

	CAWANGAN KEJURUTERAAN MEKANIKAL JABATAN KERJA RAYA		Document No. : CKM.TABC
			Output No. : 01
			Revision No. : 01
			Date : 5/2/2016
			Page :
TESTING, ADJUSTING, BALANCING AND COMMISSIONING (TABC) OF LIFT SYSTEM (MECHANICAL)			
DOC. REF : _____ MAKE/MODEL : _____ TIME : _____ PROJECT : _____ CONTRACT LOAD : _____ kg DATE : _____ CONTRACT SPEED : _____ m/s			
<u>MECHANICAL TEST</u>			
NO	DESCRIPTION	SPECIFICATION	REMARK
1.0	Safety Test		
1.1	Car Safety Gear		
a.	Safety gear wedges in symmetrical position. (± 1 mm)		Yes/No
1.2	Emergency Trap Door		
a.	Lift stop when the trap door open		Yes/No
1.3	Automatic Rescue Device (ARD)		
	Cut off main power supply to lift switchboard and observe:		
a.	COP indicate emergency and evacuation sign (if provided)		Yes/No
b.	Lift proceed to the nearest floor for evacuation		Yes/No
c.	Lift car lights and exhaust fan not operating		Yes/No
d.	Hall lantern indicate emergency sign (if provided)		Yes/No
1.4	Emergency Battery Operated Power Supply (EBOPS)		
	Cut off main power supply to lift switchboard and observe:		
a.	50% of lightings and exhaust fan operating.		Yes/No
1.5	Overspeed Governor		
a.	Lift stop when governor switch activated (Lift Motor Room)		Yes/No
b.	Lift stop when governor mechanical tripping mechanism actuated		Yes/No
c.	Governor rope properly terminated (bulldog grip, swaged end or socket end)		Yes/No
d.	Governor rope tighten properly to safety gear linkage lever		Yes/No
e.	Lift stop when governor switch (elongation limit switch) activated (Lift Pit)		Yes/No
1.6	Limit Switch		
a.	Lift stop when Lower Limit Switch activated (Top most floor)		Yes/No
b.	Lift stop when Final Limit Switch activated		Yes/No
c.	Lift stop when Upper Limit Switch activated (Lift Pit)		Yes/No
1.7	Emergency Button		
	Lift stop when push stop button activated at		
a.	Lift Pit		Yes/No
b.	Car Top		Yes/No
c.	Lift Motor Room		Yes/No
RESULT ACCEPTANCE : Accepted / 2nd Test Required			
REMARK : _____ _____ _____			
Carried out by :			
Contractor Name : _____ Date: _____		JKR Representative Name : _____ Date: _____	

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NO	DESCRIPTION	SPECIFICATION	REMARK
1.8	Fire Mode Operation		
a.	Lift switch to fire mode when receiving fire alarm triggered		Yes/No
b.	COP and Hall Lantern indicate evacuation/fire sign		Yes/No
c.	Lift car proceed to the lowest floor. Lift car lights and exhaust fan not operating		Yes/No
d.	Lift in firemen operation when Firemen Switch activated		Yes/No
1.9	Alarm Bell		
a.	Alarm bell can be clearly audible at ground floor		Yes/No
1.10	Lift Car Levelling		
a.	± 5mm gap between car door sill and landing door sill at each floor		Yes/No
1.11	Car Door Safety Edge		
a.	Car and landing door retracted when electronic sensor/mechanical safety edge detected an obstruction while closing		Yes/No
1.12	Safety Switches		
a.	Lift stop when all safety switches activated: - Car buffer switch, counterweight buffer switch, safety gear switch, landing door switch		Yes/No
1.13	Car Door Lock		
a.	Car door cannot be opened when the lift is not level with landing door		Yes/No
b.	Car door lock deactivated when the switch turned off		Yes/No
2.0	Performance Test		
2.1	Load bypass		
a.	The car would not respond to any call outside the car when the capacity exceed 80% of the contract load		Yes/No
2.2	Overload		
	When the car exceeds the permitted load:		
a.	Overload buzzer will trigger		Yes/No
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			Page :
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NO	DESCRIPTION	SPECIFICATION	REMARK
b.	Lift will not operate		Yes/No
c.	Landing and car door cannot be closed		Yes/No
d.	COP and hall lantern indicate overload (if provided)		Yes/No
2.3	Car Operating Panel		
a.	Test all buttons (call button, alarm bell and intercom)		Yes/No
b.	Test all keyswitches (inspection mode, lighting, fan and on/off)		Yes/No
2.4	Voice Synthesizer (if provided)		
a.	Clearly and correctly mentioned the floor and direction		Yes/No
2.5	Landing Door		
a.	Door close and open smoothly		Yes/No
RESULT ACCEPTANCE : Accepted / 2nd Test Required			
REMARK :			
Carried out by :			
Contractor		JKR Representative	
Name :		Name :	
Date:		Date:	

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<u>MECHANICAL TEST</u>					
1) Overspeed Governor Test Car Governor Serial no. or date of manufacture:					
No	Device	Contract Speed (m/s)	Tripping Speed Measured (m/s) Car Up Car Down		Remark
1.0	Electrical				
2) Balance Test					
No	Contract Load		Measured (Amps)		Remark
	%	(kg)	Car Up	Car Down	
1.	0				
2.	25				
3.	50				
4.	75				
5.	100				
Note: If the elevator is properly balanced, the current readings during the upward and downward travels should be almost the same.					
3) Vibration Test					
No	Direction	Measured Vibration			Remark
		x	y	z	
1.	Upward				
2.	Downward				
Note: (a) Horizontal acceleration within the car during all riding and door operation shall not exceed 12 mili (g) in the range 1-10Hz range. Measurement shall be by an accelerometer using ISO 8041 filters. (b) Sustained jerk (z) shall not exceed 1.4 m/s ³					
4) Noise Test					
No.	Event	Specification Lp dB (A)	Measured Noise Lp dB (A)	Remark	
1.	Lift running at contract speed				
2.	Lift leveling into floor with doors opening and with door closing	<58 for passenger lift 60-65 for service lift and car park lift			
3.	Inside lift foyer, lift passing floor while the ambient noise level in lift lobby is at least 1dB(A) below the event limit	58			

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4.	Inside machinery space with machine running while lift performs journey of at least one floor run	75	
5.	Inside lift well while lift performs journey in each direction between bottom and top terminal floors	70	
5) Temperature Rise Test			
No.	Interval (mins)	Measure temperature of the motor bearing (°C)	Remark
1.	30		
2.	60		
Note : Lift shall be set to run continuously and non-stop for 1 hour.			
RESULT ACCEPTANCE : Accepted / 2nd Test Required			
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