Assembly Complete Rear
37	SUPG5420	Starting Pressure Spring
38	SUPG5880	Starting Pin
39	SUPG5870	Starting Shaft
40	SUPG5020	Back Plate O-Ring
41	SUPG2051	Back Plate
42	SUPG5650	Back Plate Adaptor Screw Set (4)
43	SUPG5060	Start Shaft O-Ring
44	SUPG4430	One-Way Bearing
45	AQUP0002	Super Start Back Plate Set
46	DTXP6044	SS Connecting Joint & Pin
47	DTXP6043	SS Pinion



48	DTXP6053	SS Spur Gear
49	DTXP6042	SS Washer
50	DTXP6041	SS Screw Set



***Please photocopy to use as a template.***

