Recreational Aircraft Assn. of New Zealand (Inc.)

Recreational Pilot e-zine

Issue 53
December 2011

From the RAANZ office

AGM2010 notes

The AGM was held at Rangiora on November 19. Thanks to the guys down there for hosting us. It certainly is an interesting place down there- hangars popping up everywhere, some new and interesting aircraft, and a sense that things are moving along.

Minutes of the AGM will be posted on the website and in the next RecPilot, but here's a quick summary of the AGM...

Executive- Welcome to new members Peter Collins (CRAC) and Rodger Ward (CRAC). Actually Rodger is a seriously old microlighter (member no 137) from way back in the early days of Dacs, Scouts and other such flying machines. Evan, George and Stuart have been re-elected for another 3-year term, and with Evan having completed his spell as President, Stuart drew the short straw on that one.

Remits- Passed unanimously.

General business- Discussion around the age of most pilots and the executive. All getting older with few fresh young pilots coming up through the ranks. Expense? Takes too much time and commitment? Or just not what spins wheels these days?

Medicals

I still get copies of medicals sent to me. I don't need to see them. We expect pilots to keep their medicals current, with a copy in their logbooks, available for inspection on request by their Instructor. Treat it as part of your pre-flight checks: Documents- Permit to fly, annual inspection, BFR, medical all current.

Airworthiness Directives

912/914 series non-certified engines

Owners of Light Sport Aircraft (LSA), microlights, and amateur-built aircraft fitted with **non type-certified** Rotax 912 and 914 series engines are strongly recommended to review and comply with BRP-Powertrain Mandatory SB-912-059UL and SB-914-042UL (same document) dated 15 November 2011 which pertains to the subject of DCA/ROTAX/25.

The UL Service Bulletin is attached at the end of this e-zine.

Continuing Airworthiness Notices

27-005 - Control Cable End Fittings - Inspection and Replacement

This Continuing Airworthiness Notice (CAN) is applicable to all operators and maintainers of aircraft fitted with control cable end fittings manufactured from stainless steel SAE-AISI 303Se which have been in service for 15 years or longer. Affected cable end fittings include, but are not limited to P/N AN669 and P/N MS21260. This CAN advises operators and maintainers to replace all control cables with end fittings manufactured from stainless steel SAE-AISI 303Se before accumulating 15 years TIS.

14-001 - MS 21042 and NAS 1291 Series Nuts - Cracks due to Hydrogen Embrittlement

This Continuing Airworthiness Notice (CAN) is issued to alert operators and maintainers of reported failures of new MS 21042 and NAS 1291 series self-locking nuts. The CAA has received numerous reports of finding cracked MS 21042 / NAS 1291 series self-locking nuts and CASA has issued Airworthiness Bulletin (AWB) 14-002 which alerts owners, operators and maintenance personnel of in-situ failures of new MS 21042 and NAS 1291 series nuts. These nuts are widely used in aviation applications. This type of nut is used by TCM to hold the cylinders in place on various model TCM engines. The CAA received two reports of finding these

nuts cracked on TCM engines. During a pre-flight inspection on a Robinson R22 the pilot noticed a crack in one of the twelve pitch horn retention nuts on the main rotor blade.

Rotorsport MT-03, MTOSport and Calidus Gyroplanes

This emergency AD with effective date 30 November 2011 is prompted by the UK CAA receiving a report of finding a deviation in the manufacturing process of certain Rotorsport rotor assembly main bearing bolt P/N BT696. The deviation may result in failure of the main bearing bolt, separation of the rotor blade assembly and loss of aircraft control. This AD requires the replacement of rotor assembly main bearing bolt P/N BT696 (M.RK32.12, C.RK08.12)

Airworthiness Directive – Rotorsport MT-03, MTOSport and Calidus Gyroplanes

This AD is prompted by the UK CAA receiving a report of finding a deviation in the manufacturing process of certain Rotorsport rotor assembly main bearing bolt P/N BT696. The deviation may result in failure of the main bearing bolt, separation of the rotor blade assembly and loss of aircraft control. This AD requires the replacement of rotor assembly main bearing bolt P/N BT696 (M.RK32.12, C.RK08.12).

