

	<b>CONTROL FORM</b>		Item ID / rev.: CF-10027/9
	Description: WEIGHING NOTE		EngChange ID: 29988
	LM part / process: WEIGHING AROUND ROTOR HUB	LM parts / process no.:	Release date: 18-05-10
	(Blade Spec Data last Refreshed: 2/5/2013 10:52:13 AM)		
<b>1 ENTER INITIAL BLADE DATA</b>			
Assembled Blade:	LM 61,5 P2 REPOWER SPOILER&BARRIER(A018218-02)	Customer Spec:	
Customer:	REPOWER SPOILER&BARRIER	Rotor Diameter (m):	128,3
Blade Number:	381	Welghing distance (m):	48,0
Initial Root End Weight (CTQ input):	11508,0	kg	Initial Moment at Root End:
Initial Tip End Weight (CTQ input):	7537,0	kg	3549,0
Test Machine Reading:	2,0	kg	kNm
Test Scale Reading:	2,00	kg	
Desired Moment:	Custom	kNm	3595 Custom Range

<b>2 EVALUATION OF BALANCING STRATEGY</b>	
<p>Evaluation of Blade Initial Weight</p> <p>Evaluation of Blade Initial Moment</p> <p>Evaluation of Blade Desired Moment</p> <p>Evaluation of Projected Final Weight</p> <p>Evaluation of Test Shot</p> <p>Evaluation of Balancing Material Quantities</p> <p>Total Evaluation of Balancing Strategy</p>	<p style="text-align: center; background-color: #cccccc; padding: 5px;">Acceptable Balancing Strategy. Proceed.</p>

<b>3 BALANCING STRATEGY DETAILS</b>		
<b>Chamber 1</b>		
Chamber Distance from Root:	49,26	m
Material to Add:	70,0	kg
<b>Chamber 2</b>		
Chamber Distance from Root:	50	m
Material to Add:	26,5	kg
<b>Projected Final Results</b>		
Projected Root Weight	11508,0	kg
Projected Tip Weight	7638,5	kg
Projected Final Weight	19144,5	kg
Projected Moment at Root End	3595,9	kNm

<b>4 CONTROL WEIGHTS/VERIFICATION RESULTS</b>		
Weight Added - Chamber 1	70,0	kg
Weight Added - Chamber 2	26,5	kg
Reweight: Root	11508,0	kg
Reweight: Tip	7642,0	kg
Final Moment at Root	3598,5	kNm
Final Blade Weight	19148,0	kg
Final Moment at hub	3908,4	kNm
Balance deviation	0,07	%
Evaluation of Final Weight		
Evaluation of Final Moment		
Projected Balance Deviation		

<b>5 COMPLETION OF DOCUMENTATION</b>		
Center of Gravity:	19,16	m
Alpha Angle	2,9	°
Absolute Tracking Flap		mm
Flap Relative		mm
Operator Name	Leo Givskov	
Operator Number	5507	
Date	30-Apr-13	

	<b>CONTROL FORM</b>		Item ID / rev.: CF-10027/89
	Description: WEIGHING NOTE		EngChange ID: 29988
	LM part / process: WEIGHING AROUND ROTOR HUB	LM parts / process no.:	Release date: 18-05-10
	1 ENTER INITIAL BLADE DATA (Blade Spec Data last Refreshed: 2/8/2013 10:52:13 AM)		
Assembled Blade: Customer: Blade Number:	LM 01.5 P2 REPOWER SPOILER&BARRIER(A018218-02) REPOWER SPOILER&BARRIER 380	Customer Spec: Rotor Diameter (m): 126,3 Weighing distance (m): 48,0	
Initial Root End Weight (CTQ input): Initial Tip End Weight (CTQ input): Test Machine Reading: Test Scale Reading: Desired Moment:	11440,0 kg 7657,0 kg 2,0 kg 2,00 kg Custom kNm	Initial Moment at Root End: 3558,4 kNm 3595 Custom Range	

2 EVALUATION OF BALANCING STRATEGY	
Evaluation of Blade Initial Weight Evaluation of Blade Initial Moment Evaluation of Blade Desired Moment Evaluation of Projected Final Weight Evaluation of Test Shot Evaluation of Balancing Material Quantities  Total Evaluation of Balancing Strategy	

