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USE AND MAINTENANCE'S HANDBOOK

For fixed pitch propellers

Mod. **GT-2/166/145-FW100SRTC**

Mod. **GT-2/166/145-FW101SRTC**

Mod. **GT-2/166/145-FW100SLPC**

Mod. **GT-2/166/145-FW101SLPC**

Mod. **GT-2/173/155-FW101SRTC**

Mod. **GT-2/173/155-FW101SLPC**

and similar

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THIS HANDBOOK SUBSTITUTES THE N° I-001/96

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And similar

Rev 2
25/09/2015

RECORD OF REVISIONS

Any revision or amendments of this handbook will be emit in the form of service Bulletins with the new pages enclosed.
It is a job of everyone User to incorporate any revision in the Revision Table and to remove the affected pages and insert the new pages.
Added and revised pages will be identified by a vertical line on the front edge of the page and a revision number and issue date will be indicated at the bottom of the page, inside corner.

Copies of the following publication can be demanded to:
GT PROPELLERS – Via del Commercio 7 – 47838 Riccione (RN).

Eventual errors found in this handbook or suggestions will have to be marked to Company GT PROPELLERS.

Rev. N°	Pages affected	Issue Date	Date of insertion	Signature
0 (original)	All	01.03.2008	01.03.2008	GT PROPELLERS
1	A, i, 3	30.01.2012	30.01.2012	GT PROPELLERS
2	A, i, ii, 15,18,19	05.08.2015	05.08.2015	GT PROPELLERS

LIST OF EFFECTIVE PAGES

Issue date of the original pages is:

Original 0	1st March 2008
Revision 1	30th January 2012
Revision 2	25th September 2015

This handbook is in total composed of 32 pages as bellow specified:

Page n°	Revision
Frontispiece	2
A	2
i - ii	2
iii	0
iv	white
1	0
2	white
3	1
4	white
5 - 9	0
10	white
11 - 14	0
15 - 16	2
17	0
18 - 19	2
20 - 21	0
22	white
23 - 26	0

NOTE

- **This handbook is valid only if it is composed from above listed pages corrected added.**
- **All the pages that are superseded from others revised should be removed from the manual and destroyed.**

CONTENT'S INDEX

ILLUSTRATION'S INDEX

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1.1 PROPELLER DESIGNATION

The information's concerning the propeller unit designation are container in the Rating of Specification RAI E 26 on the 10/11/1995 or following revisions, like follows:

GT - 2/ 166/ 145- FW 100 S RT C

(A) (B) (C) (D) (E) (F) (G) (H) (I)
! ! ! ! ! ! ! ! !
! ! ! ! ! ! ! ! !
! ! ! ! ! ! ! ! central
! ! ! ! ! ! ! ! hole
! ! ! ! ! ! ! ! code
! ! ! ! ! ! ! !
! ! ! ! ! ! ! assembly and
! ! ! ! ! ! ! rotation code
! ! ! ! ! ! !
! ! ! ! ! ! blade tipping
! ! ! ! ! !
! ! ! ! ! key number hub connection
! ! ! ! !
! ! ! ! material code
! ! ! !
! ! ! pitch
! ! !
! ! diameter
! !
! blades n.
!
Factory

EXAMPLE

A = **GT** made by **GT Propellers**
B = **2** : 2 blade propeller; **3** : 3 blade propeller; **4** : 4 blade propeller
C = **166** propeller diameter in cm
D = **145** propeller pitch in cm
E = **FW :** maple and fibreglass; **FA** : ash and fibreglass
F = **N°** n. of 3 digits (accordion to manufacturer list)
G = **S** : standard in ammino polymer
H = **RT** : right hand tractor; **LT** : left hand tractor
RP : right hand pusher: **LP** : left hand pusher
I = **C** : cylindrical; **K** : conical

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2.1 GENERAL CHARACTERISTICS

The propeller mod. **GT-2/166/145-FW100 (101) SRTC (SLPC)** is produced by **GT Propellers** of Riccione – Italy.
This propeller is designed to be installed on 80 Hp ROTAX 912 engine.
For the 100 Hp Rotax 912 S and 912 ULS engines, an upgraded propeller with bigger pitch and diameter is adopted. The model **GT2/173/155-FW101 SRTC** follows the same constructions procedures with same limitations reported on approved manual.
The **GT2-173/155-FW101 SRTC** is EASA certified with TCDS E 108 in compliance with CS22 specifications.

