

# Survey Results of Gate Structure

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Gate No. W55 (Main Weir Gate)

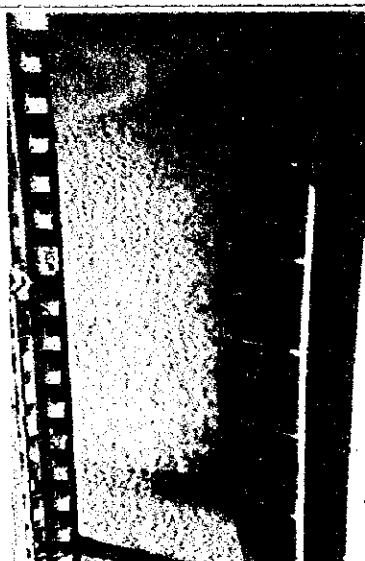
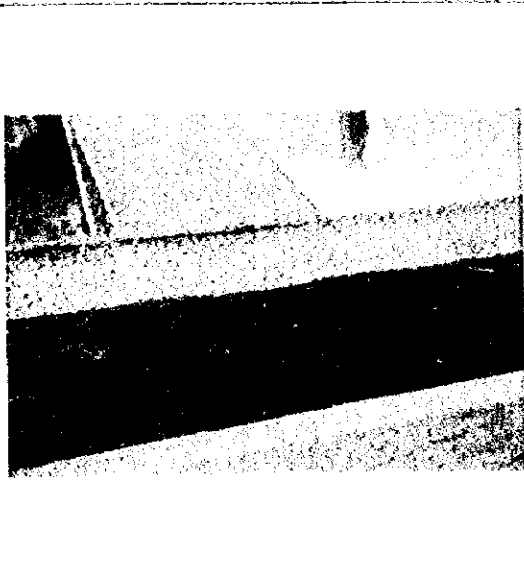

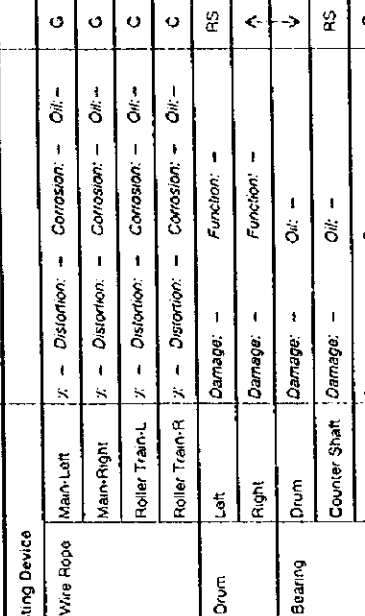

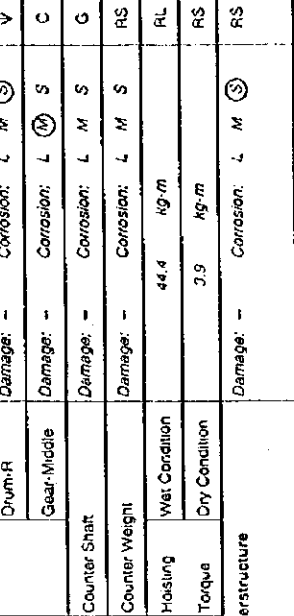
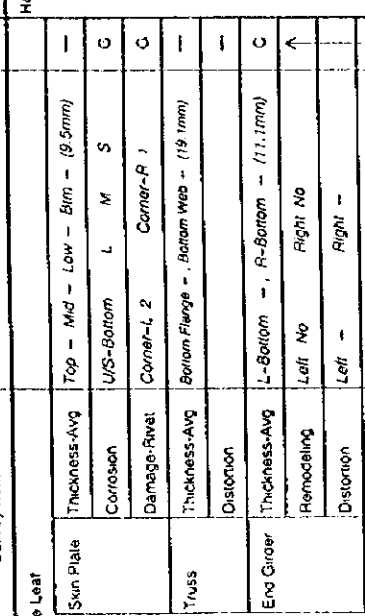
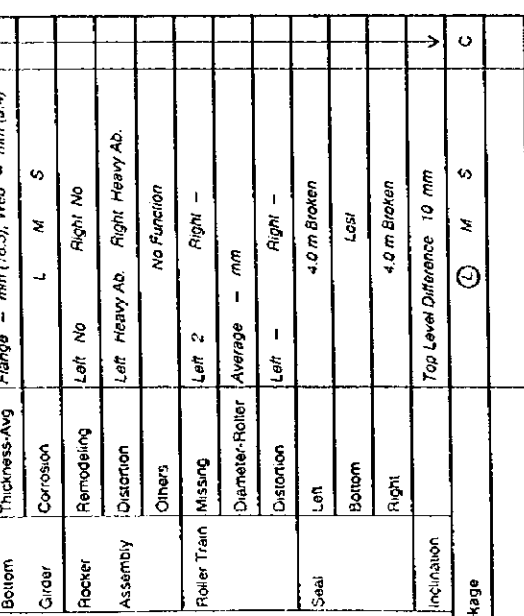
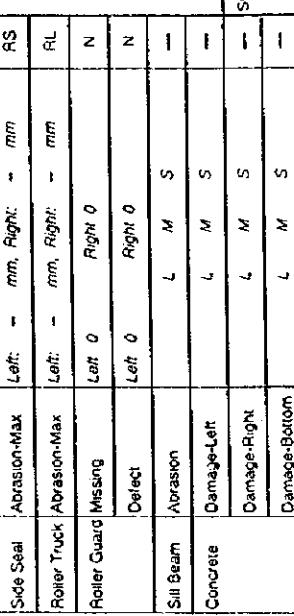



Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Thickness-Avg	Top - Mid - Low - Btm - (9.5mm)	—	Wire Rope			
Corrosion	U/S-Bottom L (M) S	G	Main-Left	Y: - Distortion: - Corrosion: - Oil: -	G	
Damage-Rivet	Cornet-L 1 Corner-R 1	G	Main-Right	Y: - Distortion: - Corrosion: - Oil: -	G	
Thickness-Avg	Bottom Flange - Bottom Web - (19.1mm)	—	Roller Train-L	Y: - Distortion: - Corrosion: - Oil: -	C	
Distortion		—	Roller Train-R	Y: - Distortion: - Corrosion: - Oil: -	C	
End Girder			Left	Damage: - Function: -	RS	
Thickness-Avg	L-Bottom - R-Bottom - (11.1mm)	C	Right	Damage: - Function: -	↑	
Remodeling	Left No Right No	↑	Drum	Damage: - Oil: -	↓	
Distortion	Left 15 mm Bend Right -		Counter Shaft	Damage: - Oil: -	RS	
Thickness-Avg	Flange - mm (16.3), Web - mm (9.4)		Reduction Gear	Damage: - Oil: -	C	
Corrosion	L M S		Drum Gear-L	Damage: - Filing: - Backlash: - Oil: -	RS	
Remodeling	Left No Right No		Drum Pinion-L	Damage: -	↑	
Distortion	Left M Ab. Right Heavy Ab.		Drum Gear-R	Damage: - Filing: - Backlash: - Oil: -		
Others	No Function		Drum Pinion-R	Damage: -		
Missing	Left 1 Right 1		Gear-Middle	Damage: - Filing: - Backlash: - Oil: -		
Diameter-Roller	Average - mm		Pinion-Middle	Damage: -		
Distortion	Left - Right -		Drum-L	Damage: - Corrosion: L M (S)	↓	
Left	2.5 m Broken		Drum-R	Damage: - Corrosion: L M (S)		
Bottom	Lost		Drive Device	Damage: - Corrosion: L (M) S	RS	
Right	4 m Broken		Drive Chain	Damage: - Looseness: - Oil: -	C	
Inclination	Top Level Difference 30 mm	↓	Chain Sprocket	Damage: - Corrosion: L (M) S	↑	
<b>Leakage</b>						
	L (M) S	C	Reduction Gear	Damage: - Corrosion: L (M) S		
<b>Sill</b>						
			Cover	Damage: - Corrosion: L M (S)		
Abrasion-Max	Left: - mm, Right: - mm	RS	Drum-L	Damage: - Corrosion: L M (S)	↓	
Abrasion-Truck	Left: - mm, Right: - mm	RL	Drum-R	Damage: - Corrosion: L M (S)	C	
Roller Guard	Left 1 Right 0	N	Gear-Middle	Damage: - Corrosion: L (M) S	G	
Defect	Left 0 Right 0	N	Counter Shaft	Damage: - Corrosion: L M S	RS	
Abrasion	L M S	—	Counter Weight	Damage: - Corrosion: L M S	G	
Damage-Left	L M S	—	Hoisting	Wet Condition 28 kg-m	RS	
Damage-Right	L M S	—	Torque	Dry Condition 5.9 kg-m	RS	
Damage-Bottom	L M S	—	Superstructure		Damage: - Corrosion: L M (S)	RS

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

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Gate No. W56 (Main Weir Gate)		Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf					Hoisting Device			
Sun Plate	Thickness-Avg	Top - Mid - Low - Btm - (9.5mm)	—		Wire Rope	Main-Left	Y - Distortion: - Corrosion: - Oil: -	
	Corrosion	UIS-Bottom L M S	G		Main-Right	Y - Distortion: - Corrosion: - Oil: -	G	
Truss	Damage-Rivet	Corner-L 2 Corner-R 1	G		Roller Train-L	Y - Distortion: - Corrosion: - Oil: -	G	
	Thickness-Avg	Bottom Flange - Bottom Web - (19.1mm)	—		Roller Train-R	Y - Distortion: - Corrosion: - Oil: -	C	
End Groove	Distortion		—		Drum	Left	Damage: - Function: -	
	Thickness-Avg	L-Bottom - R-Bottom - (11.1mm)	C		Right	Damage: - Function: -	A	
Bottom	Remodeling	Left No Right No	↑		Bearing	Drum	Damage: - Oil: -	
	Distortion	Left - Right -			Counter Shaft	Damage: - Oil: -	RS	
Groove	Thickness-Avg	Flange - mm (16.3), Web - mm (3.4)			Reduction Gear	Damage: - Oil: -	C	
	Corrosion	L M S			Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	RS	
Rocker Assembly	Remodeling	Left No Right No			Drum Pinion-L	Damage: -	↑	
	Distortion	Left Heavy Ab. Right Heavy Ab.			Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -		
Roller Train	Others	No Function			Drum Pinion-R	Damage: -		
	Missing	Left 2 Right -			Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -		
Seal	Diameter-Roller	Average - mm			Pinion-Middle	Damage: -		
	Distortion	Left - Right -			Drum-L	Damage: - Corrosion: L M S		
Inclination	Left	4.0 m Broken			Drum-R	Damage: - Corrosion: L M S	↓	
	Bottom	Lost			Drive Device	Damage: - Corrosion: L M S	RS	
Leakage	Right	4.0 m Broken			Drive Chain	Damage: - Looseness: L Oil: -	C	
	Top Level Difference 10 mm	Ⓛ M S	↓		Chain Sprocket	Damage: - Corrosion: L M S	↑	
Sill	Side Seal	Left: - mm, Right: - mm	RS		Reduction Gear	Damage: - Corrosion: L M S		
	Roller Truck	Left: - mm, Right: - mm	RL		Cover	Damage: - Corrosion: L M S	↓	
Concrete	Roller Guard	Left 0 Right 0	N		Drum-L	Damage: - Corrosion: L M S		
	Defect	Left 0 Right 0	N		Drum-R	Damage: - Corrosion: L M S	C	
Sill Beam	Abrasion	L M S	—		Gear-Middle	Damage: - Corrosion: L M S	G	
	Damage-Left	L M S	—		Counter Shaft	Damage: - Corrosion: L M S	RS	
Damage-Right	Damage-Right	L M S	—		Counter Weight	Damage: -	RL	
	Damage-Bottom	L M S	—		Housing	Water Condition 44.4 kg-m	RS	
					Torque	Dry Condition	3.9 kg-m	
					Superstructure	Damage: - Corrosion: L M S	RS	

( ) shows design dimension.

# Survey Results of Gate Structure

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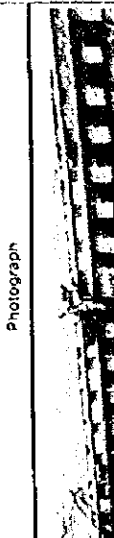
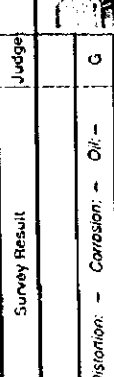
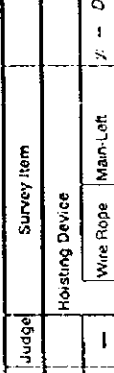
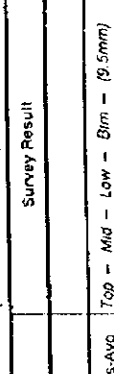
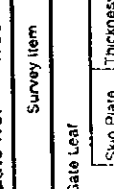
Gate No. W57 (Main Weir Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top - Mid - Low - Blm - (9.5mm)	Moisting Device	Wire Rope		
	Corrosion	U/S-Bottom L M S		Main-Left	% - Distortion: - Corrosion: - Oil: -	
	Damage-Rivet	Corner-L 1.5 Corner-R 1		Main-Right	% - Distortion: - Corrosion: - Oil: -	
Truss	Thickness-Avg	Bottom Flange - Bottom Web - (12.1mm)		Roller Train-L	% - Distortion: - Corrosion: - Oil: -	
	Distortion			Roller Train-R	% - Distortion: - Corrosion: - Oil: -	
End Girder	Thickness-Avg	L-Bottom - R-Bottom - (11.1mm)	Drum	Left	Damage: - Function: Miss Alignment	
	Remodeling	Left No Right No		Right	Damage: - Function: -	
	Distortion	Left - Right -	Bearing	Drum	Damage: - Oil: -	
Bottom	Thickness-Avg	Flange - mm (16.3), Web - mm (9.4)		Counter Shaft	Damage: - Oil: -	
	Corrosion	L M S		Reduction Gear	Damage: Loose Oil: -	
	Remodeling	Left No Right No	Gear	Drum Gear-L	Damage: - Filing: - Backlash: - Oil: -	
Assembly	Distortion	Left Heavy Ab. Right Heavy Ab.		Drum Pinion-L	Damage: -	
	Others	No Function		Drum Gear-R	Damage: - Filing: - Backlash: - Oil: -	
	Missing	Left - Right -		Drum Pinion-R	Damage: -	
Roller Train	Diameter-Roller	Average - mm		Gear-Middle	Damage: - Filing: - Backlash: - Oil: -	
	Distortion	Left - Right -		Pinion-Middle	Damage: -	
	Left	3.0 m Broken	Basement	Drum-L	Damage: - Corrosion: L M S	
Seal	Bottom	Lost		Drum-R	Damage: - Corrosion: L M S	
	Right	4.0 m Broken		Drive Device	Damage: - Corrosion: L M S	
	Inclination	Top Level Difference 0 mm		Drive Chain	Damage: - Looseness: - Oil: -	
<b>Leakage</b>						
Sill	L M S			Chain Sprocket	Damage: - Corrosion: L M S	
	L M S			Reduction Gear	Damage: - Corrosion: L M S	
	L M S			Cover	Drum-L	Damage: - Corrosion: L M S
Side Seal	Left: - mm, Right: - mm			Drum-R	Damage: - Corrosion: L M S	
	Left: 14 mm, Right: 15 mm			Gear-Middle	Damage: - Corrosion: L M S	
	Left 0 Right 0			Counter Shaft	Damage: - Corrosion: L M S	
Roller Truck	Left 0 Right 0			Counter Weight	Damage: - Corrosion: L M S	
	Left 0 Right 0			Hoisting	Wet Condition	37 kg-m
	Left 0 Right 0			Torque	Dry Condition	3.9 kg-m
Sill Beam	L M S			Supersstructure		
	L M S			Damage: - Corrosion: L M S		
	L M S			Damage: -		
Concrete	L M S			Damage: -		
	L M S			Damage: -		
	L M S			Damage: -		

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, - : No Data.