DCA/MICRO/17	**Rotor Head Assembly Main Bearing Bolt – Inspection and Replacement**
Applicability:	All Rotorsport MT-03 gyroplanes with a zinc plated (silver coloured) rotor assembly main bearing bolt P/N BT696 (M.RK32.12, C.RK08.12) fitted since 6 April 2010.
	Rotorsport MTOSport gyroplanes, S/N 024 onwards fitted with a zinc plated (silver coloured) rotor assembly main bearing bolt P/N BT696 (M.RK32.12, C.RK08.12).
	All Rotorsport MTOSport gyroplanes with a zinc plated (silver coloured) rotor assembly main bearing bolt P/N BT696 (M.RK32.12, C.RK08.12) fitted since 6 April 2010.
	All Calidus gyroplanes fitted with zinc plated (silver coloured) rotor assembly main bearing bolt P/N BT696 (M.RK32.12, C.RK08.12).
Requirement:	To prevent failure of the main bearing bolt which may result in separation of the rotor blade assembly and loss of gyroplane control, accomplish the following:
	Replace the zinc plated (silver coloured) rotor assembly main bearing bolt P/N BT696 per the instructions in Rotorsport Service Bulletin SB053.
Note 1:	The requirements of this AD must be supervised or accomplished and certified in the maintenance records by a microlight inspection authorisation holder or a person who holds a current aircraft maintenance engineer licence with appropriate aircraft group rating issued in accordance with Part 66.
Note 2:	A copy of Rotorsport Service Bulletin No. SB053 can be obtained from http://www.rotorsport.org/index.html
	(UK CAA Mandatory Permit Directive 2011-007 refers)
Compliance:	Within the next 30 hours TIS or by 29 February 2012 whichever occurs sooner.
Effective Date:	30 November 2011

Member contributions

HANGAR BUILT- ATHBEY FARM AIRSTRIP

Athol Sowry (Manawatu Microlight Club)

A few years ago my ambition to learn to fly was finally able to happen. The mortgage was paid, children educated and overseas travel had been sampled.

So off to the Manawatu Microlight Club I went and lessons began. When a medical certificate was required a small concern was identified, that could of become a major problem if it hadn't been treated. This proves why it is so important for us aging men to have medical check ups, a subject best covered by a medical expert in a future article. I am happy to report that today I am 100% cured, but if I hadn't gone off to fly and had a very thorough doctor its doubtful I would be here today writing this story.

With over 70 hours in my log book, some 16 hours solo cross country my thoughts turned to perhaps buying my own aircraft. But first I decided I needed to build a hangar. I had the ideal spot, a 700 metre topdressing

air strip also used for recreational flying that came right up to the garden fence. Expressions of interest were called to construct a suitable building. With so many glossy brochures on offer one would expect hangar construction to be a simple exercise. This proved to be far from the case. Only one supplier bothered to quote to accommodate our requirements, but unfortunately price ruled this building out. It seemed to be a case of you build what we want to supply, not what you want. Frustration and confusion reigned, until a chance conversation with the friendly and helpful team at Dannevirke Goldpine. Until then I thought they only built basic farm sheds. How wrong I was. Today at the end of our garden path we have a non invasive aesthetically pleasing low profile Goldpine hangar. Dimensions are, inside height clearance 3m, 12m wide X 9m deep, c/w concrete floor, PA door and spouting.

Testimonies to these sentiments were confirmed by all those attending the opening celebration that many took the opportunity to fly in to. On the day Manawatu Microlight Club President and instructor Ed Evenbly was kept busy with trial flights in the clubs new Hanuman aircraft.

