MAROHN 76

8 MAINTENANCE SCHEDULE

Serial Number:____ Rated Load:_ Manufacturer Name:___ Model/Type:___ Use Location:_ Device Registration Code:_ User Name:___

Rated Speed:_

							 n		t	5	u v	5	-		0	 o	6	 C	 PT
Maintonanco it	ואומווורבוומוורב ור	Braking force	self-monitoring	Machine room,	room environm	Manual emerge	operation devic	Traction machine		Brake pivot	Braka cloarance		Encodar	LIICOUCI	Overspeed E	pivot	Car roof	Car top in	switch / en
8			L.	, pulley	ient	ency	Se Ce		ײַ						governor			spection	nergency
		buiso⊋ioco ∌los so g o ‡log oN		Clean, doors and windows intact,	normal lighting	aciteral hotennisch odt te otalamoù	comprete, at the designated rotation	No abnormal vibration and abnormal	sound during operation	Lubrication, flexible operation	Brake lining and brake wheel should	not rub when opened	Clean and securely interalled		Lubrication, flexible rotation; normal	electrical switch	Clean, the fence is safe and reliable		
		Toot	lest	Observe/Clean		Obconto		- ictor		Touch/Lubricate	Observe		Observe/Fasten	with tools	Touch /I ubricate		Observe/Clean	Toot	lest
	Jan	C	>	C)	C)	C)	0	C	>	C)	C	>	0	C)
	Feb	C	2	C)	C)	C)	0	C)	C)	C	>	0	C)
	Mar	C)	C)	C)	C)	0	C	>	С)	C	>	0	C)
	Apr	C	>	C)	C)	C	>	0	C	>	C	>	C	>	0	C)
	Мау	C)	C)	C)	C)	0	C)	C)	C	>	0	C)
	lun	C	>	C)	C	>	C	>	0	C	>	C	>	C	>	0	C)
<u>۲</u>	Jul	C	>	C)	C)	C)	0	C	>	C	>	C	>	0	C	
	ang 3	C	>)	C))	0	C	>	C	>	C	>	0	C	 >
	Sep	0	>	C)	0)	0	>	0	C	>	C	>	C	>	0	0	
	Oct	0	>	C	>	C)	0	>	0	C	>	C	>	C	>	0	C	>
	Νον	C	>	C)	C	>	C	>	0	C	>	C	>	C	>	0	C)
	Dec	C	2	c)	C)	c)	0	c)	С)	c	>	0	C)

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11 Greasing tan	sy S	Oil-absorbing felt is complete, oil is suitable, the greasing tanks has no leakage	Observe/Oil	0	0	0	0	0	0		0	0	0 0 0	0 0 0
Counterwei	tht	No looseness on the counterweight												
plocks/count	erweight	blocks, counterweight filler retaining	ioucn/ Fasten	0	0		0	0	0 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0
filler retainir	ig bracket	bracket fastening												
13 Shaft lightin	ho	Complete, normal	Observe	0	0		0	0 0	0 0 0	0 0 0 0	00000			
Car illum.	ination /													
14 ceiling fan /	emergency	Work properly	Observe	0	0	0		0	0	0 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0 0
lighting														
cage alarm ابج	device /	Work property	Onerate	С	C	С		С	с с					
intercom sys	tem))))))	> >))))		
, Cage di	splay /	Comulate and officitive	Onerate	C	C	C		C	C					
instruction t	utton		Oberate	>	>	>))	> >)))		
L7 Light-beam	urtain	Functionally effective	Block test	0	0	0		0	0 0	0 0 0	0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0 0
car door	unlocking	Clean contact well reliable wiring	Ohserva/Adiust	С	С	С		С	c	c c				
device conta	ct			>	>)		>)	> >)))		
9 Car door op(sn/close	Work properly	Listen	0	0	0		0	0	000	0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0
l evalling acc		Maat the standard ± / 5mm	Observe/	C	C	C		C	c	с с				
	uracy		Measure)))))	> > >))))		
Landing ca	ll / floor		Observe/	C	C	C								
display			Operate))	>)	>	> >				
2 Landing doo	r sill	Clean	Observe/Clean	0	0	0		0	0 0	000	0 0 0 0	00000	0 0 0 0 0	0 0 0 0 0 0
3 Landing	door	Normal	Observe	0	0	0		0	0 0	0 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0 0