( ) shows design dimension

(0673)

Gate No.	WSB	Survey Item	Survey Result	Judge	Hoisting Device	Survey Item	Survey Result	Judge	Photograph
Gate Leaf	Skin Plate	Thickness-Avg	Top - Mid - Low - 8mm - 8mm - (9.5mm)	—	Wire Rope	Main-Left	Y: — Distortion: — Corrosion: — Oil: —	G	
		Corrosion	U/S-Bottom L M S	G		Main-Right	Y: — Distortion: — Corrosion: — Oil: —	G	
	Truss	Damage-Rivet	Corner-L 1 Corner-R 1	G	Drum	Roller Train-L	Broken	C	
		Thickness-Avg	Bottom Flange — , Bottom Web — (19.1mm)	—		Roller Train-R	Broken	C	
	End Girder	Distortion	—	—	Bearing	Left	Damage: — Function: —	AS	
		Thickness-Avg	L-Bottom — , S-Bottom — (11.1mm)	C		Right	Damage: — Function: —	↑	
	Bottom	Remodeling	Left No Right No	↑	Gear	Drum	Damage: — Oil: —	AS	
		Distortion	Left — Right —	—		Counter Shaft	Damage: — Oil: —	AS	
	Girder	Thickness-Avg	Flange — mm (16.3), Web — mm (9.4)	—	Basement	Reduction Gear	Damage: — Oil: —	C	
		Corrosion	L M S	—		Drum Gear-L	Damage: — Fitting: — Backlash: — Oil: —	AS	
Rocker	Remodeling	Left No Right No	—	Drive Chain	Drum Pinion-L	Damage: —	↑		
	Distortion	Left Heavy Ab. Right Heavy Ab.	—		Drum Gear-R	Damage: — Fitting: — Backlash: — Oil: —	—		
Assembly	Others	No Function	—	Chain Sprocket	Drum Pinion-R	Damage: —	—		
	Missing	Left — Right —	—		Gear-Middle	Damage: — Fitting: — Backlash: — Oil: —	—		
Roller Train	Diameter-Roller	Average — mm	—	Reduction Gear	Pinion-Middle	Damage: —	—		
	Distortion	Left — Right —	—		Drum-L	Damage: — Corrosion: L M S	—		
Seal	Left	4.0 m Broken	—	Cover	Drum-R	Damage: — Corrosion: L M S	↓		
	Bottom	Lost	—		Gear-Middle	Damage: — Corrosion: L M S	C		
Inclination	Right	4.0 m Broken	—	Counter Shaft	Counter Shaft	Damage: — Corrosion: L M S	G		
	Top Level Difference	40 mm	↓		Counter Weight	Damage: — Corrosion: L M S	AS		
Leakage	Sill	Top Level Difference	40 mm	↓	Hoisting Torque	Wet Condition	20 kg-m	G	
		Leakage	L M S	C		Dry Condition	39 kg-m	AS	
Side Seal	Roller Truck	Abrasion-Max	Left: — mm, Right: — mm	AS	Superstructure	Torque	Damage: — Corrosion: L M S	AS	
		Abrasion-Max	Left: 12 mm, Right: 13 mm	RL					
Roller Guard	Sill Beam	Missing	Left 0 Right 0	N	Concrete	Damage-Left	—	—	
		Defect	Left 0 Right 0	N			Damage-Right	—	
Concrete	Damage-Right	Abrasion	L M S	—	Damage-Bottom	Damage-Bottom	L M S	—	
		Damage-Left	L M S	—					

} shows design dimension.

# Survey Results of Gate Structure

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Gate No. W59 (Main Weir Gate)

Gate No. W59 (Main Weir Gate)			Photograph		
Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge
Gate Leaf					
Skin Plate	Thickness-Avg	Top 10.0 Mid 10.0 Low 9.8 Btm - (9.5mm)	Wire Rope	Main-Left	Y: - Distortion: - Corrosion: - Oil: -
	Corrosion	U/S-Bottom L (M) S		Main-Right	Y: - Distortion: - Corrosion: - Oil: -
Truss	Damage-Rivet	Corner-L 1 Corner-R 1	Drum	Roller Train-L	Y: - Distortion: - Corrosion: - Oil: -
	Thickness-Avg	Bottom Flange - , Bottom Web - (19.1mm)		Roller Train-R	Y: - Distortion: - Corrosion: - Oil: -
End Girder	Distortion	-	Bearing	Left	Damage: - Function: -
	Thickness-Avg	L-Bottom - , R-Bottom - (11.1mm)		Right	Damage: - Function: -
Bottom	Remodeling	Left No Right No	Gear	Drum	Damage: - Oil: -
	Distortion	Left Bend Right -		Counter Shaft	Damage: - Oil: -
Girder	Thickness-Avg	Flange - mm (16.3), Web - mm (9.4)	Drum Pinion-L	Reduction Gear	Damage: - Oil: -
	Corrosion	L M S		Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -
Roller Train	Remodeling	Left No Right No	Pinion-Middle	Drum Pinion-L	Damage: -
	Distortion	Left Heavy Ab. Right Heavy Ab.		Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -
Seal	Others	No Function	Basement	Drum Pinion-R	Damage: -
	Missing	Left - Right -		Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -
Inclination	Diameter-Roller	Average - mm	Drive Chain	Pinion-Middle	Damage: -
	Distortion	Left - Right -		Drum-L	Damage: - Corrosion: L M (S)
Leakage	Left	3 m Broken	Chain Sprocket	Drum-R	Damage: - Corrosion: L M (S)
	Bottom	Lost		Gear-Middle	Damage: - Corrosion: L (M) S
Sill	Right	3 m Broken	Cover	Counter Shaft	Damage: - Corrosion: L M S
	Top Level Difference	20 mm		Counter Weight	Damage: - Corrosion: L M S
Side Seal	Abrasion-Max	Left: - mm, Right: - mm	Hoisting	Wet Condition	20 kg-m
	Abrasion-Max	Left: 13 mm, Right: 13 mm		Torque	Dry Condition
Roller Guard	Missing	Left 0 Right 0	Supersubstructure	Damage: -	Corrosion: L M (S)
	Defect	Left 0 Right 0			
Sill Beam	Abrasion	L M S			
	Damage-Left	L M S			
Concrete	Damage-Right	L M S			
	Damage-Bottom	L M S			

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, Rv: Medium Repair, RS: Small Repair, G: No Repair, - : No Data.

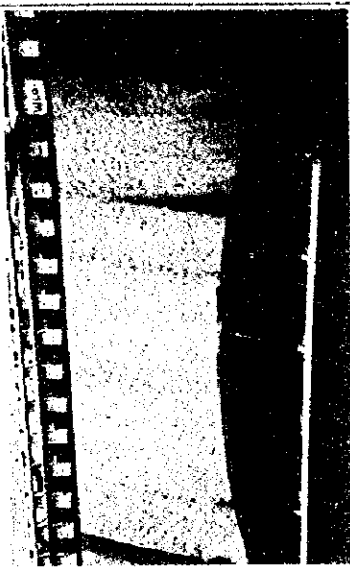
( ) shows design dimension.

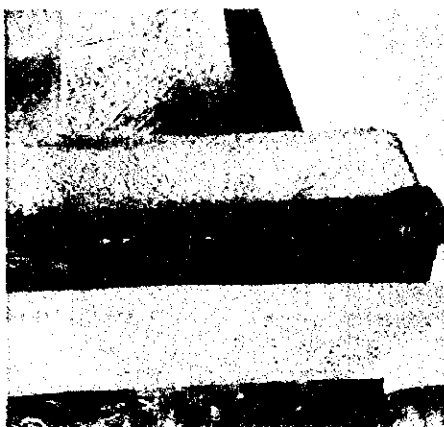
# Survey Results of Gate Structure


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Gate No. W60 (Main Weir Gate)

Survey Item		Survey Result		Judge	Survey Item		Survey Result		Judge
Gate Leaf					Hoisting Device				
Skin Plate	Thickness-Avg	Top - Mid - Low - Btm - (9.5mm)		-	Wire Rope	Main-Left	y: - Distortion: - Corrosion: - Oil: -	G	
	Corrosion	U/S-Bottom L M (S)		G		Main-Right	y: - Distortion: - Corrosion: - Oil: -	G	
	Damage-Rivet	Corner-L 1 Corner-R 1		G		Roller Train-L	Broken	C	
	Thickness-Avg	Bottom Flange - , Bottom Web - (19.1mm)		-		Roller Train-R	y: - Distortion: - Corrosion: - Oil: -	C	
Truss	Distortion			-	Drum	Left	Damage: - Function: Miss Alignment	RS	
	Thickness-Avg	L-Bottom - , R-Bottom - (11.1mm)		C		Right	Damage: - Function: -	↑	
	Remodeling	Left No Right No		↑		Drum	Damage: - Oil: -	↓	
	Distortion	Left - Right Small Bend				Counter Shaft	Damage: - Oil: -	RS	
Bottom	Thickness-Avg	Flange - mm (16.3), Web - mm (9.4)			Gear	Reduction Gear	Damage: - Oil: -	C	
	Corrosion	L M S				Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	RS	
	Remodeling	Left No Right No				Drum Pinion-L	Damage: -	↑	
	Distortion	Left Heavy Ab. Right Broken				Drum Gear-R	Damage: - Fitting: 30% Backlash, 4.6 mm Oil: -		
Rocker Assembly	Others	No Function			Pinion-Middle	Drum Pinion-R	Damage: -		
	Missing	Left - Right -				Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -		
	Diameter-Roller	Average - mm				Pinion-Middle	Damage: -		
	Distortion	Left - Right -				Drum-L	Damage: - Corrosion: L M (S)		
Seal	Left	5 m Broken			Basement	Drum-R	Damage: - Corrosion: L M (S)	↓	
	Bottom	Lost				Drive Device	Damage: - Corrosion: L (M) S	RS	
	Right	Lost				Drive Chain	Damage: - Looseness: - Oil: -	C	
	Inclination	Top Level Difference 10 mm		↓		Chain Sprocket	Damage: - Corrosion: L (M) S	↑	
Leakage		L (M) S		C	Cover	Reduction Gear	Damage: - Corrosion: L (M) S		
						Drum-L	Damage: - Corrosion: L M (S)		
						Drum-R	Damage: - Corrosion: L M (S)	↓	
						Gear-Middle	Damage: - Corrosion: L (M) S	C	
Sill	Abrasion-Max	Left: - mm, Right: - mm		RS	Counter Shaft	Counter Shaft	Damage: - Corrosion: L M S	G	
	Abrasion-Max	Left: 10 mm, Right: 13 mm		RL		Counter Weight	Damage: - Corrosion: L M S	RS	
	Missing	Left 1 Right 1		N		Hosing	Wet Condition	44.4 kg m	RL
	Defect	Left 0 Right 1		N		Torque	Dry Condition	3.1 kg m	RS
Concrete	Abrasion	L M S		-	Superstructure	Damage: - Corrosion: L M (S)		RS	
	Damage-Left	L M S		-					
	Damage-Right	L M S		-					
	Damage-Bottom	L M S		-					







Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, - : No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

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Gate No. W61 (Main Weir Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
San Plate	Thickness-Avg Top - Mid - Low - Btm - (9.5mm)	—	Wire Rope	Main-Left Main-Right Roller Train-L Roller Train-R	Y - Distortion: - Corrosion: - Oil: - Y - Distortion: - Corrosion: - Oil: - Y - Distortion: - Corrosion: - Oil: - Y - Distortion: - Corrosion: - Oil: -	
	Corrosion UIS-Bottom L M (S)	C		Left Right	Damage: - Function: - Damage: - Function: -	
	Damage-Rivet Corner-L 1 Corner-R 1	G		Drum	Damage: - Oil: -	
	Thickness-Avg Bottom Flange - , Bottom Web - (19.1mm)	—		Bearing	Damage: - Oil: -	
Truss	Distortion	—				
End Girder	Thickness-Avg L-Bottom - , R-Bottom - (11.1mm)	C				
	Remodeling Left No Right No	↑				
	Distortion Left - Right 2 m Bend					
Bottom	Thickness-Avg Flange - mm (16.3), Web - mm (9.4)					
Girder	Corrosion L M S					
Rocker	Remodeling Left No Right No					
Assembly	Distortion Left Heavy Ab. Right Heavy Ab.					
	Others No Function					
Roller Train	Missing Left - Right -					
	Diameter-Roller Average - mm					
	Distortion Left - Right -					
Seal	Left 0.5 m Broken					
	Bottom Good					
	Right Good					
Inclination	Top Level Difference 10 mm	↓				
Leakage	L M (S)	C				
Sill						
Side Seal	Abrasion-Max Left: - mm, Right: - mm	RS				
Roller Truck	Abrasion-Max Left: 12 mm, Right: 10 mm	PL				
Roller Guard	Missing Left 0 Right 0	N				
	Defect Left 2 Right 2	N				
Sill Beam	Abrasion L M S	—				
Concrete	Damage-Left L M S	—				
	Damage-Right L M S	—				
	Damage-Bottom L M S	—				
<b>Remarks:</b> Judgement: N: Totally Replace, C: Partly Replace, RS: Medium Repair, PL: Large Repair, RM: Small Repair, G: No Repair, -: No Data.						
( ) shows design dimension.						

# Survey Results of Gate Structure

(70/96)

Gate No.	U62U	(Upper Undersluice Gate)	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>								
Skin Plate	Thickness-Avg	Top - Mid - Low - 8mm 9.7 (9.5mm)	N	Hoisting Device	Wire Rope	Distortion: - Corrosion: - Oil: -	G	
	Corrosion	U/S-Bottom L M S	↑		Main-Left	Distortion: - Corrosion: - Oil: -	G	
	Damage-Rivet	Corner-L - Corner-R -			Main-Right	Distortion: - Corrosion: - Oil: -	G	
	Thickness-Avg	Bottom Flange 16.1, Bottom Web 19.0 (19.1mm)			Roller Train-L	Broken	N	
Truss	Distortion			Drum	Roller Train-R	Distortion: - Corrosion: - Oil: -	N	
	Thickness-Avg	L-Bottom 12.4, R-Bottom 12.6 (12.7mm)			Left	Damage: - Function: Miss Alignment	RS	
End Girder	Remodeling	Left No Right No		Bearing	Right	Damage: - Function: Miss Alignment	↑	
	Distortion	Left - Right -			Drum	Damage: - Oil: -	↓	
Bottom Girder	Thickness-Avg	Flange 11.4 mm (16.3), Web 9.4 mm (9.4)		Gear	Counter Shaft	Damage: - Oil: -	RS	
	Corrosion	⊙ M S			Reduction Gear	Damage: - Oil: -	C	
Rocker Assembly	Remodeling	Left No Right No		Pinion-Middle	Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	RS	
	Distortion	Left - Right -			Drum Pinion-L	Damage: -	↑	
Roller Train	Others	No Function		Basement	Drum Gear-R	Damage: - Fitting: 90% Backlash: 4.1 mm Oil: -		
	Missing	Left - Right -			Drum Pinion-R	Damage: -		
Seal	Diameter-Roller	Average - mm		Drive Chain	Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -		
	Distortion	Left - Right -			Pinion-Middle	Damage: -		
Inclination	Left	3 m Broken		Chain Sprocket	Drum-L	Damage: - Corrosion: L M S	↓	
	Bottom	Good			Drum-R	Damage: - Corrosion: L M S	↓	
Leakage	Right	2 m Broken		Reduction Gear	Drive Device	Damage: - Corrosion: L M S	RS	
	Top Level Difference 100 mm		↓		Drum Chain	Damage: - Looseness: - Oil: -	C	
Sill	Left	L M S	N	Cover	Chain Sprocket	Damage: - Corrosion: L M S	↑	
	Right				Reduction Gear	Damage: - Corrosion: L M S		
Side Seal	Abrasion-Max	Left: - mm, Right: - mm	RS	Counter Shaft	Drum-L	Damage: - Corrosion: L M S	↓	
	Abrasion-Min	Left: - mm, Right: - mm	N		Drum-R	Damage: - Corrosion: L M S	↓	
Roller Guard	Missing	Left 0 Right 0	N	Counter Weight	Gear-Middle	Damage: - Corrosion: L M S	C	
	Defect	Left 0 Right 0	N		Counter Shaft	Damage: - Corrosion: L M S	G	
Sill Beam	Abrasion	L M S	N	Torque	Counter Weight	Damage: - Corrosion: L M S	RS	
	Damage-Left	L M S			Hoisting	Wet Condition	- kg-m	
Concrete	Damage-Right	L M S		Superstructure	Dry Condition	3.1 kg-m	RS	
	Damage-Bottom	L M S			Damage: - Corrosion: L M S		RS	

Remarks: Judgement = N: Totally Replace, C: Partly Replace, R: Large Repair, RS: Medium Repair, G: No Repair, -: No Data.


