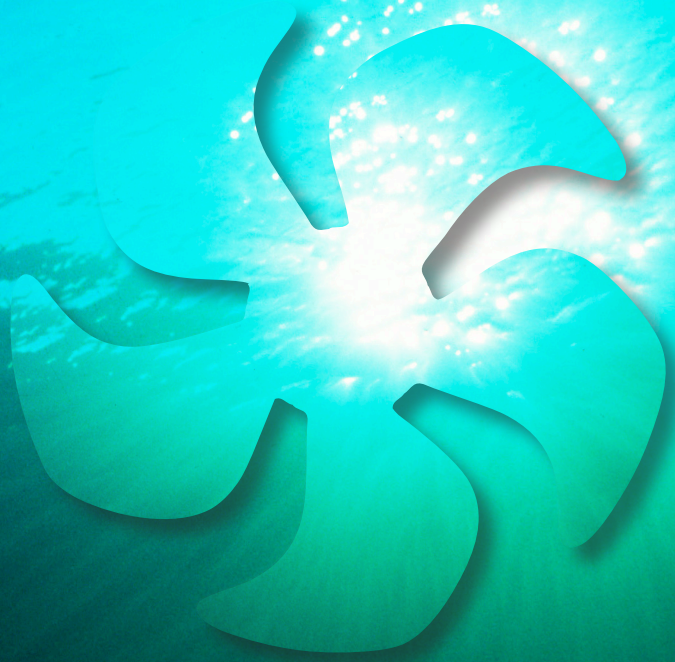
SIDE-POWER

Thruster systems



Less noise - more thrust!

Thruster Upgrade Kit
MANUAL

Q-prop™

Q-prop

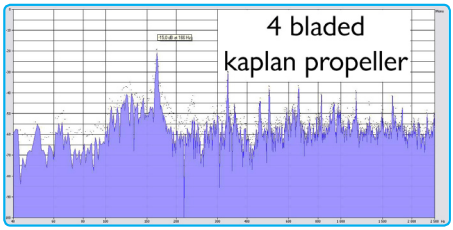
The new 5 blade special skew propellers is the result of over 2 years of development work and thousands of tests. They have been designed to reduce the noise level, while maintaining the exceptional efficiency of the old 4 blade Sidepower propellers. This goal was achieved, and we even chose to make a little bit more aggressive on some models, increasing the thrust on most thrusters. Please see individual information on each new thruster for more details.

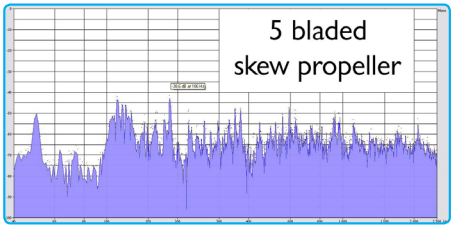
Details:

- Noise reductions of up to 75% measured in controlled environments*
- The expected and tested normal noise reduction in "average installations" 20-40%
- Will be delivered on all Sidepower models during 2008 except the SP550
- Upgrade kits are available for most "SP" series thrusters with special adaptors

* Actual noise reduction wil vary with boat type and thruster installation.

NOISE AND EFFICIENCY





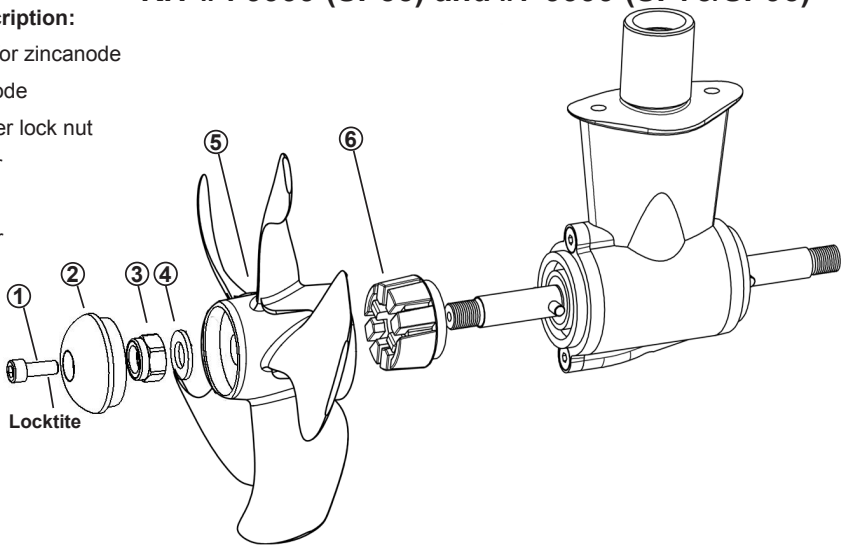
Principally, more blades on a propeller means that you spread the load more so that the pressure peaks (heard as noise) are individually lower. Another factor is that the majority of noise you hear in a boat from a thruster is what is called structural borne noise, that travels through the boats structure. Principally, a higher frequency will travel a shorter distance. However, there is a "cost" also to add more propeller blades. Principally you loose efficiency because more blades means that they are closer together and thereby will disturb the water for the "next blade". More blades also means more friction. The skew shape of the blades "slice" through the water "gradually" instead of hitting the water all at the same time with a straight edge. This makes for a smoother noise picture, again reducing the level of the "peaks" as seen in the frequency analysis. But also skew must be used carefully as it increases the edge length of the propeller and thereby the friction in the water, reducing the propellers efficiency.

