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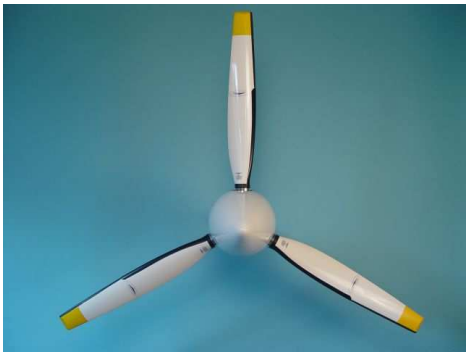
OPERATOR´S MANUAL

Electrical adjustable aircraft propeller

SR 3000



Propeller type :

☐ SR 3000/2

☐ SR 3000/2W

☐ SR 3000/3

☐ SR 3000/3J

Content:

1. List of valid pages

Page number	Date of issue	Page number	Date of issue	Page number	Date of issue
1	14.3.2006	21	6.5.2010		
2	20.9.2007	22	6.5.2010		
3	20.9.2007	23	6.5.2010		
4	20.9.2007	24	6.5.2010		
5	20.9.2007	25	6.5.2010		
6	20.9.2007	26	6.5.2010		
7	20.9.2007	27	6.5.2010		
8	20.9.2007	28	6.5.2010		
9	20.9.2007	29	6.5.2010		
10	14.3.2006	30	6.5.2010		
11	14.3.2006	31	6.5.2010		
12	14.3.2006	32	6.5.2010		
13	14.3.2006	33	6.5.2010		
14	14.3.2006	34	6.5.2010		
15	14.3.2006	35	6.5.2010		
16	14.3.2006	36	6.5.2010		
17	14.3.2006	37	6.5.2010		
18	14.3.2006	38	6.5.2010		
19	14.3.2006	39	6.5.2010		
20	6.5.2010	40	6.5.2010		

2. List of revised pages

Changes or revisions of this manual, may only be carried out by the manufacturer.
Any change should be recorded in the following table.
New or revised text on a changed page will be marked by a black vertical line on the right side of the page. The new date and number of the revision will be recorded on the bottom edge of the page.

Revision number	Date of issue	Revised pages	Date of insertion	Signature
A	23.2.2004			
B	28.2.2004			
C	8.12.2005			
D	2.5. 2005			
E	27.9.2005			
F	14.3.2006			
G	20.9.2007			
H	6.5.2010			

3. General information

3.1. Propeller purpose

SR 3000 is a three bladed or twin bladed electrically operated in flight adjustable aircraft propeller of mixed structure intended for the following engines:

- Subaru EA 81
- Rotax 912 UL 80 HP
- Rotax 912 S 100 HP
- Rotax 914 115 HP (Jabiru 3300, UL Power)

Installation on other engines should be considered only after consultation with the propeller producer.

The angle of blade setting is adjusted by a servomotor controlled from the cockpit and it can be adjusted smoothly in the range from the minimum (fine) angle intended for take-off up to the maximum (coarse) angle.

The propeller can be used in both tractor and pusher applications.

3.2. Control regimes

The propeller can operate with either of manual control or with automatic control as a constant speed propeller.

3.2.1. The manual control regime

The manual control installation can be in two versions:

- Propeller control on instrument panel – standard version
- Propeller control on control column – on request

3.2.1.1. Propeller control on the instrument panel

The installation consists of a panel, containing lights indicating the direction of adjustment of blade angle together with control diodes showing arrival at either maximum or minimum angle, and the control switch. Details of this arrangement are in 6.5.1.2.

3.2.1.2. Propeller control on the control column

On the pilots control column there is a handgrip with a rocker switch to change blade angle setting and also a push button for VHF, (PTT).

A separate installation on the instrument panel includes lights signalling the direction of adjustment and diodes for maximum and minimum angle setting but without the control switch.
The details are in 6.5.1.1.

3.2.2. Automatic control – constant speed

On request the control system can be supplemented with an electronic regulator CS-5 (CS-6) , which allows the setting of selected propeller revolutions (RPM), which are automatically kept constant by this system during different regimes of flight. The propeller thus behaves as a constant speed propeller.

AUTO - Automatic control – Constant Speed
MANUAL - Manual control.

4. Marking

4.1. The hub

The hub is marked at the outer surface of one arm with a number, e.g.:

SR 3000/3/R/T/CS/C – 3977

SR 3000 – propeller type

3 – three bladed (or 2 – twin bladed)

R – right direct of rotation (or L – left direct of rotation)

T – tractor (or P – pusher)

CS – constant speed

C – type of propeller blade (or W – wide , J – Jabiru, B – scimitar)

399 – serial number

7 – year of manufacture

4.2. The blades

At the rear of each blade root there is self-adhesive corrosion resistant label with the following data imprinted on it:
3977 A 10/07

- 3977 – serial number of propeller
- A – Order of blade in set A, B, C
- Date of blade manufacture – October / 2007

5. Performance data

The following data are presented for information only and are in accordance with the design and structural parameters of the propeller at its current stage of development.