( ) shows design dimension.



# Survey Results of Gate Structure

(7/196)

Gate No. U62L (Lower Undersluice Gate)

Survey Item		Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf							
Hoisting Device							
Wire Rope				Main-Left	% Distortion: - Corrosion: - Oil: -	G	
San Plate	Top - Mid - Low - Btm 8.1 (9.5mm)	N		Main-Right	% Distortion: - Corrosion: - Oil: -	G	
Thickness-Avg	U/S-Bottom (L) M S	↑		Roller Train-L	% Distortion: - Corrosion: - Oil: -	N	
Corrosion	Corner-L 14.5 mm Corner-R 12 mm			Roller Train-R	Broken	N	
Damage-Rivet	Bottom Flange 21.4, Bottom Web 20.7 (22.2mm)			Left	Damage: - Function: Touching Flange	RS	
Thickness-Avg				Right	Damage: - Function: Over Lapping	↑	
Distortion	L-Bottom 10.1, R-Bottom 10.4 (12.7mm)			Drum	Damage: - Oil: -	↓	
End Girder	Left Re Right Re			Counter Shaft	Damage: - Oil: -	RS	
Remodeling	Left - Right Bend			Reduction Gear	Damage: Loose Oil: -	C	
Distortion				Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	RS	
Bottom	Flange 14.3 mm (16.0), Web 7.6 mm (9.7)			Drum Pinion-L	Damage: -	↑	
Girder	Corrosion L (M) S			Drum Pinion-R	Damage: -		
Roller	Remodeling Left Re Right Re			Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -		
Assembly	Distortion Left - Right -			Pinion-Middle	Damage: -		
Others	Original Type			Drum-L	Damage: - Corrosion: L M (S)	↓	
Roller Train	Missing Left 1 Right -			Drum-R	Damage: - Corrosion: L M (S)	↓	
Diameter-Roller	Average - mm			Drive Device	Damage: - Corrosion: L (M) S	RS	
Distortion	Left - Right -			Drive Chain	Damage: - Looseness: - Oil: -	C	
Left	Lost			Chain Sprocket	Damage: - Corrosion: L (M) S	↑	
Bottom	Lost			Reduction Gear	Damage: - Corrosion: L (M) S		
Right	Lost			Cover	Damage: - Corrosion: L M (S)		
Inclination	Top Level Difference 20 mm	↓		Drum-L	Damage: - Corrosion: L M (S)	↓	
Leakage							
Sill							
Side Seal	Abrasion-Max Left: - mm, Right: - mm	RS		Drum-R	Damage: - Corrosion: L M (S)	↓	
Roller Truck	Abrasion-Max Left: - mm, Right: - mm	RL		Gear-Middle	Damage: - Corrosion: L (M) S	C	
Roller Guard	Missing Left 1 Right 1	N		Counter Shaft	Damage: - Corrosion: L M S	C	
Defect	Left 0 Right 0	N		Counter Weight	Damage: - Corrosion: L M S	RS	
Sill Beam	Abrasion Left M S	-		Hoisting	Wet Condition - kg-m	-	
Concrete	Damage-Left L M S	-		Torque	Dry Condition 3.1 kg-m	RS	
Damage-Right	L M S	-		Superstructure		Damage: - Corrosion: L M (S)	RS
Damage-Bottom	L M S	-					

Remarks: Judgement: N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, V: No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

(72 / 96)

Gate No. U63U (Upper Undersluice Gate)			Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf									
Skin Plate	Thickness-Avg		Top - Mid - Low - Dim 9.9 (9.5mm)		N	Wire Rope	Main-Left	Y: Distortion: - Corrosion: - Oil: -	G
	Corrosion		U/S-Bottom L M S		↑		Main-Right	Y: Distortion: - Corrosion: - Oil: -	G
	Damage-Rivet		Corner-L - Corner-R -				Roller Train-L	Broken	N
	Thickness-Avg		Bottom Flange 19.0, Bottom Web 18.7 (19.1mm)				Roller Train-R	Y: Distortion: - Corrosion: - Oil: -	N
Truss	Distortion					Drum	Left	Damage: - Function: -	RS
	Thickness-Avg		L-Bottom 12.9, R-Bottom 13.1 (12.7mm)				Right	Damage: - Function: Over Lapping	↑
	Remodeling		Left No Right No				Drum	Damage: - Oil: -	↓
	Distortion		Left - Right -				Counter Shaft	Damage: - Oil: -	RS
Bottom	Thickness-Avg		Flange 11.6 mm (16.3), Web 9.1 mm (9.4)			Gear	Reduction Gear	Damage: - Oil: -	C
	Corrosion		L M S				Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	RS
	Remodeling		Left No Right No				Drum Pinion-L	Damage: -	↑
	Distortion		Left - Right -				Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -	
Assembly	Others		No Function			Pinion-R	Drum Pinion-R	Damage: -	
	Missing		Left - Right -				Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -	
	Diameter-Roller		Average - mm				Pinion-Middle	Damage: -	
	Distortion		Left - Right -				Drum-L	Damage: - Corrosion: L M S	
Seal	Left		2 m Broken			Basement	Drum-R	Damage: - Corrosion: L M S	↓
	Bottom		Good				Drive Device	Damage: - Corrosion: L M S	RS
	Right		3 m Broken				Drive Chain	Damage: - Looseness: - Oil: -	C
	Inclination		Top Level Difference 14 mm		↓		Chain Sprocket	Damage: - Corrosion: L M S	↑
Leakage									
Sill									
Side Seal	Abrasion-Max		Left: - mm, Right: - mm		RS	Cover	Drum-L	Damage: - Corrosion: L M S	
	Roller Truck		Left: - mm, Right: - mm		N		Drum-R	Damage: - Corrosion: L M S	↓
	Roller Guard		Left 1 Right 0		N		Gear-Middle	Damage: - Corrosion: L M S	C
	Sill Beam		Left 1 Right 0		N		Counter Shaft	Damage: - Corrosion: L M S	G
Concrete	Abrasion		L M S			Counter Weight	Damage: -	Corrosion: L M S	RS
	Damage-Left		L M S				Hoisting	- - kg-m	-
	Damage-Right		L M S				Torque	4.7 kg-m	RS
	Damage-Bottom		L M S				Superstructure	Damage: - Corrosion: L M S	RS

Remarks: Judgement: N: Totally Replace, C: Partly Replace, G: Partly Replace, RS: Small Repair, M: Medium Repair, L: Large Repair, R: No Repair, -: No Data.

↑ ↓ shows design dimension.

# Survey Results of Gate Structure

(73/96)

Gate No. U63L (Lower Undersluice Gate)


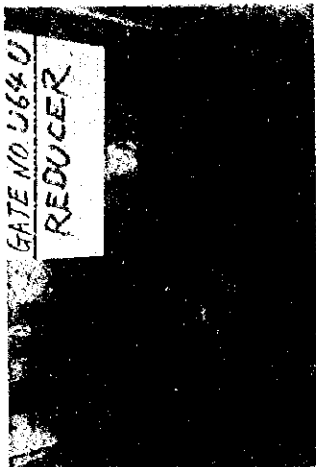
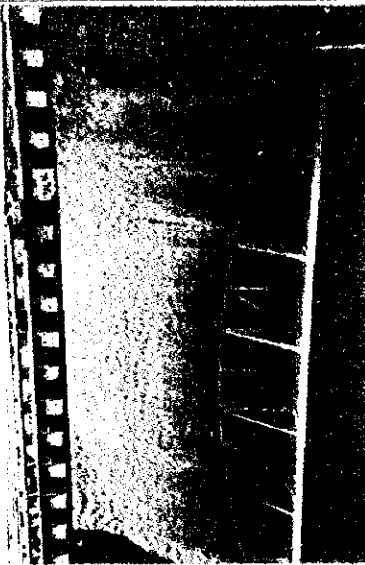
Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top - Mid - Low - Btm 8.4 (9.5mm)	N	Wire Rope		
	Corrosion	U/S-Bottom (L) M S	^	Main-Left	Distortion: - Corrosion: - Oil: -	
	Damage-Rivet	Corner-L 13 mm Corner-R 11 mm		Main-Right	Distortion: - Corrosion: - Oil: -	
Truss	Thickness-Avg	Bottom Flange 21.8, Bottom Web 20.9 (22.2mm)		Roller Train-L	Distortion: - Corrosion: - Oil: -	
	Distortion			Roller Train-R	Distortion: - Corrosion: - Oil: -	
End Girder	Thickness-Avg	L-Bottom 11.0, R-Bottom 10.5 (12.7mm)		Loft	Damage: - Function: Miss Alignment	
	Remodeling	Left Re Right Re		Right	Damage: - Function: Over Lapping	
	Distortion	Left Small Bend Right -		Drum	Damage: - Oil: -	
Bottom	Thickness-Avg	Flange 14.4 mm (16.0), Web 7.0 mm (9.7)		Counter Shaft	Damage: - Oil: -	
	Corrosion	L (M) S		Reduction Gear	Damage: - Oil: -	
Girder	Remodeling	Left Re Right Re		Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	
	Distortion	Left - Right -		Drum Pinion-L	Damage: -	
Roller Train	Missing	Left - Right -		Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -	
	Diameter-Roller	Average - mm		Drum Pinion-R	Damage: -	
Seal	Distortion	Left - Right -		Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -	
	Left	Lost		Pinion-Middle	Damage: -	
Inclination	Bottom	Lost		Drum-L	Damage: - Corrosion: L M (S)	
	Right	Lost		Drum-R	Damage: - Corrosion: L M (S)	
Leakage	Top Level Difference	30 mm	^	Drive Device	Damage: - Corrosion: L (M) S	
		(L) M S	N	Drive Chain	Damage: - Looseness: - Oil: -	
Sill	Abrasion-Max	Left: - mm, Right: - mm	RS	Chain Sprocket	Damage: - Corrosion: L (M) S	
	Roller Truck	Left: - mm, Right: - mm	RL	Reduction Gear	Damage: - Corrosion: L (M) S	
Concrete	Roller Guard	Left 0 Right 1	N	Cover	Drum-L	Damage: - Corrosion: L M (S)
	Defect	Left 0 Right 0	N	Drum-R	Damage: - Corrosion: L M (S)	
Sill Beam	Abrasion	L M S	-	Gear-Middle	Damage: - Corrosion: L (M) S	
	Damage-Left	L M S	-	Counter Shaft	Damage: - Corrosion: L M S	
Concrete	Damage-Right	L M S	-	Counter Weight	Damage: - Corrosion: L M S	
	Damage-Bottom	L M S	-	Hoisting	Wet Condition	- kg-m
Concrete	Damage-Right	L M S	-	Torque	Dry Condition	19.5 kg-m
	Damage-Bottom	L M S	-	Superstructure	Damage: - Corrosion: L M (S)	

Remarks: Judgement: N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.

Gate No. U64J (Upper Undersluice Gate)		Survey Item	Survey Result	Judge
Gate Leaf				
Skin Plate	Thickness-Avg	Top - Mid - Low - Bm 10.1 (9.5mm)		N
	Corrosion	U/S-Bottom L M S		↑
Damage-Rivet	Corrosion	Corner-L - Corner-R -		
	Thickness-Avg	Bottom Flange 19.7 , Bottom Web 18.5 (19.1mm)		
Truss	Distortion			
	Thickness-Avg	L-Bottom 12.7 , R-Bottom 12.8 (12.7mm)		
End Girder	Remodeling	Left No Right No		
	Distortion	Left - Right -		
Bottom	Thickness-Avg	Flange 11.7 mm (16.3), Web 9.4 mm (9.4)		
	Corrosion	L M S		
Rocker	Remodeling	Left No Right No		
	Distortion	Left - Right -		
Assembly	Others	No Function		
	Missing	Left - Right -		
Roller Train	Diameter-Roller	Average - mm		
	Distortion	Left - Right -		
Seal	Left	1 m Broken		
	Bottom	Good		
Right	Right	2 m Broken		
	Inclination	Top Level Difference 20 mm		↓
Leakage				
Sill Seal	Abrasion-Max	Left: - mm, Right: - mm		RS
	Abrasion-Max	Left: 10 mm, Right: 11 mm		N
Roller Guard	Missing	Left 0 Right 0		N
	Defect	Left 0 Right 0		N
Sill Beam	Abrasion	L M S		
	Damage-Left	L M S		
Concrete	Damage-Right	L M S		
	Damage-Bottom	L M S		

Survey Item		Survey Result	Judge
Hoisting Device			
Wire Rope	Main-Left	% Distortion: - Corrosion: - Oil: -	G
	Main-Right	% Distortion: - Corrosion: - Oil: -	G
Roller Train-L	Roller Train-L	% Distortion: - Corrosion: - Oil: -	N
	Roller Train-R	% Distortion: - Corrosion: - Oil: -	N
Drum	Left	Damage: - Function: -	RS
	Right	Damage: - Function: -	↑
Bearing	Drum	Damage: - Oil: -	↓
	Counter Shaft	Damage: - Oil: -	RS
Gear	Reduction Gear	Damage: Broken Oil: -	C
	Drum Gear-L	Damage: - Filing: 80% Backlash: - Oil: -	RS
Pinion-L	Drum Pinion-L	Damage: Miss Alignment	↑
	Drum Gear-R	Damage: - Filing: - Backlash: - Oil: -	
Pinion-R	Drum Pinion-R	Damage: Miss Alignment	
	Gear-Middle	Damage: - Filing: - Backlash: - Oil: -	
Basement	Pinion-Middle	Damage: -	
	Drum-L	Damage: - Corrosion: L M S	
Drive Device	Drum-R	Damage: - Corrosion: L M S	↓
	Drive Device	Damage: - Corrosion: L M S	RS
Chain Sprocket	Drive Chain	Damage: - Looseness: - Oil: -	C
	Chain Sprocket	Damage: - Corrosion: L M S	↑
Cover	Reduction Gear	Damage: - Corrosion: L M S	
	Drum-L	Damage: - Corrosion: L M S	
Counter Shaft	Drum-R	Damage: - Corrosion: L M S	↓
	Gear-Middle	Damage: - Corrosion: L M S	C
Counter Weight	Counter Shaft	Damage: - Corrosion: L M S	G
	Counter Weight	Damage: - Corrosion: L M S	RS
Torque	Hoisting	Wet Condition	-
	Torque	Dry Condition	17.2 kg-m
Superstructure		Damage: - Corrosion: L M S	RS



GATE NO U64 J

REDUCER

Legend: N: Notable; B: Badly; C: Completely; R: Repair; S: Small; M: Medium; L: Large; No Data: No Data.

