SEAHAWK

Slipstream

2 Blade Folding Shaft Drive Propeller

S4

SERVICE MANUAL

! Keep these instructions for the life of the propeller !

Safety Information

> **WARNING:** This propeller has blades that rotate and incorporates integral gears. Keep fingers and hands clear of the gears and blade pivot areas at all times.

If at any point during servicing you are unsure of a step, stop work and contact your authorised Seahawk dealer before proceeding.

About This Manual

This manual covers routine service procedures for the Seahawk Slipstream S4 stainless steel self-feathering shaft drive propeller. It is intended for end-user service of wearable and replaceable components.

The Slipstream shaft drive propellers can typically be serviced with the hub remaining on the shaft. Refer to the separate *S4 Installation and Operation Manual* for tapered shaft fitting and operational guidance.

Table of Contents

Contents

Safety Information 1

About This Manual 1

Table of Contents 2

Service Parts 3
- Contents of an S4 Service Kit . . . 3

Tools Required — General 4

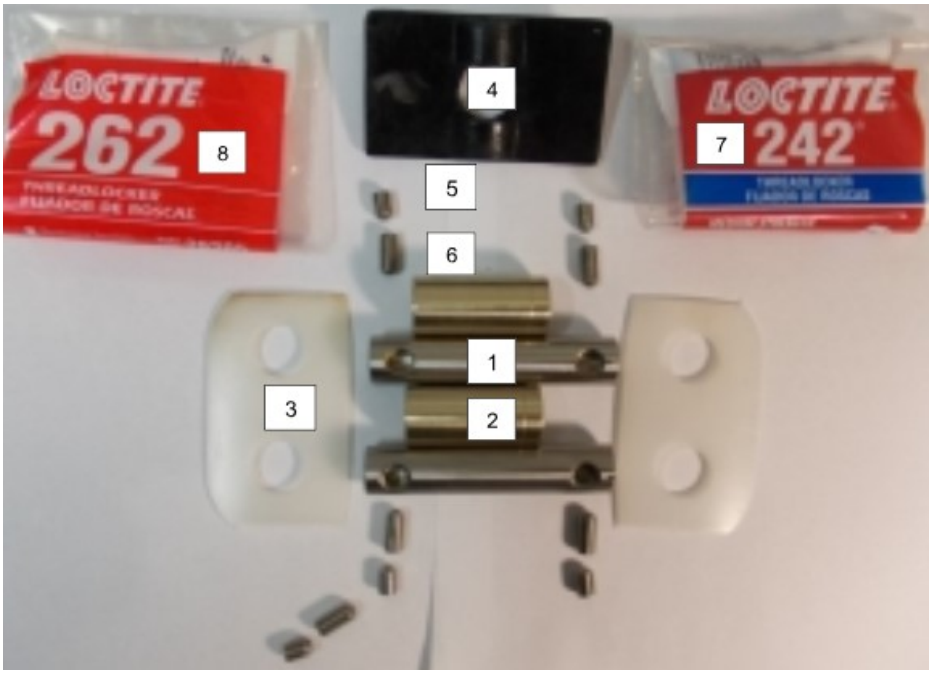
Periodic Service Overview 4

Blade Assembly Service 5
- Blade Bearing Replacement . . . 5
  - Tools Required . . . 5
  - Procedure . . . 5
- Bumpstop and Side Plate Replacement . . . 9
  - Procedure . . . 9

Service Parts

The following consumable parts are included upon purchase of a service kit for the S4. Individual components may also be purchased from your authorised Seahawk dealer.

Contents of an S4 Service Kit



Contents provided upon purchase of an S4 Service Kit

1. 2 × Pivot Pins
2. 2 × Blade Bushes
3. 2 × Side Plates
4. 1 × Bump stop
5. 5 × M8*8mm Grub Screws
6. 5 × M8*12mm Grub Screws
7. 1 × Loctite 242 (Packaging and Brand may vary)
8. 1 × Loctite 262 (Packaging and Brand may vary)

Tools Required — General

Tool	Specification / Notes
Hex key	3 mm (supplied with propeller)
Flat-bladed Screwdriver	For blade bush removal
12mm socket	For blade bush removal
Soft-faced hammer	For blade bush removal
Small wire-brush or fine abrasive paper	For cleaning the surface on which the blade bearing sits
Loctite 603	Retaining compound for bronze bushes

Periodic Service Overview

The Slipstream folding propeller requires minimal service. When installed and operated correctly it will give many years of trouble-free performance.

Annual service	Inspect all screws and nuts; inspect blades and body
As-needed	Replace blade bearings and pivot pins if worn (movement fore-and-aft when folded); replace side plates if worn (movement side-to-side within body when in the drive position): replace bumpstop if worn or damaged.

Blade Assembly Service

> **WARNING:** Do not interchange parts between different propellers. Many components are machined as matched sets.