Max. engine power output: 115 HP (engine types see 3.1)

Max. propeller RPM: 2650 rpm (3300 rpm model Jabiru)

Range of operating temperatures: -25°C - +50°C

Number of blades: 3 (2)

Diameter : 1600 mm, 1700 mm(1640mm JABIRU model)

Range of setting angles:

Manual – acc. to engine type and power – standard range 12°

The rate of readjustment from one end position to the another – including the loading

Manual 5 – 8 sec

Automatic 5 – 8 sec

Mass: 12.5 kg (including the spinner) three bladed

8.5 kg twin bladed

Connecting flange – spacer:

A spacer is used for installation of the propeller and it is placed (see 6.2) between the propeller and the propeller flange of the engine, to which it is secured by the propeller fixing bolts.
The thickness of the spacer and arrangement of the fixing bolts depend upon the type of engine, to which the propeller is installed.
Different spacer thicknesses are needed for different engine installations, since the propellers flange may project from the front of the cowling by different amounts.
Unless the aircraft designes advises differently we asdvise that the thickness of the space is chosen to give a gap between the rear edge of the spinner and the front of the cowling about 7-10 mm.
When ordering a propeller the client should specify both the distance of the engine flange from the engine cowlings according to our drawing and the diameter of the circle though the centres of the fixing bolts.

6. Design, structure and instruction for operation

The propeller consists of the following main structural assemblies:

- Blades
- Hub
- Adjusting mechanism
- Spinner
- Control unit(s) with cables

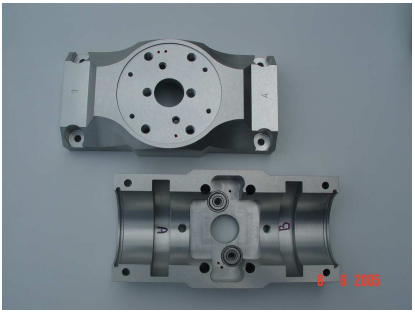
6.1. Blades

The propeller blades are made of layered ash or beech glued by epoxy two component adhesive
CH S Epoxy1200.
The root part of the blade is equipped with a duralumin boss, which is provided with bearings, sliding bushings and locking rings, which together hold the axial and radial forces.

For use in situations where greates blade wear is likely (sand airfield surfaces, float planes etc.), the blade is covered with 2 layers of glass or carbon fabric with number of roughness – 200. Also the leading edges have cast inserts of polyurethane mass, which secures maximum resistance against water and foreign objects.
The propeller blades are manufactured in two colour versions, wood composite – white and wood composite / carbon – black. In case of white blades on a tractor propeller, the rear sides of the blades are covered with matt black varnish to prevent light reflection.
The blade tips are painted with yellow or red varnish Nitro-Email C-6000.

6.2. Hub

The material of hub is duralumin ČSN 424203.
The hub consists of two parts.
The hub body is machined from solid blocks.



The hub is mounted to the engine by means of a spacer.

6.3. Adjustment mechanism

The SR 3000 is an electrical in flight adjustable propeller.
Blade adjustment is carried out by means of an electrical servomotor, which is controlled manually from the cockpit by means of a button (see 3.2.1).
Control can be supplemented by an electronic regulator CS-5 (CS-6) (see 6.5.1.2), situated also in the cockpit ,which allows the pilot to select propeller RPM, which are then maintained automatically by this regulator when changing the flight regimes. In this case the propeller becomes a constant speed propeller. The pilot has the choice of changing the mode of control in flight using a switch (see 3.2).
Each SR 3000 propeller in its basic variant is equipped with a device to signal the direction of adjustment of the propeller blades (see 6.5). This device signals the direction of adjustment by blinking the appropriate control lamp (yellow for fine angle, blue for coarse, red for reverse or feather). After reaching the stop, i.e. max. fine angle or max. coarse angle, the appropriate control lamp emits a permanent light.

6.3.1. The stops of propeller blade positions

The propeller producer sets the end position stops of the blade angle adjustment, in order to suit the specific engine installed in the aircraft. Only the propeller producer can carry out the adjustment of the positions of these stops. If it is found out in operation, that there it is a more suitable setting for the end stops of the blades, it is only possible for changes to be made at the propeller producer´s plant.
The end position stop of the propeller blades at minimum angle is locked by two systems.

6.3.1.1. The main system 1

The main system is the electrical one. It operates in such a manner, that the end stop situated on the blade contacts and closes the electrical end switch and the blade then stops at the preset angle.

6.3.1.2. The back up system 2

Should the main system fail, the electrical servomotor is equipped with a duplicating end switch – on the minimum angle.

Checking the main system of stops.

When carrying out pre-flight checks the main system of propeller blade angle stops should always be checked. With engine not running, the propeller should be adjusted from the one end position to other. If the propeller adjustment stops in each end position in normal manner, the main stop system is in order.

WARNING

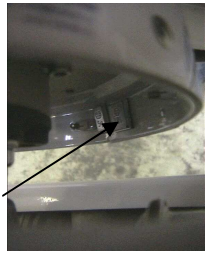
In the event of failure of the main stop system of blade angle adjustment, the propeller has to be removed from the aircraft and sent to the producer or to an authorised service centre for repair.

