

**INSTRUCTIONS
AND
PARTS LIST**

Trucks

913224
913225
913230
913231
913238

Parts List PAGES 20-27

SHAW-BOX®

**SINGLE GIRDER
TOP RUNNING CRANE
BRIDGE KITS
1/2 THRU 15 TON
HAND GEARED
AND
MOTOR DRIVEN**

LIFTTECH 

**LIFT-TECH INTERNATIONAL, INC.
CRANE AND HOIST OPERATIONS
MUSKEGON, MICHIGAN 49443-0769**

SHAW-BOX

SHAW BOX TOP RUNNING BRIDGE COMPONENTS
LIFT-TECH MATERIAL LISTED BELOW IS REQUIRED TO BUILD THESE BRIDGE CRANES

INDIVIDUAL DRIVE - MOTOR DRIVEN CRANE				115V CONTROL			
RATED LOAD RANGE (TONS)	SPEED (FPM)	MOTOR (2 REQ'D)		575V	208-230V	460V	575V
		HP	208-230V				
SINGLE SPEED							
1/2 THRU 5	ALL	1/2	905381	905382	913155	905386	905387
5 THRU 10	50	1/2	905381	905382	913155	905386	905387
	65	3/4	913120	913121	913155	905386	905387
	100	1	913124	913125	913158	913156	913157
10 THRU 15	60	3/4	913120	913121	913158	913156	913157
	80	1	913124	913125	913156	913156	913157
	120	1 1/2	913128	913129	913156	913156	913157
TWO SPEED							
1/2 THRU 5	ALL	5/17	905394	905395	913165	905398	905399
5 THRU 10	50/17	5/17	905394	905395	913165	905398	905399
	65/22	75/25	913132	913133	913166	913166	913167
	100/33	1/33	913136	913140	913168	913166	913167
10 THRU 15	80/27	75/25	913132	913134	913168	913166	913167
	80/27	7/53	913136	913140	913168	913166	913167
	120/40	1 5/5	913145	913147	913169	913166	913167

CENTER DRIVE - MOTOR DRIVEN CRANE				115V CONTROL			
RATED LOAD RANGE (TONS)	SPEED (FPM)	MOTOR (1 REQ'D)		575V	208-230V	460V	575V
		HP	208-230V				
SINGLE SPEED							
1/2 THRU 5	ALL	3/4	913120	913121	913155	905386	905387
5 THRU 10	50	3/4	913120	913121	913155	905386	905387
	65	1	913124	913125	913155	905386	905387
	100	1-1/2	913128	913129	913158	913156	913157
10 THRU 15	60	1	913124	913125	913155	905386	905387
	80	1-1/2	913128	913129	913156	913156	913157
	120	2	913130	913131	913156	913156	913157
TWO SPEED							
1/2 THRU 5	ALL	3/4	913130	913133	913165	905388	905389
5 THRU 10	50/17	3/4	913132	913133	913165	905388	905389
	65/22	1	913136	913140	913165	905388	905389
	100/33	1-1/2	913145	913146	913168	913166	913167
10 THRU 15	80/27	1	913136	913140	913165	905388	905389
	80/27	1-1/2	913145	913146	913165	913166	913167
	120/40	2	913148	913149	913168	913166	913167

ONE PAIR OF END TRUCKS				GEAR REDUCERS (2 REQ'D)			
RATED LOAD RANGE (TONS)	FOR SPANS THRU (FT)	CATALOG NO.	WHEELBASE	WHEEL	RATED LOAD RANGE (TONS)	10:1 RATIO (60 FPM)	7.5:1 RATIO (85 FPM)
1/2 THRU 5	48	913224	6'-0"	8L	1/2 THRU 5	913110	913109
5 THRU 10	60	913230	6'-0"	8H	5 THRU 10	(60 FPM)	(120 FPM)
1/2 THRU 4	60	913225	7'-6"	8L	10 THRU 15	913193	913192
4 THRU 10	60	913231	6'-0"	8H			
10 THRU 15	60	913238	7'-6"	10			

ONE PAIR OF END TRUCKS				GEAR REDUCERS (1 REQ'D)			
RATED LOAD RANGE (TONS)	FOR SPANS THRU (FT)	CATALOG NO.	WHEELBASE	WHEEL	RATED LOAD RANGE (TONS)	10:1 RATIO (60 FPM)	7.5:1 RATIO (85 FPM)
1/2 THRU 5	48	913224	6'-0"	8L	1/2 THRU 5	913110	913109
5 THRU 10	60	913230	6'-0"	8H	5 THRU 10	(60 FPM)	(80 FPM)
1/2 THRU 4	60	913225	7'-6"	8L	10 THRU 15	913234	913233
4 THRU 10	60	913231	6'-0"	8H			
10 THRU 15	60	913238	7'-6"	10			

FUSED DISCONNECT SWITCH
208-230V
460-575V
913090
913091

RATED LOAD RANGE (TONS)	FOR SPANS THRU (FT)	CROSS SHAFT BEARING ASSY		CROSS SHAFT COUPLING	
		CATALOG NO.	NUMBER REQ'D	CATALOG NO.	CAT NO.
1/2 THRU 5	2				
	4				
	6	904625	4		8280
	8				
	10				
	12				
5 THRU 10	2				
	4				
	6	904625	4		8280
	8				
	10				
	12				
10 THRU 15	2				
	4				
	6	912112	4		912122
	8				
	10				
	12				

FUSED DISCONNECT SWITCH
208-230V
460-575V
913090
913091

SHAW BOX TOP RUNNING BRIDGE COMPONENTS
LIFT-TECH MATERIAL LISTED BELOW IS REQUIRED TO BUILD THESE BRIDGE CRANES

CATALOG NUMBERS REQUIRED FOR OPTIONAL EQUIPMENT

VOLTAGE	ELECTRONIC ACCELERATION CONTROL - 115 VOLT CONTROL			(1) MOTOR		(2) MOTORS	
	MOTOR HP	1 SPEED	2 SPEED	1 SPEED	2 SPEED	1 SPEED	2 SPEED
208	1/2 & 3/4	904596	904598	913186	913186	913186*	913186
230	1 & 1-1/2	913186	913186	913186*	913186*	N/A	913186*
460	1/2 & 3/4	904596	904598	913186	913186	913186	913186
	1 & 1-1/2	913186	913186	913186	913186	913186	913186

* For 2 - 1 HP MOTORS ONLY
APPLICATIONS OTHER THAN THOSE SHOWN REQUIRE SPECIAL ENGINEERING

VOLTAGE	BALLAST RESISTORS			
	MOTOR HP	FOR (1) MOTOR	FOR (2) MOTOR	FOR (2) MOTOR
208-230	1/2 & 3/4	913181		913176
	1	913181		913176
	1 & 1-1/2	913176		913179
460	1/2 & 3/4	913184		913177
	1	913184		913177
	1 & 1-1/2	913177		913182
575	1/2 & 3/4	913184		913177
	1	913184		913177
	1 & 1-1/2	913184		913189

MAIN COLLECTORS		CROSS CONDUCTORS	
POLE AND BRACKET	913218	FIRST 10' OF CONDUCTOR	904025
COLLECTORS -30A	904101	EACH SUCCESSIVE 10' OF CONDUCTOR	904026
-100A	904110		

BRIDGE BRAKE		
VOLTAGE	MOTOR HP	TORQUE
208-230/460	1/2 thru 1	0 - 3#
575	1 - 1/2 & 2	0 - 6#
208-230/460	1 - 1/2 & 2	0 - 6#
575		913317

BRIDGE BUMPERS	
WHEEL	CATALOG NO.
8"	912103
10"	912104

RATED LOAD RANGE (TONS)	HAND GEARED CRANE (TOP RUNNING)				HAND CHAIN WITH OPEN LINK (38" LENGTH)
	FOR SPANS THRU (FT)	CROSS SHAFT BEARING ASSY NUMBER RECD	CROSS SHAFT COUPLING NUMBER RECD	CHAIN WHEEL AND GUIDE (1 ASSY REQ'D)	
1/2 THRU 10	12	1	2	913115	8282
	22	2			
	28	3	8280		
	36	4			
	42	5			
	52	6			
	60	7			
10 THRU 15	12	1	2	912116	
	22	2			
	28	3	912122		
	36	4			
	42	5			
	52	6			
	60	7			

ONE PAIR OF END TRUCKS			
RATED LOAD RANGE (TONS)	FOR SPANS THRU (FT)	CATALOG NO.	WHEELBASE WHEEL
1/2 THRU 5	48	913224	8L
5 THRU 10	60	913230	8H
1/2 THRU 4	60	913225	8L
4 THRU 10	60	913231	8H
10 THRU 15	60	913238	10

**BEAM SIZE SELECTION
FOR VARIOUS SPANS**

INDIVIDUAL DRIVE BRIDGE

NOTES PERTAINING TO GIRDER SECTION:
 1.) SECTION DESIGNATION PER AISC
 2.) MATERIAL TO BE ASTM A99, FIRST QUALITY
 FREE OF RUST AND MILL SCALE
 3.) BRIDGE DESIGNED IN ACCORDANCE WITH
 CMAA SPECIFICATION 74, REVISED 1987

* FOR HOISTS EXCEEDING TABULATED WEIGHTS,
 CONSULT FACTORY FOR GIRDER SELECTION

SPAN THRU	WIDE FLANGE BEAMS OR W BEAMS W/ CHANNEL														
	RATED LOAD														
	1	2	3	5	7-1/2	10	15								3200#
10'-0"	W8x15	W12x22	W12x35	W18x46	W18x65	W14x82	W10x112								3200#
12'-0"	W8x18	W10x26	W12x35	W18x46	W18x65	W21x83	W21x83								3200#
14'-0"	W8x18	W14x26	W14x38	W16x50	W18x71	W18x71	W18x119								3200#
15'-0"	W8x21	W10x30	W18x40	W14x53	W14x82	W21x83	W21x132								3200#
18'-0"	W8x21	W10x30	W10x45	W16x57	W14x82	W21x83	W20x132								3200#
20'-0"	W10x26	W12x35	W10x45	W16x57	W21x83	W16x100	W24x146								3200#
22'-0"	W10x26	W12x35	W14x38	W16x57	W21x83	W16x100	W24x146								3200#
24'-0"	W10x30	W14x38	W14x48	W18x65	W21x83	W27x114	W24x146								3200#
25'-0"	W10x30	W12x40	W12x50	W18x71	W21x83	W30x124	W24x146								3200#
26'-0"	W10x30	W10x38	W14x53	W18x71	W21x83	W24x131	W24x146								3200#
30'-0"	W12x35	W12x45	W14x53	W18x71	W24x94	W18x119	W24x146								3200#
32'-0"	W14x38	W14x48	W16x61	W18x77	W16x100	W24x131	W24x146								3200#
34'-0"	W12x40	W14x53	W16x67	W18x89	W30x124	W21x132	W24x146								3200#
36'-0"	W12x45	W14x61	W16x67	W18x89	W30x124	W21x132	W24x146								3200#
38'-0"	W12x45	W14x61	W16x67	W18x89	W30x124	W21x132	W24x146								3200#
40'-0"	W14x48	W16x67	W18x77	W21x83	W30x124	W24x146	W24x146								3200#
42'-0"	W14x53	W16x77	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
44'-0"	W16x65	W18x77	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
46'-0"	W18x65	W18x77	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
48'-0"	W18x71	W18x89	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
50'-0"	W18x89	W18x89	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
52'-0"	W18x89	W18x89	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
54'-0"	W18x89	W18x89	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
56'-0"	W18x89	W18x89	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
58'-0"	W18x89	W18x89	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
60'-0"	W18x89	W18x89	W18x89	W21x83	W30x124	W24x146	W24x146								3200#
*HOIST WT. LIMIT	500#	1100#	1600#	2000#	3000#	3200#	3200#								3200#

SPAN THRU	STANDARD S BEAMS OR S BEAMS W/ CHANNEL														
	RATED LOAD														
	1	2	3	5	7-1/2	10	15								3200#
10'-0"	S10x25.4	S10x25.4	S12x40.8	S20x66	S20x66	S20x66	S24x106								3200#
12'-0"	S7x15.3	S12x40.8	S12x40.8	S18x54.7	S20x66	S24x106	S24x106								3200#
14'-0"	S8x18.4	S12x31.8	S12x40.8	S18x54.7	S24x106	S24x106	S24x106								3200#
16'-0"	S10x25.4	S12x31.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
20'-0"	S12x31.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
22'-0"	S12x31.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
24'-0"	S12x31.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
26'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
28'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
30'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
32'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
34'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
36'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
38'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
40'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
42'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
44'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
46'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
48'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
50'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
52'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
54'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
56'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
58'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
60'-0"	S12x40.8	S12x40.8	S12x40.8	S20x66	S24x106	S24x106	S24x106								3200#
*HOIST WT. LIMIT	500#	1100#	1600#	2000#	3000#	3200#	3200#								3200#