The key is obviously to find the best compromise between noise and efficiency, and we have made our choice based on thousands of carefully documented tests. We have accomplished maintaining the exceptional efficiency of our old propellers by sculpting the new propellers very perfectly and changing to a new high-tech composite material allowing a thinner blade to reduce friction.

KIT #4 9999 (SP55) and #7 9999 (SP75/SP95)

Parts description:

1: Screw for zincanode
2: Zincanode
3: Propeller lock nut
4: Washer
5: Q-Prop
6: Adapter



REMOVE OLD PROPELLER(S)

1. Loosen and remove screw for zinc anode (1), zinc anode (2), lock nut (3) and washer (4)
2. Remove old 4-blade propeller from shaft. If the propeller sits firmly on the shaft, use a piece of wood and tap on the propeller from behind.
3. Clean shaft and check drivepin for wear.

FIT NEW PROPELLER(S)

1. Push the adapter (6) into the propeller until it locks in place
2. Apply waterproof grease to the shaft,
3. Push the propeller onto the shaft, carefully rotate the propeller until the drive pin aligns and moves into the slot/grove in the propeller hub. There should be almost no gap (approximately 1mm) between the propeller hub and the gear house.
4. Place the washer (4) on the propeller shaft and then tighten the lock-nut (3) on the propeller shaft.
5. Place the zinkanode (2) in its designated position and tighten the zincanodes holding screw (1). Apply a thread glue (Locktite or similar) to ensure that the zincanodes holding screw does not un-screw itself from the propellers rotation.

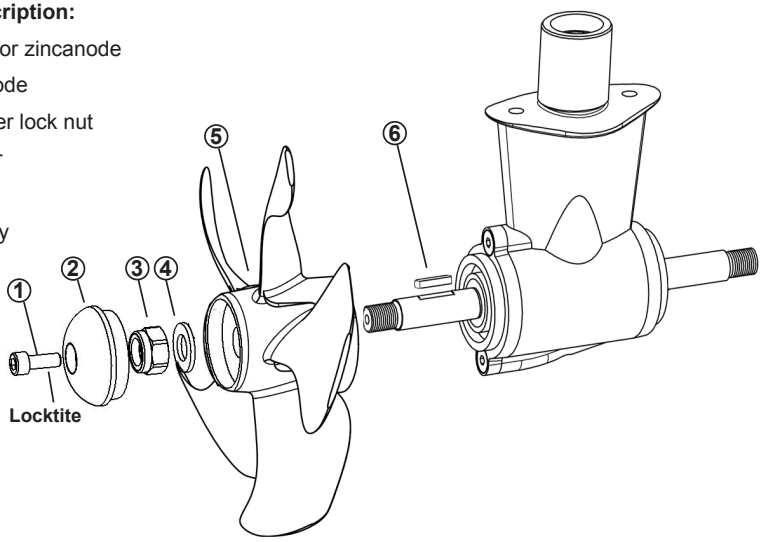
PROPELLER CHECKLIST

- ☐ Propeller is fastened correctly to the shaft.
- ☐ Propeller turns freely in tunnel.
- ☐ The zinc-anode holding screw is tightened well with thread glue.
- ☐ Anti-fouling have been applied to the gearhouse and propeller but NOT on the zincanode or the gearhouse lid where the propeller is fastened.

KIT #9 9999 (SP125) and #10 9999 (SP155/SP200)

Parts description:

1: Screw for zincanode
2: Zincanode
3: Propeller lock nut
4: Washer
5: Q-Prop
6: Axle key



REMOVE OLD PROPELLER(S)

1. Loosen and remove screw for zinc anode (1), zinc anode (2), lock nut (3) and washer (4)

2. Remove old 4-blade propeller from shaft. If the propeller sits firmly on the shaft, use a piece of wood and tap on the propeller from behind.