6.4. Spinner

The spinner is produced in two diameters:
237mm and 270mm.
Spinner material:

- Duralumin drawn metal – white, paint comaxit or polished (chromium) + transparent varnish comaxit

The spinner contains two disks.
The upper disk is bonded into the spinner and it is centred on the servomotor flange. The lower disk is riveted to the spinner. The whole spinner is fixed to the propeller by 9 stainless steel bolts.



The spinner is used for final balancing of the complete propeller, by means of balancing weights glued inside the lower disk and held there by centrifugal force.

Self-adhesive weight

Colored

spinners

6.5. Control units

6.5.1. Manual control regime

The manual control can be situated either on the control stick or on the instrument panel.

6.5.1.1. Control on the control stick

On the top of control stick is a grip with a rocket switch to control the servomotor mechanism for blade adjustment.
On the instrument panel there is an indicator of blade position (square shaped).

The sense of controllers and their functions – see the pictures below.

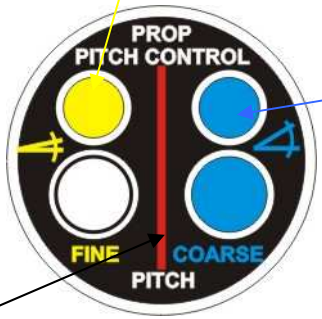
Adjustment of fine blade pitch angle

Adjustment of coarse blade pitch angle

6.5.1.2. Control on the instrument panel

A rectangular signal device of blade position is situated on the instrument panel.

Sense of controller and functions are seen in the following picture:



Yellow lamp for adjustment of fine angle. Blinks when adjusting to fine angle. Shines when the position (stop) of minimum angle is reached.

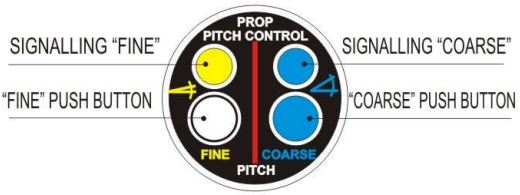
Blue lamp for adjusting the coarse angle. Blinks when adjusting to coarse angle. Shines when the position (stop) of maximum angle is reached

Buttoms for blade angle adjustment : COARSE – adjustment to a coarser angle, FINE – adjustment to a finer angle

Control on the instrument panel
SR 3000 PITCH CONTROL EQUIPMENT

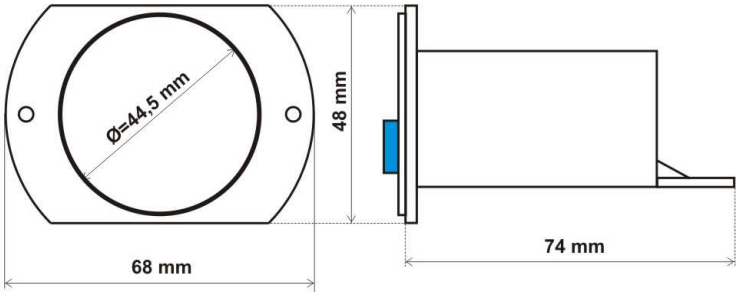
FROM 2006-01-01

OPERATING

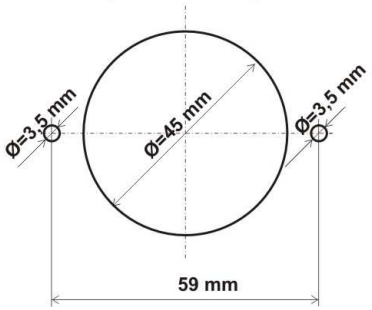


SIGNALLING

PROPORTIONS



MOUNTING



6.5.2 **PROPELLER GOVERNOR CS-5 (CS-6)**

Operating instructions.

CS-5 propeller governor is used to control SR3000 propellers. It offers two modes:

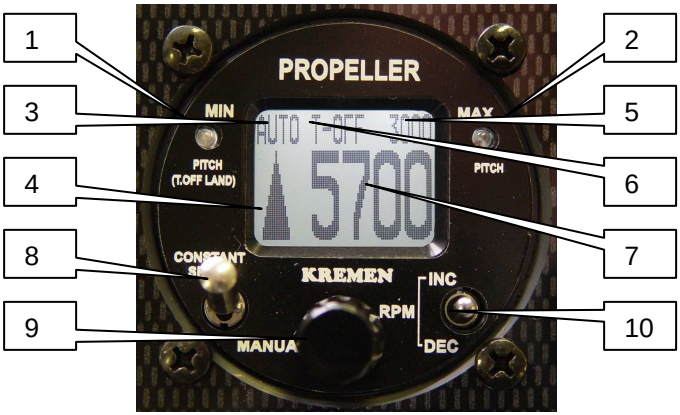
AUTOMATIC – the instrument compares engine rpm with preset value and controls the propeller so that rpms are always within defined tolerance (constant speed).

MANUAL - the pilot controls propeller pitch as necessary according to current flight mode.

Conditions for using CS-5 (CS-6)

- Before installation of CS-5 (CS-6) into your plane, study this manual thoroughly.
- The pilot must completely understand operation of the controller; do not use the controller without complete knowledge.
- Always have this manual ready in the cockpit.
- After installation of CS-5 (CS-6), perform a test flight, switching on your instruments one by one, to discover possible interference from another instrument/system, which could influence the operation CS-5 (CS-6).
- CS-5 (CS-6) connects directly to propeller pitch adjustment mechanism. When the above mentioned instructions are not complied with or in case of a failure, propeller pitch can be inadvertently changed.