FOOTNOTE: Athbey Farm Airstrip 4NM NE of Woodville Town ship is the venue of the annual new years day fly in, the first aviation event in the world every new year. New Year's Day 2012 will be the 7th annual.

Opening day fly in.

Terry Smith (Hawkes Bay) and his UltraPup project

Membership changes

Dieter Dallmeier	Gyrate Flying Club	Novice	FRTO
HaiJin Deng	Gyrate Flying Club	Novice	Joined
Steven Duncan	Canterbury Recreational Aircraft Club	Novice	FRTO
Johannes Mattheus	Kaitaia Aero Club	Novice	FRTO
Douglas Remnant	Fiordland Aero Club	Novice	Joined
Christopher Milne	South Canterbury Microlight Club	Novice	Joined
Antony Kindon	Canterbury Recreational Aircraft Club	Novice	Joined
Neil Allwood	Auckland Recreational Microlight Aircraft Club	Novice	Joined
John Goddard	Canterbury Recreational Aircraft Club	Advanced National	Joined

Recreational Aircraft Association of NZ Inc
PO Box 15-016
Dinsdale 3243
Hamilton

p: 07 825 2800
e: office@raanz.org.nz
w: www.raanz.org.nz

ALERT SERVICE BULLETIN

CHECKING OF THE CRANKSHAFT JOURNAL (POWER TAKE OFF SIDE) FOR ROTAX® ENGINE TYPE 912 AND 914 (SERIES)

ASB-912-059UL
ASB-914-042UL

MANDATORY

Symbols used:

Please, pay attention to the following symbols throughout this document emphasizing particular information.

▲ WARNING: Identifies an instruction, which if not followed, may cause serious injury or even death.

■ CAUTION: Denotes an instruction which if not followed, may severely damage the engine or could lead to suspension of warranty.

◆ NOTE: Information useful for better handling.

‖ A revision bar outside of the page margin indicates a change to text or graphic.

1) Planning information

1.1) Engines affected

All versions of the engine type:

- 912 UL from S/N 6,770.159 up to S/N 6,770.176 inclusive/6,770.184
- 912 ULS from S/N 6,777.492 up to S/N 6,777.505 inclusive/6,777.526/6,777.528 up to 6,777.542 inclusive/6,777.544 up to 6,777.547 inclusive/6,777.563 up to 6,777.569/6,777.576 up to 6,777.594 inclusive/6,777.596/6,777.609/6,777.610/6,777.624 up to 6,777.628 inclusive/6,777.630/6,777.631/6,777.634 up to 6,777.642 inclusive/6,777.667/6,777.668/6,777.686/6,777.688 up to 6,777.690 inclusive
- 912 ULSFR S/N 6,777.514/6,777.527
- 914 UL from S/N 6,774.151 up to S/N 6,774.160 inclusive/6,774.165/6,774.166/6,774.168 up to 6,774.171 inclusive/6,774.176 up to 6,774.193 inclusive/6,774.199 up to 6,774.213 inclusive/6,774.220

◆ NOTE: Crankshafts with the following serial number (S/N) that were installed in the above-mentioned engines are also affected, if removed:
S/N 40233 up to 40235 inclusive/40237/40239/40240/40243/40244/40246/40247/40249 up to 40255 inclusive/40258/40260 up to 40263 inclusive/40266/40293 up to 40299 inclusive/40301/40304 up to 40309 inclusice/40311 up to 40328 inclusive/40330 up to 40336 inclusive/40338 up to 40348 inclusive/40350 up to 40357 inclusive/40360/40362 up to 40372 inclusive/40374/40408 up to 40421inclusive/40425/40427/40431/40433/40437/40448/40449/40451/40452/40454/40457 up to 40460 inclusive/40465/40467/40468/40470 up to 40476 inclusive/40481 up to 40485 inclusive/40487/40489 up to 40506 inclusive

In addition, also affected, all crankshaft set part no. 888164 with crankshaft S/N 40232/40238/40241/40242/40245/40248/40428 up to 40430 inclusive/40486, as spare parts or installed at engine repair/general overhaul.