**1** shows design dimension.

# Survey Results of Gate Structure

(75 / 96)

Gate No. U64L (Lower Undersluice Gate)

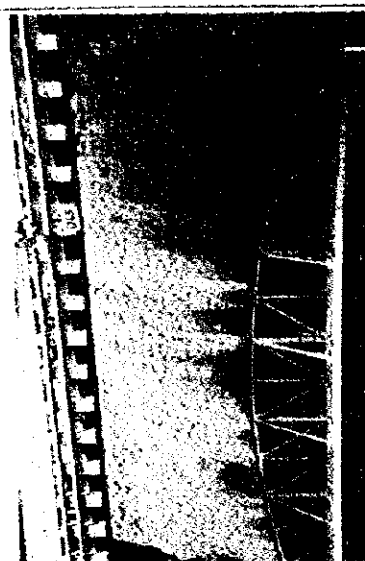
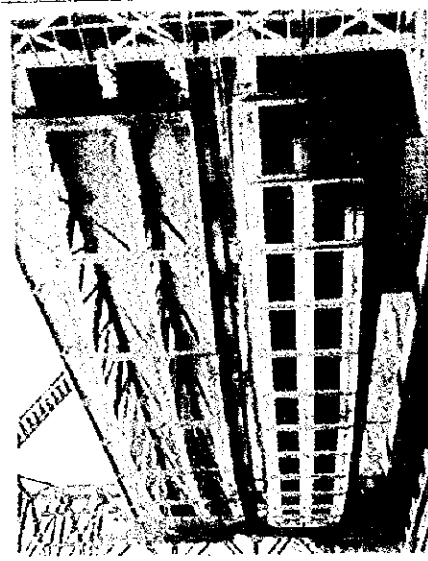
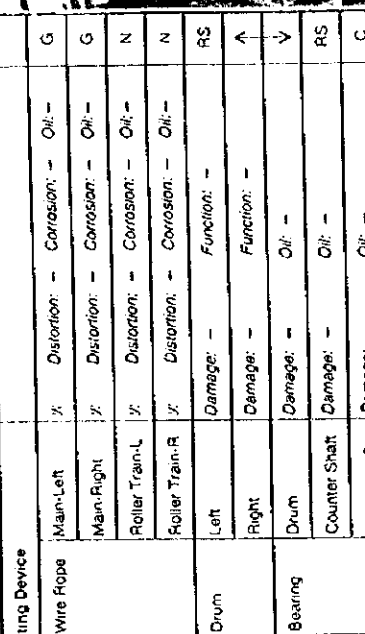
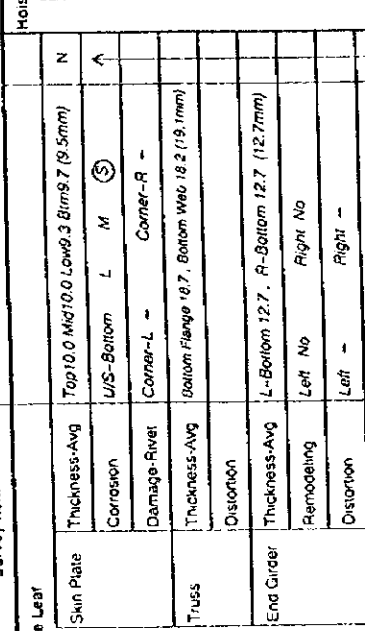
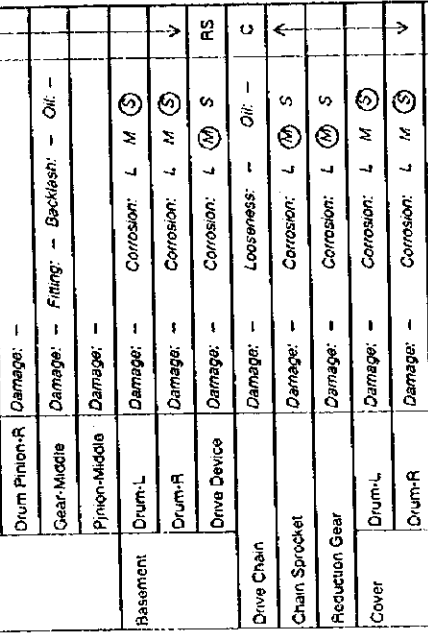
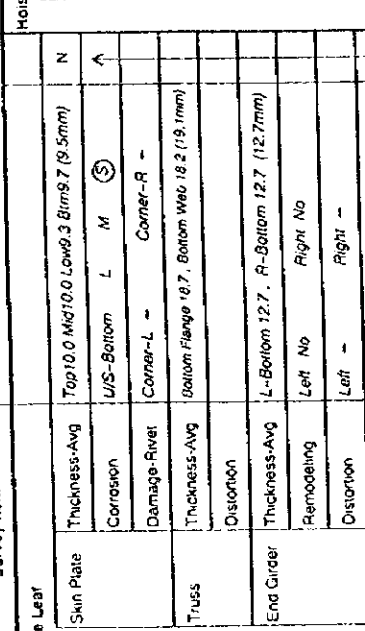
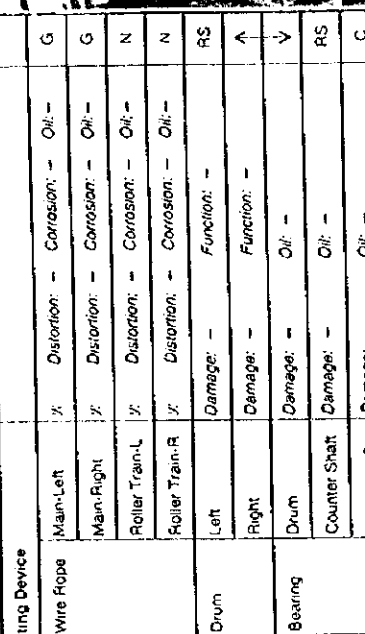
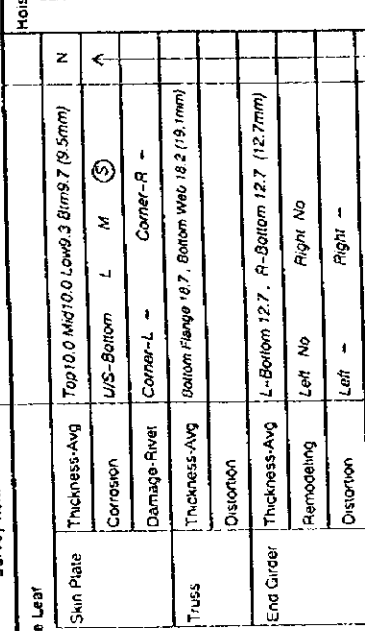
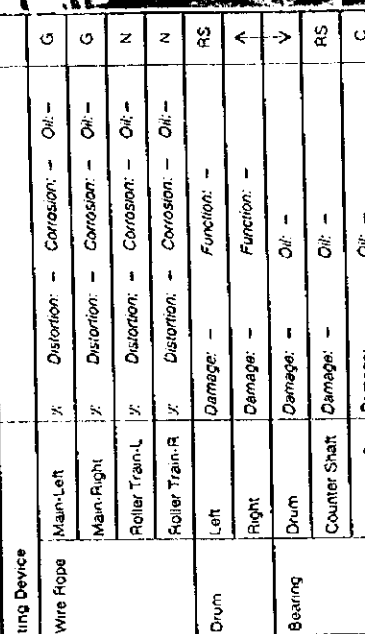
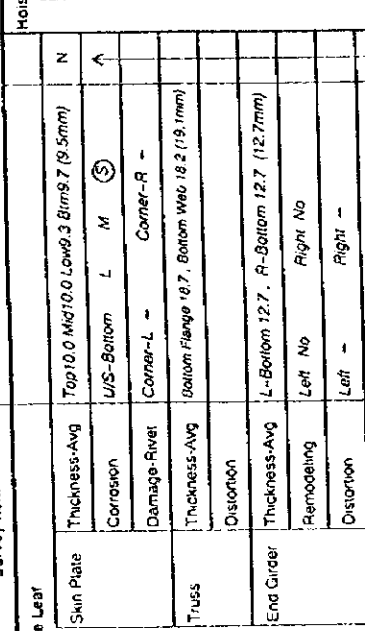
Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top - Mid - Low - Rm 9.1 (9.5mm)	N	Wire Rope	Man-Left	% Distortion: - Corrosion: - Oil: -
	Corrosion	US-Bottom L M S	↑	Man-Right	% Distortion: - Corrosion: - Oil: -	G
	Damage-Rivet	Corner-L 12 mm Corner-R 3 mm		Roller Train-L	Broken	N
Truss	Thickness-Avg	Bottom Flange 21.4, Bottom Web 20.2 (22.2mm)		Roller Train-R	% Distortion: - Corrosion: - Oil: -	N
	Distortion			Left	Damage: - Function: Touching Frame	RS
	Thickness-Avg	L-Bottom 10.5, R-Bottom 9.8 (12.7mm)		Right	Damage: - Function: Touching Frame	↑
End Girder	Remodeling	Left Re Right Re		Drum	Damage: - Oil: -	↑
	Distortion	Left Broken Right Bend		Counter Shaft	Damage: - Oil: -	RS
	Thickness-Avg	Flange 14.7 mm (16.0), Web 7.4 mm (9.7)		Reduction Gear	Damage: - Oil: -	C
Bottom Girder	Corrosion	L M S		Drum Gear-L	Damage: - Fitting: 90% Backlash: - Oil: -	RS
	Remodeling	Left Re Right Re		Drum Pinion-L	Damage: -	↑
	Distortion	Left - Right -		Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -	
Rocker Assembly	Others	-		Drum Pinion-R	Damage: -	
	Missing	Left - Right -		Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -	
	Diameter-Roller	Average - mm		Pinion-Middle	Damage: -	
Seal	Distortion	Left - Right -		Drum-L	Damage: - Corrosion: L M S	
	Left	Lost		Drum-R	Damage: - Corrosion: L M S	↑
	Bottom	Lost		Drive Device	Damage: - Corrosion: L M S	RS
Inclination	Right	Lost		Drive Chain	Damage: - Looseness: - Oil: -	C
	Top Level Difference	30 mm	↑	Chain Sprocket	Damage: - Corrosion: L M S	
	Leakage	L M S	N	Reduction Gear	Damage: - Corrosion: L M S	
Sill	Abrasion-Max	Left: - mm, Right: - mm	RS	Cover	Drum-L	Damage: - Corrosion: L M S
	Abrasion-Max	Left: 13 mm, Right: 12 mm	RL	Drum-R	Damage: - Corrosion: L M S	↑
	Missing	Left 0 Right 0	N	Gear-Middle	Damage: - Corrosion: L M S	C
Sill Beam	Defect	Left 0 Right 0	N	Counter Shaft	Damage: - Corrosion: L M S	G
	Abrasion	L M S	-	Counter Weight	Damage: - Corrosion: L M S	RS
	Damage-Left	L M S	-	Hoisting	Wet Condition	- kg-m
Concrete	Damage-Right	L M S	-	Torque	Dry Condition	7.8 kg-m
	Damage-Bottom	L M S	-	Superstructure	Damage: - Corrosion: L M S	RS

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RM: Medium Repair, RS: Small Repair, G: No Repair, - : No Data.

( ) shows design dimension.

## Survey Results of Gate Structure

(76/96)

Gate No.	U6SU	(Upper Undersluice Gate)			Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf											
Skin Plate	Thickness-Avg	Top 10.0 Mid 10.0 Low 9.3 Rim 9.7 (9.5mm)			N		Wire Rope	Main-Left	Y: Distortion: - Corrosion: - Oil: -	G	
	Corrosion	U/S-Bottom L M S			↑			Main-Right	Y: Distortion: - Corrosion: - Oil: -	G	
	Damage-Rivet	Corner-L - Corner-R -						Roller Train-L	Y: Distortion: - Corrosion: - Oil: -	N	
Truss	Thickness-Avg	Bottom Flange 18.7, Bottom Web 18.2 (19.1mm)					Roller Train-R	Y: Distortion: - Corrosion: - Oil: -	N		
	Distortion						Left	Damage: - Function: -	RS		
	Thickness-Avg	L-Bottom 12.7, R-Bottom 12.7 (12.7mm)					Right	Damage: - Oil: -	↑		
End Girder	Remodeling	Left No Right No					Bearing	Drum	Damage: - Oil: -	↓	
	Distortion	Left - Right -						Counter Shaft	Damage: - Oil: -	RS	
	Thickness-Avg	Flange 12.1 mm (16.3), Web 9.5 mm (9.4)						Reduction Gear	Damage: - Oil: -	C	
Bottom Girder	Corrosion	L M S					Gear	Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	RS	
	Remodeling	Left No Right No						Drum Pinion-L	Damage: -	↑	
	Distortion	Left - Right -						Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -		
Assembly	Others	No Function					Drum Pinion-R	Damage: -			
	Missing	Left - Right -					Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -			
	Diameter-Roller	Average - mm					Pinion-Middle	Damage: -			
Seal	Distortion	Left - Right -					Basement	Drum-L	Damage: - Corrosion: L M S		
	Left	4 m Broken						Drum-R	Damage: - Corrosion: L M S	↓	
	Bottom	Good						Drive Device	Damage: - Corrosion: L M S	RS	
Inclination	Right	2.5 m Broken					Drive Chain	Damage: - Looseness: - Oil: -	C		
	Top Level Difference	130 mm			↓			Chain Sprocket	Damage: - Corrosion: L M S		↑
	Leakage	L M S			N			Reduction Gear	Damage: - Corrosion: L M S		
Sill	Abrasion-Max	Left: - mm, Right: - mm			RS		Cover	Drum-L	Damage: - Corrosion: L M S	↓	
	Roller Truck	Left: 8 mm, Right: 4 mm			N			Drum-R	Damage: - Corrosion: L M S	↑	
	Roller Guard	Left 0 Right 0			N			Gear-Middle	Damage: - Corrosion: L M S	C	
Concrete	Defect	Left 0 Right 0			N		Counter Shaft	Damage: - Corrosion: L M S	G		
	Abrasion	L M S						Counter Weight	Damage: - Corrosion: L M S		RS
	Damage-Left	L M S						Hoisting	Wet Condition		- kg-m
Concrete	Damage-Right	L M S					Torque	Dry Condition	2.0 kg-m	RS	
	Damage-Bottom	L M S						Supersubstructure	Damage: - Corrosion: L M S	RS	

Remarks: Judgement = N: Totally Replace, C: Partly Replace, R: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

(77/96)

Gate No. U65L (Lower Undersluice Gate)