If you do not agree with these conditions, do not install CS-5 (CS-6) into your plane!



Operating controls and symbols:
1 – Indicator of “minimum propeller pitch reached” in manual and automatic modes.
2 - Indicator of “maximum propeller pitch reached” in manual and automatic modes.
3 - AUTO is shown confirming that control is in automatic mode.
4 – Arrow shows change of propeller pitch about to occur:
Δ decrease of pitch, engine rpm will increase.
∇ increase of pitch, engine rpm will decrease.
5 – Current engine rpm.
6 – Indication T-OFF (take-off) or CRUISE (level flight) – indication of fast mode switch.
7 – Predefined (required) engine rpm; propeller pitch will be constantly adjusted to maintain required engine rpm (constant speed).
8 – Switches automatic/manual mode; this switch has detents for two positions.
9 – Pitch/rpm setting knob.
10 – Propeller control switch:
In manual mode: INC – rpm will increase, DEC – rpm will decrease.
In automatic mode: fast switching of T-OFF / CRUISE modes (if this feature is activated)

Control operation
AUTOMATIC mode
CS-5 (CS-6) activates when you turn on plane’s electrical system.
To set the control before flight, set switch 8 with detent to MANUAL mode, display shows MANUAL mode, then press button 9 for 2 seconds to highlight Done, then switch 8 with detent to to CONSTANT SPEED mode – Done stays on, please wait 2 seconds and you may then browse control instrument’s menus by turning the knob to the right and left; the following adjustments are available:

- RPM T-OFF : preset rpm for fast switching to T-OFF (take-off) mode. (Upper limit set from the factory is 5700rpm.) If you want to decrease this limit, press 9 to highlight preset rpm value, and then turn 9 to change the value. By pressing 9, you confirm the change and save it to instrument’s memory. Further turning of 9 highlights next menu item.
- RPM Cruise (level flight rpm): preset rpm for fast switching to CRUISE (flight) mode. (Upper limit set from the factory is 5700 rpm, lower limit set from the factory is 4000 rpm – this means that user can only change the setting within these limits!) If you want to change this value, press 9 to

highlight preset rpm value, and then turn 9 to change the value. By pressing 9, you confirm the change and save it to instrument's memory. Further turning of 9 highlights next menu item.

- Display : user may switch normal/inverted display of values. Press 9 to highlight current setting, turn 9 to the left or right to switch display mode, then confirm by pressing 9. Further turning of 9 highlights next menu item.
- Contrast : setting of display contrast. To change the setting, press 9 to highlight the setting, turn 9 to change the value, then confirm by pressing 9. Further turning of 9 highlights next menu item.
- Brightness : setting of display brightness. To change the setting, press 9 to highlight the setting, turn 9 to change the value, then confirm by pressing 9. Further turning of 9 highlights next menu item.
- LED Brightness: setting of brightness of LEDs 1 and 2. To change the setting, press 9 to highlight the setting, turn 9 to change the value, then confirm by pressing 9. Further turning of 9 highlights next menu item.
- Language: switching of display language, To change the setting, press 9 to highlight the setting, turn 9 to change the value (CZE=Czech, ENG=English…), then confirm by pressing 9.
- ---
- All subsequent menu items are preset by manufacturer and user cannot change them!
- Password : used for factory inspection.
- RPM disp : display of current rpm 5 is rounded to 50 rpm – preset by manufacturer.
- RPM step: presetting of engine rpm 7 is available in 100rpm steps – preset by manufacturer.
- RPM min (Min rpm limit): preset lowest rpm for all modes (CONSTANT SPEED, VZLET and LET)
- RPM max (Max rpm limit): preset highest rpm for all modes (CONSTANT SPEED, T-Off and Cruise)
- RPM mul (Rpm ratio): input multiplier (rpm pulse input)
- Dead band (Insensitivity): instrument insensitivity band – HYSTERESIS (if engine rpm changes within this tolerance, the instrument does not change propeller pitch)
- Ext.Pot. (Ext. pot.): instrument can be controlled by external potentiometer.
- Rmp speed (Ramp speed): control of ramp-up speed of propeller pitch electric motor.
- Mo.sw.del : Setting of current protection of el.motor

- Control : Fast switching of T-OFF / CRUISE modes
- Motohours : the instrument accumulates actual engine-hours.