For complete instructions and compliance to this Alert Service Bulletin refer to Alert Service Bulletin-ASB-912-059 / ASB-914-042, latest edition section 1.2 onward.

◆ NOTE: Section 1.6) Approval: Is not required for engines of the type UL (Series).
Section 3) Accomplishment: In addition: persons with adequate type-specific training.

d050964.fm

ALERT SERVICE BULLETIN

CHECKING OF THE CRANKSHAFT JOURNAL (POWER TAKE OFF SIDE) FOR ROTAX® ENGINE TYPE 912 AND 914 (SERIES)

ASB-912-059
ASB-914-042

MANDATORY

Symbols used:

Please, pay attention to the following symbols throughout this document emphasizing particular information.

▲ WARNING: Identifies an instruction, which if not followed, may cause serious injury or even fatal injury.

■ CAUTION: Denotes an instruction which if not followed, may severely damage the engine or could lead to suspension of warranty.

◆ NOTE: Information useful for better handling.

▌ || A revision bar outside of the page margin indicates a change to text or graphic.

1) Planning information

1.1) Engines affected

All versions of the engine type:

- 912 A from S/N 4,410.884 up to S/N 4,410.887 inclusive
- 912 F from S/N 4,412.984 up to S/N 4,412.985 inclusive
- 912 S from S/N 4,924.044 up to S/N 4,924.054 inclusive/4,924.056/4,924.058/4,924.064 up to 4,924.077 inclusive/4,924.081 up to 4,924.084 inclusive/4,924.086
- 914 F from S/N 4,420.965 up to S/N 4,420.970 inclusive/4,420.972 up to 4,420.978 inclusive

◆ NOTE: Crankshafts with the following serial number (S/N) that were installed in the above-mentioned engines are also affected, if removed:
S/N 40236/40256/40257/40259/40264/40265/40267/40300/40302/40303/40310/40329/40335/40337/40349/40358/40359/40361/40373/40422 up to 40424 inclusive/40426/40432/40435/40436/40438 up to 40447 inclusive/40450/40453/40455/40456/40461 up to 40464 inclusive/40466/40469/40477/40478/40480/40488/40507

In addition, also affected, all crankshaft set part no. 888164 with crankshaft S/N 40232/40238/40241/40242/40245/40248/40428 up to 40430 inclusive/40486, as spare parts or installed at engine repair/general overhaul.

1.2) Concurrent ASB/SB/SI and SL

none

1.3) Reason

Due to a deviation in the manufacturing process some crankshafts may have a crack formation occur on the power take off side. These cracks can cause a breakage of the crankshaft support bearing and may lead to engine stoppage.

1.4) Subject

Check of the crankshaft journal (power take off side) for ROTAX® engine type 912 and 914 (Series).

d05092.fm

1.5) Compliance

- Required before next flight, but at the latest before 01. January 2012. The checking of crankshaft journal (power take off side) identified by the engine serial number (S/N) listed in section 1.1) must be conducted according to the following instructions in section 3.

◆ NOTE: If a ferry flight is required, a magnetic plug check prior to next flight must be conducted (see latest Maintenance Manual Line Chapter 12-20-00 Check of magnetic plug). If no deviation from normal operation (chips, excess metal filings) is found continued flight is allowed for max. 4 hours in operation, but at latest before 01. January 2012.

▲ WARNING: Non-compliance with these instructions could result in engine damages, personal injuries or fatal injuries.

1.6) Approval

The technical content of this document is approved under the authority of DOA ref. EASA.21J.048.

1.7) Manpower

Estimated man-hours:
engine installed in the aircraft - - - manpower time will depend on installation and therefore no estimate is available from the engine manufacturer.

