



Turbomeca USA
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FAX

To: Evergreen Helicopter

From: Emmanuel Gaschignard

Attn: Mike Kough

Date: December 10, 2004

Fax: [REDACTED]

Pages: 1/2

Re: [REDACTED]

cc: Leo Morrissette - TMUSA

Subject: Turmo IV C engine wash

Man,

This fax is to confirm that the engine wash procedure with engine running described on the attached sheet can also be applied by Evergreen Helicopter.

Please let me know if you need anything else.

Sincerely,


Emmanuel Gaschignard
Turbosink Service Engineer
Tel: [REDACTED], Fax: [REDACTED]
Tech support hot line: [REDACTED]
e-mail: [REDACTED]

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FOR THE ATTENTION OF Troy ATKINSON

Jean-François LARRE

De : Jean-François LARRE <[REDACTED]>
À : Scott McALPINE <[REDACTED]>
Cc : NOBILI Jean-Jacques <[REDACTED]> Troy ATKINSON

Envoyé : mercredi 28 juin 2002 15:01
Objet : TURMO IVC ENGINE WASH (Amendement 1)

Scott,

Please delete the preceding message

In consideration of your operational conditions, you are investigating the possibility of carrying out a running engine wash, this operation not being described in the Turmo IVC Maintenance Manual, the required tools and the procedure to carry out the running wash are to be developed by the operator.

This engine running wash procedure here below is approved by Turbomeca, for the Turmo IVC operated by Roberts Aircraft Company/ Heli-Support, Inc. and operators *under HSI maintenance support*

CAUTION: INCORRECT FLOW RATE COULD CAUSE ENGINE OVER-TEMP
The water flow should not exceed 2 l/mn at pressure of 1,5 bar (+ 0,15 / - 0)

JFL

During the engine wash, the following parameters are to be respected:

- engine speed select lever to obtain 76% NG
- engine stabilized at 76% NG (turn the water on)
- monitor engine T4 closely
- maintain the wash for one minute, should the T4 rise above acceptable limits stop the water
- select lever fully forward (flight idle), maintain this for 2 minutes (drying run) 1 minute with anti-ice on and another 1 minute with anti-ice off

We remain at your disposal for any further information on this matter.
Best regards,

JF LARRE

Responsable for TURMO IVC maintenance
TURBOMECA Tarbes France

26 June 2002

WASH HSI PN 330TRW-1



GEO-SEIS
Helicopters, Inc

Corporate Offices
116 North Racquette Drive
Fort Collins, CO 80524-2757

GEO-SEIS HELICOPTERS, INC.

TURMO IV C RUNNING RINSE PROCEDURE

The following procedure is a detailed explanation of the basic procedure supplied and approved by Turbomeca.

List of Effective Pages

1	6 December 2002		
2	6 December 2002		
3	6 December 2002		

Record of Revisions

Initial Issue	6 December 2002

Management Approval Signature and Date

Manual Control Number _____



EQUIPMENT REQUIRED

1. Filtered or demineralised water
2. TRONAIR Model 08-4040-4000 rinse bottle (or equivalent).
3. Iea. HSI P/N 330TRW-1 rinse wand assembly.

PREPARATION

1. Perform visual inspection of required equipment checking for any damage or deterioration that may significantly alter the direction or flow rate of water.
2. Replace or repair and equipment found to be unserviceable prior to proceeding.
3. Fill rinse bottle with approximately 5 to 9 liters water. ~~Approximately~~
4. Connect wand assembly to bottle.
5. Pressurize bottle with 100 ± 10 psi compressed air. ~~Approximately~~
6. All personnel involved in this procedure will be familiar with the following hand signals (Pilot to engineer).
 - Insert wand and start wash – Thumbs up
 - Stop water – One hand held up palm outward
 - Resume wash – Thumbs up
 - Stop wash – A cutting motion, hand across throat

MINIMUM CREW

At least one pilot on the aircraft controls, and one engineer to perform rinse are required. Visual contact must be maintained between pilot and engineer at all times during this procedure.



