FLIGHT MANUAL SUPPLEMENT

HUSKY / SNOWBIRD

RF 8001 SKIS

This supplement is valid for The **Husky A-1**.
The following derivates of the Husky may use this Supplement after the approval of a minor change to operate the

Versions A-1A, A-1B, A-1C .

For these derivates the W&B limits of the FAA approved pilots operating handbook apply.
The V_{le} of 120 mph applies to all approved versions.

The 160 HP A-1B version of the Husky is excluded from this STC & Supplement.

Responsible for technical data & contents

Thomas P. Dietrich 19.11.2007

FLIGHT MANUAL SUPPLEMENT HUSKY A-1

SNOWBIRD APPENDIX SKI

LBA approved Flight manual supplement for:

HUSKY A-1

Callsign:

Serial Number:

This flight manual must be attached to the existing current flight manual if:

RÖSTI - FERNANDEZ RF SKI 8001 are installed.

The information contained in this document supplements or supersedes the basic flight manual only in those areas listed.

For limitations, procedures and performance information not contained in this supplement, consult the basic Aeroplane Flight Manual.

CONTENS PAGE

EQUIPMENT LIST

2	MAINSKI Assy	RF 8001
1	TAILSKI Assy	1700-1-H
1	HYDRAULICPUMP Assy	GP-H- 503-E

PREFLIGHT

MAINSKI

- Check for general condition, wax if snow and condition requires waxing
- Check cables and attachments
- Check bungees
- Check hydraulic lines, in wheel down position, they should not touch the wheels
- Check tire pressure, minimum 1,4 Bar or minimum 20 PSI

TAIL SKI

- Check for general condition
- Check attachment

HYDRAULIC PUMP

- Check fluid level between MIN and MAX, not above MAX if Skis are retracted.
- Check Emergency valve closed,

System Description
The skis will be retracted by two hydraulic actuators into a position below the wheels. The actuators are powered by a hydraulic pump, driven by an electric motor. The electrical system features a gear selector, which will changes the rotating direction of the pump. The selected position of the switch also symbolises the desired position of the wheels. It features a centre position, which is the normal position in flight and is also used to install the skis as well as for maintenance. The electric motor is activated by pressing the DO-switch. To start the transition of the skis, the SELECTOR must be in the desired position and the DO switch must be pressed on the black knob. As soon as the pump builds up nominal pressure after transition of the skis, the DO switch will reset automatically. The DO switch needs, after a full transition, a 5 second break, until it may be used again. The pump may always be interrupted by selecting NEUTRAL on the gear selector or by pressing the red knob on the DO switch.

SELECTOR	DO Switch Position ON
GEAR UP	ON Black
NEUTRAL	
GEAR DOWN	OFF Red

USE OF THE SKI

After landing in deep snow

If the aeroplane must be turned by hand in deep snow, the turning must be combined with a either forward or rearward movement of the aeroplane**. NEVER TURN THE AEROPLANE ON SKIS ON THE SPOT**.

Exiting the hangar with snow on the ramp
Push the aeroplane on wheels as far on the snow as you can. Select GEAR UP on the selector switch and push the DO switch. It is very helpful to push the wing up where the struts attach to the wings. Only push the wing of that side up where the ski is in transition. Push up until the transition is completed to avoid high loads on the hydraulic actuators. This will only work in packed snow, where the wheels will not penetrate the snow deeper than 1".

Take off from hard surface runways
Check emergency valve closed. Select : GEAR DOWN and press the DO switch. After auto-reset of the DO switch is completed, check position of the skis visually and select NEUTRAL.

Retracting the gear // Extending the skis in flight
Airspeed below 120 mph. Selector on GEAR UP and press DO switch. The skis will not retract simultaneously. It may be visually checked if the skis are in the desired position. The transition takes about 17 seconds. When desired position is reached and DO switch did an AUTORESET, select NEUTRAL on the selector.

Extending the wheels // Retracting the Skis
Airspeed below 120 mph. Selector on GEAR DOWN and press DO switch. The skis will not extend simultaneously. It may be visually checked, if the skis are in the desired position. The transition takes about 21 seconds. When desired position is reached and DO switch did an AUTORESET, select NEUTRAL.

Before every Takeoff on wheels and skis
The pilot in command must verify that the emergency valve is closed and the hydraulic actuators are in the end positions. Select the desired gear position, press the DO switch and reset manually 2-3 seconds after the actuators come to their stop.

Retracting the skis on a hard surface
Select GEAR UP on the selector switch and push the DO switch. It is very helpful to push the wing up on the strut attachment points. Only push the wing of that side up, where the skis are in transition. Push up until the transition is completed to avoid high loads on the hydraulic actuators.

EMERGENCY PROCEDURES

There is a manual pump build into the hydraulic pump, that allows gear extension in case of an electrical failure. Should there be a leak or another problem in the hydraulic system, it was demonstrated that the aeroplane might be landed on a hard surface runway without damage with the wheels up or even with one ski down only.

In case of an electrical failure the wheels may be extended manually.
RETRACTION of the wheels by the manual pump is not possible.

EMERGENCY GEAR DOWN PROCEDURE:

Selector	NEUTRAL,
DO Switch	OFF
Emergency Valve	OPEN

Pump about 5 stokes to open the internal valve in the pump.
Emergency Valve CLOSED
Pump until the wheels are in the desired position. (About 100 strokes) .