Gate No.	Gate Leaf	Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
	Gate Leaf	Thickness-Avg	Top 9.6 Mid 9.7 Low 9.3 Bim 8.4 (9.5mm)	N	Wire Rope	Main-Left Main-Right Roller Train-L Roller Train-R	Distortion: - Distortion: - Distortion: - Distortion: - Corrosion: - Corrosion: - Oil: - Oil: -	G G N N
		Corrosion	U/S-Bottom (L) M S	↑	Drum	Left Right	Damage: - Function: Over Lapping Function: Touching Flange	RS A
		Damage-Rivet	Cornet-L 9 mm Cornet-R 3 mm		Boeing	Drum	Damage: - Oil: -	Y
		Thickness-Avg	Bottom Flange 21.2, Bottom Web 20.6 (22.2mm)		Counter Shaft	Damage: - Oil: -	RS	
		Distortion			Reduction Gear	Damage: Loose Oil: -	C	
		Thickness-Avg	L-Bottom 10.8, R-Bottom 11.0 (12.7mm)		Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	RS	
		Remodeling	Left Re Right Re		Drum Pinion-L	Damage: -	↑	
		Distortion	Left Bend Right Bend		Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -	-	
		Thickness-Avg	Flange 14.3 mm (16.0), Web 7.8 mm (9.7)		Drum Pinion-R	Damage: -	-	
		Corrosion	L (M) S		Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -	-	
	Gate Leaf	Remodeling	Left Re Right Re		Pinion-Middle	Damage: -	-	
		Distortion	Left Lost Right Good		Drum-L	Damage: - Corrosion: L M (S)	-	
		Others	-		Drum-R	Damage: - Corrosion: L M (S)	Y	
		Missing	Left 1 Right 0		Drive Device	Damage: - Corrosion: L (M) S	RS	
		Diameter-Roller	Average - mm		Drive Chain	Damage: - Looseness: - Oil: -	C	
		Distortion	Left - Right -		Chain Sprocket	Damage: - Corrosion: L (M) S	↑	
		Left	Lost		Reduction Gear	Damage: - Corrosion: L (M) S	-	
		Bottom	Lost		Drum-L	Damage: - Corrosion: L M (S)	-	
		Right	Lost		Drum-R	Damage: - Corrosion: L M (S)	Y	
		Inclination	Top Level Difference 20 mm	Y	Gear-Middle	Damage: - Corrosion: L (M) S	C	
	Leakage	Leakage	(L) M S	N	Counter Shaft	Damage: - Corrosion: L M S	G	
		Side Seal	Left: - mm, Right: - mm	RS	Counter Weight	Damage: - Corrosion: L M S	G	
		Roller Truck	Left: 12 mm, Right: 11 mm	RL	Hoisting	Wet Condition	-	
		Roller Guard	Left 0 Right 0	N	Torque	Dry Condition	0.9 kg-m	
		Defect	Left 0 Right 0	N	Superstructure	Damage: - Corrosion: L M (S)	RS	
		Abrasion	L M S	-				
		Damage-Left	L M S	-				
		Damage-Right	L M S	-				
		Damage-Bottom	L M S	-				

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, - : No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

(78 / 96)

Gate No. D1 (D.G. Khan Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top 9.8 Mid 9.9 Low 10.0 Btm 9.4 (9.5mm)	G	Wire Rope		
	Corrosion	L/S-Bottom L M S	—	Main-Left	Y - Distortion: - Corrosion: - Oil: -	
	Damage-Rivet	Corner-L - Corner-R -	—	Main-Right	Y - Distortion: - Corrosion: - Oil: -	
Truss	Thickness-Avg	Bottom Flange 6.3, Bottom Web 7.6 (6.5mm)	G	Roller Train-L	Y - Distortion: - Corrosion: - Oil: -	
	Distortion	15 mm (T-4, Center)	↑	Roller Train-R	Y - Distortion: - Corrosion: - Oil: -	
	Thickness-Avg	L-Bottom 7.2, R-Bottom 7.0 (9.5mm)	↑	Left	Damage: - Function: -	
End Girder	Remodeling	Left No Right No		Right	Damage: - Function: -	
	Distortion	Left - Right -		Drum	Damage: - Oil: -	
	Thickness-Avg	Flange 13.9 mm (16.3), Web 8.6 mm (9.4)		Counter Shaft	Damage: - Oil: -	
Bottom	Corrosion	L (M) S		Reduction Gear	Damage: - Oil: -	
	Remodeling	Left No Right No		Drum Gear-L	Damage: - Filing: - Backlash: - Oil: -	
	Distortion	Left - Right -		Drum Pinion-L	Damage: -	
Girder	Others	-		Drum Gear-R	Damage: - Filing: - Backlash: - Oil: -	
	Missing	Left - Right -		Drum Pinion-R	Damage: -	
	Diameter-Roller	Average - mm		Gear-Middle	Damage: - Filing: - Backlash: - Oil: -	
Roller Train	Distortion	Left - Right -		Pinion-Middle	Damage: -	
	Left	-		Drum-L	Damage: - Corrosion: L M (S)	RS
	Bottom	-		Drum-R	Damage: - Corrosion: L M (S)	↑
Seal	Right	-		Drive Device	Damage: - Corrosion: L (M) S	↑
	Top Level Difference	30 mm	G	Drive Chain	Damage: - Looseness: - Oil: -	↓
	Leakage	L M S	—	Chain Sprocket	Damage: - Corrosion: L (M) S	RS
Sill	Side Seal	Left: - mm, Right: - mm	G	Reduction Gear	Damage: - Corrosion: L M S	—
	Roller Truck	Left: 4 mm, Right: 2 mm	↑	Cover	Damage: - Corrosion: L M (S)	RS
	Roller Guard	Left 0 Right 0		Drum-L	Damage: - Corrosion: L M (S)	↑
Sill Beam	Defect	Left 0 Right 0		Drum-R	Damage: - Corrosion: L M (S)	↓
	Abrasion	L M (S)		Gear-Middle	Damage: - Corrosion: L M (S)	RS
	Damage-Left	L M (S)		Counter Shaft	Damage: - Corrosion: L M S	G
Concrete	Damage-Right	L M (S)		Counter Weight	Damage: - Corrosion: L M S	G
	Damage-Bottom	L M (S)	↓	Hoisting	Wet Condition 7 kg-m	G
				Torque	Dry Condition 0 kg-m	G
<b>Superstructure</b>						
Damage: - Corrosion: L M (S) RS						

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, - : No Data.

( ) shows design dimension.



# Survey Results of Gate Structure

(79 / 96)

Gate No. D2 (D.G. Khan Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf						
Skin Plate	Thickness-Avg	Top 9.9 Mid 9.8 Low 9.8 Rim 9.8 (9.5mm)	G			
	Corrosion	UIS-Bottom L M S	—			
	Damage-Rivet	Corner-L — Corner-R —	—			
Truss	Thickness-Avg	Bottom Flange 5.8, Bottom Web 6.7 (9.5mm)	G			
	Distortion	15 mm (7-4, Center)	↑			
	Thickness-Avg	L-Bottom 8.6, R-Bottom 9.1 (9.5mm)				
End Girder	Remodeling	Left No Right No				
	Distortion	Left — Right —				
	Thickness-Avg	Flange 13.7 mm (16.3), Web 7.5 mm (9.4)				
Bottom Girder	Corrosion	L (M) S				
	Remodeling	Left No Right No				
	Distortion	Left — Right —				
Assembly	Others	No Function				
	Missing	Left — Right —				
	Diameter-Roller	Average — mm				
Seal	Distortion	Left — Right —				
	Left	—				
	Bottom	— Top —				
Inclination	Right	—	↓			
	Top Level Difference	25 mm	G			
	Leakage	L M S	—			
Sill						
Side Seal	Abrasion-Max	Left: — mm, Right: — mm	G			
Roller Truck	Abrasion-Max	Left: 5 mm, Right: 5 mm	↑			
Roller Guard	Missing	Left 0 Right 0				
Sill Beam	Defect	Left 0 Right 0				
	Abrasion	L M (S)				
	Damage-Left	L M (S)				
Concrete	Damage-Right	L M (S)	↓			
	Damage-Bottom	L M (S)	G			
	Superstructure	Damage: —	Corrosion: L M (S)			

# Survey Results of Gate Structure

( 80 / 96 )

Gate No. D3 (D.G. Khan Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top 10.0, Mid 9.9, Low 9.8 Bim 9.8 (9.5mm)	G			
	Corrosion	UIS-Bottom L M S	-			
	Damage-Rivet	Corner-L - Corner-R -	-			
Truss	Thickness-Avg	Bottom Flange 7.2, Bottom Web 7.8 (9.5mm)	G			
	Distortion	15 mm (T-4, Center, 2 Points)	↑			
End Girder	Thickness-Avg	L-Bottom 8.4, R-Bottom 8.5 (9.5mm)				
	Remodeling	Left No Right No				
	Distortion	Left - Right -				
Bottom Girder	Thickness-Avg	Flange 13.9 mm (16.3), Web 7.9 mm (9.4)				
	Corrosion	L M S				
Rocker Assembly	Remodeling	Left No Right No				
	Distortion	Left - Right -				
	Others	No Function				
Roller Train	Missing	Left - Right -				
	Diameter-Roller	Average - mm				
	Distortion	Left - Right -				
Seal	Left	-				
	Bottom	- Top -				
	Right	-	↓			
Inclination		Top Level Difference 60 mm	G			
<b>Leakage</b>						
		L M S	-			
<b>Sill</b>						
Sole Seal	Abrasion-Max	Left: - mm, Right: - mm	G			
	Roller Truck	Left: 4 mm, Right: 5 mm	↑			
Roller Guard	Missing	Left 0 Right 0				
	Defect	Left 0 Right 0				
Sill Beam	Abrasion	L M S				
Concrete	Damage-Left	L M S				
	Damage-Right	L M S	↓			
Damage-Bottom		L M S	G			
		L M S				

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

( 81 / 96 )

Gate No. D4 (D.G. Khan Canal Regulator Gate)

Gate No. D4 (D.G. Khan Canal Regulator Gate)			Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Survey Item			Survey Result		Survey Item	Survey Result	Judge	Photograph
Gate Leaf			Gate Leaf		Hoisting Device	Survey Result	Judge	
Sun Plate	Thickness-Avg	Top 9.9 Mid 9.7 Low 9.9 Bim 9.7 (9.5mm)	G		Wire Rope	Main-Left Main-Right Roller Train-L Roller Train-R	Y: - Distortion: - Corrosion: - Oil: - Y: - Distortion: - Corrosion: - Oil: - Broken Broken	G G C C
	Corrosion	U/S-Bottom L M S	-		Drum	Left Right	Damage: - Function: - Damage: - Function: -	RS ^
	Damage-Rivet	Corner-L - Corner-R -	-			Drum	Damage: - Oil: -	
Truss	Thickness-Avg	Bottom Flange 6.9, Bottom Web 7.5 (9.5mm)	G		Bearing	Counter Shaft Reduction Gear	Damage: - Oil: - Damage: -	
	Distortion	10 mm (T-1, Center, T-3, Center, 2 Points)	^			Gear	Drum Gear-L Drum Pinion-L Drum Gear-R Drum Pinion-R Gear-Middle Pinion-Middle	Damage: - Filing: - Backlash: - Oil: - Damage: - Damage: - Filing: - Backlash: - Oil: - Damage: - Damage: - Damage: -
	Thickness-Avg	L-Bottom 7.9, R-Bottom 8.2 (9.5mm)			Basement	Drum-L Drum-R Drive Device	Damage: - Corrosion: L M S Damage: - Corrosion: L M S Damage: - Corrosion: L M S	RS ^ S
Remodeling	Left No Right No			Drive Chain		Chain Sprocket Reduction Gear	Damage: - Damage: -	RS -
Distortion	Left - Right -				Cover	Drum-L Drum-R Gear-Middle	Damage: - Corrosion: L M S Damage: - Corrosion: L M S Damage: - Corrosion: L M S	RS ^ V
Thickness-Avg	Flange 13.7 mm (16.3), Web 8.0 mm (9.4)			Counter Shaft		Counter Shaft Counter Weight	Damage: - Corrosion: L M S Damage: -	RS RS
Corrosion	L M S				Hoisting	Wal Condition Torque	7.4 kg-m 2.0 kg-m	G RS
Remodeling	Left No Right No			Supersstructure			Damage: - Corrosion: L M S	RS
Distortion	Left - Right -							
Thickness-Avg	Left 13.7 mm (16.3), Web 8.0 mm (9.4)							
Corrosion	Left No Right No							
Remodeling	Left - Right -							
Distortion	Left - Right -							
Others	No Function							
Missing	Left - Right -							
Diameter-Roller	Average - mm							
Distortion	Left - Right -							
Left	-							
Bottom	- Top -							
Right	-							
Top Level Difference	35 mm	G						
Leakage			L M S	-				
Sill								
Side Seal	Abrasion-Max	Left: - mm, Right: - mm	G					
Roller Truck	Abrasion-Max	Left: 4 mm, Right: 5 mm	^					
Roller Guard Missing	Left 0 Right 0							
Defect	Left 0 Right 0							
Sill Beam	Abrasion	L M S						
Concrete	Damage-Left	L M S						
	Damage-Right	L M S						
	Damage-Bottom	L M S						

( ) shows design dimension.

# Survey Results of Gate Structure

( 82 / 96 )

Gate No. D5 (D.G. Khan Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top 9.8 Mid 10.0 Low 9.8 Bms 9.8 (9.5mm)	G	Main-Left	Y: - Distortion: - Corrosion: - Oil: -	
	Corrosion	U/S-Bottom L M S	-	Main-Right	Y: - Distortion: - Corrosion: - Oil: -	
	Damage-Rivet	Corner-L - Corner-R -	-	Roller Train-L	Broken	
Truss	Thickness-Avg	Bottom Flange 6.5, Bottom Web 6.3 (9.5mm)	G	Roller Train-R	Broken	
	Distortion	10 mm (T-J, Center, 9 Points)	↑	Left	Damage: - Function: -	
	Thickness-Avg	L-Bottom 6.7, R-Bottom 6.0 (9.5mm)	↑	Right	Damage: - Function: -	
End Girder	Remodeling	Left No Right No		Drum	Damage: - Oil: -	
	Distortion	Left - Right -		Counter Shaft	Damage: - Oil: -	
	Thickness-Avg	Flange 14.4 mm (16.3), Web 8.0 mm (9.4)		Reduction Gear	Damage: - Oil: -	
Bottom	Corrosion	L M S		Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	
	Remodeling	Left No Right No		Drum Pinion-L	Damage: -	
	Distortion	Left - Right -		Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -	
Assembly	Others	No Function		Drum Pinion-R	Damage: -	
	Missing	Left - Right -		Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -	
	Diameter-Roller	Average - mm		Pinion-Middle	Damage: -	
Roller Train	Distortion	Left - Right -		Drum-L	Damage: - Corrosion: L M S	
	Left	-		Drum-R	Damage: - Corrosion: L M S	
	Bottom	- Top Left Side, Deform		Drive Device	Damage: - Corrosion: L M S	
Seal	Right	-	↓	Drive Chain	Damage: - Looseness: - Oil: -	
	Inclination	Top Level Difference 90 mm	G	Chain Sprocket	Damage: - Corrosion: L M S	
	Leakage	L M S	-	Reduction Gear	Damage: - Corrosion: L M S	
Sill	Side Seal	Abrasion-Max Left: - mm, Right: - mm	G	Cover	Damage: - Corrosion: L M S	
	Roller Truck	Abrasion-Max Left: 4 mm, Right: 5 mm	↑	Drum-L	Damage: - Corrosion: L M S	
	Roller Guard	Missing Left 0 Right 0		Drum-R	Damage: - Corrosion: L M S	
Sill Beam	Defect	Left 0 Right 0		Gear-Middle	Damage: - Corrosion: L M S	
	Abrasion	L M S		Counter Shaft	Damage: - Corrosion: L M S	
	Damage-Left	L M S		Counter Weight	Damage: - Corrosion: L M S	
Concrete	Damage-Right	L M S	↓	Hosing	Wet Condition 7.6 kg-m	
	Damage-Bottom	L M S	G	Torque	Dry Condition 0 kg-m	
				Superstructure	Damage: - Corrosion: L M S	