It's a 2 blades fixed pitch propeller, its base is made of wood and it has fibreglass reinforcements.

Its low weight with relative low moment of inertia (3240 Kgcm2) allows it to obtain excellent response to accelerations/decelerations of the engine, the propeller allows it to turn in a very regular way and produces low gyroscopically effects.

The special amino-polymer blade tipping is another particular characteristic that makes the propeller to be highly efficient.

NOTE

When a propeller is ordered it has to be specified the kind of engine and aircraft on which it has to operate as well as the desired diameter.

2.2 EQUIPMENTS AND USED MATERIAL

- Dynamometric wrench from 0 to 60 Nm
- Socket dynamometric wrench to ½ inch.
- Lock wire steel
- Calibre
- Cutter
- Magnifying glass to 20
- Blade cover
- Cleaner not abrasive
- Shinning wax without silicone
- Humid abrasive paper grain 240

NOTE

For specific usage materials (plastering, paint, resin, solvents, etc.) contact the manufacturers.

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3.1 OPERATING LIMITATIONS

1. The propeller mod. **GT-2/166/145-FW100(101) SRTC(SLPC)** is projected to operate on aircrafts motorized by ROTAX 912 (59,6 kw – 80 HP).

2. The maximum rotation speed to which it has to operate is 2555 rpm that corresponds to 5800 rpm of the engine

3. The propeller must not operate over the rotation speed above mentioned.

IMPORTANT

In the case the propeller would operate at over speed for a value exceeding of 5% the maximum (2.683 rpm) rotation speed and not beyond the maximum time of 20 seconds, it must be removed and sent back to the Factory for the necessary corrective procedures.

In the case the propeller would operate at any value of over speed for any period of time, it must be removed and sent back to the Factory that, after the necessary verifications, will judge whether to do an overhaul or eventually put it out of service (See par. 6.9.1).

4. The nominal diameter is about 1660 mm.

NOTE

Reductions below the measure are not allowed.

5. Due to the considerable moment of inertia, it's advisable not to suddenly change the engine rotation speed in the air as well as on the ground. This violent and abrupt effect could cause failures to the reduction gear, to the engine and it could produce deformations to the blades fixing holes.

6. The maximum admissible temperature by the blade's cover and tipping is 176°F.

7. The GT propeller has been projected to operate on ultra light aircrafts, lights and experimental aircrafts.

8. The propeller must not operate over the rotation speed mentioned by the engine's or reducer's factory.

9. The maximum admissible turn speed depends on the diameter of the blade as well as on the engine's limits. The bigger the diameter is, the slower the propeller should rotate for not to exceed to periphery speed limit.

10. The equation that defines the periphery speed on the propeller tip is done as follows:

$Vp = (2 \times \pi \times R \times rpm) / 60$

Where:

Vp = periphery speed (m/sec.)
R = propeller diameter (m.)
rpm = maximum rotation speed (m/sec.)

Sound speed a= 340 m/sec.

Vp max = 0,78 x a = 0,78 x 340 = 266 m/sec.

IMPORTANT

In the case in which the periphery speed would exceed the maximum value of 166m/s, the propeller must be removed and sent back to the Factory that, after the necessary verifications, will judge if whether to overhaul or eventually put it out of service (See par. 6.9.1).

ATTENTION

The propeller user has to accurately follow this instruction otherwise the correct functioning of the product could be compromised.

4.1 PROPELLER CONSTRUCTION

Basic material used for the construction of the propeller is Western Maple wood carefully selected for this special application.
Client's the above mentioned material is preserved and conditioned according to the importer upon request specifics and continuously tested in order to observe the quality norms.

The propeller can be fully or partially covered with different materials (fibreglass, carbon fibre, Kevlar).

The propeller is obtained by the so called "propeller block" set up by 7 wood planks stuck together with ureic resin; they are highly resistant able to resist humidity and temperature variations (see Fig. 4-1).

The high density stratify construction allows to obtain a product lacking in any propeller twist and/or fissure default.

Rigorous checks in the construction phase allow a high quality production.