**BEAM SIZE SELECTION
FOR VARIOUS SPANS**

CENTER DRIVE BRIDGE

NOTES PERTAINING TO GIRDER SECTION:
 1.) SECTION DESIGNATION PER AISC
 2.) MATERIAL TO BE ASTM A58, FIRST QUALITY
 FREE OF RUST AND MILL SCALE
 3.) BRIDGE DESIGNED IN ACCORDANCE WITH
 CMAA SPECIFICATION 74, REVISED 1987

* FOR HOISTS EXCEEDING TABULATED WEIGHTS,
 CONSULT FACTORY FOR GIRDER SELECTION

SPAN THRU	WIDE FLANGE BEAMS OR W BEAMS W/ CHANNEL									
	RATED LOAD									
	1	2	3	5	7-1/2	10	15			
10'-0"	W8x15	W12x22	W12x35	W18x46	W18x65	W14x82	W10x112	W14x82	W18x65	W18x119
12'-0"	W10x17	W10x26	W14x38	W16x50	W18x71	W18x89	W21x132	W21x83	W21x83	W21x132
14'-0"	W8x18	W10x30	W18x40	W18x55	W14x82	W18x71	W24x146	W18x89	W18x71	W24x146
16'-0"	W10x19	W10x45	W16x45	W16x57	W14x82	W18x71	W30x132	W18x89	W18x71	W30x132
18'-0"	W10x19	W10x45	W16x45	W16x57	W14x82	W18x71	W30x132	W18x89	W18x71	W30x132
20'-0"	W10x19	W10x45	W16x45	W16x57	W14x82	W18x71	W30x132	W18x89	W18x71	W30x132
22'-0"	W10x19	W10x45	W16x45	W16x57	W14x82	W18x71	W30x132	W18x89	W18x71	W30x132
24'-0"	W10x22	W12x35	W18x46	W18x65	W21x83	W27x114	W30x146	W21x83	W21x83	W30x146
26'-0"	W12x22	W14x38	W16x50	W18x71	W21x83	W27x114	W30x146	W21x83	W21x83	W30x146
28'-0"	W12x26	W14x38	W16x50	W18x71	W21x83	W27x114	W30x146	W21x83	W21x83	W30x146
30'-0"	W14x26	W16x40	W18x55	W18x71	W21x83	W27x114	W30x146	W21x83	W21x83	W30x146
32'-0"	W14x26	W16x40	W18x55	W18x71	W21x83	W27x114	W30x146	W21x83	W21x83	W30x146
34'-0"	W16x26	W18x40	W21x57	W21x83	W21x83	W27x114	W30x146	W21x83	W21x83	W30x146
36'-0"	W16x31	W18x40	W21x57	W21x83	W21x83	W27x114	W30x146	W21x83	W21x83	W30x146
38'-0"	W16x31	W18x40	W21x57	W21x83	W21x83	W27x114	W30x146	W21x83	W21x83	W30x146
40'-0"	W18x40	W21x57	W24x62	W24x80	W24x80	W27x114	W30x146	W24x80	W24x80	W30x146
42'-0"	W18x40	W21x57	W24x62	W24x80	W24x80	W27x114	W30x146	W24x80	W24x80	W30x146
44'-0"	W18x40	W21x57	W24x62	W24x80	W24x80	W27x114	W30x146	W24x80	W24x80	W30x146
46'-0"	W18x40	W21x57	W24x62	W24x80	W24x80	W27x114	W30x146	W24x80	W24x80	W30x146
48'-0"	W18x40	W21x57	W24x62	W24x80	W24x80	W27x114	W30x146	W24x80	W24x80	W30x146
50'-0"	W21x44	W24x62	W27x84	W27x84	W27x84	W30x146	W30x146	W27x84	W27x84	W30x146
52'-0"	W21x44	W24x62	W27x84	W27x84	W27x84	W30x146	W30x146	W27x84	W27x84	W30x146
54'-0"	W21x44	W24x62	W27x84	W27x84	W27x84	W30x146	W30x146	W27x84	W27x84	W30x146
56'-0"	W24x62	W27x84	W30x114	W30x114	W30x114	W30x146	W30x146	W30x114	W30x114	W30x146
58'-0"	W24x62	W27x84	W30x114	W30x114	W30x114	W30x146	W30x146	W30x114	W30x114	W30x146
60'-0"	W24x62	W27x84	W30x114	W30x114	W30x114	W30x146	W30x146	W30x114	W30x114	W30x146
*HOIST WT. LIMIT	500#	1100#	1600#	2000#	3000#	3200#	3200#	2000#	3000#	3200#

SPAN THRU	STANDARD S BEAMS OR S BEAMS W/ CHANNEL									
	RATED LOAD									
	1	2	3	5	7-1/2	10	15			
10'-0"	S10x25.4	S10x25.4	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
12'-0"	S7x15.3	S12x31.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
14'-0"	S8x18.4	S12x31.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
16'-0"	S10x25.4	S12x31.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
18'-0"	S10x25.4	S12x31.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
20'-0"	S10x25.4	S12x31.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
22'-0"	S10x25.4	S12x31.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
24'-0"	S10x25.4	S12x31.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
26'-0"	S12x31.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
28'-0"	S12x31.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
30'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
32'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
34'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
36'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
38'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
40'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
42'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
44'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
46'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
48'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
50'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
52'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
54'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
56'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
58'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
60'-0"	S12x40.8	S12x40.8	S12x40.8	S18x54.7	S24x80	S24x80	S24x106	S24x106	S24x106	S24x106
*HOIST WT. LIMIT	500#	1100#	1600#	2000#	3000#	3200#	3200#	2000#	3000#	3200#

**BEAM SIZE SELECTION
FOR VARIOUS SPANS**

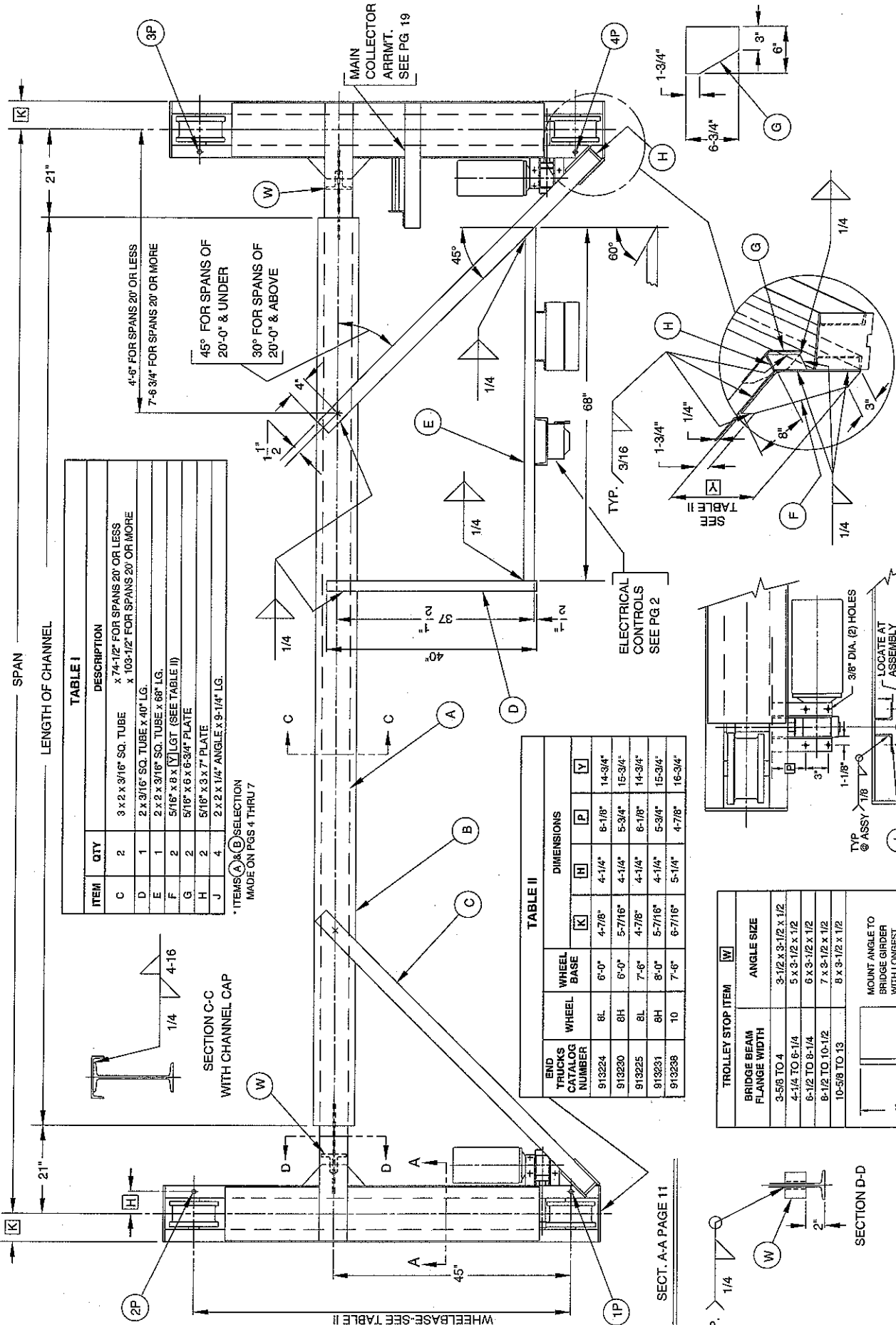
HAND OPERATED BRIDGE

- NOTES PERTAINING TO GIRDER SECTION:
 1.) SECTION DESIGNATION PER AISC
 2.) MATERIAL TO BE ASTM A36, FIRST QUALITY
 FREE OF RUST AND MILL SCALE
 3.) BRIDGE DESIGNED IN ACCORDANCE WITH
 CMAA SPECIFICATION 74, REVISED 1987

* FOR HOISTS EXCEEDING TABULATED WEIGHTS,
 CONSULT FACTORY FOR GIRDER SELECTION

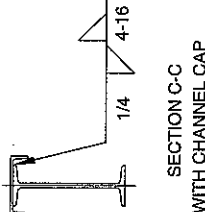
SPAN THRU	WIDE FLANGE BEAMS OR W BEAMS W/ CHANNEL														
	RATED LOAD														
	1	2	3	5	7-1/2	10	15								
10'-0"	W8x15	W12x22	W10x30	W18x46	W18x71	W10x100	W10x100								
12'-0"	W8x15	W10x28	W12x35	W18x65	W18x83	W10x112	W10x112								
14'-0"	W8x18	W14x26	W14x38	W18x60	W18x71	W18x119	W18x119								
16'-0"	W8x21	W10x30	W18x40	W18x65	W18x71	W21x132	W21x132								
20'-0"	W10x26	W14x24	W12x45	W18x57	W21x83	W30x132	W30x132								
22'-0"	W10x30	W12x35	W16x45	W18x60	W21x83	W26x146	W26x146								
24'-0"	W10x30	W14x38	W14x48	W18x65	W18x71	W21x147	W21x147								
26'-0"	W14x34	W14x43	W14x53	W18x71	W21x83	W27x114	W27x114								
28'-0"	W12x35	W14x48	W18x60	W16x77	W16x100	W30x148	W30x148								
30'-0"	W14x38	W14x48	W18x65	W16x89	W27x114	W30x124	W30x124								
32'-0"	W12x40	W14x53	W18x65	W16x89	W27x114	W24x131	W24x131								
34'-0"	W12x40	W14x53	W18x65	W16x89	W27x114	W24x131	W24x131								
36'-0"	W12x40	W14x53	W18x65	W16x89	W27x114	W24x131	W24x131								
38'-0"	W14x43	W14x53	W18x65	W16x89	W27x114	W24x131	W24x131								
40'-0"	W14x48	W18x65	W18x77	W18x77	W21x124	W30x169	W30x169								
42'-0"	W14x48	W18x65	W18x77	W18x77	W21x124	W30x169	W30x169								
44'-0"	W14x53	W18x67	W18x60	W21x83	W21x83	W30x169	W30x169								
46'-0"	W18x60	W18x77	W18x65	W21x83	W21x83	W30x169	W30x169								
48'-0"	W18x65	W18x77	W18x65	W21x83	W21x83	W30x169	W30x169								
50'-0"	W18x71	W18x65	W18x71	W21x83	W21x83	W30x169	W30x169								
52'-0"	W21x73	W18x65	W21x73	W24x84	W27x114	W30x169	W30x169								
54'-0"	W21x73	W18x65	W21x73	W24x84	W27x114	W30x169	W30x169								
56'-0"	W21x83	W21x73	W21x73	W24x84	W27x114	W30x169	W30x169								
58'-0"	W18x60	W21x73	W21x73	W24x84	W27x114	W30x169	W30x169								
60'-0"	W18x65	W21x73	W21x73	W24x84	W27x114	W30x169	W30x169								
HOIST WT. LIMIT	500#	1100#	1600#	2000#	3000#	3200#	3200#								