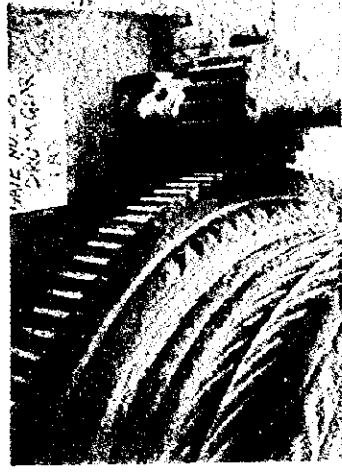

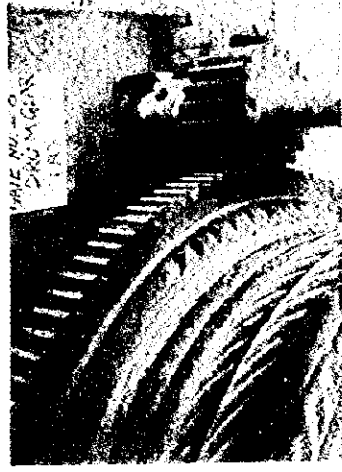
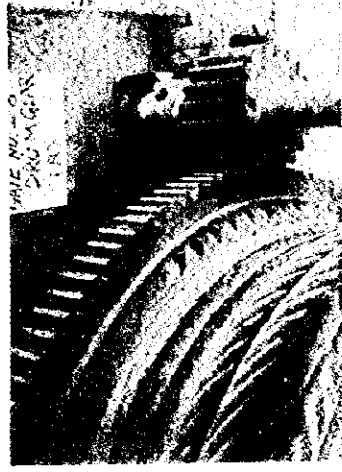
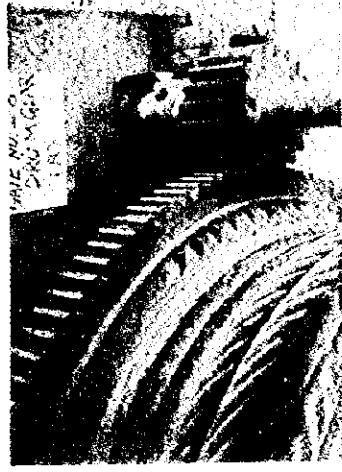
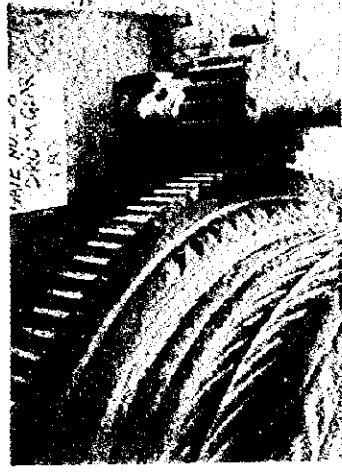
Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

( 83 / 96 )

Gate No. D6 (D.G. Khan Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Sun Plate	Thickness-Avg	Top 10.1 Mid 9.8 Low 9.5 Rim 9.6 (9.5mm)	G	Man-Left	Y: - Distortion: - Corrosion: - Oil: -	
	Corrosion	URS-Bottom L M S		Man-Right	Y: - Distortion: - Corrosion: - Oil: -	
	Damage-Rivet	Corner-L - Corner-R -		Roller Train-L	Y: - Distortion: - Corrosion: - Oil: -	
	Thickness-Avg	Bottom Flange 5.5, Bottom Web 7.3 (9.5mm)		Roller Train-R	Broken	
Truss	Distortion	10 mm (T-J, Center, 3 Points)	A	Left	Damage: - Function: -	
	Thickness-Avg	L-Bottom 7.8, R-Bottom 8.7 (9.5mm)		Right	Damage: - Function: -	
	Remodeling	Left No Right No		Drum	Damage: - Oil: -	
	Distortion	Left - Right -		Counter Shaft	Damage: - Oil: -	
Bottom Girder	Thickness-Avg	Flange 13.5 mm (16.3), Web 7.9 mm (9.4)		Reduction Gear	Damage: - Oil: -	
	Corrosion	L M S		Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	
	Remodeling	Left No Right No		Drum Pinion-L	Damage: -	
	Distortion	Left - Right -		Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -	
Roller Train	Missing	Left - Right -		Drum Pinion-R	Damage: -	
	Diameter-Roller	Average - mm		Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -	
	Distortion	Left - Right -		Pinion-Middle	Damage: -	
	Left	-		Drum-L	Damage: - Corrosion: L M S	
Seal	Bottom	- Top -		Drum-R	Damage: - Corrosion: L M S	
	Right	-		Drive Device	Damage: - Corrosion: L M S	
	Top Level Difference	110 mm		Drive Chain	Damage: - Looseness: L Oil: -	
	Leakage	L M S		Chain Sprocket	Damage: - Corrosion: L M S	
Sill	Abrasion-Max	Left: - mm, Right: - mm	G	Reduction Gear	Damage: - Corrosion: L M S	
	Roller Truck	Left: 5 mm, Right: 4 mm		Cover	Damage: - Corrosion: L M S	
	Roller Guard	Left 0 Right 0		Drum-L	Damage: - Corrosion: L M S	
	Defect	Left 0 Right 0		Drum-R	Damage: - Corrosion: L M S	
Sill Beam	Abrasion	L M S		Gear-Middle	Damage: - Corrosion: L M S	
	Damage-Left	L M S		Counter Shaft	Damage: - Corrosion: L M S	
	Damage-Right	L M S		Counter Weight	Damage: - Corrosion: L M S	
	Damage-Bottom	L M S		Hoisting	9.3 kg-m	
Concrete	Damage-Right	L M S	G	Torque	0 kg-m	
	Damage-Left	L M S		Supersubstructure	Damage: - Corrosion: L M S	
	Damage-Right	L M S				
	Damage-Bottom	L M S				

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension

Survey Results of Gate Structure

(84 / 96)

Gate No. D7 (D.G. Khan Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top 9.9 Mid 9.9 Low 9.9 Bim 9.7 (9.5mm)	G	Wire Rope		
	Corrosion	U/S-Bottom L M S	—	Main-Left	% - Distortion: - Corrosion: - Oil: -	
	Damage-Hivet	Cornet-L - Corner-R -	—	Main-Right	% - Distortion: - Corrosion: - Oil: -	
Truss	Thickness-Avg	Bottom Flange 7.3 Bottom web 8.0 (9.5mm)	G	Roller Train-L	% - Distortion: - Corrosion: - Oil: -	
	Distortion	10 mm (T-3, Center, 2 Points)	↑	Roller Train-R	Broken	
	Thickness-Avg	L-Bottom 7.3 R-Bottom 6.6 (9.5mm)	↑	Left	Damage: - Function: -	
End Girder	Remodeling	Left No Right No		Right	Damage: - Function: -	
	Distortion	Left - Right -		Drum	Damage: - Oil: -	
	Distortion	Left - Right -		Counter Shaft	Damage: - Oil: -	
Bottom	Thickness-Avg	Flange 12.3 mm (16.3), Web 7.4 mm (9.4)		Reduction Gear	Damage: - Oil: -	
	Corrosion	Ⓢ M S		Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	
	Remodeling	Left No Right No		Drum Pinion-L	Damage: -	
Assembly	Distortion	Left - Right -		Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -	
	Others	No Function		Drum Pinion-R	Damage: -	
	Missing	Left - Right -		Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -	
Roller Train	Diameter-Roller	Average - mm		Pinion-Middle	Damage: -	
	Distortion	Left - Right -		Drum-L	Damage: - Corrosion: L M Ⓢ	
	Left	-		Drum-R	Damage: - Corrosion: L M Ⓢ	
Seal	Bottom	- Top Lost		Drive Device	Damage: - Corrosion: L M Ⓢ	
	Right	-	↓	Drive Chain	Damage: - Looseness: - Oil: -	
	Incination	Top Level Difference 105 mm	G	Chain Sprocket	Damage: - Corrosion: L M Ⓢ	
Leakage		L M S	—	Reduction Gear	Damage: - Corrosion: L M Ⓢ	
				Cover	Drum-L	Damage: - Corrosion: L M Ⓢ
					Drum-R	Damage: - Corrosion: L M Ⓢ
Sill	Abrasion-Max	Left: - mm, Right: - mm	G	Gear-Middle	Damage: - Corrosion: L M Ⓢ	
	Abrasion-Max	Left: 5 mm, Right: 5 mm	↑	Counter Shaft	Damage: - Corrosion: L M Ⓢ	
	Missing	Left 0 Right 0		Counter Weight	Damage: - Corrosion: L M Ⓢ	
Sill Beam	Defect	Left 0 Right 0		Hoisting	Wet Condition	7.6 kg-m
	Abrasion	L M Ⓢ		Torque	Dry Condition	0 kg-m
	Damage-Left	L M Ⓢ		Superstructure		
Concrete	Damage-Right	L M Ⓢ	↓	Damage: -	Corrosion: L M Ⓢ	
	Damage-Bottom	L M Ⓢ	G			

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, - : No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

( 85 / 96 )

Gate No. M1 (Muzaffargarh Canal Regulator Gate)

Gate No. M1 (Muzaffargarh Canal Regulator Gate)			Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf								
Skin Plate	Thickness-Avg	Top 10.2 Mid 10.1 Low 9.6 (9.5mm)		G	Wire Rope	Man-Left Man-Right Roller Train-L Roller Train-R	Y - Distortion: - Corrosion: - Oil: - Y - Distortion: - Corrosion: - Oil: - Y - Distortion: - Corrosion: - Oil: - Y - Distortion: - Corrosion: - Oil: -	G A V G
	Corrosion	U/S-Bottom L M S		-	Drum	Left	Damage: - Function: -	RS
	Damage-Rivet	Corner-L - Corner-R -		-		Right	Damage: - Function: -	RS
	Thickness-Avg	Bottom Flange 8.2, Bottom Web 8.6 (9.5mm)		G		Drum	Damage: Loose Oil: -	G
Truss	Distortion			A	Bearing	Counter Shaft	Damage: - Oil: -	RS
	Thickness-Avg	L-Bottom 8.0, R-Bottom 7.8 (9.5mm)				Reduction Gear	Damage: - Oil: -	A
End Girder	Remodeling	Left No Right No			Gear	Drum Gear-L	Damage: - Fitting: - Backlash: - Oil: -	
	Distortion	Left - Right -				Drum Pinion-L	Damage: -	
Bottom	Thickness-Avg	Flange 13.3 mm (16.3), Web 8.1 mm (9.4)			Pinion	Drum Gear-R	Damage: - Fitting: - Backlash: - Oil: -	V
	Corrosion	L M S				Drum Pinion-R	Damage: -	RS
Rocker	Remodeling	Left No Right No			Basement	Gear-Middle	Damage: - Fitting: - Backlash: - Oil: -	-
	Distortion	Left - Right -				Pinion-Middle	Damage: -	
Assembly	Others	No Function			Drive Chain	Drum-L	Damage: - Corrosion: L M S	RS
	Missing	Left - Right -				Drum-R	Damage: - Corrosion: L M S	A
Roller Train	Diameter-Roller	Average - mm			Chain Sprocket	Drive Device	Damage: - Corrosion: L M S	
	Distortion	Left - Right -				Damage: -	Looseness: L Oil: -	V
Seal	Left	- Top Right Side Deform		V	Reduction Gear	Drum-L	Damage: - Corrosion: L M S	RS
	Bottom	- Top Right Side Deform				Drum-R	Damage: - Corrosion: L M S	A
Inclination	Right	-			Cover	Gear-Middle	Damage: - Corrosion: L M S	
	Top Level Difference	5 mm		G		Counter Shaft	Damage: - Corrosion: L M S	V
Leakage				-	Counter Weight	Damage: -	Corrosion: L M S	RS
L M S						Hoisting	6 kg-m	G
Silt	Left: - mm, Right: - mm		G	Torque	Wet Condition	2.0 kg-m	RS	
	Left: 5 mm, Right: 6 mm		A		Dry Condition	Corrosion: L M S	RS	
Side Seal	Left 0 Right 0			Superstructure	Damage: - Corrosion: L M S			
	Left 0 Right 0							
Roller Truck	Left 0 Right 0			Concrete				
	Left 0 Right 0							
Sill Beam	Left 0 Right 0			Damage-Right				
	L M S							
Concrete	Left 0 Right 0			Damage-Bottom				
	L M S							

Remarks: Judgement = N: Totally Replace, C: Partly Replace, R: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, - : No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

( 86 / 96 )

Gate No. M2 (Muzaffargarh Canal Regulator Gate)

Survey Item		Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf							
Skin Plate	Thickness-Avg	Top 10.0 Mid 10.1 Low 10.0 Btm 9.8 (9.5mm)	G	Wire Rope			
	Corrosion	US-Bottom L M S	—	Main-Left	Y: — Distortion: — Corrosion: — Oil: —	G	
	Damage-Rivet	Corner-L — Corner-R —	—	Main-Right	Y: — Distortion: — Corrosion: — Oil: —	↑	
Truss	Thickness-Avg	Bottom Flange 8.7 Bottom Web 8.8 (9.5mm)	G	Roller Train-L	Y: — Distortion: — Corrosion: — Oil: —	↓	
	Distortion		↑	Roller Train-R	Y: — Distortion: — Corrosion: — Oil: —	G	
	Thickness-Avg	L-Bottom 7.7 R-Bottom 7.9 (9.5mm)		Left	Damage: — Function: —	RS	
End Girder	Remodeling	Left No Right No		Right	Damage: — Function: —	↑	
	Distortion	Left — Right —		Drum	Damage: — Oil: —		
	Thickness-Avg	Flange 13.7 mm (16.3), Web 8.5 mm (9.4)		Counter Shaft	Damage: — Oil: —		
Bottom	Corrosion	L (M) S		Reduction Gear	Damage: — Oil: —		
	Remodeling	Left No Right No		Drum Gear-L	Damage: — Fitting: — Backlash: — Oil: —		
	Distortion	Left — Right —		Drum Pinion-L	Damage: —		
Assembly	Others	No Function		Drum Gear-R	Damage: — Fitting: — Backlash: — Oil: —	↓	
	Missing	Left — Right —		Drum Pinion-R	Damage: —	RS	
	Diameter-Roller	Average — mm		Gear-Middle	Damage: — Fitting: — Backlash: — Oil: —	—	
Roller Train	Distortion	Left — Right —		Pinion-Middle	Damage: —		
	Left	—		Drum-L	Damage: — Corrosion: L M S	RS	
	Bottom	— Top Left Side Deform	↓	Drum-R	Damage: — Corrosion: L M S	↑	
Seal	Right	—	↓	Drive Device	Damage: — Corrosion: L M S		
	Top Level Difference	30 mm	G	Drive Chain	Damage: — Looseness: — Oil: —	↓	
	Leakage	L M S	—	Chain Sprocket	Damage: — Corrosion: L M S	RS	
Sill	Side Seal	Left: — mm, Right: — mm	G	Reduction Gear	Damage: — Corrosion: L M S	—	
	Roller Truck	Left: 5 mm, Right: 6 mm	↑	Cover	Damage: — Corrosion: L M S	RS	
	Roller Guard	Left 0 Right 0		Drum-L	Damage: — Corrosion: L M S	↑	
Sill Beam	Defect	Left 0 Right 0		Drum-R	Damage: — Corrosion: L M S	↓	
	Abrasion	L M S		Gear-Middle	Damage: — Corrosion: L M S	RS	
	Damage-Left	L M S		Counter Shaft	Damage: — Corrosion: L M S	G	
Concrete	Damage-Right	L M S	↓	Counter Weight	Damage: —	G	
	Damage-Bottom	L M S	G	Wet Condition	11.4 kg-m	G	
				Dry Condition	0 kg-m	G	
Superstructure							
Damage: — Corrosion: L M S							

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.