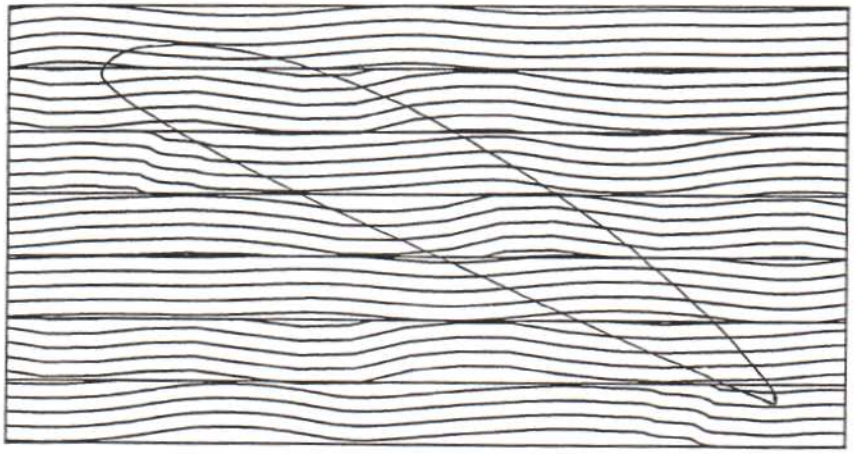

FIG. 4-1 SECTION VIEW OF THE PROPELLER BLOCK

4.2 BLADE TIPPING

In order to obtain particular propeller usages, like sailplane use, grass and/or gravel fields, raining conditions etc. the leading edge is protected by a blade tipping.

The blade tipping covers a conspicuous part of the leading edge up (about 2/3) to the tip of the propeller.

It is protected by a amniopolymer plastic material that has showed to be resistant in extreme conditions, to be elastic and last to the strangest stresses that can occur in each condition of usage.

The blade tipping is kept attached by some polymer material pins fixed in some holes made on the wood and it can be replaced from the Factory in breakage case. (see Fig 4-2)

If required, the blade tipping can be done of structural shape brass extrusions, fixed on the leading edge by glue and rivets.

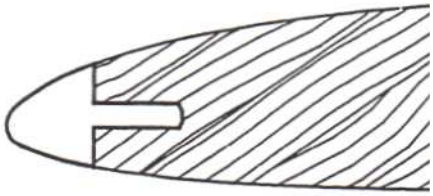

Fig. 4-2 SECTION VIEW OF BLADE TIPPING

4.3 FIBREGLASS REINFORCEMENT

In order to further improve the hardness and rigidity of the propeller, the blade is submit to a particular fibreglass coating, applied through a polyester resin.

Such process allows to obtain both superficial hardness and elastics. The blade will be more resistant to hits and cracks.

A further benefit of this is an excellent insensivity to the propeller twist and an adequate dimensional stability.

4.4 FINISHING AND BALANCING

The propeller is subject to different phase of finishing and balancing.

1. Firstly a protection of primer spray putty is applied to obtain a highly polished and uniform surface. In this way an hardness increased is obtained.

2. A layer of white polyhuretane lacquer is applied to obtain the required color and an excellent erosion resistance, to moisture and harmful agents like oil, fuel and other chemical products.

3. The polyhuretane lacquer is already UV ray proof but to improve this effect a further transparent lacquer layer is applied that adds aesthetic to the propeller.

4. In order to avoid dangerous light flashes to the pilot, the trust side of the blade is matt-black coulored.

5. Finally, the tips are painted in yellow and red strips in order to obtain, with the rotation, an evident disk to improve ground operators safety.

6. During all the phases, the propeller is also subject to different and rigorous balancing checks Any unbalance is corrected by adding spry filler or transparent lacquer , it depends on the phase. of eventual propeller unbalancing is eliminated by hand sanding with fine abrasive paper humidly applied on the heavier blade.

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5.1 PROPELLER ASSEMBLY ON THE ENGINE

WARNING

The propeller assembly on the engine has to be done from the Factory's operators or someone allowed from it.

WARNING

In order to avoid an accidental engine turn-on, that could be cause of a danger for the assembly staff, make sure that no one is in the cab and the switch and the key are in an "OFF" position.
Make sure that the magnets are uninsert and that the aircraft's wheels are braked.

NOTE

Before proceeding to the hub assembly on an engine fixed on an aircraft, make sure that the place is clean from sand or other impurities.

1. Make sure that the propeller model is the right one for the engine/airctaft considered.

2. Check that the propeller is not damaged and is perfectly clean especially in the central hub hole and in the fixing holes.

3. If necessary proceed to clean the propeller as wall as the hub flange before the assembly using a gentle and not abrasive detergent. Dry perfectly all the surfaces.

4. In case of used propeller assembly, carefully verify the absence of scratches, cracks, abrasion and corrosion.

WARNING

Do not use oil in any part of the propeller during the assembly.