SPAN THRU	STANDARD S BEAMS OR S BEAMS W/ CHANNEL														
	RATED LOAD														
	1	2	3	5	7-1/2	10	15								
10'-0"	S7x15.3	S10x23.4	S12x40.8	S12x40.8	S20x66	S20x66	S24x106								
12'-0"	S8x18.4	S12x31.8	S18x54.7	S18x54.7	S24x80	S24x80	S24x106								
14'-0"	S10x25.4	S12x40.8	S18x54.7	S20x66	S24x80	S24x106	S24x106								
16'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
18'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
20'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
22'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
24'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
26'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
28'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
30'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
32'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
34'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
36'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
38'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
40'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
42'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
44'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
46'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
48'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
50'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
52'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
54'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
56'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
58'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
60'-0"	S12x31.8	S15x42.9	S18x54.7	S20x66	S24x80	S24x106	S24x106								
HOIST WT. LIMIT	500#	1100#	1600#	2000#	3000#	3200#	3200#								



ITEM	QTY	DESCRIPTION
C	2	3 x 2 x 3/16" SQ. TUBE x 74-1/2" FOR SPANS 20' OR LESS x 103-1/2" FOR SPANS 20' OR MORE
D	1	2 x 3/16" SQ. TUBE x 40" LG.
E	1	2 x 2 x 3/16" SQ. TUBE x 68" LG.
F	2	5/16" x 8 x 1/4" LGT (SEE TABLE II)
G	2	5/16" x 6 x 3/4" PLATE
H	2	5/16" x 3 x 7" PLATE
J	4	2 x 2 x 1/4" ANGLE x 9-1/4" LG.

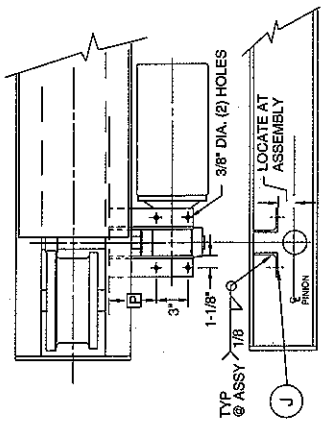
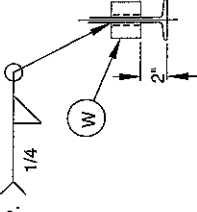
*ITEMS (A) & (B) SELECTION MADE ON PGS 4 THRU 7

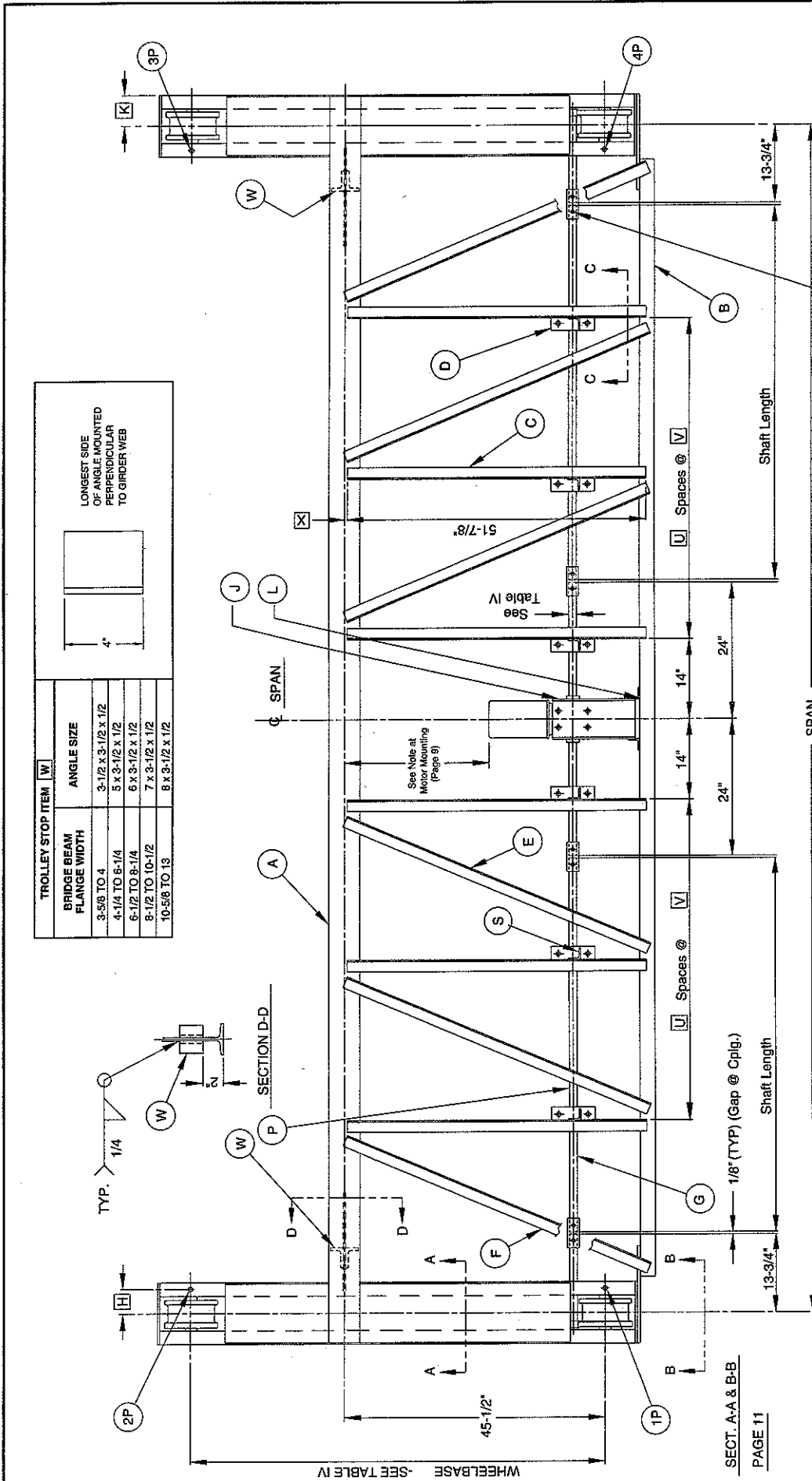


END TRUCKS CATALOG NUMBER	WHEEL	WHEEL BASE	K	H	P	Y
913224	8L	6'-0"	4-7/8"	4-1/4"	6-1/8"	14-3/4"
913230	8H	6'-0"	5-7/16"	4-1/4"	5-3/4"	15-3/4"
913225	8L	7'-6"	4-7/8"	4-1/4"	6-1/8"	14-3/4"
913231	8H	8'-0"	5-7/16"	4-1/4"	5-3/4"	15-3/4"
913238	10	7'-6"	6-7/16"	5-1/4"	4-7/8"	16-3/4"

BRIDGE BEAM FLANGE WIDTH	ANGLE SIZE	W
3-5/8 TO 4	3-1/2 x 3-1/2 x 1/2	
4-1/4 TO 6-1/4	5 x 3-1/2 x 1/2	
6-1/2 TO 8-1/4	6 x 3-1/2 x 1/2	
8-1/2 TO 10-1/2	7 x 3-1/2 x 1/2	
10-5/8 TO 13	8 x 3-1/2 x 1/2	

MOUNT ANGLE TO BRIDGE GIRDER WITH LONGEST SIDE EXTENDING OUT FROM WEB





Drill Thru Coupling & Shaft 3/8" Dia. Hole For 1-3/16" Shaft, 1/2" Dia. Hole For 1-5/16" Shaft.

BEAM LENGTH = SPAN + 2 [K]

MATERIAL REQUIREMENTS AND DIMENSIONS ON NEXT PAGE

TROLLEY STOP ITEM [W]	ANGLE SIZE
BRIDGE BEAM FLANGE WIDTH	
3-5/8 TO 4	3-1/2 x 3-1/2 x 1/2
4-1/4 TO 6-1/4	5 x 3-1/2 x 1/2
6-1/2 TO 8-1/4	6 x 3-1/2 x 1/2
8-1/2 TO 10-1/2	7 x 3-1/2 x 1/2
10-5/8 TO 13	8 x 3-1/2 x 1/2

LONGEST SIDE OF ANGLE MOUNTED PERPENDICULAR TO GIRDER WEB

4"

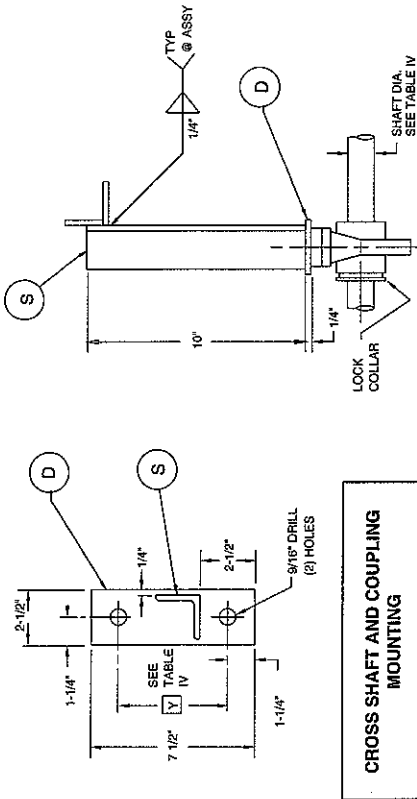
TABLE IV

END TRUCKS CATALOG NUMBER	WHEEL WHEEL BASE	CROSS SHAFT DIA.	COUPLING BLOCK CATALOG NUMBER	DIMENSIONS			
				[K]	[H]	[V]	[X]
913224	8L 6'-0"	1-3/16"	8280 904625	4-7/8"	4-1/4"	4-3/4"	1/2"
913230	8H 6'-0"	1-3/16"	8280 904625	5-7/16"	4-1/4"	4-3/4"	1/2"
913225	8L 7'-6"	1-3/16"	8280 904625	4-7/8"	4-1/4"	4-3/4"	1/2"
913231	8H 8'-0"	1-3/16"	8280 904625	5-7/16"	4-1/4"	4-3/4"	1/2"
913238	10 7'-6"	1-5/16"	912122 912112	6-7/16"	5-1/4"	5-1/8"	1-3/4"

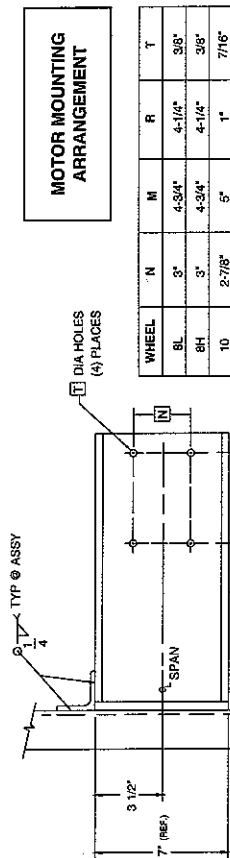
MATERIAL REQUIREMENTS	
ITEM	DESCRIPTION
A	GIRDER - SEE PAGE 5
B	AUXILIARY GIRDER - SEE TABLE V FOR SIZE AND LENGTH
C	2 X 2 X 1/4 ANGLE X 51-7/8" LG.
D	1/4 X 2-1/2 X 7-1/2 PLAT
E	2-1/2 X 2-1/2 X 3/16" ANGLE X SEE TABLE V FOR LGT.
F	2-1/2 X 2-1/2 X 3/16" ANGLE X SEE TABLE V FOR LGT.
G	CROSS SHAFT DIA. (SEE TABLE IV) X LENGTH (TABLE V)
H	C7 X 8.84 X 18" CHANNEL
I	2 X 2 X 1/4 ANGLE X 9" LGT.
J	2 X 2 X 1/4 ANGLE X 10 LG.
K	SEE TABLE V
L	TROLLEY STOPS - SEE TABLE (OPP. PAGE)
M	SEE TABLE V
N	SEE TABLE V
O	SEE TABLE V
P	SEE TABLE V
Q	SEE TABLE V
R	SEE TABLE V
S	SEE TABLE V
T	SEE TABLE V
U	SEE TABLE V
V	SEE TABLE V
W	SEE TABLE V

