

Thomas P. Dietrich Hegnacherstr. 43 70736 Fellbach Germany

INSTALLATION INSTRUCTIONS  
Rev. 1

SNOWBIRD

Document# RF8001INSI Rev1

# INSTALLATION of RF Ski 8001

## HUSKYA-1 .... Aircraft

Installation of RF Ski 8001 on Husky A1.... Aircraft

**Note:**

If the installation on another derivate of the A-1 Aircraft (A- 1A, A-1B, A1C 180&200) is carried out, still follow these instructions, since the differences between the derivates are not applicable to this installation.

## **CONTENTS**

	Page
General	1
Primary installation	2 2/1
Parts list	3
Actuator installation, Pump adjustment	4
Pictures #1 Main ski , hydraulic pump	5
#7 Electrical diagramm	6
Electrical Wire routing #4	7
Location of Hydraulic Pump	8
#6 Front view ski installation	9
Revision Record	10

Installation of RF Ski 8001

## General

The Ski kit contains all necessary parts for installation.

It is recommended, if an easy & fast change to the wheel plane is indented, to use an extra Scott tailwheel without ski installed. With this extra tailwheel the airplane's configuration can be changed very easily from wheels to ski and back.

The top side of the skis must be painted with epoxy paint as used on cars, there are no colour restrictions. The bottom should always be waxed with a Ski downhill wax.

Perform all work according to AC 43.13-1A/3 and methods used in aviation maintenance.

The primary installation has to be approved by an AP. The empty weight of the airplane with and without skis has to be added to the flight manual.

After primary installation, the skis may be removed and installed by the pilot, if he got checked out by an AP to perform the job. The pilot will then be responsible for the ski installation. Only the skis will be removed from the airplane, the Hydraulic pump and the hoses, etc. will remain installed.

If the Husky is already equipped with a hydraulic pump from an Amphib installation, this pump may be used as long as the installer makes sure that the pump will operate the cylinders to their stop. This minor change needs to be documented in the POH Supplement.

The RF8001 Skis Hydraulic System is pressure-less, meaning that no pressure is required to maintain either ski up or down position. Hydraulic pressure is only required for transition of the skis from a "Ski up" to a "Ski down" position.

Engineering aspects approved by

AVIAT INC. Generalvertretung  
Thomas P. Dietrich  
Dipl. Wirt. Ing.

LBA STC approved  
16.02.96  
STC# 0545/1088 Rev1

### Requirements

The Husky airplane must be equipped with 800X6 or 850 X 6 tires inflated to minimum 30 PSI and Aviat Aero Ski Gear PN 35017-503 or any other approved gear having the same brackets. The 850 X6 is the preferred tire. If a prop longer than 76 inches is used, the 850 tires are mandatory.

## PRIMARY INSTALLATION

Check tire pressure to be 30 PSI min.

1. Remove wheel fairings for 8.00 or 8.50 tires if installed and mount Aviat Ski Hanger Assy 35017-007 on the gear.
2. Install Attachment fittings on Engine mount and float fittings. Do one at a time, otherwise the engine will deform the mount. Best hang engine on a hoist. Replace Gear stops by new gear stops PN 35001-SGS and plate 35234-001 by 35234-001-Ski.
3. Drill a 3/4 inch hole, at station 19" down from the gear leg into the upper side of the leading edge fairing of the landing gear. Route a red and blue marked hydraulic hose, 1010mm long, inside the landing gear fairing into the fuselage and connect them with a T fitting. Protect the hose with a rubber grommet to avoid chafing where it exits the gear fairing.
4. Install hydraulic pump as shown on page #5 with the emergency pump handle to the left with the reservoir pointing backwards. Therefore remove Springs PN 35541-501 and PN 8170. Use existing floorboard screws to mount the pump in the existing holes.  
Make sure the pump and the hydraulic lines are not obstructing any controls and the pump is free to be operated. Connect the Pump lines to the T-Fittings. Always connect matching colour coded lines. Husky Aircraft with a control-stick fairing, need a 3/4 inch hole in the fairing to allow the hydraulic lines to enter the area in front of the bungees. See Pic Hydraulic pump installation.
5. Fill skis Hydraulic cylinders by pushing the actuator together. Then, dip the front hydraulic line into Fluid 4 and slowly extend the cylinder. Put both skis from front to rear in front of the airplane, put the turnbuckle on rear cable on the side and push airplane over the rear cable. Attach Joke-rodends assy to the gearbrackets.
6. Install bungee and safety cable on front fitting. Install the rear AN44-34 Eyebolts with the eye facing forward in the float fittings and connect the rear ski cable to the eye. Lift therefore the rear of the ski to lengthen the front bungees. Lifting is best done with a wooden lug 1" X3 " or similar, 5 ft long.
7. Install tailski on the tailwheel. For quick change setups, an extra tailwheel assy is strongly recommended, so that the ski can stay connected to the tailwheel assy.
8. Connect the Hydraulic actuators to the Hydraulic lines by the self sealing quick connectors. Fill pump s reservoir untill the top.
9. Install selector and gear switch as per electrical drawing on a good visible place in cockpit. Make sure the Pump operates the right way. Gear up should LOWER the Skis, Gear down should raise the skis. Pumping on the manual pump should lower the wheels. Cycle skis 4 times to a full stop and refill fluid to the FULL mark, while in the **SKI Down / gear up** position. Install Placards. No bleeding required
10. Perform mass and balance and enter both weights in the airplane flight manual.