Blade Bearing Replacement

The blade bearings support each blade in the propeller body on the pivot pin. Replace if blades show excessive play or wobble. Some slight play is normal — significant play develops only after many years of use.

Tools Required

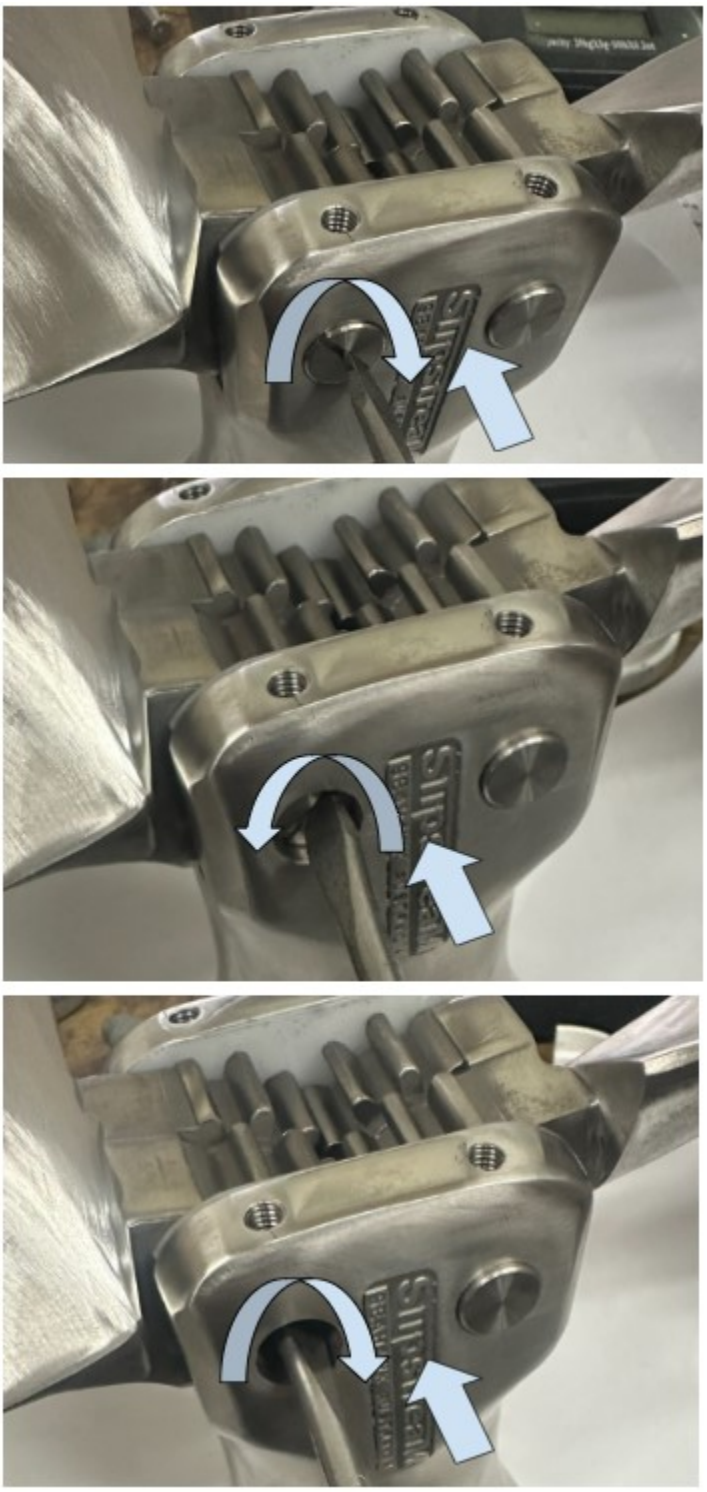
Tool	Specification / Notes
3mm Hex Key	For removing grub screws
Flat-bladed screwdriver	For removing blade pivot pins
12mm socket	For removing old bronze bearings
Soft-faced hammer	For removing old bronze bearings
Small wire-brush or fine abrasive paper	For cleaning the surface on which the blade bearing sits
Loctite 603	Retaining compound for new bronze bushes

Procedure

1. Using the 3mm Hex Key, remove the 4 M6*8mm grub screws from the end of the propeller body.
2. Using the 3mm Hex Key, remove the 4 M6*12mm grub screws underneath the 4 M6*8mm grub screws from the previous step.

Removing the grub screws

3. Supporting one of the blades with your non-dominant hand, use the Flat-bladed screwdriver to remove one of the pivot pins from the side of the propeller. If you are unable to push the pivot pin straight out, it may be necessary to rotate the pivot pin back and forth and wiggle the blade from folded to unfolded while applying the force. Inspect the removed blade for a stamp mark and a matching one on the blade journal from which it has been removed, should the stamp mark be obscured by propspeed or ground off it may be necessary to use a permanent marker to put a distinguishing mark on the blade and a reciprocal one on the side of the body it came from - the propeller was balanced from the factory in that specific position and it should be returned to the correct one upon reinstallation.