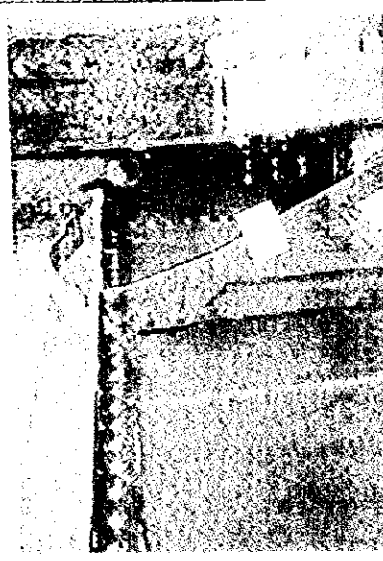
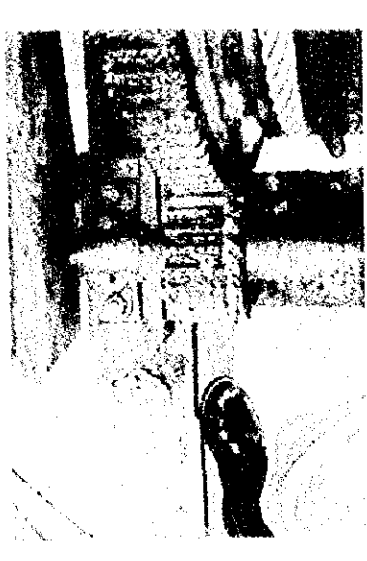

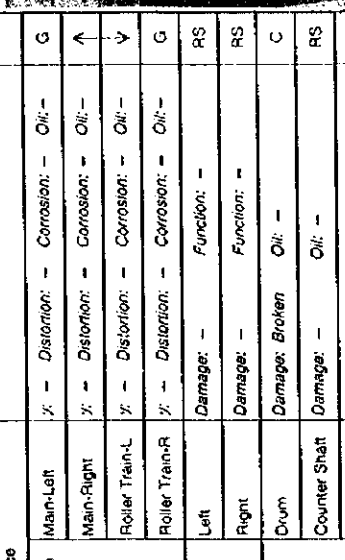
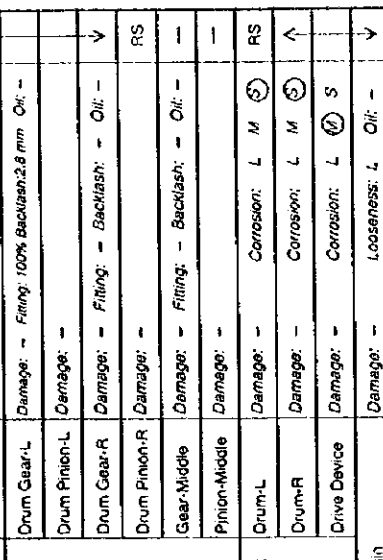
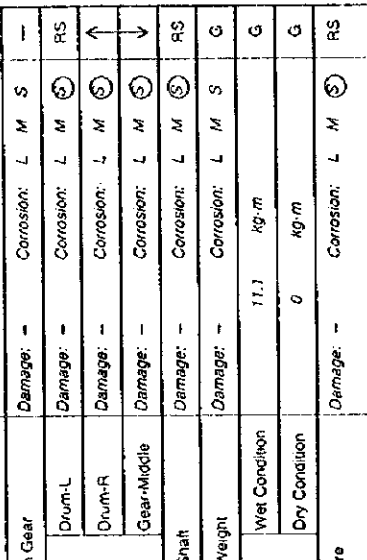

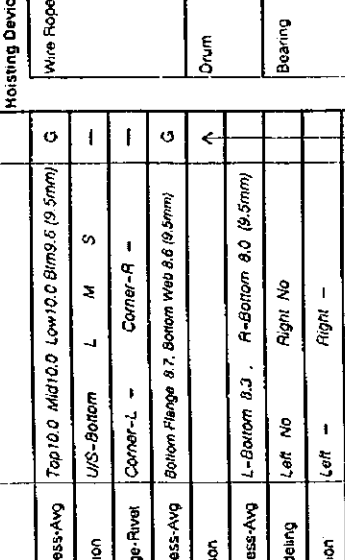
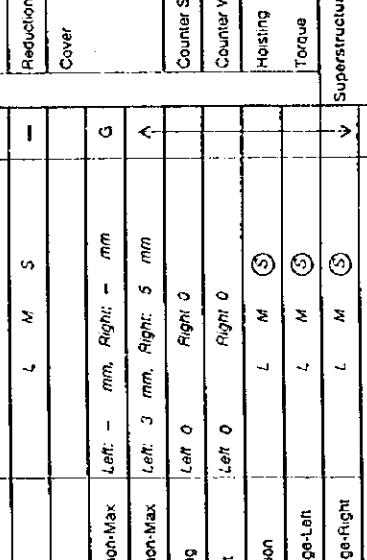
( ) shows design dimension



Survey Results of Gate Structure

( 87 / 96 )

Gate No. M3 (Muzaffargarh Canal Regulator Gate)

Survey Item		Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf							
Skin Plate	Thickness-Avg	Top 10.0 Mid 10.0 Low 10.0 Bins 9.6 (9.5mm)	G	Wire Rope	Main-Left	Y: - Distortion: - Corrosion: - Oil: -	
	Corrosion	U/S-Bottom L M S	-		Main-Right	Y: - Distortion: - Corrosion: - Oil: -	
	Damage-Rivet	Corner-L - Corner-R -	-		Roller Train-L	Y: - Distortion: - Corrosion: - Oil: -	
Truss	Thickness-Avg	Bottom Flange 8.7 Bottom Web 8.6 (9.5mm)	G	Drum	Roller Train-R	Y: - Distortion: - Corrosion: - Oil: -	
	Distortion		↑		Left	Damage: - Function: -	
End Girder	Thickness-Avg	L-Bottom 8.3 R-Bottom 8.0 (9.5mm)		Bearing	Right	Damage: - Function: -	
	Remodeling	Left No Right No			Drum	Damage: Broken Oil: -	
	Distortion	Left - Right -			Counter Shaft	Damage: - Oil: -	
Bottom Girder	Thickness-Avg	Flange 13.5 mm (16.3), Web 7.7 mm (9.4)		Gear	Reduction Gear	Damage: - Oil: -	
	Corrosion	L (M) S			Drum Gear-L	Damage: - Filing: 100% Backlash 2.8 mm Oil: -	
	Remodeling	Left No Right No			Drum Pinion-L	Damage: -	
Rocker Assembly	Distortion	Left - Right -		Basement	Drum Gear-R	Damage: - Filing: - Backlash: - Oil: -	
	Others	No Function			Drum Pinion-R	Damage: -	
	Missing	Left - Right -			Gear-Middle	Damage: - Filing: - Backlash: - Oil: -	
Roller Train	Diameter-Roller	Average - mm		Drive Chain	Pinion-Middle	Damage: -	
	Distortion	Left - Right -			Drum-L	Damage: - Corrosion: L M (S)	
	Left	-			Drum-R	Damage: - Corrosion: L M (S)	
Seal	Bottom	- Top Deform		Chain Sprocket	Drive Device	Damage: - Corrosion: L (M) S	
	Right	-	↓		Damage: - Looseness: L Oil: -		
	Inclination	Top Level Difference 0 mm	G		Damage: - Corrosion: L (M) S		
Leakage		L M S	-	Cover	Reduction Gear	Damage: - Corrosion: L M S	
Side Seal	Abrasion-Max	Left: - mm, Right: - mm	G		Drum-L	Damage: - Corrosion: L M (S)	
	Abrasion-Max	Left: 3 mm, Right: 5 mm	↑		Drum-R	Damage: - Corrosion: L M (S)	
	Roller Guard Missing	Left 0 Right 0		Gear-Middle	Damage: - Corrosion: L M (S)		
Sill Beam	Defect	Left 0 Right 0		Counter Shaft	Damage: - Corrosion: L M (S)		
	Abrasion	L M (S)			Counter Weight		Damage: - Corrosion: L M S
	Damage-Left	L M (S)			Wet Condition		11.1 kg-m
Concrete	Damage-Right	L M (S)		Torque	Dry Condition	0 kg-m	
	Damage-Bottom	L M (S)	↓		Damage: - Corrosion: L M (S)		
			G				
Superstructure							
Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.							

( ) shows design dimension.

# Survey Results of Gate Structure

( 28 / 96 )

Gate No. M/4 (Muzaffargarh Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top 10.0 Mid 10.0 Low 10.0 Bim 7 (9.5mm)	G	Wire Rope		
	Corrosion	U/S-Bottom L M S	—	Main-Left	y - Distortion: - Corrosion: - Oil: -	
	Damage-Fillet	Corner-L - Corner-R -	—	Main-Right	y - Distortion: - Corrosion: - Oil: -	
Truss	Thickness-Avg	Bottom Flange 8.1, Bottom Web 8.5 (9.5mm)	G	Roller Train-L	Broken	
	Distortion		—	Roller Train-R	y - Distortion: - Corrosion: - Oil: -	
	Thickness-Avg	L-Bottom 7.5, R-Bottom 7.0 (9.5mm)	—	Left	Damage: - Function: -	
End Girder	Remodeling	Left No Right No	—	Right	Damage: - Function: -	
	Distortion	Left - Right -	—	Drum	Damage: - Oil: -	
	Thickness-Avg	Flange 13.8 mm (16.3), Web 7.7 mm (9.4)	—	Counter Shaft	Damage: - Oil: -	
Bottom	Corrosion	L (M) S	—	Reduction Gear	Damage: - Oil: -	
	Remodeling	Left No Right No	—	Drum Gear-L	Damage: - Filing: - Backlash: - Oil: -	
	Distortion	Left - Right -	—	Drum Pinion-L	Damage: -	
Roller Train	Others	No Function	—	Drum Gear-R	Damage: - Filing: - Backlash: - Oil: -	
	Missing	Left - Right -	—	Drum Pinion-R	Damage: -	
	Diameter-Roller	Average - mm	—	Gear-Middle	Damage: - Filing: - Backlash: - Oil: -	
Seal	Distortion	Left - Right -	—	Pinion-Middle	Damage: -	
	Left	- Top -	—	Drum-L	Damage: - Corrosion: L M S	
	Bottom	-	—	Drum-R	Damage: - Corrosion: L M S	
Leakage	Right	-	—	Drive Device	Damage: - Corrosion: L M S	
	Top Level Difference	25 mm	G	Damage: - Looseness: L Oil: -	—	
		L M S	—	Chain Sprocket	Damage: - Corrosion: L M S	
Sill	Abrasion-Max	Left: - mm, Right: - mm	G	Reduction Gear	Damage: - Corrosion: L M S	
	Abrasion-Max	Left: 5 mm, Right: 3 mm	—	Drum-L	Damage: - Corrosion: L M S	
	Missing	Left 0 Right 0	—	Drum-R	Damage: - Corrosion: L M S	
Sill Beam	Defect	Left 0 Right 0	—	Gear-Middle	Damage: - Corrosion: L M S	
	Abrasion	L M S	—	Counter Shaft	Damage: - Corrosion: L M S	
	Damage-Left	L M S	—	Counter Weight	Damage: - Corrosion: L M S	
Concrete	Damage-Right	L M S	—	Hoisting	Wet Condition	9.3 kg-m
	Damage-Bottom	L M S	—	Torque	Dry Condition	2.0 kg-m
			—	Superstructure	Damage: - Corrosion: L M S	



Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.

Survey Results of Gate Structure

( 89 / 96 )

Gate No. M5 (Muzaffargarh Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg Top 10.0 Mid 10.0 Low 10.0 Blm 0.8 (9.5mm)	G	Wire Rope	Main-Left Main-Right Roller Train-L Roller Train-R	Y: - Distortion: - Corrosion: - Oil: - Y: - Distortion: - Corrosion: - Oil: - Y: - Distortion: - Corrosion: - Oil: - Y: - Distortion: - Corrosion: - Oil: -	
	Corrosion UIS-Bottom L M S Corner-L - Corner-R -	-				
	Damage-Rivet	-				
Truss	Thickness-Avg Bottom Flange 8.2, Bottom Web 0.0 (9.5mm)	G	Drum	Left Right	Damage: - Function: - Damage: - Function: -	
	Distortion 10 mm (7-3, Center, 2 Points)	A				
End Girder	Thickness-Avg L-Bottom 9.0 , R-Bottom 8.3 (9.5mm)		Bearing	Drum Counter Shaft	Damage: - Oil: - Damage: - Oil: -	
	Remodeling Left No Right No					
	Distortion Left - Right -					
Bottom	Thickness-Avg Flange 13.6 mm (16.3), Web 7.5 mm (9.4)		Gear	Reduction Gear Drum Gear-L Drum Pinion-L	Damage: - Oil: - Damage: - Fitting: - Backlash: - Oil: - Damage: -	
Crder	Corrosion L (M) S					
Rocke	Remodeling Left No Right No					
Assembly	Distortion Left - Right -					
	Others No Function					
Roller Train	Missing Left - Right -					
	Diameter-Roller Average - mm					
	Distortion Left - Right -		Basement	Drum-L Drum-R Drive Device	Damage: - Corrosion: L M S Damage: - Corrosion: L M S Damage: - Corrosion: L M S	
Seal	Left Bottom Right					
	Top Level Difference 35 mm	G	Drive Chain		Damage: - Looseness: - Oil: -	
Inclination			Chain Sprocket		Damage: - Corrosion: L M S	
Leakage			Reduction Gear		Damage: - Corrosion: L M S	
			Cover	Drum-L Drum-R Gear-Middle	Damage: - Corrosion: L M S Damage: - Corrosion: L M S Damage: - Corrosion: L M S	
Sill						
Side Seal	Abrasion-Max Left: - mm, Right: - mm	G	Counter Shaft		Damage: - Corrosion: L M S	
Roller Truck	Abrasion-Max Left: 5 mm, Right: 4 mm	A				
Roller Guard	Missing Left 0 Right 0		Counter Weight		Damage: - Corrosion: L M S	
	Defect Left 0 Right 0					
Sill Beam	Abrasion L M S		Hoisting	Wet Condition	5.6 kg-m	G
Concrete	Damage-Left Damage-Right Damage-Bottom		Torque	Dry Condition	2.0 kg-m	RS
			Superstructure		Damage: - Corrosion: L M S	RS

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, -: No Data.