NOTE

Before the assembly on the engine of a used propeller, check in the propeller Book the total usage time and all the maintenance works planned on it to which it has or not been subjected during its operative life. In any doubt repeat the periodic inspection correspondent to its operating time and note it on the Book.

5. Put the propeller on the hub flange of the engine using a center-rome to obtain a perfect axial positioning.

6. Insert the 6 M8 fixing bolts from the back in the engine flange.

7. Assemble the frontal flange and the 6 plane washers and respective bolts.

NOTE
Make sure that the bolts are of the right kind and length before the assembly and make sure they respect the aircraft Factory's specifics.

8 Tighten the bolts using a dynamometric-spanner proceeding in cross alternate way and diametrically opposite in two phases (first phase 10Nm, second phase 16-18 Nm).

WARNING
These value of tighten torque are referred to dry bolts that must not be greased for any reason.

9 Visually check that the propeller and respective hub flange are perfectly adherent.

NOTE
No minimum space has to be between them.

10 Check the rotation disc centring of the propeller group as follows:

a. Fix a metal or wood bar long enough to the force leg of the front aircraft gear in such a way that it cannot move.

b. Rotate the propeller by hand till the bar and blade's tip are aligned.

c. Sign wit a pencil or a plaster the lower camber of the blade on the bar.

d. Rotate the propeller of 180° and repeat the same procedure for the second blade without moving the bar.

e. If the assembly has been done properly the signs are less than 2mm far away from each other maintaining the parallelism.

f. Otherwise (gap more than +/- 2mm) the propeller group rotation disc is not in the allowed limits. Proceed in this case to the propeller disassembly and to the new assembly with a 180° inversion.

g. After the second assembly repeat the measurements described in the previous parts.

h. If the problem is still present it could be necessary to tighten some of the blade fixing bolts (1 Nm), for reaching the allowed values but not exceed the maximum serration value of 18 Nm.

NOTE

If , after this adjustments, the propeller group rotation disc is not in the allowed limits yet contact the factory for corrective measures or sent back the propeller group itself.

WARNING

Don’t use empirical way to correct the rotation disc centring (like paper or such interposed between the propeller hub and the engine flange).

11. Block the nuts through the specific brake wire joining them.

NOTE

Report on the propeller Book the propeller assembly along with the date and working hours.

5.2 PROPELLER DISASSEMBLY FROM THE ENGINE

WARNING

In order to avoid an accidental engine turn-on, that could be cause of a danger for the assembly staff, make sure that none is in the cab and the switch and the key are in an “OFF” position.
Make sure that the magnets are uninsert and that the aircraft’s wheels are braked.

NOTE

Before proceeding to the hub assembly on an engine fixed on an aircraft, make sure that the place is clean from sand or other impurities.

1. Firstly do always a sight check of the propeller.

2. Cut the brake wires of the propeller fixing nuts of the hub on the engine flange.

3 Loose and remove in crossing way the 6 fixing nuts.

4 Remove the 6 washers and the frontal flange.

5 Gently remove the propeller from the hub.

6 Check the propeller for any damage, especially on the two sides of the hub usually hidden by the propeller hub (FLANGE)

7 Remove the six M8 bolts from the hub.

8. Position the blade in its original box in horizontal position, far from heat sources, protected by humidity and temperature excursion.

9. Store the bolts, the washers and the nuts along with the propeller. These parts have to follow the propeller in each movement.

WARNING

The blades shouldn't be stored in vertical position, standing on the tips, even for a short period of time.

NOTE

Remember to write on the Book the date and the blade time usage after the disassembly.

5.3 SPINNER ASSEMBLY

Before starting the propeller's assembly on the engine it's advisable to assemble the spinner's flange (plate) on the former in such a way that after the propeller assembly it will be possible to put the spinner, make sure that the holes on it and on the plate perfectly aligned.

Tight the fixing bolts (normally eight) in a cross way.

6.1 CONTROLS AND INSPECTIONS

The propeller **GT-2/166/145-FW100 (101) SRTC (SLPC)** is a fiber glass reinforced wood propeller does not have a prefixed life limitation. It's only supposed to have an annual inspection like on par 6-8.

NOTE

- **For a safe and constant life of the propeller do not use it for pulling or pushing the aircraft. Use the proper fork instead.**

- **Report on the propeller group check book every periodic blade inspection, reporting the kind of inspection, the working hours and the date.**

WARNING

In order to avoid an accidental engine turn-on, that could be cause of a danger for the assembly staff, make sure that no one is in the cab and the switch and the key are in an "OFF" position.
Make sure that the magnets are not insert and that the aircraft's wheels are braked.