3 BALANCING STRATEGY DETAILS		
Chamber 1		
Chamber Distance from Root:	49,28	m
Material to Add:	70,0	kg
Chamber 2		
Chamber Distance from Root:	50	m
Material to Add:	7,3	kg
Projected Final Results		
Projected Root Weight	11440,0	kg
Projected Tip Weight	7636,5	kg
Projected Final Weight	19076,5	kg
Projected Moment at Root End	3595,9	kNm

4 CONTROL WEIGHTS/VERIFICATION RESULTS		
Weight Added - Chamber 1	70,0	kg
Weight Added - Chamber 2	7,3	kg
Reweight: Root	11450,0	kg
Reweight: Tip	7636,0	kg
Final Moment at Root	3595,6	kNm
Final Blade Weight	19086,0	kg
Final Moment at hub	3904,6	kNm
Balance deviation	-0,01	%
Evaluation of Final Weight	Acceptable	
Evaluation of Final Moment	Acceptable	
Projected Balance Deviation	Acceptable	

5 COMPLETION OF DOCUMENTATION	
Center of Gravity:	19,20 m
Alpha Angle	2,9 °
Absolute Tracking Flap	mm
Flap Relative	mm
Operator Name	Leo Givskov
Operator Number	5507
Date	25-Apr-13

LM WIND POWER		CONTROL FORM		Item ID / rev.: CF-10027/9
Description:			EngChange ID:	
WEIGHING NOTE			29988	
LM part / process:	LM parts / process no.:	Release date:		
WEIGHING AROUND ROTOR HUB		18-05-10		
1. ENTER INITIAL BLADE DATA (Blade Spec Data Last Refreshed: 4/19/2013 9:16:58 AM)				
Assembled Blade:	LM 61.5 P2 REPOWER SPOILER&BARRIER(A018218-02)		Customer Spec:	
Customer:	REPOWER SPOILER&BARRIER		Rotor Diameter (m):	128,3
Blade Number:	379		Welghing distance (m):	48,0
Initial Root End Weight (CTQ Input):	11366,0	kg	Initial Moment at Root End:	
Initial Tip End Weight (CTQ Input):	7524,0	kg	3542,9 kNm	
Test Machine Reading:	2,0	kg		
Test Scale Reading:	2,00	kg		
Desired Moment:	Custom	kNm	3595	Custom Range

2. EVALUATION OF BALANCING STRATEGY	
Evaluation of Blade Initial Weight	Not completed
Evaluation of Blade Initial Moment	Not completed
Evaluation of Blade Desired Moment	Not completed
Evaluation of Projected Final Weight	Not completed
Evaluation of Test Shot	Not completed
Evaluation of Balancing Material Quantities	Not completed
Total Evaluation of Balancing Strategy	Acceptable Balancing Strategy. Proceed.

3. BALANCING STRATEGY DETAILS		
Chamber 1		
Chamber Distance from Root:	49,28	m
Material to Add:	70,0	kg
Chamber 2		
Chamber Distance from Root:	50	m
Material to Add:	39,0	kg
Projected Final Results		
Projected Root Weight	11366,0	kg
Projected Tip Weight	7636,5	kg
Projected Final Weight	19002,5	kg
Projected Moment at Root End	3595,9	kNm

4. CONTROL WEIGHTS/VERIFICATION RESULTS		
Weight Added - Chamber 1	70,0	kg
Weight Added - Chamber 2	39,0	kg
Reweight: Root	11366,0	kg
Reweight: Tip	7634,0	kg
Final Moment at Root	3594,7	kNm
Final Blade Weight	19000,0	kg
Final Moment at hub	3902,2	kNm
Balance deviation	-0,03	%
Evaluation of Final Weight	Not completed	
Evaluation of Final Moment	Not completed	
Projected Balance Deviation	Not completed	

5. COMPLETION OF DOCUMENTATION	
Center of Gravity:	19,29 m
Alpha Angle	2,9 °
Absolute Tracking Flap	mm
Flap Relative	mm
Operator Name	Soren Nielsen
Operator Number	6517
Date	19-Apr-13