When you complete necessary all menu settings, turn 9 to the left to highlight Done, press 9, and the instrument will be in CONSTANT SPEED mode.
Before taking off, turn knob 9 to set required Take-off engine rpm.
(If fast switching of Take-off and Cruise modes has been activated in the menu, you may change take-off engine rpm by setting propeller control switch 10 to RPM INC position; display will show Take-off and preset rpm).
During take-off, propeller pitch is automatically controlled to prevent over-revving the engine.
After take-off, turn knob 9 to set required engine rpm for level flight (combined operation with MANIFOLD PRESSURE control instrument!)
(If fast switching of Take-off and Cruise modes has been activated in factory setting menu, engine rpm for level flight can be set by setting control switch 10 to RPM DEC position; display will show Cruise and preset engine rpm).
Use of knob 9 to change preset engine rpm will change preset rpm and Cruise indication disappears; newly set rpm is valid.
If current engine rpm 5 differs from set value 7 by more than 100rpm, the instrument changes propeller pitch. Example: set rpm is 5000 – if current rpm is 5150rpm, the instrument increases propeller pitch to reduce engine speed and to reach new equilibrium, with regard to set hysteresis, i.e. 100rpm – engine speed will drop below 5100rpm, but not below 4900rpm.
During active change of propeller pitch, display shows an arrow with the following meaning: arrow up = decreasing propeller pitch (increasing engine rpm) / arrow down = increasing propeller pitch (decreasing engine rpm).
If limits of propeller pitch are reached, LED 1 (minimum pitch) or LED 2 (maximum pitch) light up. At the same time, arrow 6 changes to arrow with limit line.

MANUAL MODE

You may switch to manual mode from CONSTANT SPEED mode (but not from menu mode) by pulling the switch 8 towards you, and then turning to MANUAL position.

Use switch 10 to control propeller pitch manually; RPM INC – propeller pitch is decreased and rpm increases – during this change of pitch, LED 1 blinks, and it lights up when lower limit is reached. RPM DEC – propeller pitch is increased and rpm decreases – during this change of pitch, LED 2 blinks, and it lights up when upper limit is reached

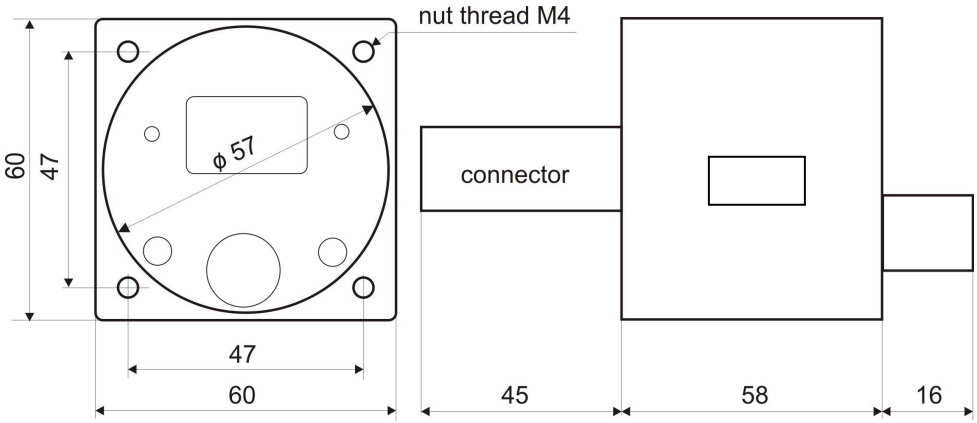
If switch 8 is in Constant speed position, you may turn knob 9 to set required Take-Off rpms.

Preset Take-off rpms may also be activated by pressing switch 10 to upper position (RPM INC). (Keep the switch pressed for 2 seconds.)

6.5.2.1

The dimensions of the CS-5 (CS-6) regulator

The installation of the CS-5 (CS-6) into the dash-board is in usual format 2 ¼", the dimensions are set in mm.



WARNING

1. **Before landing** the regulator should always to switched **into the max**. **RPM**

Explanation : **In case of failure in regime AUTOMAT change** the switch **to** the **MANUAL** position for manual control.

WARNING

Due to the time of the regulation system, needs to act it is necessary to avoid abruptly increasing RPM with the throttle .

NOTE

The propeller manufacturer advises equiping the aircraft with a manifold pressure measuring system to allow proper balance of propeller and engine function.
Without such an instrument it is difficult to ensure economical operation of the engine and to avoid excessive engine stress, due to incorrect propeller adjustment (for example a low RPM engine setting accompanied by excessive throttle opening).

7. Instructions for installation

7.1. Mounting and installation of cabling and instruments

The control panel instruments should be situated so as to be visible and accessible from both pilots' seats. A drilling template (supplied in the accessory kit) is used for positioning the instruments on the instrument panel. The wiring bundle in its ACHRU fire resistant sheath should be installed so as to follow the shortest possible route to the propeller. When passing through the firewall avoid contact with sharp edges and remain well clear of moving parts.When the bundle is a part of moving element, e.g. when installing the control elements in the control column, the radius of bending must be large.
The installation should also avoid contact with hot parts of engine radiating high temperature.
The fixation of the flange with carbon brushes on the Rotax engines is shown in the picture. The flange is mounted by means of 2 bolts, which screw into existing holes on the Rotax engine.
It is not necessary to interfere with the engine construction and drill new holes.

For Subaru engines it is not possible to use the system of placing the slip brass way on the propeller, because the upper reducer wheel prevents connection to the brushes. Due to that, the brass slipway with brush housing is situated behind the upper reducer wheel and only two cables are led to the propeller, which go through the hollow shaft of the reducer.
Installation of the propeller on other types of engine should be discussed with the propeller producer.