6.2 CONTROLS AFTER THE FIRST FLIGHT JUST AFTER THE GROUP PROPELLER ASSEMBLY

After the first flight, terminated the installation of the propellers on the engine, if installed, demount the spinner and check again the tightening torque of the six fixing bolts of the propellers at the engine's hub as follow

1. Cut the breaker wires of the propeller fixing nuts on the hub.
2. Check the serration of the bolts (16-18 Nm).

WARNING

Never loose the bolts but applicate only and ever the correct fastening bolts.

3. Repositioning the wire brake of the nuts joining in pair.

4. Mount the spinner being sure that the holes on dish and spinner matching up . Tighten the bolts (normally 8) with cross sequence.

6.3 REMOVED

6.4 DAILY PRE-FLIGHT INSPECTION

Do the following inspection as well as the ordinary checks reported on the aircraft check list:

1. Check blade surface conditions, making sure there are not cracks, swells or chips.

2. Check the leading and rear edges. Slight scratches in the outer lacquer due to light collisions with foreign objects or erosion are admissible. In case of light damages it could be useful to do the repairing procedure like in par 7.3.

NOTE

In any doubt or more serious damages case contact the Factory for corrective measures or sent back the propeller itself.

3. Because of the extremely elasticity and resistance of the amino polymer composing the tipping it is possible that some damages are not visible. The amino polymer in fact, come back in its original state even after very violent hits. Such hits are underlined with a wood deformations (see Fig. 6-1). To be sure of that, accurately check the boundary zone between the tipping and the wood of the blades.

WARNING

If a deformation overtakes is bigger than 1mm it has to be considered relevant and the Factory must be contacted.

NOTE

Every sign of flexion deformation between the tipping and the blade in the black trust back part are commonly indication of different ripple between the two.

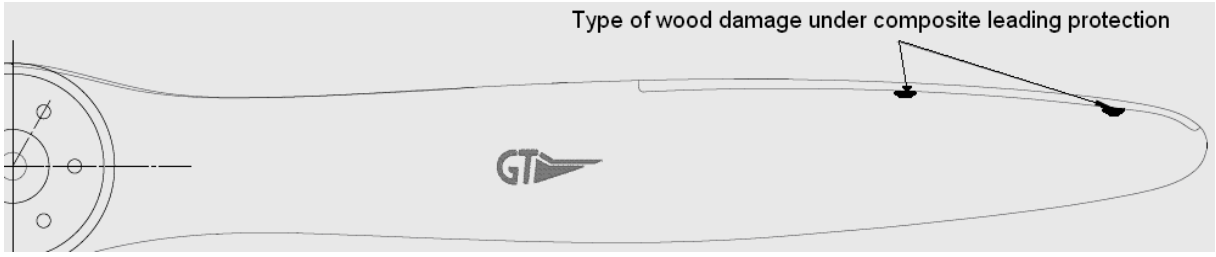

Fig. 6-1 KIND OF WOOD DEFORMATIONS UNDER THE TIPPING

4. Small superficial cracks of external lacquer are due to work vibrations and are not to be considered serious. However they must not be numerous and/or exceeding the layer of external lacquer. If the depth is instead higher and there is a possibility that some dirty or moisture could have been penetrated inside, therefore please contact the Factory.

5. Deep cracks to the extremity of the the blade in longitudinal development indicate a flexing vibration action and are to be considered dangerous because they can cause breakages or damages in advance state. (See Fig. 6-2)
   Send the propeller to the factory in case of such cracks.

6. Transversal cracks are due to torque vibrations and are normally caused by external lacquer layer drying. This phenomena is not caused by structural causes but it's advisable to contact the Factory, especially in case of deep cracks, (See Fig 6-3).