**Note: If skis are installed, wheelfairings for 800 and 850 tiers can only be installed, if the fairings are cut-out to allow the joke to operate. It is recommended to use the Wheelfairings for 800, 850 or 26" Goodyear tires only without the skis.**

Installations of RF Ski 8001

### **Changing from SKI TO WHEELS after primary installation.**

1. Disconnect rear cable, remove safety cable and bungee.
2. Release pressure from the hydraulic system by running the pump in the direction "gear up" for 2-3 seconds. Disconnect hydraulic lines at the quick connectors. Do not make sharp bends with the hoses.
3. Disconnect front cable & bungees & main ski attachment bolts and remove the skis forward.
4. Replace the tailwheel with the ski attached, by a normal tailwheel assembly or remove tailski.
5. Reinstall wheel fairings, if applicable ( 8.00, 850 & 26 Goodyear's)

### **Changing from WHEELS TO SKI after primary installation.**

1. Pull airplane over rear cable and insert the skis into the lubed extended Axle assy on the landing gear. Mount with lubed bolts that the threaded side faces the tire.
2. Hook up the bungees after checking their condition and connect the safety cable.
3. Connect hydraulic lines to the actuators.
4. Attach rear cable
5. Check for right function and for leaks in the hydraulic system.
6. Check entire setup for general condition and hydraulic fluid level.
7. Perform test cycle until both skis touch the ground, then return to the "Wheels down" position

INSTALLATION INSTRUCTIONS

1

PARTSLIST FOR RÖSTI-FERNANDEZ 8001C Ski on A-1... HUSKY Aircraft

Number	Amount	Description	Part#
<b>Main Components</b>			
1	2	Main ski assy	8001 C
2	1	Tailski assy	1700-1-H
3	1	Hydraulic pump	GP-H-503-E 12VDC
<b>Mounting Hardware</b>			
2	4	PIN	AN 386-3-10A
3	4	Washer & Nut	AN 960-416 , AN 365-428A
4	4	Gear Stop	PN 35001-SGS.
5	2	Hanger assy	35017-007
6	4	Bolt & Nut	AN6-20A, AN 365-624A
7	4	Washer	AN 960-616
8	2	Bungee	SBC 70144
9	2	Fitting	35569-003
10	4	Bellcrank, Bungee	10-SS
11	2	Rear cable w. Turnbuckle	4-525 E
12	2	Cable Safety assy	3-840 E
13	2	Cable rear lower loop	3-920 E
<b>Tailski mounting</b>			
14	1	Axle assy	AH 1700
15	2	Washer	M10
16	1	Nut self locking	AN346-624A
<b>Hydraulic accessories</b>			
17	4	Hose assy	BELL6-1010-0
18	1	Hose Assy	BELL6-25-0
18a	1	Hose Assy	BELL6-23-0
19	2	T-Fittings	BELL6LL/T
20	4	Hose Assy	BELL6-55-0
21	4	Quick Connectors	R-LL5 SW20
<b>Electrical Components</b>			
22	1	Selector Switch	317-847
23	2	DO Switch	3600-P 1 0-Si-8A
24	5ft	cable AWG 12	AWG 12
25	12	Connector	BLVI 7,5

Installations of RF Ski 8001

## ACTUATOR INSTALLATION

In case that the hydraulic actuator needs to be removed and installed, **it is most important to check the fully extended length of the actuator.**

1. Move the Joke backwards in the Ski UP position. The stops must touch the ski.
2. Disconnect the actuator from hydraulic lines and extend the actuator manually to full length.
3. Screw the actuator into the bulkhead of the ski. Minimum 6 turns. Try to insert the slotted fitting on the end of the actuator into the attachment bolt on the U-brace. Adjust the extended cylinder length by screwing the cylinder further into the ski or by repositioning the slotted fitting on the actuator.
4. **The forward facing end of the slotted fitting should not touch the bolt on the U- brace, but have 0.02 inch clearance when the actuator is fully extended.**
5. **After checking the actuator length, secure all bolts and Nuts with safety lacquer**

**NOTE: IF ACTUATOR LENGTH IS ADJUSTED TOO LONG, THE ACTUATOR WILL DESTROY ITSELF AND THE ACTUATOR ROD WILL BENT.**

### Pump Pressure adjustment.

The hydraulic pressure of the pump may be adjusted for both pump directions separately. The adjustment screws are in the recessed holes left and right of the filler opening. There is a white Derlin plug to protect the screws.

To adjust pressure, remove the plugs.

By turning the screws in with an Allen head tool, the pressure will increase in the respective direction.

Adjust pressure, that the aircraft is pulled by the pump onto and off the skis, at MTOW on flat even ground.

By adjusting the pressure too high, the flow gets a bit slower, but there is no harm to the system.