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	0	0	0	0	0				С)						С)
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	0	0	0	0	0		0										
	0	0	0	0	0				С	>						С)
	0	0	0	0	0										0		
	Observe/ Operate	Observe/Adjust	Observe	Observe/Clean	Test		Observe/Clean		Tect				Observe		Clean/ Observe	Clean / Observe	
	After opening the manual unlocking device with the triangular key, the door lock can be automatically reset.	Clean, contact well, reliable wiring	Not less than 7mm	Clean, no water seepage, stagnant water, normal lighting	Work properly	Clean, the amount of wear does not	exceed the requirements of the	manufacturing unit	Work properly				Clear no reason aventancion		Clean, no greasy	Cleaning, the amount of wear does	not exceed the requirements of the
automatic closing device	Landing door forced releasing device	¹⁴ Landing door unlocking device contact	Landing door hook lock engagement length	ie Pit environment	27 Pit emergency stop switch		28 Brake lining		Position pulse	generator	Floor selector	movable/ static contact	Traction sheave	groove/ traction rope	32 Governor pulley/rope	3 Guide choe lining /roller	
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	Test	Clean/Touch	Observe	Test	Observe	Observe	Observe/Listen	Observe	Observe
manufacturing unit	Work properly	Clean, adjust	The amount of wear does not exceed the requirements of the manufacturing unit	Work normally, function is effective	The electrical device is effective, the oil is suitable, and the plunger is no rust	Work properly	No abnormal sound, no vibration, good lubrication	The amount of wear does not exceed the requirements of the manufacturing unit	Normal operation, reliable brake action
	Electrical safety device to verify car door closed	Transmit wire rope / 5 chain / belt in doorsystem	36 Landing door guide shoe	37 Fire control switch	Benergy dissipation type buffer	Governor rope tension device & electrical safety device	Traction sheave / deflection sheave bearing	11 Traction sheave groove	Detection switch on the brake
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Observe / Fasten	with tools	Observe	Observe/Listen/ Lubricate	Observe/Touch/ Test	Observe / Fasten with tools	Observe/Touch/ Test	Observe	Observe	Fasten with tools	Observe	Observe / Fasten with tools	Observe/Clean/
The wiring is tight, tidy, and the wire	number is complete and clear	Display correctly	No abnormal sound, no vibration, good lubrication	The amount of wear and the number of broken wires do not exceed the requirements	Nut is not loose	The amount of wear and the number of broken wires do not exceed the requirements	The relevant gaps of the door panel meets the national standards	Meet the requirements	Fixed, no loose	Work properly	Contact well	Clean, lubricate
3 Terminal block in the	controller	4 Measuring instrument in the controller	5 Diverter pulley bearing	6 Traction rope / compensator	7 Rope fastening	8 Governor rope	9 Landing door / car door panel	0 clearance	1 Suspension chain connection	2 Limit switch & slow down switch	3 Contactor of controller / ralsy-contactor	4 Decomposition
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Lubricate	Test	Test	Test	Test	Fasten with tools	Fasten with tools	Clean / Fasten with tools	Observe
	Meet the requirements and maintain sufficient braking force	Meet the standard	Work properly	Work properly	Fasten	Fasten	Clean, rail clip is firm	no damage
inspection of brake plunger	55 Compression amount of brake spring	Conductive loop 56 insulation performance test	Overspeed governor and safety gear 57 linkage test (Check the speed governor every two years)	Ascending car 58 overspeed protection action test	Car top / car frame / car door / its accessories mounting bolts	Guide rail bracket of the car and counterweight	Guide rail of the car and counterweight	62 Travelling cable

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63	Landing door device	No deformation that affects normal	Observe / Fasten										
5	and the sill	use, fastening bolts	with tools)			
64	Car load weighing device test	Accurate and effective	Test	0									
65	Safety gear catch body	Fixed, no loose	Observe / Fasten with tools		0								
66	Various bolts of car platform	Fasten	Fasten with tools							0			
67	Buffer	Fixed, no loose	Observe / Fasten with tools				0				0		
	Signat	ture of the maintenance personnel:											
	Fill in the requirements:	1.According to national regulations, the ir	nterval of maintenan	ice is at	least 1 m	onth, m	ust be stri	ctly enfor	ced.				