7.2. Propeller installation

The propeller is mounted on the engine flange using 6 p-s of bolts M 8, which protrude from the near of thepropeller. When seating the propeller it is necessary to be careful, not to damage the carbon brushes, which supply the electric power to the propeller. The carbon brush housing flange must be made free and shifted to its rear position. The propeller is gently pushed on to the propeller flange by hand and self-locking nuts M8 are tightened from behind the propeller progressively in proper sequence by means of side spanner. Final tightening is done with a torque spanner set at 22 Nm. After checking this final tightening, the carbon brush housing is adjusted according to the given scheme. While turning the propeller by hand it should be checked that the carbon brushes seat properly in the centres of the brass slipways, and make contact with their entire surfaces.

7.3. Checking the installation

Switch on the electric power source and check the propeller functions:

1. Switch on the electric master switch.
2. Check the function of the cradle switch on the control column, or the switch on the instrument panel, the function of the switching off propeller end positions and signalling the propeller blade adjustment
   - when adjusting to a finer angle the yellow lamp should blink
   - when switching off in end position after reaching the minimum (fine) angle the yellow lamp shines continnously.
   - when adjusting to a coarse angle the red lamp blinks
   - when switching off in end position after reaching the macimum (coarse) angle the red lamp shines continnously.
3. When making the pre-flight inspection check the main stop system. With the engine not running, cycle the propeller from one end position to the other. The main system is functioning normally if the propeller reaches its end positions and adjustment is stopped there.
4.

WARNING

In case of failure of the main stop system, the propeller must be removed and sent for repair to the producer or to the authorised service centre.

5. Adjust the propeller approximately for the middle angle of incidence of the blades and carry out the engine test on the ground. During the engine ground test there must not occur any excessive vibration or unusual noise.

WARNING NOTICE

At maximum engine power output and at adjustment of the minimum fine angle of blades, engine overspeeding can occur. The RPM counter must be carefully monitored.

When making the engine ground test with the aircraft stationary, never adjust the max. coarse angle on the propeller when the engine runs at maximum power (full throttle). This may produce stall flutter on the propeller with subsequent damage.

8. Inspections

8.1. The pre-flight inspection

Before each flight, the following should be carried out:

- visual inspection of the condition of blades, their leading and trailing edges, condition of the root parts of the blades
- visual inspection of the spinner condition and fixing to the propeller
- checking the propeller fixing to the engine
- checking the main stop system – see 6.3.2.

8.2. Periodical inspections

Periodical inspections have to be carried out by the propeller producer or by an authorised service centre at the following time intervals:

Hours of operation	Place of work	Carried out by
25 hours	On the aircraft	Authorised mechanic
150 hours	On the aircraft	Authorised mechanic
300 hours	Service centre	Producer or Service centre
450 hours	On the aircraft	Authorised mechanic
600 hours	Service centre	Producer or Service centre
750 hours	On the aircraft	Authorised mechanic
900 hours	Service centre	Producer or Service centre
1.050 hours	On the aircraft	Authorised mechanic
1.200 hours	Plant of producer	Producer

WARNING

A record of these periodical inspections of the propeller must be kept in the propeller logbook.

8.3. Special inspections

A special inspection can be requested in cases, when there is in question the installation of propeller on an engine, which is not listed in 3.1

In the case of significant blade damage, impact of significant foreign object on the propeller or when overspeeding of the propeller by more than 200 rpm has occured, it is necessary to transport the propeller to the producer, for the test of frequency vibration of the blades to be carried out.

WARNING
A record of any special inspection must be made in the propeller logbook.

8.4. Overhaul

The period to overhaul is 1000 hours of operation. Only the producer may carry out propeller overhaul. The subsequent inspection system is identical with the system of inspections of a new propeller.

9. Maintenance

In normal operation the propeller does not require any special maintenance.
In case of propeller contamination wash its surface with a cloth dipped in warm water with addition of household detergent.

WARNING
No other cleaning means or solvents are allowed.

10. Repairs

The operator is allowed to:

- Carry out the repair of the common minor damage of the leading edge, up to size of defect of 4 mm. The repair is to be done using an epoxy-based resin with filler. The damaged area is degreased and filled with resin. After hardening the resin can be ground smooth and the surface protected with epoxy or polyurethane enamel or varnish.
- Replace parts supplied by the producer: carbon brushes, spinner, control unit, regulator CS-5 (CS-6), cabling
- Remove the spinner from the propeller. Other dismantling is forbidden.

WARNING
The repair of damage of larger extent must be carried out by the producer or by an authorised service centre.

11. Problems and their elimination.

The following problems may occur during the propeller operation:

Problem	Possible reason	Elimination
Vibration in flight or on the ground	Static imbalance of the propeller	Check on the ground that the balance weights inside the spinner are not missing and that there are no missing broken parts of the blades, which could cause the imbalance.
	Aerodynamic imbalance of the propeller	Check on the ground, with engine out of operation, if all three blades are adjusting simultaneously and smoothly. These defects can be eliminated only in the producer plant or in the service centre of the firm.
The propeller does not adjust the blades and the signal device blinks.	Broken, worn or wrong contact of carbon brushes.	Replace or adjust the brushes. Check according to the diagram if there is proper electrical connection of propeller and of electrical joints. Other faults can be eliminated only in the producer´s plant or in the service centre of the firm.
Lubricants escape	Within the first 25 hours of operation there may be slight leak age of lubricant from the propeller, which has been used for its conservation.	Clean the propeller with a cloth dipped in slightly warm water with added detergent
	Any other escape signals damage of the rubber tightening rings.	Replacement is possible in the producer´s plant only or in the service centre of the firm.