SPAN THRU	SECTION	ITEM (B)		ITEM (C)		ITEMS (D) & (S)		ITEM (E)		ITEM (F)		ITEM (G)	
		LENGTH	QTY	U	V	QTY	QTY	LENGTH	LENGTH	QTY	LENGTH	QTY	LENGTH
12'-0"		10' - 8-1/2"	2	-	-	2	-	-	-	69"	-	2	2'-10"
14'-0"		12' - 8-1/2"	4	1	38"	4	4	61-1/4"	57"	57"	-	2	3'-10"
16'-0"		14' - 8-1/2"	4	1	41"	4	4	64"	59-1/2"	59-1/2"	-	2	4'-10"
18'-0"		16' - 8-1/2"	4	1	48"	4	4	68-1/4"	61-3/4"	61-3/4"	-	2	5'-10"
20'-0"		18' - 8-1/2"	4	1	53"	4	4	71-1/2"	65-3/4"	65-3/4"	-	2	6'-10"
22'-0"		20' - 8-1/2"	4	1	58"	4	4	74-1/2"	69-3/4"	69-3/4"	-	2	7'-10"
24'-0"		22' - 8-1/2"	4	1	63"	4	4	77-1/2"	73-3/4"	73-3/4"	-	2	8'-10"
26'-0"		24' - 8-1/2"	4	1	68"	4	4	80-1/2"	77-3/4"	77-3/4"	-	2	9'-10"
28'-0"		26' - 8-1/2"	4	1	73"	4	4	83-1/2"	81-3/4"	81-3/4"	-	2	10'-10"
30'-0"		28' - 8-1/2"	4	1	78"	4	4	86-1/2"	85-3/4"	85-3/4"	-	2	11'-10"
32'-0"		30' - 8-1/2"	4	1	83"	4	4	89-1/2"	89-3/4"	89-3/4"	-	2	12'-10"
34'-0"		32' - 8-1/2"	4	1	88"	4	4	92-1/2"	93-3/4"	93-3/4"	-	2	13'-10"
36'-0"		34' - 8-1/2"	4	1	93"	4	4	95-1/2"	97-3/4"	97-3/4"	-	2	14'-10"
38'-0"		36' - 8-1/2"	4	1	98"	4	4	98-1/2"	101-3/4"	101-3/4"	-	2	15'-10"
40'-0"		38' - 8-1/2"	4	1	103"	4	4	101-1/2"	105-3/4"	105-3/4"	-	2	16'-10"
42'-0"		40' - 8-1/2"	4	1	108"	4	4	104-1/2"	109-3/4"	109-3/4"	-	2	17'-10"
44'-0"		42' - 8-1/2"	4	1	113"	4	4	107-1/2"	113-3/4"	113-3/4"	-	2	18'-10"
46'-0"		44' - 8-1/2"	4	1	118"	4	4	110-1/2"	117-3/4"	117-3/4"	-	2	19'-10"
48'-0"		46' - 8-1/2"	4	1	123"	4	4	113-1/2"	121-3/4"	121-3/4"	-	2	20'-10"
50'-0"		48' - 8-1/2"	4	1	128"	4	4	116-1/2"	125-3/4"	125-3/4"	-	2	21'-10"
52'-0"		50' - 8-1/2"	4	1	133"	4	4	119-1/2"	129-3/4"	129-3/4"	-	2	22'-10"
54'-0"		52' - 8-1/2"	4	1	138"	4	4	122-1/2"	133-3/4"	133-3/4"	-	2	23'-10"
56'-0"		54' - 8-1/2"	4	1	143"	4	4	125-1/2"	137-3/4"	137-3/4"	-	2	24'-10"
58'-0"		56' - 8-1/2"	4	1	148"	4	4	128-1/2"	141-3/4"	141-3/4"	-	2	25'-10"
60'-0"		58' - 8-1/2"	4	1	153"	4	4	131-1/2"	145-3/4"	145-3/4"	-	2	26'-10"

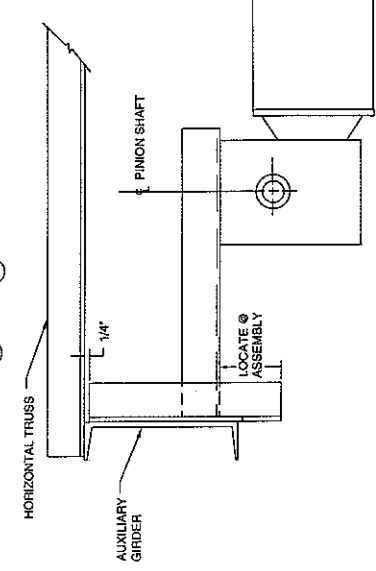
ITEM (G) LENGTH = SPAN (6'-0") QTY



SECTION C-C

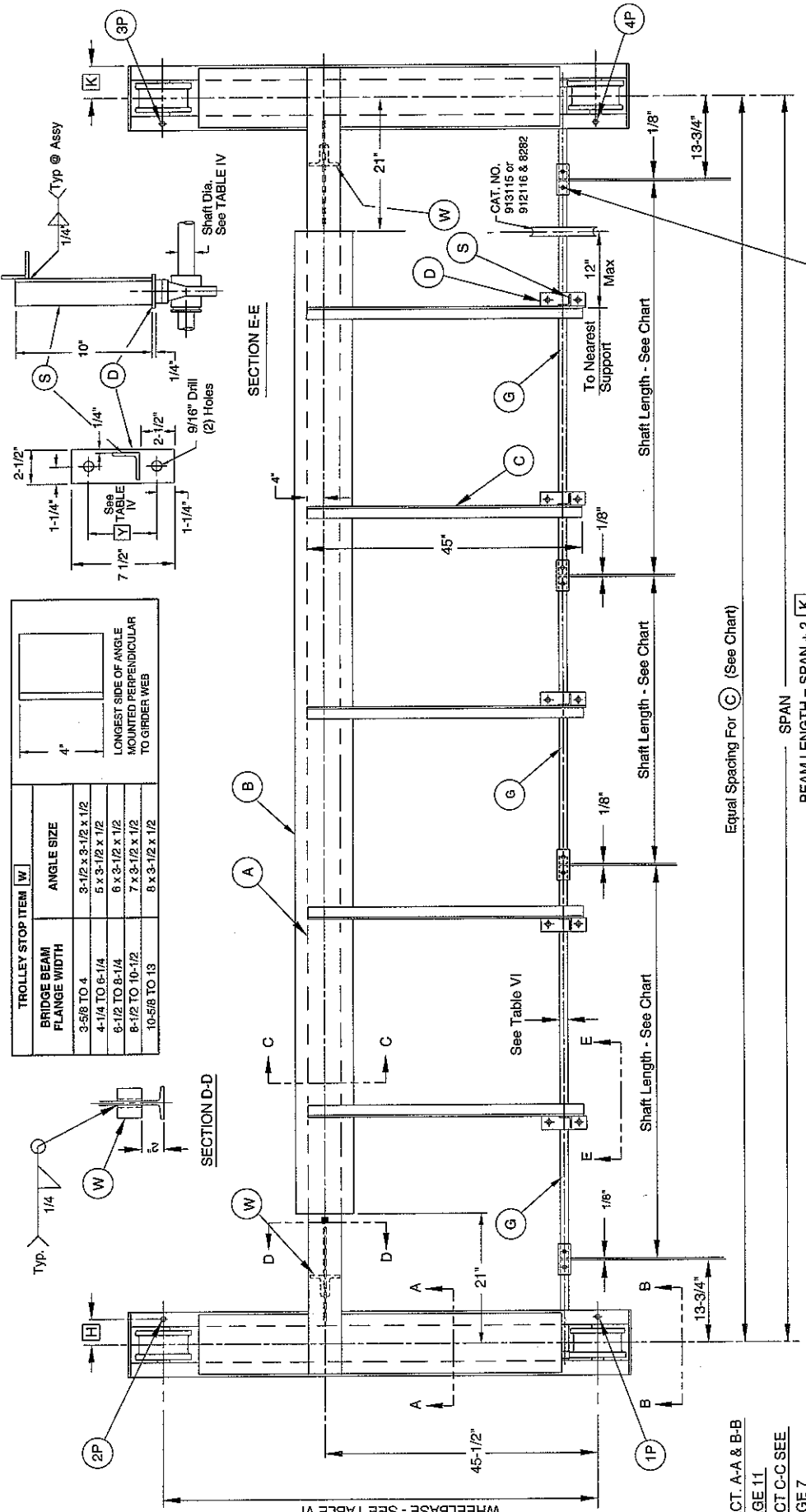


NOTE
 MINIMUM DIMENSION FROM END OF BRIDGE MOTOR TO CENTERLINE OF GIRDER IS: 21 1/2" FOR 10" WHEEL
 23" FOR BL OR BH WHEEL
 (THIS DIMENSION WILL DECREASE 5-3/16" IF OPTIONAL BRIDGE BRAKE ADDED)
 CRANE BUILDER SHOULD VERIFY THAT INTERFERENCE DOES NOT OCCUR WITH HOIST TROLLEY OR ACCESSORIES SUCH AS COLLECTORS.



TROLLEY STOP ITEM	W
BRIDGE BEAM FLANGE WIDTH	ANGLE SIZE
3-5/8 TO 4	3-1/2 x 3-1/2 x 1/2
4-1/4 TO 6-1/4	5 x 3-1/2 x 1/2
6-1/2 TO 8-1/4	6 x 3-1/2 x 1/2
8-1/2 TO 10-1/2	7 x 3-1/2 x 1/2
10-5/8 TO 13	8 x 3-1/2 x 1/2

LONGEST SIDE OF ANGLE MOUNTED PERPENDICULAR TO GIRDER WEB



Drill Thru Coupling & Shaft 3/8\" Dia. Hole For 1-3/16\" Shaft, 1/2\" Dia. Hole For 1-5/16\" Shaft.

Equal Spacing For (C) (See Chart)

SPAN
BEAM LENGTH = SPAN + 2 (K)

SECT. A-A & B-B
PAGE 11
SECT C-C SEE
PAGE 7

TABLE IV

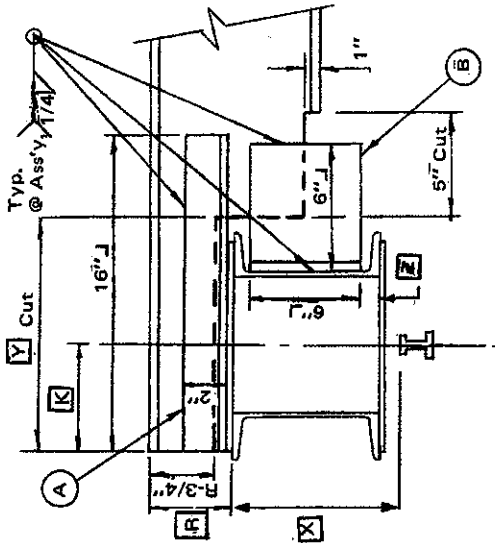
END TRUCKS CATALOG NUMBER	WHEEL BASE	WHEEL DIA.	CROSS SHAFT DIA.	COUPLING BLOCK CATALOG NUMBER	PILLOW BLOCK CATALOG NUMBER	DIMENSIONS		
						K	H	Y
913224	8L	6'-0"	1-3/16"	8280	804625	4-7/8"	4-1/4"	4-3/4"
913230	8H	6'-0"	1-3/16"	8280	904625	5-7/16"	4-1/4"	4-3/4"
913225	8L	7'-6"	1-3/16"	8280	804625	4-7/8"	4-1/4"	4-3/4"
913231	8H	8'-0"	1-3/16"	8280	804625	5-7/16"	4-1/4"	4-3/4"
913236	10	7'-6"	1-5/16"	912122	912112	6-7/16"	5-1/4"	5-1/8"

TABLE VII

ITEM	DESCRIPTION	QUANTITY SPANS THRU					
		12'	22'	36'	42'	52'	60'
SPACES	EQUAL SPACES OF ITEM (C)	2	3	4	5	6	7
(C)	3 x 2 x 1/4 ANGLE x 4 1/2 LG	1	2	3	4	5	6
(D)	1/4 x 2-1/2 x 7-1/2 FLAT	1	2	3	4	5	6
(E)	2 x 2 x 1/4 ANGLE x 10 LG	1	2	3	4	5	6
(G)	CROSS SHAFT DIA SEE TABLE VI	1	2	3	4	5	6
(K)		2	3	4	5	6	7
(L)	LENGTH OF ITEM (G)	SPAN '2' 3-3/4"					
(M)		SPAN '2' 5-7/16" (1/2)					
(N)		SPAN '2' 47" (1/2)					
(O)		3					