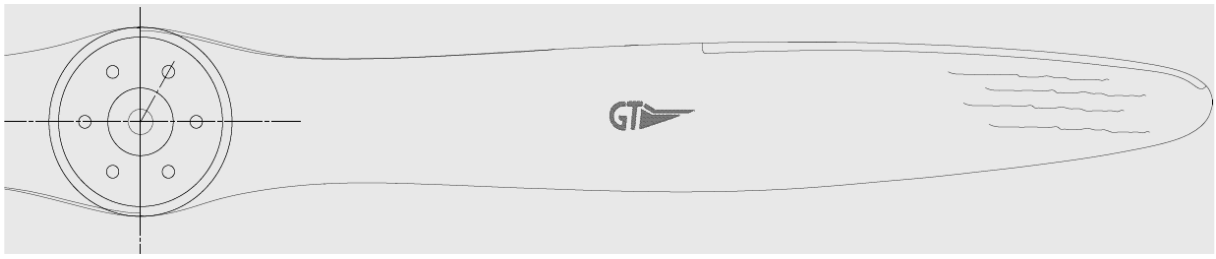

FIG 6-2 LONGITUDINAL CRACKS AT THE BLADE'S TIP
(NOT ACCEPTABLE)

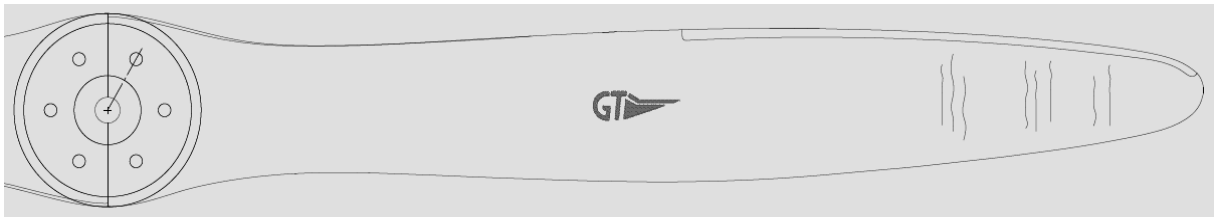

FIG 6-3 TRANSVERSAL CRACKS AT THE BLADE'S TIP
(NOT ACCEPTABLE IF DEEP)

7. Cuts on the fibre glass protection are not important as long as they don't expose the wood blade to be unprotected or air bubbles. Even the presence of air bubbles of diameter smaller than 2 mm don't compromise the good propeller functioning even if it's advisable to keep them under control regularly.

8. Longitudinal cracks in the hub area are to be considered dangerous; they need to be valuated by the Factory. (See fig 6-4).

NOTE

Clearly, the area of the hub, is perfectly inspected only on propellers which not have the spinner mounted .
On the propellers which have the spinner, we suggest to pay particular attention for possible presence of longitudinal cracks which may overflowing outside the area covered by the spinner.
In case it occurs or in case of doubt, remove the spinner and perform an accurate control in order to evaluating the severity of the problem.

9. Check the propeller rotation and make sure there are not acting manually on the same. In the case of little space, do the serration check of the fixing bolts of the propeller on the hub, like described in par 6.2.

WARNING

In the presence of big spaces or in trouble contact the Factory for the correcting checks or sent back the propeller.