( ) shows design dimension

# Survey Results of Gate Structure

( 90 / 96 )

Gate No. T1 (T.P. Link Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top 9.3 Mid 9.3 Low 8.7 Btm 7.3 ( mm )	N			
	Corrosion	U/S-Bottom L (M) S	↑			
Truss	Thickness-Avg	Bottom Flange 9.1, Bottom Web 6.5 ( mm )				
	Distortion					
End Girder	Thickness-Avg	L-Bottom 17.6, R-Bottom 18.7 ( mm )				
	Remodeling	Left No Right No	↓			
	Distortion	Left No Right No	N			
Main Roller	Diameter-Roller	Average — mm	N			
	Distortion	Left — Right —	↑			
Seal	Left	—				
	Bottom	— Top —				
	Right	—				
Inclination		Top Level Difference 15 mm	↓			
Leakage		L (M) S	N			
Sill	Side Seal	Abrasion-Max Left: — mm, Right: — mm	RS			
	Roller Truck	Abrasion-Max Left: 4 mm, Right: 4 mm	G			
Sill Beam	Abrasion	L M (S)	G			
	Damage-Left	L M (S)	↑			
	Damage-Right	L M (S)	↓			
Concrete	Damage-Bottom	L M (S)	G			

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.

Survey Results of Gate Structure

( 91 / 96 )

Gate No. T2 (T.P. Link Canal Regulator Gate)

Gate No. 12		11.P. Link Canal Regulator Gate		Photograph	
Survey Item		Survey Result		Judge	
Gate Leaf					
Skin Plate	Thickness-Avg	Top 9.3 Mid 9.2 Low 8.6 Btm 7.6 ( mm )		N	
	Corrosion	U/S-Bottom L M S		↑	
Truss	Thickness-Avg	Bottom Flange 7.8 Bottom Web 6.0 ( mm )			
	Distortion				
End Girder	Thickness-Avg	L-Bottom 17.3, R-Bottom 17.5 ( mm )			
	Remodeling	Left No	Right No	↓	
	Distortion	Left No	Right No	N	
Main Roller	Diameter-Roller	Average - mm		N	
	Distortion	Left -	Right -	↑	
Seal	Left				
	Bottom	-	Top -		
	Right				
Inclination		Top Level Difference 20 mm		↓	
Leakage		L (M) S		N	
Sill					
Side Seal	Abrasion-Max	Left: - mm, Right: - mm		RS	
	Roller Truck	Left: 3 mm, Right: 4 mm		G	
Sill Beam	Abrasion	L M S		G	
	Concrete	Damage-Left	L M S	↑	
	Damage-Right	L M S	↓		
	Damage-Bottom	L M S	G		

Survey Results of Gate Structure

( 92 / 96 )

Gate No. T3 (T.P. Link Canal Regulator Gate)

Survey Item		Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf							
Sun Plate	Thickness-Avg	Top 3 Mid 2 Low 8.5 Bim 7.9 ( mm )	N	Wire Rope	Main-Left	Y: - Distortion: - Corrosion: - Oil: -	G
	Corrosion	U/S-Bottom L M S	↑		Main-Right	Y: - Distortion: - Corrosion: - Oil: -	
Truss	Thickness-Avg	Bottom Flange 7.8, Bottom Web 6.7 ( mm )		Drum	Left	Damage: - Function: -	
	Distortion				Right	Damage: - Function: -	
End Girder	Thickness-Avg	L-Bottom 17.0, R-Bottom 17.3 ( mm )		Bearing	Drum	Damage: - Oil: -	
	Remodeling	Left No Right No	↓		Counter Shaft	Damage: - Oil: -	
	Distortion	Left No Right No	N	Gear	Reduction Gear	Damage: - Oil: -	↓
					Reduction Gear	Damage: - Fitting: - Backlash: - Oil: -	
Main Roller	Diameter-Roller	Average - mm	N	Basement	Drum-L	Damage: - Corrosion: L M S	RS
	Distortion	Left - Right -	↑		Drum-R	Damage: - Corrosion: L M S	
Seal	Left	-		Drive Device	Damage: - Corrosion: L M S	AS	
	Bottom	- Top -					
Right		-					
	Inclination	Top Level Difference 0 mm	↓				
Leakage							
		L M S	N	Reduction Gear	Damage: - Corrosion: L M S	-	
Side Seal	Abrasion-Max	Left: - mm, Right: - mm	AS	Cover	Drum-L	Damage: - Corrosion: L M S	AS
	Roller Truck	Left: 4 mm, Right: 3 mm	G		Drum-R	Damage: - Corrosion: L M S	
				Reduction Gear	Damage: - Corrosion: L M S		
				Counter Shaft	Damage: - Corrosion: L M S	↓	
				Counter Weight	Damage: - Corrosion: L M S	AS	
Sill Beam	Abrasion	L M S	G	Hosing	Wet Condition	20 kg-m	G
Concrete	Damage-Left	L M S	↑	Torque	Dry Condition	2.0 kg-m	AS
	Damage-Right	L M S	↓	Superstructure	Damage: - Corrosion: L M S	AS	
Damage-Bottom		L M S	G				

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, - : No Data.

( ) shows design dimension.

# Survey Results of Gate Structure

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Gate No. T4 (T.P. Link Canal Regulator Gate)

Gate No. 14	Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph	
Gate Leaf	Hoisting Device							
	Skin Plate	Thickness-Avg	Top 9.4 Mid 9.1 Low 8.5 Btm 7.1 ( mm )	N	Wire Rope	Main-Left Y: - Distortion: - Corrosion: - Oil: -	G	
		Corrosion	U/S-Bottom L ( M ) S	↑	Main-Right Y: - Distortion: - Corrosion: - Oil: -	A		
	Truss	Thickness-Avg	Bottom Flange 8.0 Bottom Web 6.1 ( mm )		Drum	Left Damage: - Function: -		
		Distortion			Right	Damage: - Function: -		
	End Girder	Thickness-Avg	L-Bottom 17.2, R-Bottom 16.1 ( mm )		Bearing	Drum Damage: - Oil: -		
		Remodeling	Left No Right No	↓	Counter Shaft	Damage: - Oil: -		
		Distortion	Left No Right No	N	Reduction Gear	Damage: - Oil: -	↓	
					Reduction Gear	Damage: - Fitting: - Backlash: - Oil: -	G	
Main Roller	Diameter-Roller	Average - mm	N	Basement	Drum-L Damage: - Corrosion: L M S	RS		
	Distortion	Left - Right -	↑		Drum-R Damage: - Corrosion: L M S	RS		
Seal	Left	-		Drive Device	Damage: - Corrosion: L M S	RS		
	Bottom	- Top -						
	Right	-						
Inclination		Top Level Difference 30 mm	↓					
Leakage		( L ) M S	N	Reduction Gear	Damage: - Corrosion: L M S	-		
				Cover	Drum-L Damage: - Corrosion: L M S	RS		
Sill	Side Seal	Abrasion-Max	Left: - mm, Right: - mm	Drum-R	Damage: - Corrosion: L M S	↑		
		Roller Truck	Abrasion-Max	Left: 4 mm, Right: 4 mm	Reduction Gear	Damage: - Corrosion: L M S		↓
				Counter Shaft	Damage: - Corrosion: L M S	↓		
				Counter Weight	Damage: - Corrosion: L M S	RS		
Sill Beam	Abrasion	L M S	G	Hoisting	Wet Condition 12 kg-m	G		
Concrete	Damage-Left	L M S	↑	Torque	Dry Condition 7.0 kg-m	RS		
	Damage-Right	L M S	↓	Superstructure	Damage: - Corrosion: L M S	RS		
	Damage-Bottom	L M S	G					

Remarks: Judgment: N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.

Survey Results of Gate Structure

( 94 / 96 )

Gate No. T5 (T.P. Link Canal Regulator Gate)

Gate No.	15	(1.P. Link Gate Registration Gate)				
Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
Gate Leaf						
Skin Plate	Thickness-Avg		Wire Rope	Main-Left	Y: - Distortion: - Corrosion: - Oil: -	G
	Corrosion			Main-Right	Y: - Distortion: - Corrosion: - Oil: -	↑
Truss	Thickness-Avg		Drum	Left	Damage: - Function: -	
	Distortion			Right	Damage: - Function: -	
End Girder	Thickness-Avg		Bearing	Drum	Damage: - Oil: -	
	Remodeling			Counter Shaft	Damage: - Oil: -	
	Distortion		Gear	Reduction Gear	Damage: - Oil: -	↓
				Reduction Gear	Damage: - Fitting: - Backlash: - Oil: -	G
Main Roller	Diameter-Roller	Average - mm	Basement	Drum-L	Damage: - Corrosion: L M S	RS
	Distortion	Left - Right -		Drum-R	Damage: - Corrosion: L M S	RS
Seal	Left	-		Drive Device	Damage: - Corrosion: L M S	RS
	Bottom	- Top -				
Right		-				
	Inclination					
Leakage						
Sill			Reduction Gear	Damage: - Corrosion: L M S	-	
				Drum-L	Damage: - Corrosion: L M S	RS
Sole Seal	Abrasion-Max	Left: - mm, Right: - mm	Cover	Drum-R	Damage: - Corrosion: L M S	↑
	Roller Truck	Abrasion-Max		Left: 4 mm, Right: 4 mm	Reduction Gear	Damage: - Corrosion: L M S
			Counter Shaft	Damage: - Corrosion: L M S	RS	
				Counter Weight	Damage: - Corrosion: L M S	G
Sill Beam	Abrasion	L M S	Hoisting	Wet Condition	10 kg.m	G
	Damage-Left	L M S		Torque	Dry Condition	0 kg.m
Concrete	Damage-Right	L M S	Superstructure	Damage: - Corrosion: L M S	RS	
	Damage-Bottom	L M S				

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

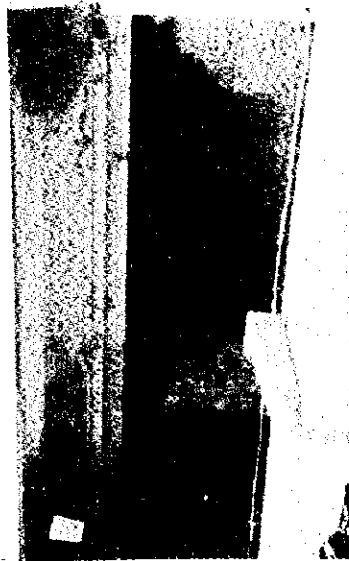
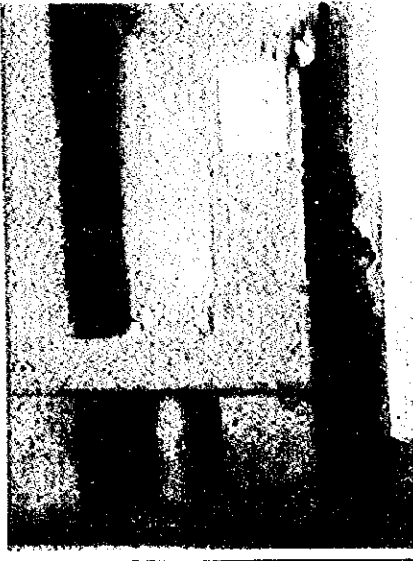
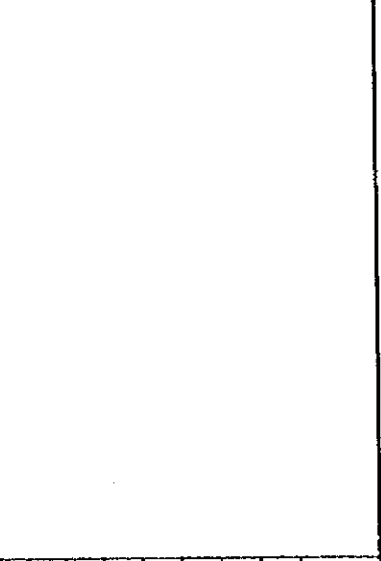


( ) shows design dimension.



# Survey Results of Gate Structure

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Gate No. T6 (T.P. Link Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg	Top 2.2 Mid 1.6 Low 0.6 Blm 8.2 ( mm )	Wire Rope	Main-Left	Y: - Distortion: - Corrosion: - Oil: -	
	Corrosion	U/S-Bottom L M S		Main-Right	Y: - Distortion: - Corrosion: - Oil: -	
Truss	Thickness-Avg	Bottom Flange 9.5, Bottom Web 6.7 ( mm )	Drum	Left	Damage: - Function: -	
	Distortion			Right	Damage: - Function: -	
End Gird	Thickness-Avg	L-Bottom 18.0, R-Bottom 17.5 ( mm )	Bearing	Drum	Damage: - Oil: -	
	Remedialing	Left No Right No		Counter Shaft	Damage: - Oil: -	
	Distortion	Left No Right No	Gear	Reduction Gear	Damage: - Oil: -	
				Reduction Gear	Damage: - Fitting: - Backlash: - Oil: -	
Main Roller	Diameter-Roller	Average - mm	Basement	Drum-L	Damage: - Corrosion: L M S	
	Distortion	Left - Right -		Drum-R	Damage: - Corrosion: L M S	
Seal	Left	-		Drive Device	Damage: - Corrosion: L M S	
	Bottom	- Top -				
Inclination	Right	-				
Leakage		Top Level Difference 30 mm				
Sill						
Side Seal	Abrasion-Max	Left: - mm, Right: - mm	Reduction Gear	Drum-L	Damage: - Corrosion: L M S	
	Roller Truck	Left: 3 mm, Right: 3 mm		Drum-R	Damage: - Corrosion: L M S	
Sill Beam	Abrasion-Max	Left: 3 mm, Right: 3 mm	Counter Shaft	Reduction Gear	Damage: - Corrosion: L M S	
Concrete	Abrasion	L M S	Counter Weight	Drum-L	Damage: - Corrosion: L M S	
	Damage-Left	L M S		Drum-R	Damage: - Corrosion: L M S	
	Damage-Right	L M S	Hoisting	Reduction Gear	Damage: - Corrosion: L M S	
	Damage-Bottom	L M S				
			Torque	Drum-L	Damage: - Corrosion: L M S	
				Drum-R	Damage: - Corrosion: L M S	
			Superstructure	Reduction Gear	Damage: - Corrosion: L M S	




Remarks: Judgement = N: Totally Replace, C: Partly Replace, PL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension

# Survey Results of Gate Structure

( 96 / 96 )

Gate No. T7 (T.P. Link Canal Regulator Gate)

Survey Item	Survey Result	Judge	Survey Item	Survey Result	Judge	Photograph
<b>Gate Leaf</b>						
Skin Plate	Thickness-Avg		Weld Rope	Main-Left		
	Corrosion	Top: 3 mm, Bottom: 1.0 mm (mm)		Main-Right		
Truss	Thickness-Avg		Drum	Left		
	Distortion	Bottom Flange 9.6, Bottom Web 6.4 (mm)		Right		
End Girder	Thickness-Avg		Bearing	Drum		
	Remodeling	L-Bottom 17.1, R-Bottom 16.4 (mm)		Counter Shaft		
	Distortion	Left No Right No	Gear	Reduction Gear		
		Left No Right No		Reduction Gear		
Main Roller	Diameter-Roller	Average - mm	Basement	Drum-L		
	Distortion	Left - Right -		Drum-R		
Seal	Left			Drive Device		
	Bottom					
Inclination	Right					
Leakage	Top Level Difference	750 mm				
Sill	Side Seal	Left: - mm, Right: - mm	Cover	Drum-L		
	Roller Truck	Left: 3 mm, Right: 3 mm		Drum-R		
			Counter Shaft	Reduction Gear		
				Reduction Gear		
Sill Beam	Abrasion	L M S	Counter Weight	Drum-L		
	Damage-Left	L M S		Drum-R		
Concrete	Damage-Right	L M S	Superstructure	Drum-L		
	Damage-Bottom	L M S		Drum-R		

Remarks: Judgement = N: Totally Replace, C: Partly Replace, RL: Large Repair, RM: Medium Repair, RS: Small Repair, G: No Repair, -: No Data.

( ) shows design dimension.