MAIN GIRDER CONNECTION

BEAMS 7" THRU 12" DEEP

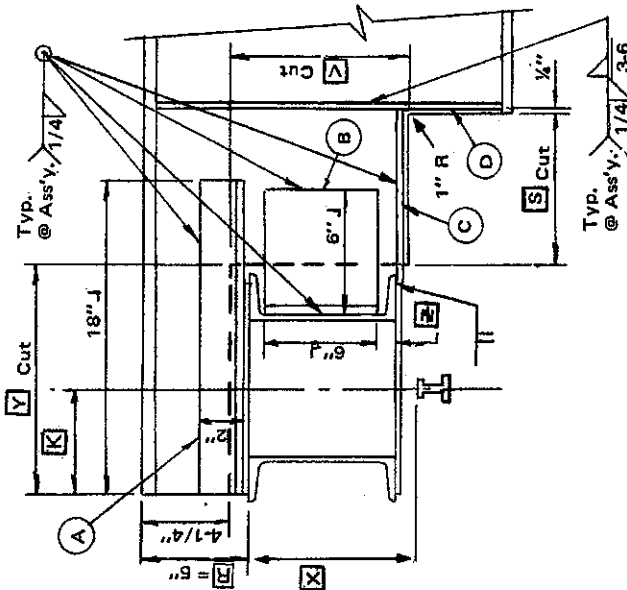


SECTION A-A

WHEEL	DIMENSIONS				
	K	X	Y	Z	Z
8L	4-5/8"	9"	10"	1"	1"
8H	5-1/4"	10"	11-1/4"	1-1/2"	1-1/2"

GIRDER SECTION	DIM	ITEM (A) 4 REQ'D	ITEM (B) 4 REQ'D
S7	4"		
S8		3 x 3 x 3/8" J x 16"	
S10	5"	Cut Leg. to 2"	6 x 4 x 3/8 x 6"
S12			

BEAMS OVER 12" DEEP

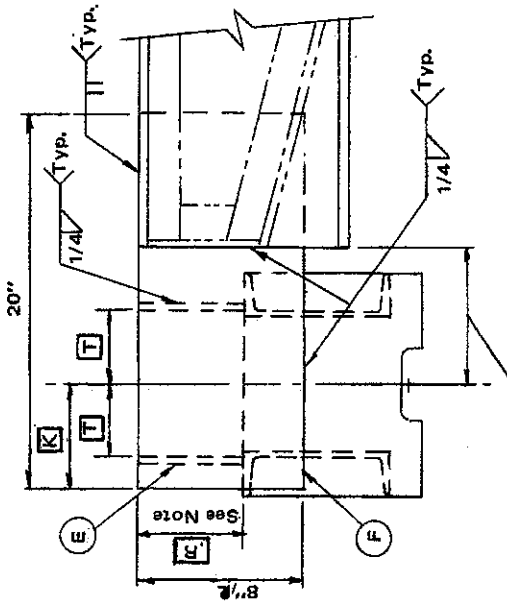


SECTION A-A

WHEEL	MINIMUM BEAM DEPTH					DIMENSIONS						
	S	V	K	X	Y	Z	S	V	K	X	Y	Z
8L	15"	8-3/4"	9-1/2"	4-5/8"	9"	10"	1"	1"				
8H	15"	9-3/4"	10-1/2"	5-1/4"	10"	11-1/4"	1-1/2"					
10	16"	9-1/2"	11-1/2"	6"	11"	13"	2"					

GIRDER SECTION	ITEM (A) 4 REQ'D	ITEM (B) 4 REQ'D	ITEM (C) 4 REQ'D	ITEM (D) 4 REQ'D	DIMENSIONS		
					THICK	WIDTH	LENGTH
S15	3 x 3 x 3/8" J x 16" LG.	6 x 4 x 3/8" J x 6" LG.	5/16"	2-1/4"	5/16"	2-1/4"	14"
S18			5/16"	2-1/4"	5/16"	2-1/4"	17"
S20			5/16"	2-1/4"	5/16"	2-1/4"	18-1/2"
S24			3/8"	3"	3/8"	3"	22-1/4"
W27			3/8"	4-1/2"	3/8"	4-1/2"	25-3/8"
W30			3/8"	4-1/2"	3/8"	4-1/2"	28-1/4"
W33			3/8"	5"	3/8"	5"	31"
W36			3/8"	5"	3/8"	5"	34"

AUX. GIRDER CONNECTION



This dimension will vary, depending on actual span. Locate Aux. girder with same dim. at each end.

SECTION B-B

NOTE: Dim. (R) Must Be The Same As Used On The Main Girder Connection.

WHEEL	DIMENSIONS	
	K	T
8L	4-5/8"	3-1/2"
8H	5-1/4"	3-1/2"
10	6"	4-1/4"

ITEM	QTY	DESCRIPTION
E	4	5/16" x 3" x (R) Plate
F	2	3/8" x 8" x 20" Plate

GIRDER CONNECTIONS

TO BUILD TOP RUNNING CRANE BRIDGES

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GENERAL

The assembly and manufacturing instructions including the parts lists detailed in this manual are for use in conjunction with the manufacturers components identified by Catalog numbers listed under the THREE types of drives covered by this manual and as shown on pages 2 and 3.

The crane builder must check for compliance with all local, state and national codes. On a hand powered crane with an electric hoist, a fused safety disconnect switch should be provided and mounted on the bridge near the main collectors. Crane wiring should be done by a licensed electrician and be in accordance with the National Electric Code.

The crane bridges described in this manual are intended for normal indoor service. Bridges to be used for outdoor or unusual service require special consideration.

This manual illustrates specific configurations for the range of coverage shown, specifically from 10 ft. thru 60 ft. span and up to and including 15 ton capacity. Minor deviations to the configurations shown (such as shaft bearing spacing, shaft lengths, etc.) may be made providing that any changes and/or alterations to those shown, be performed only by a properly qualified person. LIFT-TECH INTERNATIONAL, INC. accepts no responsibility for any altered bridge configurations.

The proper catalog numbers must be ordered to build the required crane. Five catalog numbers are required to build the individual drive cranes. Seven catalog numbers are required for center drive cranes. Five catalog numbers are required for hand geared cranes. Additional options for additional equipment are available and listed by catalog numbers on page 3.

Material listed by catalog numbers on pages 2 and 3 are applicable only to crane configurations outlined in this manual, specifically limited to a maximum rated load of 15 tons and a maximum span of 60 ft.

Cataloged end trucks listed on pages 2 and 3 will accommodate rail sizes shown below. Maximum wheel loads are shown for each size wheel.

Rated Load (thru)	Wheel Size (in.)	Minimum ASCE Rail Size	Maximum ASCE Rail Size	Maximum Wheel Load
5 Ton	8L	20#	80#	8000 lb
10 Ton	8H	20#	80#	12,000 lb
15 Ton	10	40#	80#	28,000 lb

RUNWAYS: Runway beams on which these cranes will operate must be amply strong to support crane bridge, hoisting equipment, and rated load. Runway rails must be level and parallel within $\pm 1/8"$. Rail joints must be smooth and held firmly in alignment either by bolted splice bars or welding. Rails should be securely fastened to runway beam.

MATERIAL TO BE PURCHASED LOCALLY TO COMPLETE A CRANE BRIDGE

STRUCTURAL STEEL: All structural steel should be first quality, free from rust and excessive mill scale, and conform to ASTM A36.

For the complete drawing identifying all dimensions, material sizes, location of cross shafting, brackets, etc. refer to the following chart:

BRIDGE ASSEMBLY	PAGE
Individual Drive	7
Center Drive	8, 9
Hand Powered	10

BRIDGE BEAMS: For each capacity, span and type of bridge drive select bridge beam from tables shown on pages 4, 5, 6 & 7.

The S-beam which is selected to be used for the bridge girder must be straight with flanges parallel to each other and flanges 90 degrees to the web. (See figure A below.) Angles which are to be used for the top and bottom chord members of the auxiliary girder must also be selected for straightness and freedom from twist.

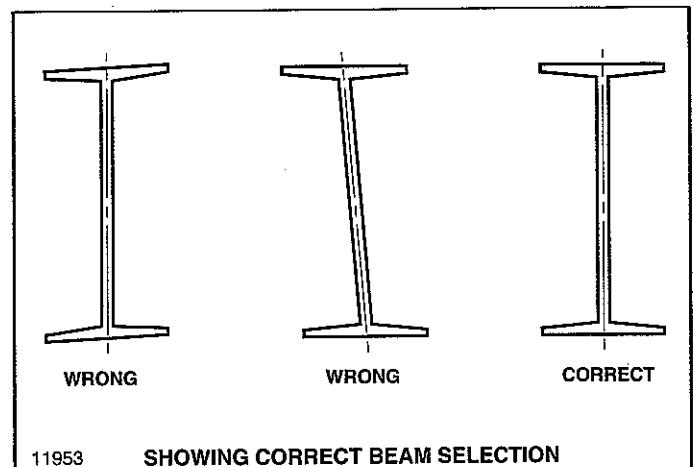


Figure A

NOTICE

- A. All of the tables used in selection of structural steel beams have been produced by our engineering department using well established design guides for this type of crane bridge. IT IS IMPORTANT THAT ALL INSTRUCTIONS BE FOLLOWED AND THAT RECOMMENDED COMPONENT APPLICATION LIMITS NOT BE EXCEEDED.
- B. Assembly of beam and channel requires welding. IT IS EXTREMELY IMPORTANT TO THE SAFETY OF THIS BRIDGE THAT THIS WELDING BE DONE BY A COMPETENT WELL TRAINED WELDER. It is our strong recommendation that the welder used in this construction be qualified as prescribed by the American Welding Society (AWS) Specification for Welding Industrial and Mill Cranes D14.1 - latest issue.

Weld in accordance with the weld information given, starting at one end, staggering weld from side-to-side, proceeding to the opposite end without interruption. It is important to stagger weld from side-to-side in order to retain beam straightness. After welding, draw a taut string from end to end of beam as shown. Beam should either be parallel to string or have some camber. Camber should not exceed 1/800 of span.

CROSS SHAFTS: For hand geared and center drive cranes, cross shafts are required. The cross shafts are to be of AISI 1018 cold drawn steel, with standard mill tolerance of +.000", -.002". For shaft diameter and lengths, refer to the appropriate Bridge Assembly Drawing. (Builder must check that cross shaft couplings clear cross shaft support bearings.)

FABRICATION OF GIRDER FOR BRIDGE BEAM WITH CAPPING CHANNEL

Refer to Figure B. Place channel on supports as shown in Step I. The S-beam is sighted for camber and placed with camber in direction shown in Step II. Weld one end of channel to the S-beam. Clamp, with "C" clamps, the channel to the S-beam flange - provide sufficient "C" clamps so as to hold channel in contact with the S-beam.

WARNING

Trolley stops (clip angles) must be installed on both ends of bridge beam to prevent hoist trolley from running off end of beam, which could result in injury to operator and others and damage to load and other property.