Should the hydraulic system fail and the wheels are partially retracted, open the emergency valve for landing. Now the actuators may retract freely and no landing force will be transferred into the ski-bulkhead. Touchdown smooth so that the actuators will retract slowly.
It is strongly **not recommended** to land in soft, deep snow with the wheels extended. Total damage in the skis and the aeroplane may result.

If a landing with retracted wheels must be done on a hard surface runway or on grass, short wet grass is the preferred option.

LIMITATIONS

ONLY tire size 850X6 or 800X6 approved, minimum Pressure 1,4 Bar min or 20 PSI

Airspeed limitations as published in the Aeroplane Flight Manual
For wheels extended V_{LE} 120 mph.

Landings and take off on Snow deeper than 3 inch with the wheels down are prohibited.

No other limitations apply to the ski equipped aeroplane, except those for the wheelplane.

PLACARDS

At gear Selector:	**SKI LANDING** **NEUTRAL** **GEAR DOWN**
At DO Switch	**ON OFF**
At airspeedindicator	**V_{LE} with wheels down 120 MPH**
At PUMP	**Filler, EMERGENCY VALVE CLOSED**
At Ski Bulkhead	KEEP VENT OPEN

CAUTION

IT IS STRONGLY RECOMMENDED, WHENEVER PRACTICABLE, TO RETRACT THE WHEELS AND FLY THE AEROPLANE IN THE GEAR UP CONFIGURATION

WEIGHTS for A-1 Husky / Snowbird Conversion

Max Takeoff weight:	1980 lbs Aircraft limit ,
Most forward CG:	FS 72.4
Most aft CG:	FS 78.4

Pump & Hardware & Switches	FS 56.2	7.5 lbs
Mainskis	FS 61.0	72.5 lbs
Tailski	FS 260	6.1 lbs

Main Ski arms are measured in Ski position , subtract 16 inches for wheel down position

ADJUSTMENT OF THE SKIS

The Skis should be adjusted , that in the bottom of the skis, where the skidplates are mounted, is parallel to the cabin door hinge, in the Ski down position.

This is best done by pumping the a/c into the Ski down position. Then raise the tail until the rear cable gets tight. Measure the cabin door.

CAUTION:

IT IS MANDATORY THAT THE TIRES ARE INFLATED WITH MINIMUM 1,4 bar max 2 bar or 20 PSI min. LOWER PRESSURES ARE PROHIBITED AND MAY RESULT IN DAMAGE OF THE SKI.

Instructions for Continued Airworthiness & MAINTENANCE

The skis feature an alpine downhill racing bottom and the bottom may be repaired with regular ski type materials. Wash with water and mild soap. Then wax with All weather ski wax.

Treat like an alpine ski, if the bottom is deeply scratched.

Wax skis with alpine ski wax once a year or if snow conditions require waxing.

Never plug the vent hole of the ski on the bulkhead.
If skis are removed always close hydraulic lines quick connectors on the gear and the ski with the plugs

If bottom needs to be replaced contact

Thomas Dietrich Snowbirdxx@aol.com

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Rosti Fernandez Skis, Thomas Dietrich 43 70736 Fellbach Germany

Phone 01149-711-51404037 Snowbirdxx@aol.com

HYDRAULIC PUMP

Use Hydraulic fluids with one of the following specs:

DTD	585B
AIR	3520
MIL	H 5606C
NATO	H 515

Example : **SHELL FLUID #4**

When actuators are retracted (ski DOWN), refill hydraulic reservoir up to the MAX mark.

25h Check May be performed by the Pilot

Check tire pressure minimum 1,4 hPa (Bar) or 20 PSI

Grease bearings and connections

Check cables and their fittings

Check all parts for condition and cracks

Check hydraulic lines for condition and leaks

Check level of hydraulic fluid, drain & refill fluid every 5 years.

Performance

The snowhandling of the RF8001 skis is excellent. Due to torque & propwash, Left turns are tighter than right turns.
Power slides may be very tight and fast rotating, make sure that counteracting in a turn, more than 90° before the selected heading is reached, may be required.

Landing

On packed dry snow and below water freezing point, the landing run on horizontal runways is more than 30% longer as for a Husky on wheels.

Take off

On packed dry snow and below freezing point, the takeoff run on horizontal runways is about 10% longer then for the Husky equipped with wheels.

Remarks:

The operator should be aware of the fact that, on other snow conditions, temperatures, altitudes, winds and inclinations of the runway, the takeoff and landing distances may vary dramatically up to 500 % and more.

ALTHOUGH FLYING ON SKIS DOES NOT REQUIRE A RATING OR A CHECKOUT BY THE FAA, NO PERSON SHOULD FLY ON SKIS UNLESS HE OR SHE HAS RECIEVED THE PROPER TRAINING AND INSTRUCTIONS.

LANDING ON SNOWFIELDS AND GLACIERS IS DANGEROUS AND MAY CAUSE DAMAGE TO THE AEROPLANE AND INJURY OR DEATH TO THE OCCUPANTS.

NEVER LAND ON SNOW WITH THE SUN OBSTRUCTED BY CLOUDS OR AT NIGHT.
A GOOD SINGLE POINT LIGHTSOURCE IS THE KEY TO VISION WITH DEPTH RECEPTION ON SNOW.

NEVER LAND DOWNHILL. NEVER TAKE OFF UPHILL - Unless you really know what you are doing.

Responsible for the contents
Engineering aspects

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RF Skis
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