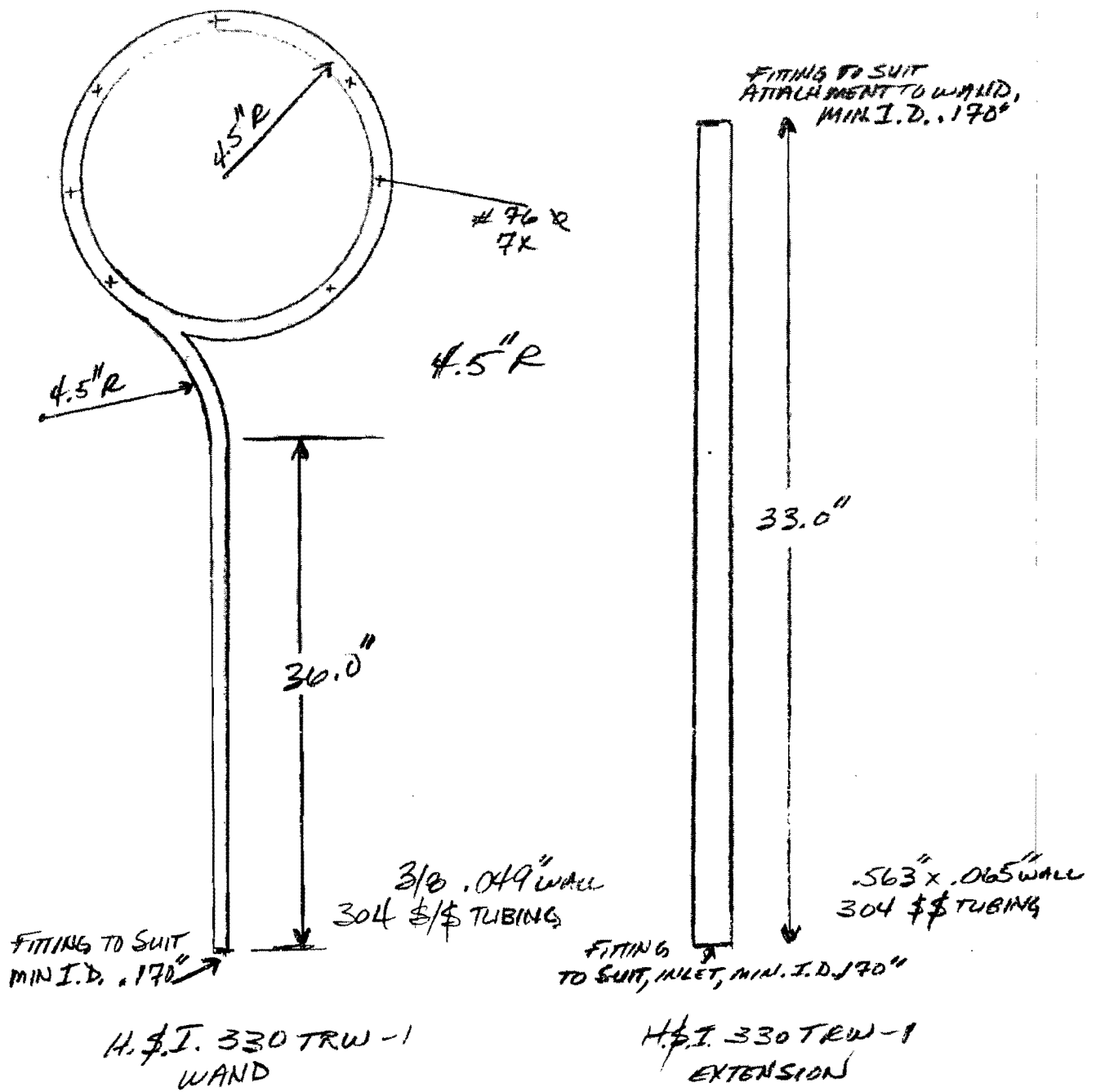
RINSE PROCEDURE

CAUTION: Extreme care must be exercised when installing and removing wand from engine.

NOTE: Wand is not to be inserted until indicated by pilot.

With all equipment present and prepared as shown above:

1. Pilot will stabilize speed of engine(s) to be rinsed as 76% NG.
2. Pilot will give thumbs up signal to engineer to begin rinse of first engine.
3. Engineer will place nozzle side of wand at forward edge of engine intake and begin rinse.
4. Pilot will closely monitor engine T4 closely: If T4 rises above limits, he will quickly signal engineer to stop water flow. Water flow may be resumed when T4 is again stabilized in acceptable limits.
5. Engineer will maintain rinse flow for 1 minute (unless signaled to stop early as above).
6. When rinse time is complete, pilot will give the Stop Rinse signal.
7. Once wand is removed, pilot will advance throttle of rinsed engine to flight idle position for a 2-minute drying period (1 minute with Anti-Ice on and 1 minute with Anti-Ice off).
8. Second engine may be rinsed while first engine is drying by repeating steps above.
9. Once engine(s) have completed drying time, pilot will reduce engine speed and perform normal cool and shut down procedures.



REF. TURNED TO C ENGINE WASH (AMMENDMENT 1)
26 JUNE 2002