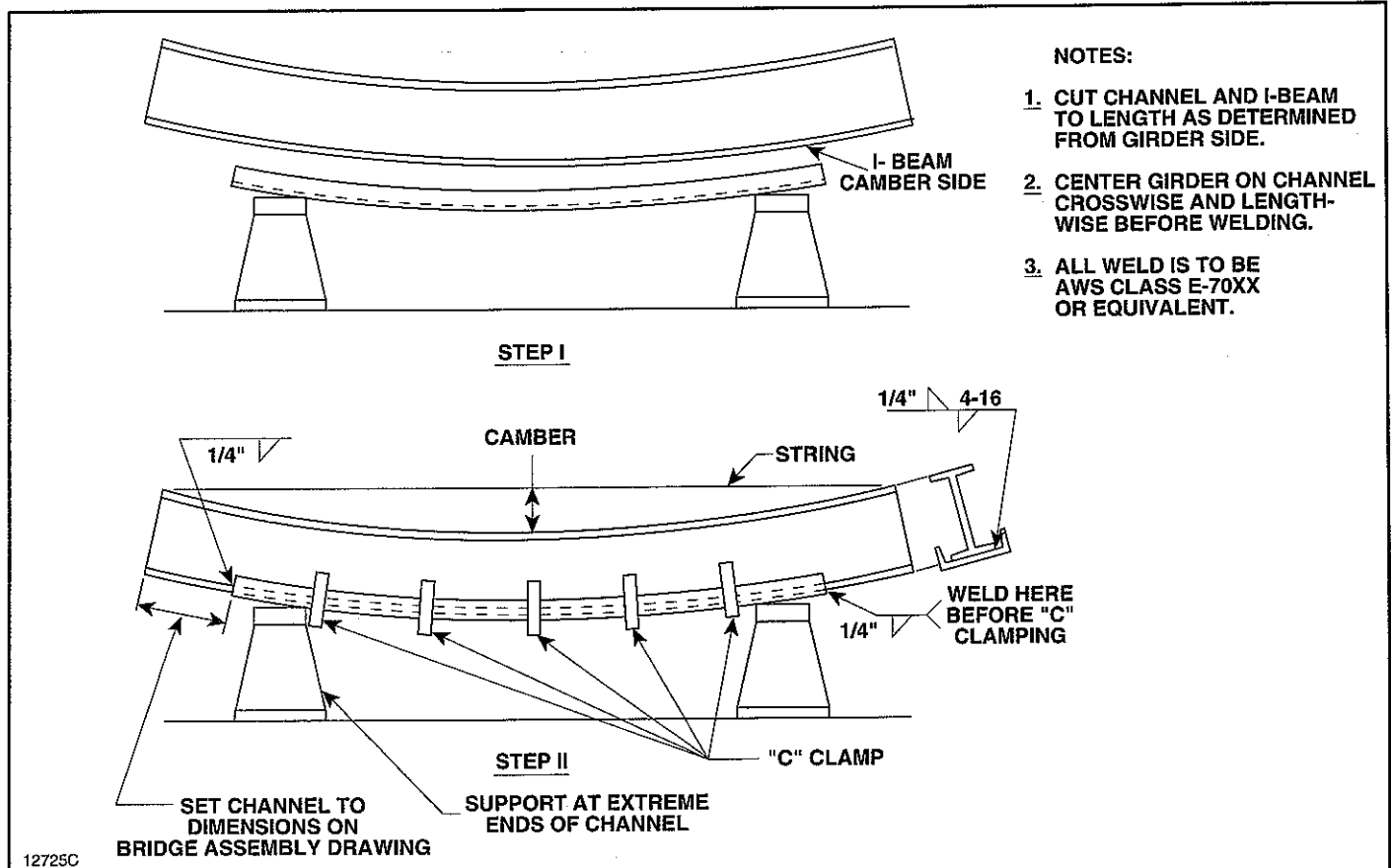


Figure B

ASSEMBLING BRIDGE GIRDER TO END TRUCKS

1. Refer to Section A-A on page 11. This drawing shows how the ends of the main girder are to be cut to accommodate the end truck, and the connection of the girder to the end truck. Dimensions of this cut are tabulated as a function of the main girder previously selected. Notch is made by a cutting torch with burned area smoothed by grinding. Support S-beam girder Item A about two feet from each end on a pair of horses, or other suitable support (adjustable with clamping ability is preferred). Place S-beam on supports so that camber side is at top. In the case of beams with capping channels or angles, the channel or angle side is up. If the beam has a slight lateral curvature (horizontal direction), position beam with its bowed side toward the auxiliary girder or cross shaft. When setting up S-beam on supports, make certain that the bottom flange is level.

2. Locate end trucks in notch of girder, one at each end, as shown on page 11, using the correct R dimension. Make certain trucks are level with each other and are level with bottom flange of the S-beam girder, as shown in figure D below.

It is quite possible that the top flange of the girder is not level even though the bottom flange is level. When leveling trucks, use either the centerline of the wheel axles or the diameter of the wheels. **DO NOT LEVEL FROM ROUGH TRUCK STRUCTURAL.** Correct operation of hoist-trolley requires that the bottom flange is level.

3. To check the distance between trucks, the distances between point 1p and 4p and between 2p and 3p should equal the span minus 2 times "H". Refer to Bridge Assembly drawing for the "H" dimension.

4. To check squareness, use a spring scale on the end of a steel tape and measure from point 1p to 3p and from 2p to 4p with the same force on the scale. These dimensions should be within 1/32" of each other.

5. After assuring that trucks are accurately positioned, proceed to instructions for assembly for type of crane being built. (Pages 15 and 16)

INSTRUCTIONS FOR ASSEMBLING INDIVIDUAL DRIVE CRANE BRIDGES

1. Refer to the Bridge Assembly drawing page 7.
2. Prepare bridge girder with capping channel if required (see figure B, page 13).
3. Follow instructions for assembling bridge girder to end trucks, as outlined on page 14.
4. The corner brace tubes, Item (C) along with controls support tubing, Items (D) and (E) are to be tack welded in position. (Controls support tubing is usually located adjacent to runway conductors). Check crane for correct span and squareness and complete welds for support tubes as shown on Bridge Assembly drawing.
5. (Refer to page 11) Tack weld seat angle Item (A) to S-beam girder and the end truck top plate. Also tack weld Item (B) to girder web. Remove all clamps and complete welding as shown on page 11. Items (C), (D), and (E), if used, can now be added.
6. Bolt the motor to the gear reducer with four hex head bolts and lockwashers. Bolt support angles (Item (J)) to the gear reducer using four hex head bolts and lock washers.
7. Place key in truck drive shaft, slide gear reducer into place over drive shaft and weld support angles (Item (J)) to side of truck as shown.
8. It is suggested that the electrical enclosure and fused disconnect switch be mounted using tube (Item (E)) as a support. Suggested arrangement is shown on the Bridge Assembly drawing.
9. If ballast resistors (optional) are furnished, four holes are provided in the side of the electrical enclosure for mounting.
10. Locate and fasten trolley stop angles (Item (W)) to the ends of the girder by welding in place as shown.

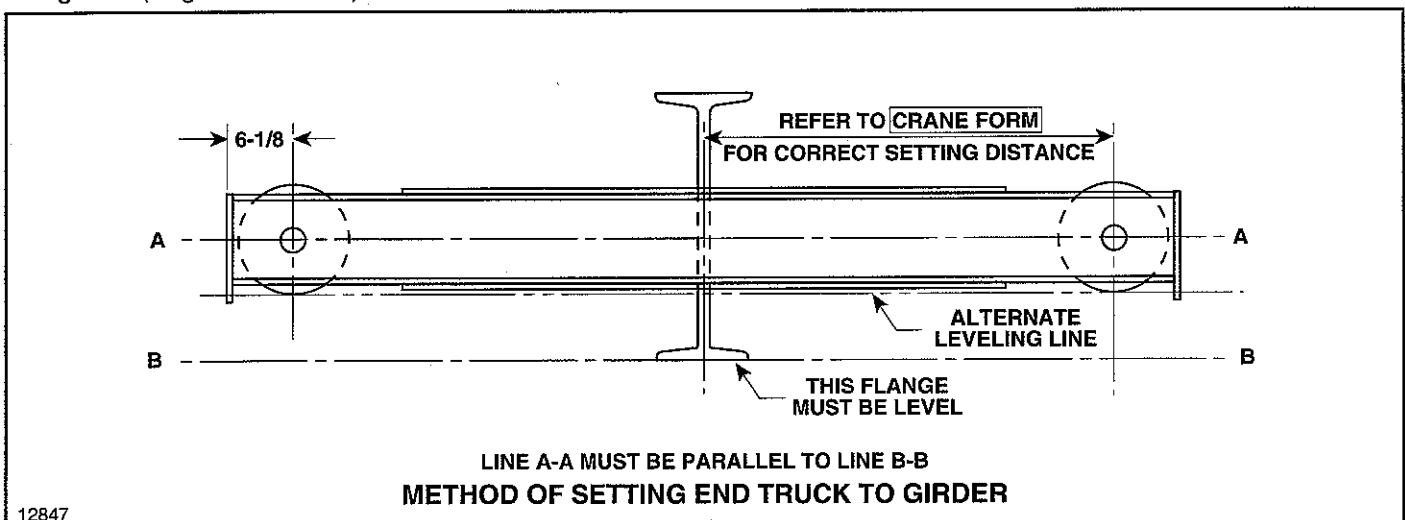


Figure D

INSTRUCTIONS FOR ASSEMBLING CENTER DRIVE CRANE BRIDGE

1. Refer to the Bridge Assembly drawing pages 8 and 9.
2. Follow instructions for assembling bridge girder to end trucks, as outlined on page 14.
3. Provide an auxiliary girder (Item **(B)**) as called for in Material Requirements page 9. Truck end plates (Item **(F)**) and gusset plates (Item **(E)**) as shown on page 11 must be welded to the trucks on the driver end. Set and weld these plates to the dimensions, and welding instructions shown on page 11. Clamp the auxiliary girder to the truck end plate (Item **(F)**) and position the top of channel level with the top of the bridge girder.
4. Position and clamp cross shaft angles (Item **(C)**) to bridge girder and auxiliary girder as shown on Bridge Assembly. Quantity and location can be determined from Table V, page 9. After clamping tack weld to secure diagonal support angles. Items **(E)** and **(F)** are now positioned, clamped and tack welded in place. After checking squareness remove all clamps and weld Items **(C)**, **(E)**, and **(F)** to Main Girder and Auxiliary Girder.
5. (Refer to page 11) Recheck squareness and span. After checking, tack weld seat angle **(A)** to S-beam Girder and the end truck top plate. Also tack weld Item **(B)** to girder web and auxiliary girder to truck end plate Item **(B)**. Remove all clamps and complete welding as shown on page 11.
6. Weld cross shaft and pillow block mounting (Items **(S)** and **(D)**) together as shown on page 9. After welding is complete assemble to cross shaft pillow block by bolting.
7. Place the proper number of pillow blocks (with support angles) and couplings on each shaft section. Check to ensure that the flange of Item **(S)** is in correct relationship with the cross shaft support angles (Item **(C)**). Notice that the separate bearing locking collar has a counterbore on one side. This counterbore fits over the protruding inner race of the pillow block bearing. Place locking collar on shaft accordingly.
8. Set shafting in place, align pillow blocks (with support angles) to the cross shaft support angles and clamp in place.
9. Bolt the motor to the gear reducer using four hex head bolts and lockwashers. Bolt the gear reducer to the drive support channel (Item **(J)**) as shown on page 9 Motor Mounting Arrangement diagram.
10. Place key in drive shaft (Item **(P)**) and slide drive shaft into hollow bore of the gear reducer. Position drive shaft to extend the same distance either side of the reducer and tighten set screws that hold shaft in place.
11. Weld motor support angles (Item **(S)**) to auxiliary girder and clamp drive support channel with gear reducer to motor support angles.
12. Check horizontal and vertical alignment of the cross

shaft by using a taut line. Weld pillow block support angles (Item **(S)**) to the cross shaft support angles (Item **(C)**) when alignment is complete.

13. Weld center drive support channel to auxiliary girder and support angles.
14. Set space between cross shafts to 1/8". Position couplings and drill 3/8" or 1/2" diameter holes through the shaft and coupling using the holes in the coupling as a guide. (Coupling has a pre-drilled hole through one side only.) Shaft and coupling is then secured by hex head bolts with lockwashers and nuts. (See figure 3).
15. Slide bearing locking collars in place next to pillow blocks. Make sure that the counterbore in collar is fitted over the extended inner race of the bearing. Fasten to shaft with set screw in locking collar.
16. It is suggested that the electrical enclosure and fused disconnect switch be located off the channel auxiliary girder, and be supported by it.
17. If ballast resistors (optional) are furnished, four holes are provided in the side of the electrical enclosure for mounting.
18. Locate and weld trolley stops (Item **(W)**) to the end of the girder as shown on the Bridge Assembly drawing.

INSTRUCTIONS FOR ASSEMBLING A HAND GEARED CRANE BRIDGE

1. Refer to Bridge Assembly drawing page 10.
2. Prepare bridge girder S-beam with capping channel if required.
3. Follow instructions for assembling bridge girder to end trucks.
4. Locate and clamp cross shaft support angles (Item **(C)**) to the girder. Recheck that Item **(C)** is level and square and finish welding according to the Bridge Assembly drawing page 10.
5. (Refer to page 11) Tack weld seat angle Item **(A)** to S-beam Girder and the end truck top plate. Also tack weld Item **(B)** to the girder web and auxiliary girder to truck end plate Item **(F)**. Remove all clamps and complete welding as shown on page 11.
6. Form pillow block support angles by mounting Item **(S)** and **(D)** together as shown on page 10. Mount completed assembly to pillow blocks by bolting.
7. Place the proper number of pillow blocks (with support angles) and couplings on each shaft section. Check to insure that the flange of Item **(S)** is in correct relationship with the cross shaft support angle (Item **(C)**). Notice that the separate bearing locking collar has a counterbore on one side. This counterbore fits over the protruding inner race of the pillow block bearing. Place locking collar on shaft accordingly

8. Place hand chain wheel and guide on the appropriate shaft section within 12" of a bearing support.

9. Set shafting in place, align pillow blocks to the cross shaft support angles and clamp in place.

10. Check horizontal and vertical alignment of the cross shaft by using a taut line. Weld pillow block support angles to the cross shaft support angles when alignment is complete.