12. Transport and storage

12.1. Propeller supply

The propeller is supplied as a complete set, including the full cabling, controllers, signal devices, powering brushes and fixing elements of the propeller and also the necessary documentation.

12.2. Transport

Propellers are prone to damage during transport, so they are generally delivered in a wooden transport case, which can carry up to two SR 3000 propellers. The propeller is firmly fixed in the case by six M8 bolts and silica gel is added to the case. The transport case is to be returned to the producer. When calculating the consignment, the price for the case mass (50 kg) is automatically added and also the price for return of the case to producer premises.
It is also possible to transport the propeller by forwarding firm, which nevertheless must guarantee the safe forwarding of the propeller to the client. The propeller packed for this manner of transport is not equipped with a returning case, it is packed only in such a manner, as to comply with smaller transporting demands. In both cases the propeller is forwarded in the assembled state.
Note: In case of transport for overhaul, the propeller may be transported in a dismantled state.

When the client transports the propeller to the producer, it is in the responsibility of the former to pack it in such a manner, as to prevent its damage during transport.

12.3. The responsibility for transport

The producer is responsible for the proper packing of the propeller from the moment of leaving the plant, until it is taken over by the forwarding company. Then the forwarder takes over responsibility. The client, when receiving the propeller from the forwarder, should check visually that the packing of the propeller is not damaged.
In case of packing damage it is necessary to unpack the propeller in the presence of the forwarder, to check for and claim for any possible damage from the forwarder.

12.4. Storage

12.4.1. The manner of storage

The propeller can be stored horizontally or vertically, but only in such a way that it is supported by the six M8 fixing bolts attaching it to the pad. In eithe case the ends of the blades must not support the propeller.

WARNING

It is forbidden to store the propeller in such a manner, that it is put on the ends of two blades and supported by the wall. During such long-term storage distortion of the blades will occur.

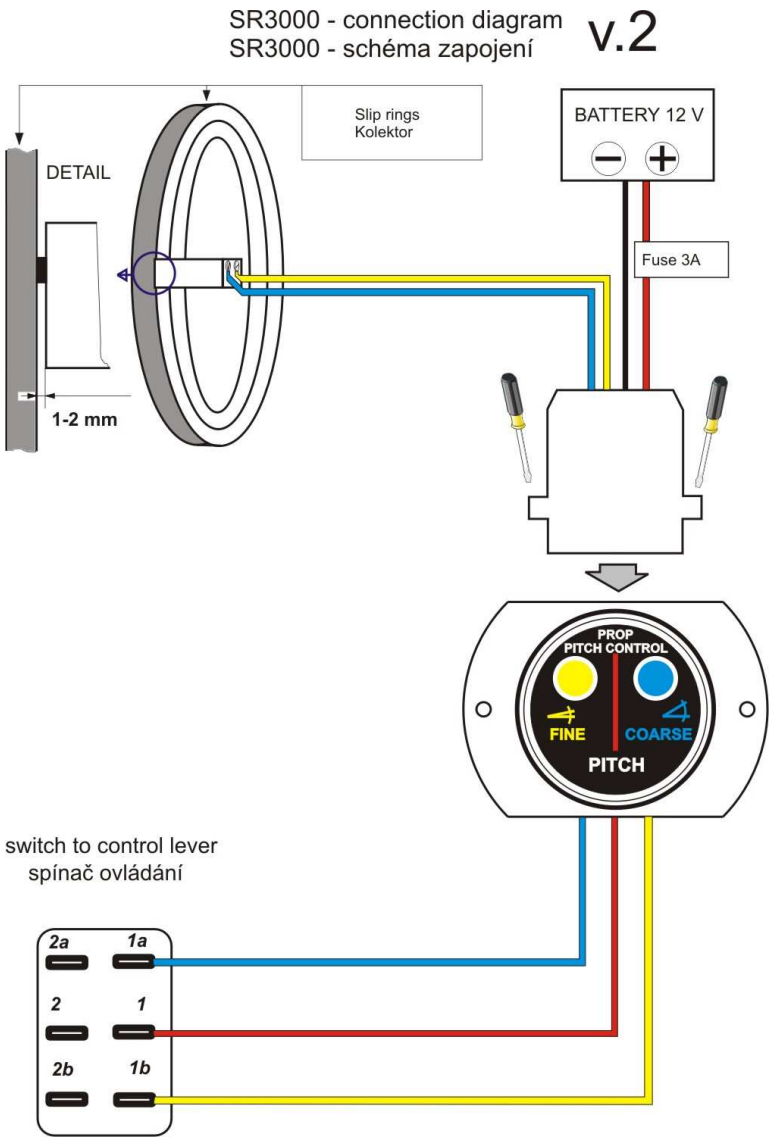
12.4.2. Climatic conditions

Normal room temperature and relative humidity up to 80%.