2. Carry out each maintenance item in accordance with "O". Mark "O" as "•" after the job, and the signature of the maintenance personnel and date.

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9 ANNEX

9.1 Lubricant summary

Component	inspection cycle	lubricating oil	Remarks
Machine sheave	One year	Lithium grease	Refer <machine operation manual></machine
Deflection pulley	Six months	Lithium grease	Change once a year
Overspeed governor	One month	32# machine oil	Fill oil in active parts
Stroke switch	One month	32# machine oil	Fill oil in Pin shaft portion
Oil cup	One month	32# machine oil	*
Door coupling device	One month	32# machine oil	*
Landing door locking device	One month	32# machine oil	*
Tension sheave	One month	32# machine oil	Fill oil in active part
Hydraulic buffer	Three months	L-HV46 hypothermia anti-wear hydraulic oil	*
Safety gear wedge and ball	Three months	32# machine oil	*
Guide rail and guide shoe	One month	32# machine oil	

Note: "*" means depending on circumstances.

LOCATION:	8	Machine Zone	
PHOTOGRAPH		ITEMS/OPERATIONS/OPERATIVE WORK	FREQ.
	 Rem Tamag A. Ren 	oval and installation of Heidenhain or awa encoder: 1oval	
	1.Use anticlo	4.0mm Allen Key to loosen the screw ockwise and take off the cover plate.	\bigcirc
	2.Pull Key to But do	out the cable plug carefully. Use 4.0mm Allen loosen the screw anticlockwise for two turns. n not pull out the fixing screw.	
0	3.Use anticlo the mo	2.0mm Allen Key to loosen this screw ockwise, until the encoder can rotate easily in punting plate.	
	4.Use slowly, remov	a M5X110 six hexagon bolt to screw clockwise, forced, until you feel the encoder can be ed.	
	5.Take the en	out the M5X110 bolt, then you can take out coder with hand.	

9.2 Encoder removal and installation

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LOCATION:	8	Machine Zone	
PHOTOGRAPH		ITEMS/OPERATIONS/OPERATIVE WORK	FREQ.
	B. Inst 1.Clear precisi	allation: n the mounting hole, to ensure installation on.	
	2.Put t	he encoder into the mounting hole correctly.	\bigcirc
	3.Pleas mount three equally	se Put the special M5X50 bolt into the ing. This boltt should be replaced after using times. Use 4.0mm Allen Key to lock this bolt y with Md=5+0.5Nm torque.	
	4.Use Md=1.	2.0mm Allen Key to lock this bolt equally with 25-0.2Nm torque.	
	5.Inser Snap ti	t the signal cable plug according to the marks. he metal ring of this cable into the fixing seat.	
	6.Put Allen k torque covere	on the encoder cover properly, use a 4.0mm Key to lock this bolt equally with Md=5+0.5Nm . (Interference will be caused if it does not be d well.)	

9.3 Brake adjustment

LOCATION:	8 Machine Zone	
PHOTOGRAPH	ITEMS/OPERATIONS/OPERATIVE WORK	FREQ.
	 Adjust the gap of brake. Install the brake on the motor cover with the screw; Tighten the screws gradually,Through the feeler gauge, adjust the mounting screws to make the clearance reach the specified value of 0.25 mm, and the clearance is even, and the feeler gauge is consistent; Tighten the bolts clockwise to tighten the bolt to the end of the motor cover; 	\bigcirc
Feeler gauge	 Screw down the screws; 	
	 Then check the clearance of the place with a 0.25 - mm feeler gauge; If the clearance changes, you need to loosen the screws, after the adjustment of the bolts, tighten the screws again, check the working clearance; Bolt clockwise rotation to increase the gap, counterclockwise rotation to reduce the gap. (note: the screws of the two brakes must be tightened repeatedly in rotation, and then tighten uniformly (with a torque wrench) to avoid uneven force of the friction plate), and control the torque of each bolt to meet the requirements; M10 bolt is 45Nm; M12 bolt is 80Nm; Adjust and tighten the individual bolts and screws one by one according to the previous step; Power on the brake, and check both sides of the brake friction disk with a 0.1 - mm feeler gauge, and both sides can be jammed and the friction disk can rotate. 	
	 Maintenance of the brake. The brake must be checked and readjusted at regular intervals and if necessary be replaced. Check the air gap and adjust if necessary. Check the friction lining condition and replace if necessary. Tighten the mounting screws if necessary. 	