11. Set space between cross shafts to 1/8". Position couplings and drill 3/8" or 1/2" diameter holes through the shaft and coupling using the holes the coupling as a guide. (Coupling has a pre-drilled hole through one side only.) Shaft and coupling is then secured by hex head bolts with lockwashers and nuts. (See figure 3).

12. Slide bearing locking collars in place next to pillow blocks. Make sure that the counterbore in collar is fitted over the extended race of the bearing. Fasten to shaft with set screw in locking collar.

13. Locate and weld trolley stops (Item (W)) to the ends of the girder as shown on the Bridge Assembly drawing.

PAINTING

After all welding is completed and prior to installing the cross conductors, wire brush all steel and remove all scale weld splatter, flux and any other foreign matter. Grease spots are to be cleaned using commercially available solvent. Wash with clear water an area six inches either side of all welds to remove flux residue.

The electrical panel must be closed, and areas such as the switch handle, Off-On identification, wheel gear and pinion, any nameplate, etc., must be masked prior to painting.

Any national brand zinc-rich, chromate primer can be used and applied according to the manufacturers directions. Final coat is recommended to be high gloss enamel, especially suited for steel surfaces and as recommended by any national brand paint manufacturer. Application must be in accordance with manufacturers' recommendations.

MARKINGS

Codes require that the capacity of the bridge be shown on both sides of the crane, legible from the floor. Normal practice for marking is to use capacity in tons. For example: 1 TON, 2 TON, etc. Stencil forms are readily available that may be used with brush on or spray-can paint. Commercially available block letters and numerals with adhesive backing could also be used. Selection of size should be such that the sign can be easily read from the operating floor.

The builder's name shall also be placed on the crane in a prominent location along with a serial number or other means of identification.

NOTICE

The crane builder and user are responsible for marking crane and also to check for compliance with all local, state and national codes.

CROSS CONDUCTOR ASSEMBLY

Refer to Cross Conductor Arrangement drawing page 17.

A cross conductor system is a means of providing electric current from the main conductors to the moving hoist-trolley.

The type of cross conductor system is a guarded type. Shown on page 17, is a typical type using a figure (8) bar with an insulating cover. Spacing shown does not ensure that such spacing will be correct for all hoist-trolley combinations. Responsibility for checking all clearances rests with the builder. The builder is also CAUTIONED to consult with the conductor manufacturer on special applications involving transfer of hoist-trolley with the use of a transfer latch, and also for special conditions involving unusual temperature and environment.

Care should be exercised in balancing the number of conductors on either side of the bridge beam. (This is especially critical with a light capacity hoist-trolley unit.) Control circuit collectors should be 30 Amp. (Catalog #904101).

The main power collectors can be 30 Amp. Catalog #904101 if the hoist motor is 10 Horsepower or less. If the hoist motor exceeds 10 Horsepower then the 100 Amp. Catalog #904110 collectors must be used.

MAIN COLLECTOR ASSEMBLY

Refer to the Main Collector drawing page 18.

The collectors listed (Catalog nos. 904101 and 904110) are compatible with and will operate only on conductor bars listed as Catalog #904025 and 904026 furnished from LIFT-TECH. The builder must check to ensure that the proper spacing and location of the conductors will clear all obstructions in the building.

INSTALLATION OF CRANE BRIDGE

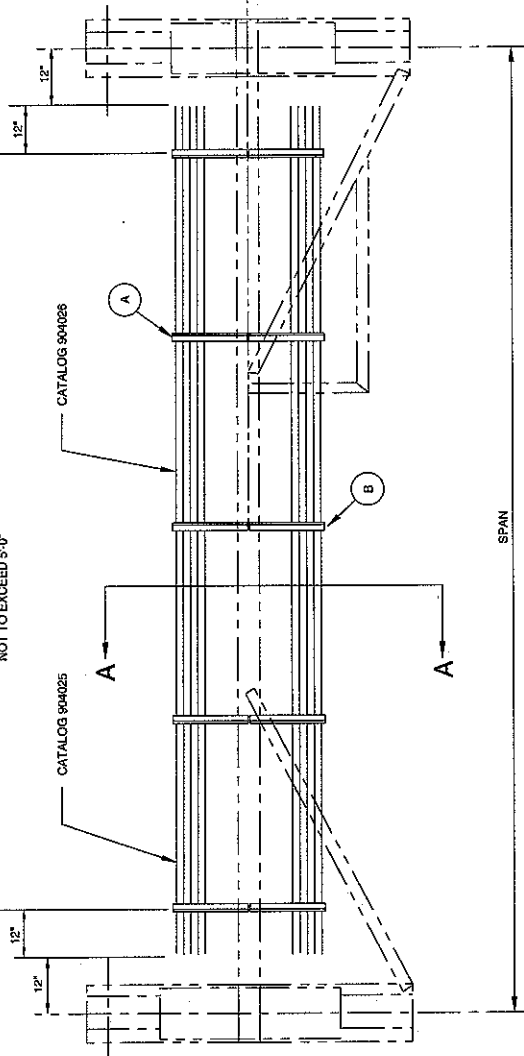
Installation of the crane on the runway shall be performed only by a qualified crane installer. For information regarding attaching, lifting or moving the loads during installation, refer to ANSI B30.11 Section 11-3.2 and other applicable codes.

WARNING

Before installing crane on runway, lock runway conductor disconnect switch in open position.

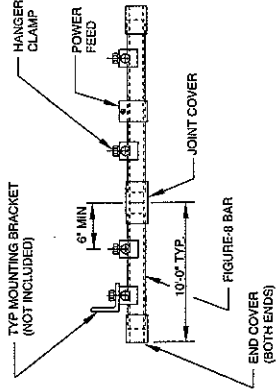
Prior to the start of any crane erection the building should be measured for spans of rails and clearances. These measurements should be checked against the corresponding crane measurements to insure correctness of "fit". After assurances that the crane fits the building, determine orientation of crane position with respect to the runway.

EQUAL SPACING BETWEEN SUPPORTS
NOT TO EXCEED 5'-0"



(A) AND (B) 2 X 2 X 1/4 ANGLE X 20 3/4 LONG

CONDUCTOR KIT CAT. NO. 904025 (THE FIRST 10' FOR ONE CONDUCTOR)		CONDUCTOR KIT CAT. NO. 904026 (FOR EACH SUCCESSIVE 10' OF CONDUCTOR)	
QTY.	DESCRIPTION	QTY.	DESCRIPTION
1	10' INSULATED FIGURE '8' BAR, WITH COVER, 90 AMP.	1	10' INSULATED FIGURE '8' BAR, WITH COVER, 90 AMP.
3	HANGER CLAMPS.	2	HANGER CLAMPS
2	COVERS (END)	1	JOINT COVER.
1	POWER FEED.		



CONDUCTOR KITS FOR INSULATED FIGURE '8' BAR

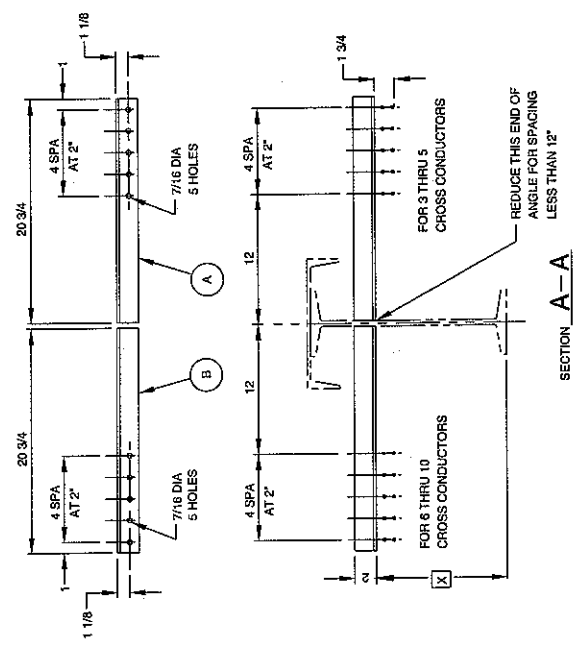
NUMBER OF SPEED POINTS	NUMBER OF COLLECTORS / CONDUCTORS		
	HOIST	BRIDGE	P.B. FROM BRIDGE
1	-	-	3
2	-	-	3
1	1	-	3
2	1	-	3
1	-	1	8
1	1	1	8
2	-	1	8
2	1	1	8
1	-	2	9
1	1	2	9
2	-	2	9
2	1	2	9
2	2	2	9

CAUTION: IF TRANSFER LOCKS ARE USED, SPECIAL CONSIDERATION MUST BE GIVEN TO CONDUCTOR ARRANGEMENT.

NOTE: THE USER MUST INVESTIGATE THE LOCATION OF THE CROSS CONDUCTOR SUPPORT ANGLES TO SEE THAT THEY CLEAR ALL OBSTRUCTIONS IN EITHER THE PREFERRED OR ALTERNATE MOUNTING POSITIONS (SEE SECTION A-A). THE USER MUST ALSO INVESTIGATE THE ARRANGEMENT FOR POSSIBLE INTERFERENCE WITH HOIST TROLLEY OR STRUCTURAL MEMBERS.

FOR 3 CONDUCTOR SYSTEMS, USE SUPPORT BRACKET 'A' ONLY. FOR 6 THRU 10 CONDUCTORS USE 'A' AND 'B'. ATTEMPT TO BALANCE NUMBER OF CONDUCTORS EACH SIDE OF BEAM.

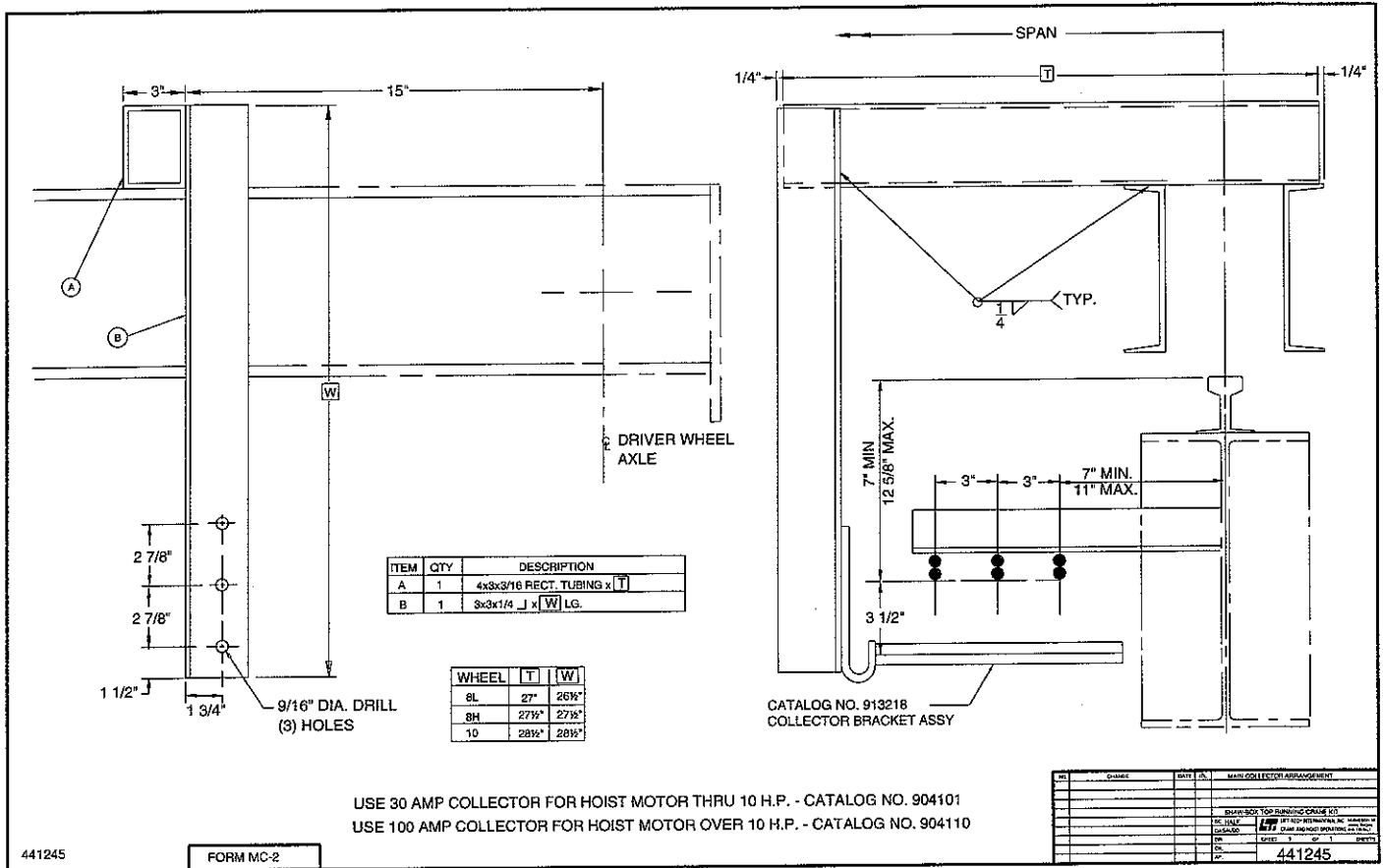
TROLLEY WHEEL TREAD DIAMETER	X
4	
6	X
4 7/8 & 4 15/16	7
6 1/2	8
8	10
10	12 1/2



FOR 3 THRU 5 CROSS CONDUCTORS
FOR 6 THRU 10 CROSS CONDUCTORS
REDUCE THIS END OF ANGLE FOR SPACING LESS THAN 12"

REV	CHANGE	DATE	BY	CHK	CROSS CONDUCTOR ARRANGEMENT
					SPANS 12-20 THRU 60'

ESUN/ACC SINGLE GREY TOP RUNNING
ACC. 11-02-12
DATE AND TIME PRINTING IMPROVED
SHEET 1 OF 1 SHEETS
441305



These types of cranes are usually of the all welded construction and they are lifted into position on the runway rails in one piece.