1.8) Mass data

change of weight - - - none.
moment of inertia - - - unaffected.

1.9) Electrical load data

no change

1.10) Software accomplishment summary

no change

1.11) References

In addition to this technical information refer to current issue of
- Maintenance Manual (MM)

◆ NOTE: The status of Manuals can be determined by checking the table of amendments of the Manual. The 1st column of this table is the revision status. Compare this number to that listed on the ROTAX WebSite: www.rotax-aircraft-engines.com. Updates and current revisions can be downloaded for free.

1.12) Other publications affected

none

1.13) Interchangeability of parts

not affected

2) Material Information

2.1) Material - cost and availability

Price and availability and any possible support consideration will be supplied on request by ROTAX® Authorized Distributors or their Service Center.

2.2) Company support information

- Shipping cost, down time, loss of income, telephone costs etc. or cost of conversion to other engine versions or additional work, as for instance simultaneous engine overhaul is not covered in this scope and will not be borne or reimbursed by ROTAX®.

2.3) Material requirement per engine

parts requirement:

Fig.no.	New p/n	Qty/engine	Description	Old p/n	Application
	-	1	Gasket ring A8x13	950141	crankcase
	-	1	Friction washer VS30	845430	drive gear

2.4) Material requirement per spare part

none

2.5) Rework of parts

none

2.6) Special tooling/lubricant-/adhesives-/sealing compound

Price and availability will be supplied on request by ROTAX® Authorized Distributors or their Service Centers.

parts requirement:

Fig.no.	New p/n	Qty/engine	Description	Old p/n	Application
	-	1	thread bolt M8x50	240880	crankcase
	-	1	puller assy.	877660	propeller gear box
	-	1	puller tool	877540	propeller gear box
	-	50 cc.	LOCTITE 5910	899791	crankcase
	-	5 cc.	LOCTITE 648	899788	hex nut M30

■ CAUTION: In using these special tools observe the manufacturers specifications.

3) Accomplishment / Instructions

◆ NOTE: Before maintenance, review the entire documentation to make sure you have a complete understanding of the procedure and requirements.

Accomplishment

All the measures must be taken and confirmed by at least one of the following persons or facilities:

- ROTAX® -Airworthiness representative
- ROTAX® -Distributors or their Service Centers
- Persons approved by the respective Aviation Authority

▲ WARNING: Proceed with this work only in a non-smoking area and not close to sparks or open flames. Switch off ignition and secure engine against unintentional operation. Secure aircraft against unauthorized operation. Disconnect negative terminal of aircraft battery.

▲ WARNING: Risk of scalds and burns! Allow engine to cool sufficiently and use appropriate safety gear while performing work.

▲ WARNING: Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one.

◆ NOTE: All work has to be performed in accordance with the relevant Maintenance Manual.

3.1) Check of crankshaft journal (power take off side)

See fig. 1.

1. Lock the crankshaft in accordance with the relevant Maintenance Manual (Line).
2. Remove the propeller gear box. Use puller assy part no. 877660 or puller tool part no. 877540.
3. Remove the drive gear in accordance with the relevant Maintenance Manual (Heavy).
4. Clean and degrease the test area of the crankshaft journal.
5. Crack detection can be carried out with engine installed in aircraft.

   ◆ NOTE: Pay attention to manufacturer specifications (crack inspection device).

6. Unlock the crankshaft to do the check on the entire periphery of the crankshaft.
   - Detailed crack detection in the area (2) of the thread runout using penetration test. Perform this test in accordance to the requirements of the applicable aviation authority in your region for non destructive testing (NDT) and according to DIN EN 571 or equivalent.

   ◆ NOTE: Protect the crankcase against contamination by the test material.

   ■ CAUTION: In case of crack or doubt contact your aircraft manufacturer and your nearest authorized ROTAX aircraft engine distributor. The engine must not be taken into operation until the cause has been identified and eliminated.