9.4 Wire rope scrapping standard

Wire rope should not appear mechanical damages. If the rope appears one of the following conditions it shall be replaced by the same type wire ropes.

1. Wire rope appears cage distortion, strand extrusion, twisted, partially flattened, bended, etc.

2.Wire rope was abraded badly or corrosive and the recess were filled with rusts.

3. Wire rope diameter is smaller than its 90%.

4. When the number of broken wire appearing within a twist distance greater than the following table 1.

Table	1		
Droken Wine Form	, v	Wire Rope Type	•
Broken wire Form	6x19	8x19	9x19
Evenly distributed on the outer strands	24	30	34
Centralized distribution on one or two outer strands	8	10	11
Adjacent broken strand on an outer strand	4	4	4
Strand (sewn) broken wire	1	1	1
Note: The reference length of the above broken wire i	s a twist distance	, about 6d,"d" is	nominal
diameter of the rope (mm)			

Abnormal condition and treatment appendix of wire rope

No.	Description	Photograph	Treatment		
1	Strand broken wire		Clean the broken wire, the broken wire should not protrude the wire surface. If the number of broken wires exceeds the scrapping standard, it will be scrapped immediately and the wire rope will be replaced.		
2	Surface broken wire		Clean the broken wire, the broken wire should not protrude the wire surface. If the number of broken wires exceeds the scrapping standard, it will be scrapped immediately and the wire rope will be replaced.		



3	broken strands	Scrapped immediately and replaced by new wire ropes.	
4	Wavy shape	Scrapped immediately and replaced by new wire ropes.	
5	Rope core extrusion	Scrapped immediately and replaced by new wire ropes.	
6	Diameter reduction	If the diameter reduction in the prescribed limits, it can continue to use for a time, but it shall be monitored, otherwise scrapped it immediately.	
7	Partial flattening I	Scrapped immediately and replaced by new wire ropes.	
8	Partial flattening II	Scrapped immediately and replaced by new wire ropes.	
9	cage distortion	Scrapped immediately and replaced by new wire ropes.	
10	Strand extrusion	Scrapped immediately and replaced by new wire ropes.	
11	Reverse twisted	Scrapped immediately and replaced by new wire ropes.	
12	Forward twisted	Scrapped immediately and replaced by new wire ropes.	



13	twisted	Scrapped immediately and replaced by new wire ropes.
14	Distortion causes local diameter to increase.	Scrapped immediately and replaced by new wire ropes.
15	corrosion	If the corrosion is slight, it can be used after lubrication, but it shall be monitored. If the corrosion is serious or worsened in a short time after lubrication, it will be scrapped immediately.
16	abrasion	If the diameter reduction in the prescribed limits, it can continue to use for a time, but it shall be monitored, otherwise scrapped it immediately.
17	The inside strand protruded	Scrapped immediately and replaced by new wire ropes.
18	Others	It can continue to use within the prescribed limits, but it shall be monitored, otherwise scrapped it immediately. If the wire rope can not be correctly confirmed its state, please report to the supervisor immediately.

9.5 Tightening torque requirements for fasteners

The strength of bolt used in our company is grade 8.8, and the expansion bolt is grade 4.8. When the bolt is tightened by using torque wrench, the installation manual does not specify the specific torque data, and the appropriate torque is selected according to the following table to tighten the fasteners.

	tightening torque (N·m)			
Specification	4.8	6.8	8.8	10.9
Grade				
M6	4-5	6-8	9-12	13-14
M8	10-12	14-18	22-29	29-35
M10	20-25	29-39	44-58	64-76
M12	35-44	49-64	76-102	108-127
M16	88-108	127-157	189-252	274-323
M20	167-206	245-314	369-492	529-637
M24	294-370	441-539	638-850	921-1098
M30	529-666	784-980	1267-1689	1566-1960

Table 6.3-1 tightening torque for fasteners