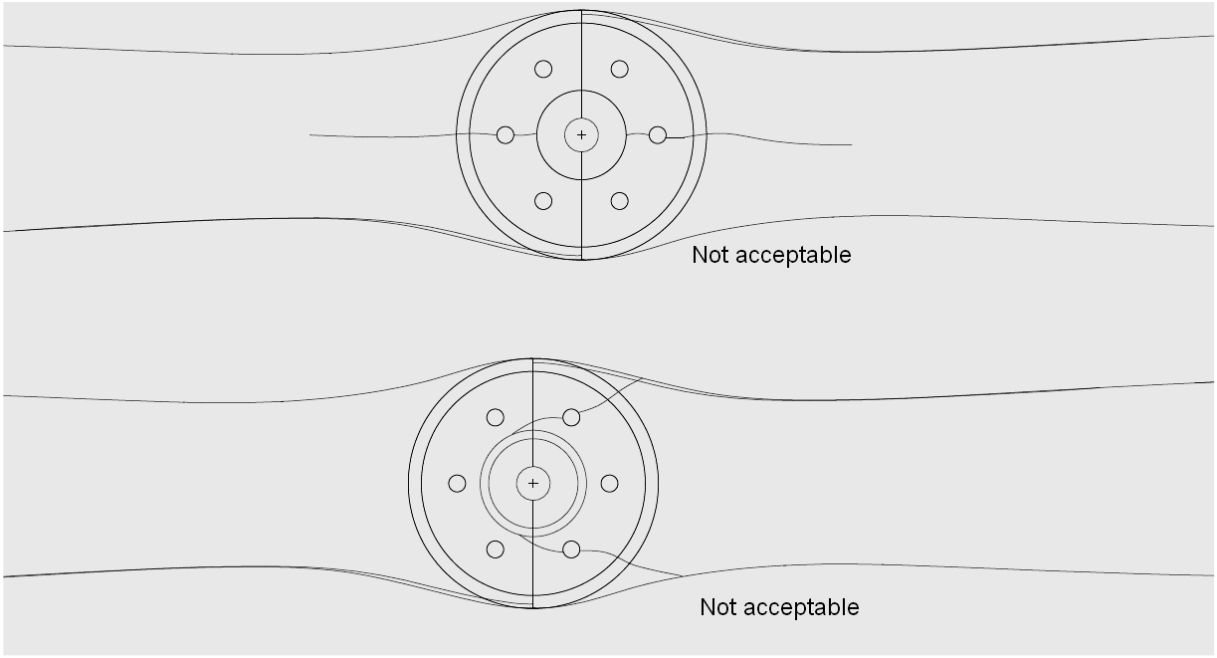

FIG 6-4 CRACKS ON THE HUB'S AREA

6.5 25 HOURS INSPECTION

In case of propeller assembly in trust position with engine discharges in correspondence of the rotation disc, check the propeller surface verifying the areas in the presence of discharge flows. Especially verify that:

1. On the lacquer layer there aren't wrinkle, bubbles or micro bubbles.

2. The tipping surface is immaculate and not deformed or unstuck from the blade.

6.6 50 HOURS INSPECTION

Repeat the daily controls as reported in par. 6.4 and check again the fixing bolts serration of the propeller on the hub as reported in par. 6.2.

On the propellers which mount the spinner, will be necessary to remove the spinner, in order to perform the check of the tightening torque of the bolts which fixing the propeller to the motor flange as required before, and in order to perform an accurate check of the hub's area for presence of longitudinal cracks (ref. Fig. 6-4) which are to be considered dangerous or however to be evaluated only by the manufacturer.

NOTE

- **The correct and ready valuation of the cracks can give information's about the blade's state.**

- **The presence of erosion on the leading edge is normal and unavoidable and does not represent a source of troubles.**

1. Accurately clean the blade using only neutral and not abrasive detergents and protect them with silicon free shining wax.

6.7 100 HOURS INSPECTION

Repeat the 50 hours inspections like reported in par 6.6 and verify that the central rotation disc centring is within the limits of +/- 2 mm, like reported in cap. 5.1 item 10.

6.8 ANNUAL INSPECTION

Do the following procedures after the daily checks reported in cap. 6.4:

1. Gently remove the propeller from the hub like descried in cap. 5.2, and chek for any damage, especially on the two sides of the hub normally hidden by the frontal and fixing flanges. (See Fig 6-4).

WARNING

- **Cracks beyond the lacquer layer are not admissible.**

- **Cracks on the surface can be repaired through another lacquer layer. (See par. 7.3)**

NOTE

Every material or product used for propeller repairing has to be original and suggested by the Factory.

WARNING

In any doubt or more serious damages case contact the Factory for corrective measures or sent back the propeller.

2. Accurately clean the blade using only neutral and not abrasive detergents and protect them with silicon free shining wax.

3. Assemble the propeller again on the engine like described in par: 5.1.

6.9 SPECIAL INSPECTIONS

WARNING

In case of little hits on the tip of the propeller, even of light entity, do always a check of the fixing bolt serration of the propeller on the engine flange like reported in par 6.2.

6.9.1 OVERSPEED

The maximum propeller group speed is 2.555 rpm.

1. In the case in which the propeller would operate at over speed for a value exceeding of 5% the maximum (2.6838 rpm) rotation speed and not beyond the maximum time of 20 seconds, it must be removed and sent to the Factory for the necessary corrective procedures.

2. In the case in which the propeller would operate at any value of over speed for any period of time, it must be removed and sent to the Factory that, after the necessary verifications, will judge if or not do a overhaul or eventually put it out of service (See par. 6.9.1).

6.10 SEVERE CONDITION USAGE

The time between inspections has to be shorter in extremely hot or cold temperature or extremely dry conditions. In particular operating conditions the serration of fixing bolts of the propeller to the engine flange cause the bolts to loose. In this case proceed to the correct serration like shown in par. 5.1. n. 8.

WARNING

Never loose the bolts but applicate only and ever the correct serration.

6.11 INACTIVITY PERIODS

If no flight activity is done for a long period (6 months, one year) no actions have to be done on the propeller group. In this case it's enough to do a ground test followed by a test flight in the presence of the aircraft and engine manufacturers too.
In case of flight inactivity it's a good rule to disassemble the propeller group from the engine (See par 5.2) and store it (See par. 8.1).