7. If no cracks can be found, then the reassembly has to be conducted in accordance with following steps:
   - Lock the crankshaft in accordance with the relevant Maintenance Manual (Line).
   - Clean and degrease crankshaft journal, threads and splines.
   - Install the drive gear with a new friction washer in accordance with the relevant Maintenance Manual (Heavy).
   - Clean the sealing surface of crankase and gear cover.
   - Install the propeller gear box.
   - Remove locking pin of crankshaft in accordance with the relevant Maintenance Manual (Line).

- Restore aircraft to original operating configuration.
- Connect negative terminal of aircraft battery.

3.2) **Test run**

Conduct test run including ignition check and leakage test.

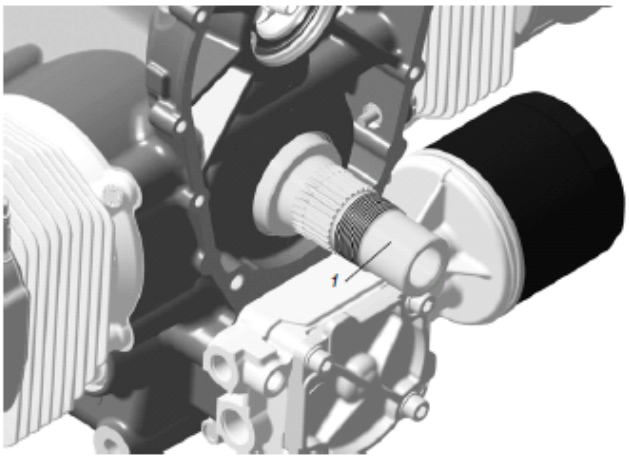
3.3) **Summary**

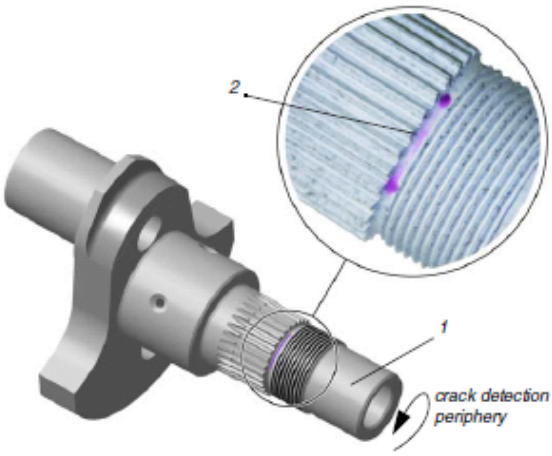
These instructions (section 3) have to be conducted in accordance with compliance in section 1.5.
The execution of the mandatory Alert Service Bulletin must be confirmed in the logbook.

Approval of translation to best knowledge and judgement - in any case the original text in German language and the metric units (SI-system) are authoritative.

4) Appendix

the following illustrations/drawings should convey additional information:





1 crankshaft
2 detailed crack detection

06484, 06485

Fig. 1

crankshaft journal

◆ NOTE: The illustrations in this document show the typical construction. They may not represent full detail or the exact shape of the parts which have the same or similar function.
Exploded views are **not technical drawings** and are for reference only. For specific detail, refer to the current documents of the respective engine type.

23 November 2011

Upgraded radar imagery on MetFlight and MetJet

I am pleased to advise that stage one of the upgraded RADAR imagery has now been completed with the following improvements:

- All 120km (MetFlight GA) and 70km (MetFlight Commercial & MetJet) radar images are now airport centric, with the main aerodrome closest to the radar site (e.g. Auckland Airport for the Auckland Radar) used to centre the radar. The 300 km images are unchanged for now.

- The range rings are now interchangeable between kilometres and nautical miles, by selecting the cross hair icon in the top left hand corner of each radar image.