3. Clean shaft and check drivepin for wear.

FIT NEW PROPELLER(S)

1. Replace old key with new key from kit (6).

2. Apply waterproof grease to the shaft,

3. Carefully rotate the propeller until keyway in propeller aligns with key on shaft, and push the propeller fully onto the shaft. There should be almost no gap (approximately 1mm) between the propeller hub and the gear house. On thrusters with counter rotating propellers (SP155/SP200), fit propeller marked LH on port side, propeller marked RH on starboard side.

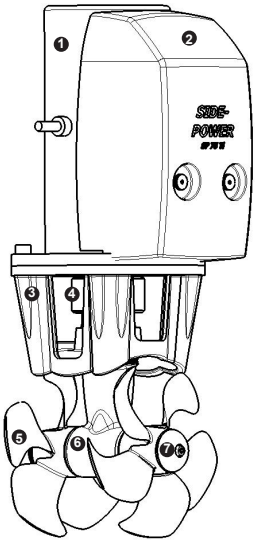
4. Place the washer (4) on the propeller shaft and then tighten the lock-nut (3) on the propeller shaft.

5. Place the zinkanode (2) in its designated position and tighten the zincanodes holding screw (1). Apply a thread glue (Locktite or similar) to ensure that the zincanodes holding screw does not un-screw itself from the propellers rotation.

PROPELLER CHECKLIST

- ☐ Propeller is fastened correctly to the shaft.
- ☐ Propeller turns freely in tunnel.
- ☐ The zinc-anode holding screw is tightened well with thread glue.
- ☐ Anti-fouling have been applied to the gearhouse and propeller but NOT on the zincanode or the gearhouse lid where the propeller is fastened.

1: Electromotor
2: Directional solenoids
3: Motorbracket holding motor and gearleg together on the tunnel
4: Breakpin (SP55)/Flexible coupling (SP75/100/125/155/200) secures electromotor if propeller is jammed. Changeable from inside the boat.
5: 5-blade Q-prop skew design propeller for ultimate performance
6: Gearleg
7: Replaceable zinc anode protects gearleg from corrosion



MAINTENANCE

» There must always be oil in the oil reservoir. Refill if necessary with gear oil EP90. Change the gear oil a minimum of every second year. Check the gearoil quality in the gearhouse every time the boat is out of the water.

» Retighten the bolts holding the gearhouse to the motor bracket during the first on-land service with the specified bolt tightening force (check manual).

» Keep the propeller and gearhouse clean from growth by painting with antifouling before every season. PS! The zinc anode, sealing and propeller shafts must absolutely not be painted. Be careful that you don't fill paint in the "tracks" in the gearhouse that the propeller hub moves in.

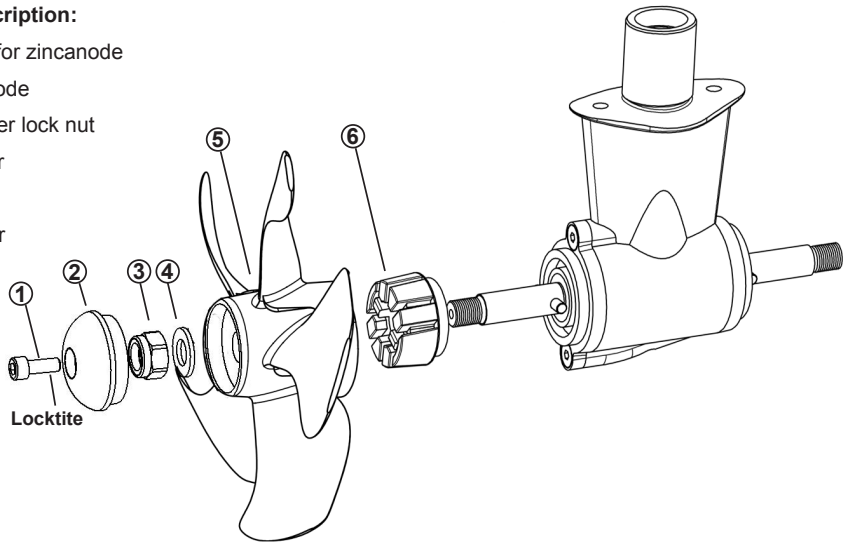
» Change the zinc anode before every season, or when about half the anode is gone. Always use a tread lock on the screw holding the zincanode to ensure that it does not fall off. Please observe that in some waterconditions it can be necessary to install an extra zincanode to ensure that it lasts for the whole period between regular service lifts of the boat. Consult your dealer for information on how to do this.