6.12 REVISIONS

As already said, the propeller **GT-2/166/145-FW100 (101) SRTC (SLPC)** has not a calendarial time for the revision due to its “On condition” state.
It could be necessary a deep check or a revision judge by the manufacturer in case of big damages, over speed, suspect able cases or accidentally not ordinary usage. The revision has to be done exclusively by the manufacturer.
After the revision the after revision hours will be reset to zero.

WARNING

Every instruction here reported is referred to a common product usage, that mean to a propeller assembly on a recreational aircraft/engine, or touring plane and not for aerobatic usage.
For any different employment particular instructions from the manufacturer have to be followed.

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7.1 MAINTENANCE AND REPAIRS

The propeller **GT-2/166/145-FW100(101) SRTC (SLPC)** is resistant to every climatic condition, as will as oil, petrol, and other chemical materials due to its quality and building method.

7.2 CLEAN

Once in a while the propeller has to be cleaned using only neutral and not abrasive detergents and protect them with silicon free shining wax.

The surface protection in epoxidic fibreglass is completely sealed up in order to avoid humidity infiltrations in the wooden part of the blade.

NOTE

In every cleaning up verify the presence of fissure of any kind.

In case of little fissure proceed with the repair through sealed like reported in par. 7-3. In case of a more important maintenance case the repair has to be done by the Factory or someone by it authorized

7.3 SMALL MAINTENANCE.

Little transversal or longitudinal fissure (0,1- 0,2 mm) not deep enough for reaching the wood underneath, abrasions and little dent (maximum depth 1mm) can be repaired in loco from the aircraft operator.

NOTE

Every material or product used for propeller repairing has to be original and suggested approved by the Factory.

If the repairs need little quantity of material (lacquer, filler, resin, ecc.) that will not cause unbalance, it can be done as follow:

1. Degrease the propeller with the right solvent
2. Sanding the area with humid abrasive paper of 240 or finer.
3. If necessary, filler apply with the specific sanding filler, re-sand and paint with specific lacquers. Let it dry very well.
4. If a second lacquer layer is necessary, let it dry for an adequate time before proceeding.

NOTE

The repairing has to be considered an emergency and temporary solution. Only the Factory can make the proper repairing required by the norms. Only the Factory can guarantee intervenes compatible with aero navigability rules.

WARNING

In case of humidity or dirt penetrations until the wood on part of the blade, don not proceed to a repairing but contact the Factory or sent back the propeller to it.

7.4 IMPORTANT REPAIRS

In case of big damages and/or repairs contact the Factory.

NOTE

After the opportune verifications the Factory has always the last word on whether to, if repair the propeller or put it out of usage.

Here there are some examples of some kind of important damages that make the propeller no more usable.

1. Deep longitudinal cracks (beyond the lacquer layer);

1. Any kind of damage on the tipping;

2. Any kind of damage on the hub;

3. Any kind of damage or cracks on the leading or trailing edge of the blade.

4. Damages on the tips of the blade

5. Everything not reported between the little entity breackages maintenance.

WARNING

We remind you the importance of contacting the Factory in case of any doubt.

8.1 TRANSPORT AND STORAGE

WARNING

Do not use the propeller as a handle to move the aircraft, use the apposite HANDLE.

8.2 TRANSPORT

We recommend to use the original packaging for transport to ensure necessary propeller Protection.
Make sure that during the transport the propeller is totally protected, especially the tips and the trailing edges in such a way that they don't touch the box itself.
In case of transport with facilities that do not guarantee the appropriate care, make sure to have an abundant quantity of internal fixing elements with protective materials (like sponges, expanded foams,…)

8.3 STORAGE

In case of flight inactivity it's a good rule to proceed to the propeller group disassembly from the engine (See par. 5.2) and the following way to store it.

WARNING

Never store the blades standing on the tips, even for short periods.

For a correct storage the propeller has to be put in its original box far from heat sources, without strong temperature tenements and high humidity.

NOTE

Report on the propeller Book the propeller disassembly along with the date and working hours.

In case of strong rain protect the aircraft with adequate covering.

WARNING

- **It’s forbidden the reproduction, even limited, of the information reported in this handbook without GT PROPELLERS authorization.**

- **Where, for a reason whichever, had to rebel a judicial argument, the parts like competent Hole exclusively that one of RIMINI (ITALY)**