- A new image player has been developed and to view the control bar, hover the mouse over the image. This allows you to loop the images (by selecting the play icon) or move through the images one-by-one (by clicking the arrows). The issue time of the radar image is displayed in the box to the right of the image.

- The newly commissioned Doppler radar on the West Coast of the South Island has been added as well. Radar site is located close to the Hokitika aerodrome on the West Coast.

- This brings the total number of Doppler radars in the MetService Observational Network to 8 with the 9th and final installation scheduled in the Northland region by December 2012.

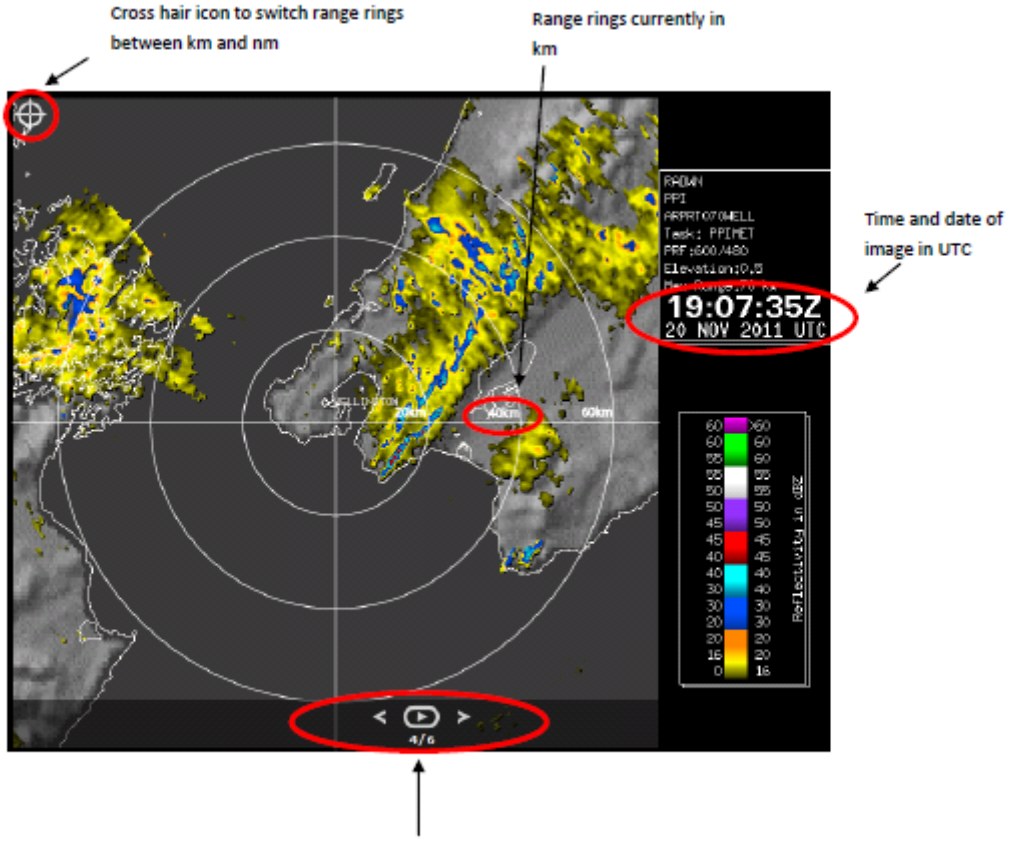
Stage two of the radar upgrade, will include the following:

- The addition of relevant locations or reference points to the base maps of the individual radar images.
- The ability to switch between terrain/orography and no terrain/orography.

The images on the attached pages highlight the new features together with some basic instructions on how to use the new radar displays, which are largely intuitive.

Ray Thorpe – General Manager Aviation Sales
Meteorological Service of New Zealand Limited
P +64 4 4700739 F +64 4 4700748 M +64 275 513301
email ray.thorpe@metservice.com

Radar image with range rings displayed in kilometres



Radar image with range rings displayed in nautical miles