» As a part of the seasonal service of your boat, and before every season, always check that:

- The propeller is securely fastened
- The bolts holding the electric motor to the motor bracket are fastened correctly.
- The area where the thruster is installed is clean and dry.
  If there are signs of water you must try to find the source and eliminate it.
- All electrical connections are clean and fastened firmly.
- Make sure that your batteries are in a good condition so that the thruster gets a good voltage. Old or bad batteries will give a reduced performance from the thruster.

Parts description:

1: Screw for zincanode
2: Zincanode
3: Propeller lock nut
4: Washer
5: Q-Prop
6: Adapter



Parts list 4 9999 (SP55)

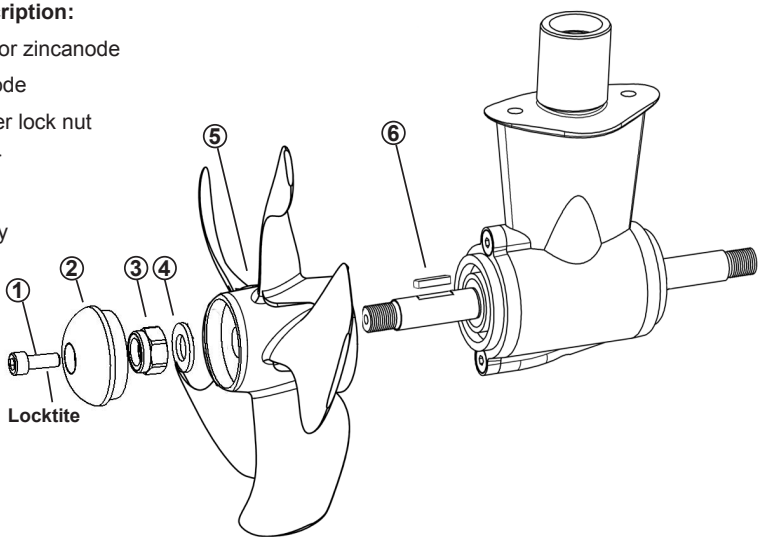
1+2	7 1190	Zinc anode	1 pcs
3	4 1260	Locknut	1 pcs
4	7 1181	Propeller washer	1 pcs
5	4 1261	185mm Q-prop	1 pcs
6	7 1249	Adapter	1 pcs
7	6 1241	Propeller drivepin	1 pcs

Parts list 7 9999 (SP75/SP95)

1+2	7 1190	Zinc anode	2 pcs
3	4 1260	Locknut	2 pcs
4	7 1181	Propeller washer	2 pcs
5	7 1261	185mm Q-prop	2 pcs
6	7 1249	Adapter	2 pcs
7	6 1241	Propeller drivepin	2 pcs

Parts description:

1: Screw for zincanode
2: Zincanode
3: Propeller lock nut
4: Washer
5: Q-Prop
6: Axle key



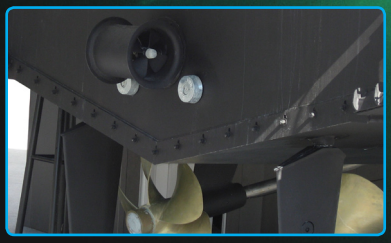
Parts list 9 9999 (SP125)

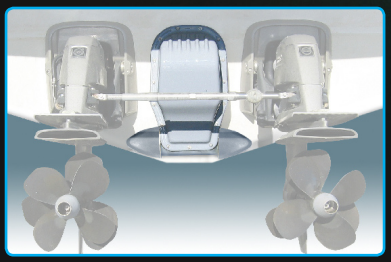
1+2	20 1180	Zinc anode	2 pcs
3	10 1260	Locknut	2 pcs
4	20 1181	Propeller washer	2 pcs
5	10 1272	250mm Q-prop	2 pcs
6	10 1241	Propeller key	2 pcs

Parts list 10 9999 (SP155/SP200)

1+2	20 1180	Zinc anode	2 pcs
3	10 1260	Locknut	2 pcs
4	20 1181	Propeller washer	2 pcs
5	10 1272RH	250mm Q-prop RH	1 pcs
5	10 1272LH	250mm Q-prop LH	1 pcs
7	10 1241	Propeller key	2 pcs

Confidence by Control!





SidePower offers a wide range of additional equipment for your thuster system.

Why not consider a wireless radio remote?

The radio remote is available in two versions
- Bow- and sternthruster
- Bowthruster and windlass

Go for total control!
SidePower sternthuster kits are available both for boats with shaft drive and boats with external sterndrives

Visit our website, and find even more options for your Side-Power thruster system!

www.side-power.com

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