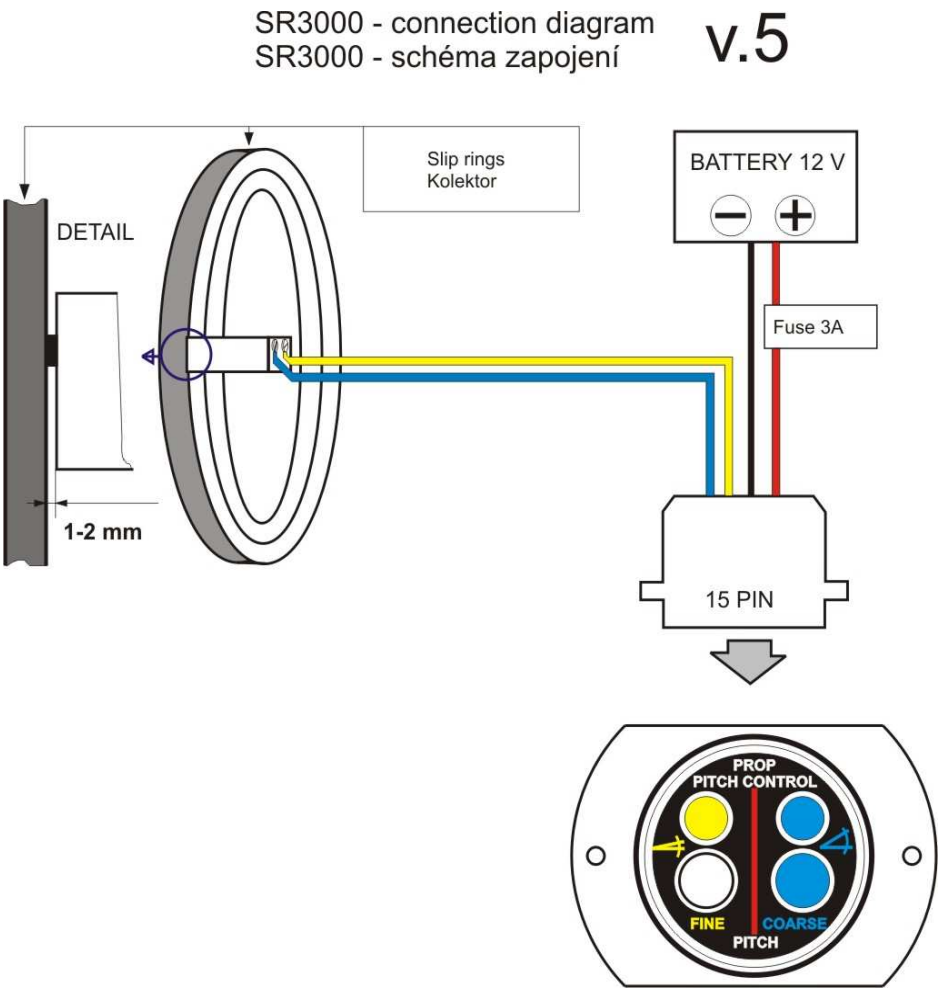
12.4.3. Time of storage

The longest time of storage, during which the propeller does not need be subject to inspection by the producer, is 1 year when kept in the above-mentioned conditions.

13. Control on the control stick + circular signal instrument

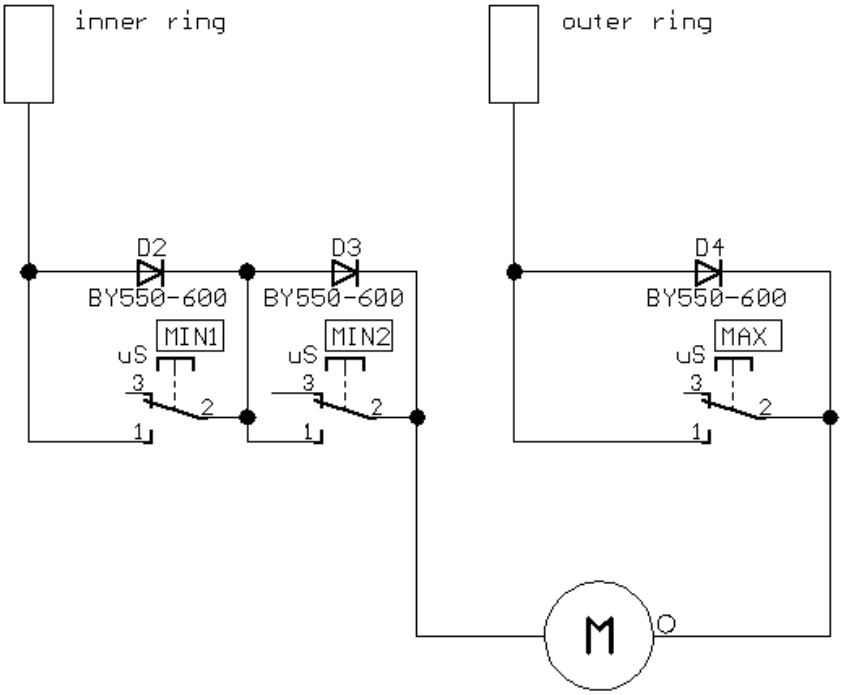


14. Control on the instrument panel + circular signal instrument



15.

connection diagram SR3000



BY550-600 - diode 600V, 5A

16. CS-5 (CS-6) – connection