Thomas P. Dietrich Hegnacherstr. 43 70736  
Fellbach

Germany

INSTALLATION INSTRUCTIONS  
Rev. 1

SNOWBIRD

Document# RF8001INSI Rev1

Revision Record

Revision Number	Pages affected	description of change	date
-----------------	----------------	-----------------------	------



Rev1

all

Editorial

23.1.08

Doc# RF8001INSTI assigned

Thomas P. Dietrich Hegnacherstr. 43 70736 Fellbach Germany

INSTALLATION INSTRUCTIONS  
Rev. 1

SNOWBI RD

Page #5

Picture #1

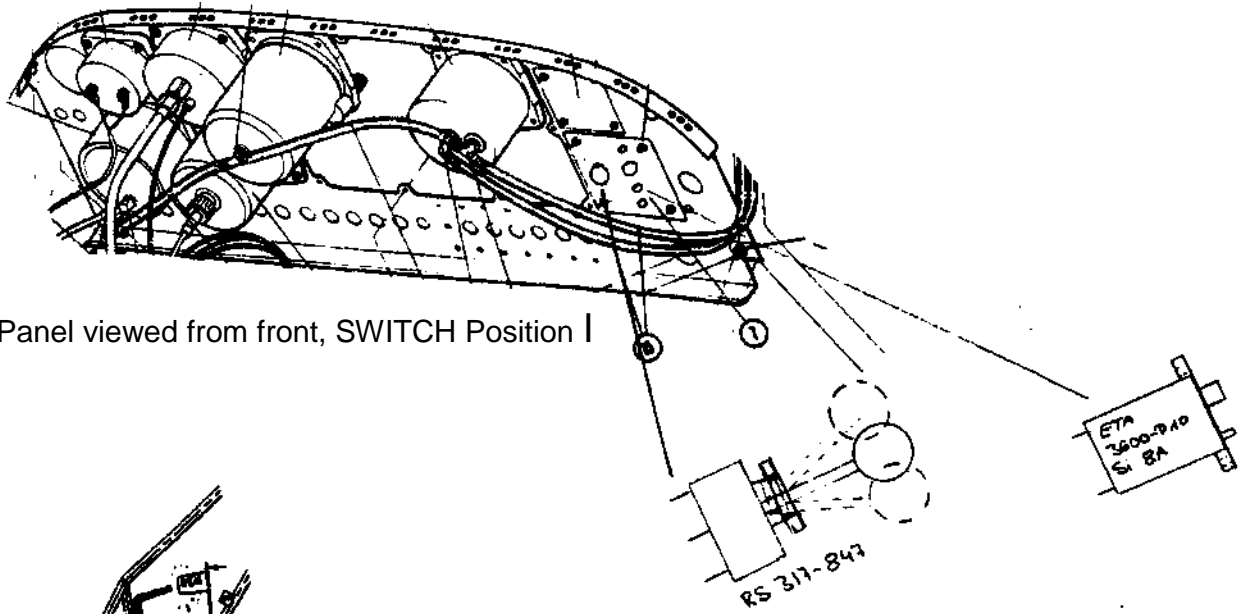
Main Ski Installation.



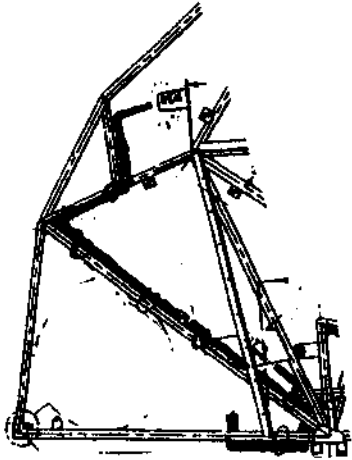
Hydraulic Pump



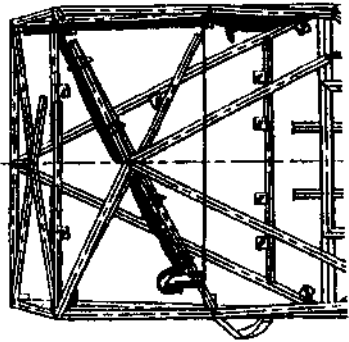




Panel viewed from front, SWITCH Position I



Side view front fuselage



Top view front fuselage


### Cable Routing

Route cables along the diagonal strut to the forward right top cluster, where the engine mount is connected. Continue down the side diagonal strut to the forward landing gear attachment point. Route cables forward, on outside of lower RH longeron to the pump

.GP1-t- & 03 C-k 12vDc ~ ~

~ou ~~~. S oS C~Qec ~c~C cc~, ~, ~ ~I, IS ~1 \_J

b les to tubing by double wrap cable ties.

Formulation			
Character			
Material		Growth	
		1:1  W m (1P ? .fr	Aa.lp~t #4

Thomas P. Dietrich Hegnacherstr. 43 70736 Fellbach Germany

INSTALLATION INSTRUCTIONS  
Rev. 1

SNOWBI RD

Page #9

Picture #6

Front Lower Cowl Cutout



Station 19" for drilling Hydraulic hose outlet