Removing the pivot pin

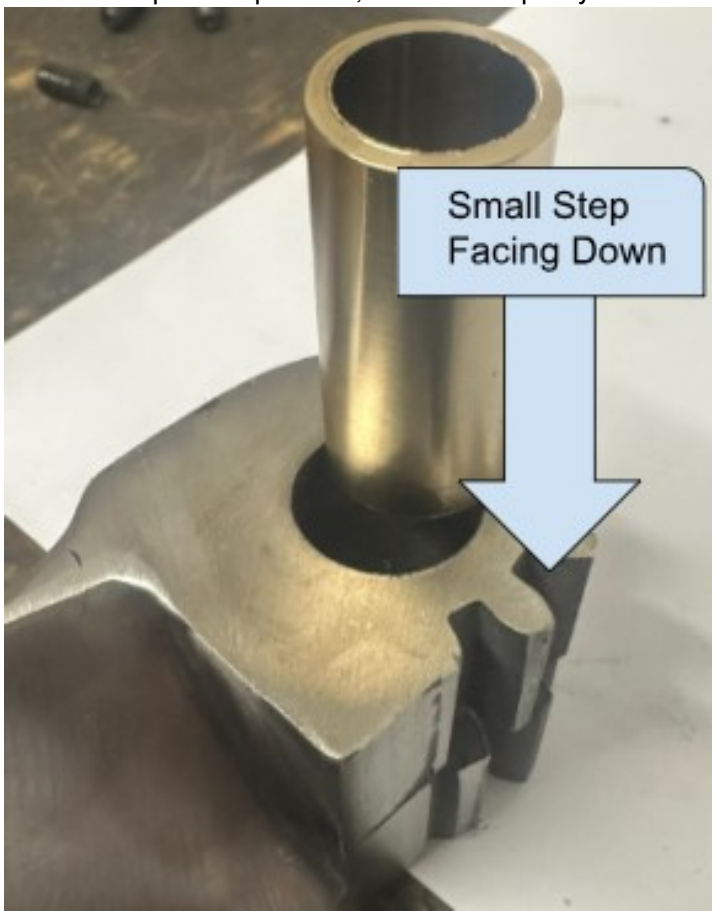
4. Repeat Step 3 with the remaining blade.
5. With care not to damage the blade teeth support the blade within a vice or similar, place a 12mm socket on the old bronze bearing and gently tap it out.

> **WARNING:** Variability within socket sets means the 12mm socket you have on hand may not be the appropriate size. The important thing is to select a size large enough to tap the bronze bush out, and smaller than the hole in which the bush sits.

Removing the Blade Bearing

6. Gently use a small wire brush or fine abrasive paper to clean the surface within the blade which the old bearing sat in.

7. Remove the blade from the vice and place it on the edge of the bench. Place the small step on the new bearing into the opening and smear a little retaining compound on the bearing surface, then use the soft faced hammer to tap it into position, and clean up any excess retaining compound.



Replacing the Blade Bearing

8. Repeat Step 7 with the remaining blade.
9. If you intend to replace the bumpstop and/or side plates perform this now. Otherwise install the blades in the reverse of steps 1-3 of this procedure, ensuring the blades are in the correct spot and unfold and fold together correctly.

Ensure the blades fold and unfold together as per the first image, reinstall the offending blade should it look like the second image.

10. When replacing the M8*12mm grub screws, do each one up tight and then back off a quarter turn until all 4 are installed, then tighten them up all the way.
11. Place a little Loctite 242 pm the M8*8mm grub screws before placing them in the threaded holes and doing them up tight.

Bumpstop and Side Plate Replacement

The bumpstop and side plates support each blade within the propeller body. Replace if blades show excessive play or wobble. Some slight play is normal — significant play develops only after many years of use.

Procedure

12. Follow steps 1-4 outlined within the Blade Bearing Replacement section.
13. Remove the white side plates from the body of the propeller.
14. Remove the bumpstop from the body of the propeller.
15. Replace the new bumpstop into the body of the propeller. Ensure the two spigots fit nicely within the two holes in the body of the propeller and the surfaces are sitting flush. It may be neccessary to clean the holes and surface so that the bumpstop sits flush and therefore the blades can reach their full range of motion once reinstalled.

Ensure the bumpstop sits flush with the surface of the propeller body

16. Replace the new sideplates into the body of the propeller. Ensure the holes in the side plate are concentric with the pivot pin holes of the propeller body and the arch of the side plate are tangent to the arch of the propeller body.
17. Reinstall the propeller blades as per steps 9-11 outlined within the Blade Bearing Replacement section.