Immediately after crane is placed on the runway rails check wheel flange clearances to the rail. Clearance between side of rail head and inside flange of wheel will vary from 7/8" for ASCE 20# (minimum recommended rail size) to 1/4" for ASCE 80# (maximum recommended rail size).

NOTE: It is suggested that the hoist and trolley be installed on the crane bridge at this time so all wiring connections can be completed.

FUSE AND MAINLINE DISCONNECT PANELS

Mainline disconnect panels and fuse bridge control panels are provided as options to assist users in complying with OSHA codes. When ordering with crane, they will be completely installed inside of electrical enclosures.

Electrical service is to be connected to crane equipped with fuse panels and mainline disconnect panels as shown in wiring diagram. Wiring diagrams are in Part No. 113533-74 manual.

CAUTION

Power supply must be same voltage, frequency and phase as specified on crane motor nameplate.

LUBRICATION

- Wheel bearings are permanently lubricated and require no additional lubricant.
- Drive wheel gears are to be lubricated with an open type gear grease which is heavy, plastic, extreme pressure and tacky; such as MOBILTAC 275 NC or equal.
- The hollow shaft worm gear reducer lubricant should be changed every year or 2000 hours of service for moderate usage. The lubricant should be changed more frequently if the service is more severe. Use one pint of AGMA lubricant number 7, compounded, if the ambient temperature is 15° to 60°F or AGMA lubricant number 8, compounded, if the ambient temperature is 50° to 125°F.
- It is recommended that the areas of the cross shaft covered by gear reducers, bearings and couplings be coated with FEL-PRO C5-A, or equal, anti-seize lubricant.

Before crane operation the vent plug must be in the proper location in the gear reducer. The vent plug replaces the pipe plug in the highest location on the end of the gear reducer (see Figure 5).

OPERATION

Prior to placing the crane into service, OSHA requires that the user perform and record certain tests including proof loading the crane. Refer to ANSI B30.11 for information concerning these requirements.

Each operator should be thoroughly instructed in the operation of the crane, its' limitations both in capacity and bridge and hoist travel, as well the cranes' safety features.

INSPECTION

The crane should be inspected at the beginning of each shift. All functional mechanisms should be in good working order. Check limit switches, brakes, electrical equipment, and other SAFETY devices. Check crane operation without load. Any unusual sounds, vibrations, anything wrong or apparently wrong should be reported to the operators' supervisor immediately. Inspect hoist and trolley as recommended in manufacturer's hoist and trolley manual.

WARNING

Do not operate a crane, hoist or trolley having unusual vibrations, sounds, warnings or with anything wrong or apparently wrong. Danger may be present that the crane operator cannot see. Determine and correct cause of unusual conditions and make certain the crane can be operated SAFELY.

Complete inspection of the crane is to be performed at least every six months and more frequently when conditions require.

OPERATING PRECAUTIONS

WARNING

These crane bridges are not designed nor intended to be used for support or transport of people or for transporting loads over people.

Safe operation of an overhead hoist is the operator's responsibility. Listed below are some basic rules that can make an operator aware of dangerous practices to avoid and precautions to take for his own safety and the safety of others. Observance of these rules in addition to frequent examinations and periodic inspection of the equipment may save injury to personnel and damage to equipment.

DO NOT load bridge beyond rated capacity.

DO NOT subject bridge to side loads. Always center trolley over load when hoisting.

DO NOT stand and DO NOT cause or allow others to stand or get under any load the bridge is supporting.

DO keep clear, and make sure others keep clear, of any load the bridge is supporting.

DO NOT attempt to operate crane bridge before completing tests and adjustments.

DO NOT ram bridge into end stops, other bridge, or any obstruction on beam. Improper and careless operation can result in a hazardous condition for operator and load.

ALWAYS be sure load is clear of obstruction before traversing load.

If crane bridge is mounted on an open-end runway rail, then end stops must be installed to prevent crane bridge from running off the end of the runway rail resulting in injury to the operator and others and damages to load and other property. End stops per trolley stop table in Bridge Assembly Drawing may be used and installed per instructions given.

Refer to hoist and trolley instruction manuals for safety warnings on hoist and trolleys.

Read and comply with ANSI B30.11 Monorails and Underhung Cranes, latest edition.

Read and comply with all local, state and national safety codes.

MAINTENANCE

Inspect the bridge on a regular maintenance schedule. Check to make sure wheel axle adjustment bolts and all connections are tight. Check wheel tread surfaces for wear or damage. Check truck sides for any evidence of overload or damage. Replace any worn or damaged parts using only factory approved replacement parts.

REPLACEMENT PARTS

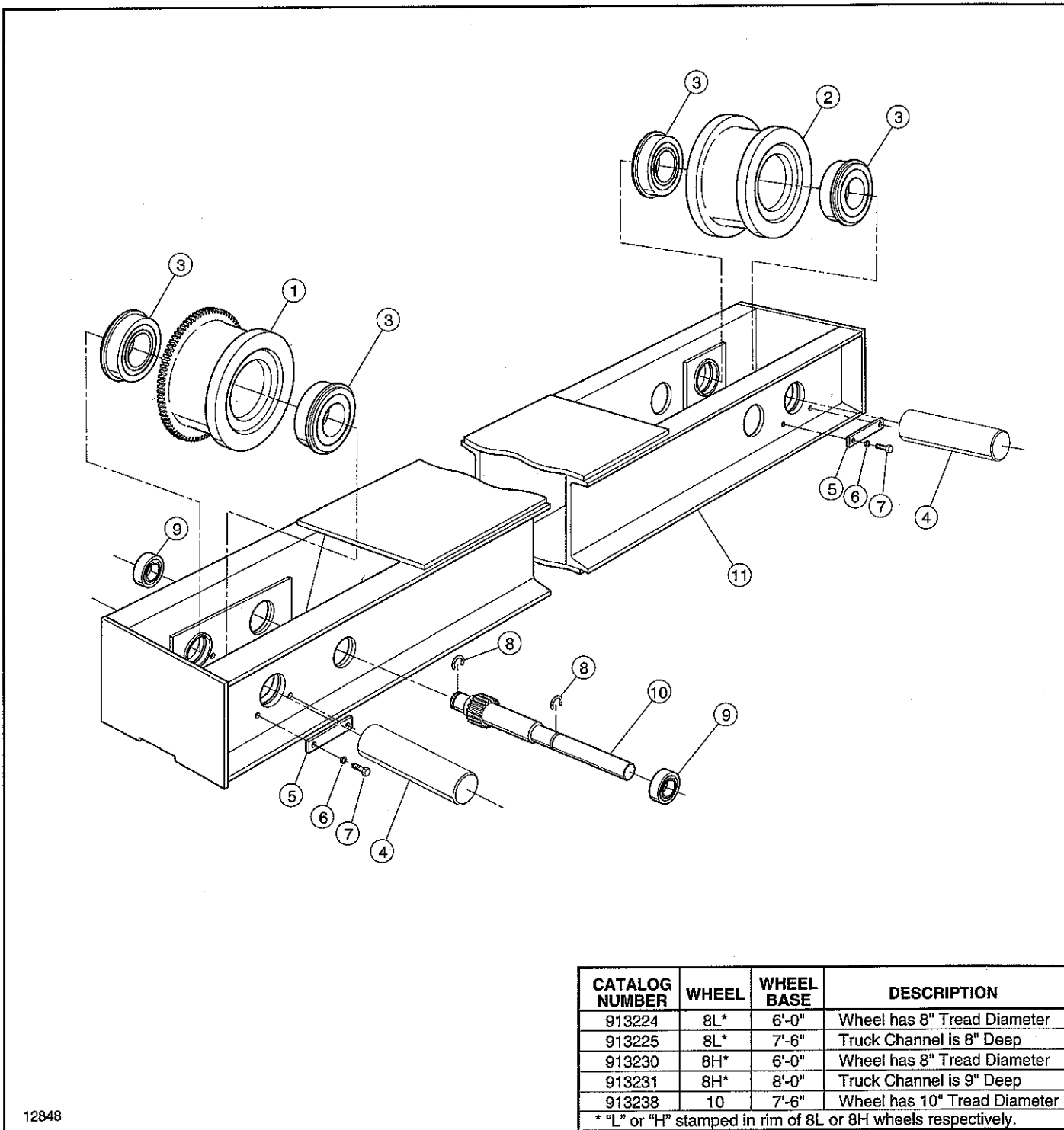
The following parts list and illustrations cover standard model SHAW-BOX cranes. Typical units are used as the basis for the exploded parts illustrations; therefore, certain variations may occur from the parts information given. For this reason always give the catalog number, model number, motor horsepower, voltage, phase and frequency when ordering replacement parts. For motors, gearboxes, and electrical components, give complete nameplate data.

The factory recommends complete replacement of the motor or gearbox. Gearbox service is available, however, from your local authorized SHAW-BOX repair station.

The numbers assigned to the parts of our various assemblies in our parts list are not the part numbers used in manufacturing the part. They are identification numbers, that when given with the catalog number, permits us to identify, select or manufacture, and ship the correct part needed.

INDEX OF PARTS ILLUSTRATIONS

Title	Figure No.	Page No.
Geared Truck (Catalog Numbers – See Figure 1)	1	20
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Gear Reducer and Motor (Catalog Numbers – See Figure 5)	5	24
Electrical Enclosure (Catalog Numbers – See Figure 6)	6	26



CATALOG NUMBER	WHEEL	WHEEL BASE	DESCRIPTION
913224	8L*	6'-0"	Wheel has 8" Tread Diameter
913225	8L*	7'-6"	Truck Channel is 8" Deep
913230	8H*	6'-0"	Wheel has 8" Tread Diameter
913231	8H*	8'-0"	Truck Channel is 9" Deep
913238	10	7'-6"	Wheel has 10" Tread Diameter

* "L" or "H" stamped in rim of 8L or 8H wheels respectively.

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Figure 1. End Truck Assembly (Catalog Numbers 913224, 913225, 913230, 913231 and 913238).

Figure 1. End Truck Assembly (Catalog Numbers 913224, 913225, 913230, 913231 and 913238). (Continued)

Ref. No.	Part Number			Description	Qty. Req'd
	8L" Wheels	8H" Wheels	10" Wheels		
1	STK-2102	STK-3102	STK-4102	Geared Wheels	1
2	STK-2101	STK-3101	STK-4101	Plain Wheels	1
3	STK-2103	STK-3103	STK-4103	Ball Bearings	4
4	STK-2104	STK-3104	STK-4104	Wheel Axle	2
5	STK-2105	STK-3105	STK-4105	Axle Lock Plate	2
6	STK-2106	STK-3106	STK-4106	Lockwasher	4
7	STK-2107	STK-3107	STK-4107	Hex Head Bolt	4
8	STK-2108	STK-3108	STK-4108	Retaining Ring	2
9	STK-2109	STK-3109	STK-4109	Pinion Shaft Bearing	2
10	STK-2110	STK-3110	STK-4110	Pinion Shaft	1
11				Truck Weldment	1
	STK-2111	STK-3111	—	6'-0" Wheelbase	
	STK-2112	—	STK-4111	7'-6" Wheelbase	
	—	STK-3112	—	8'-0" Wheelbase	

NOTES

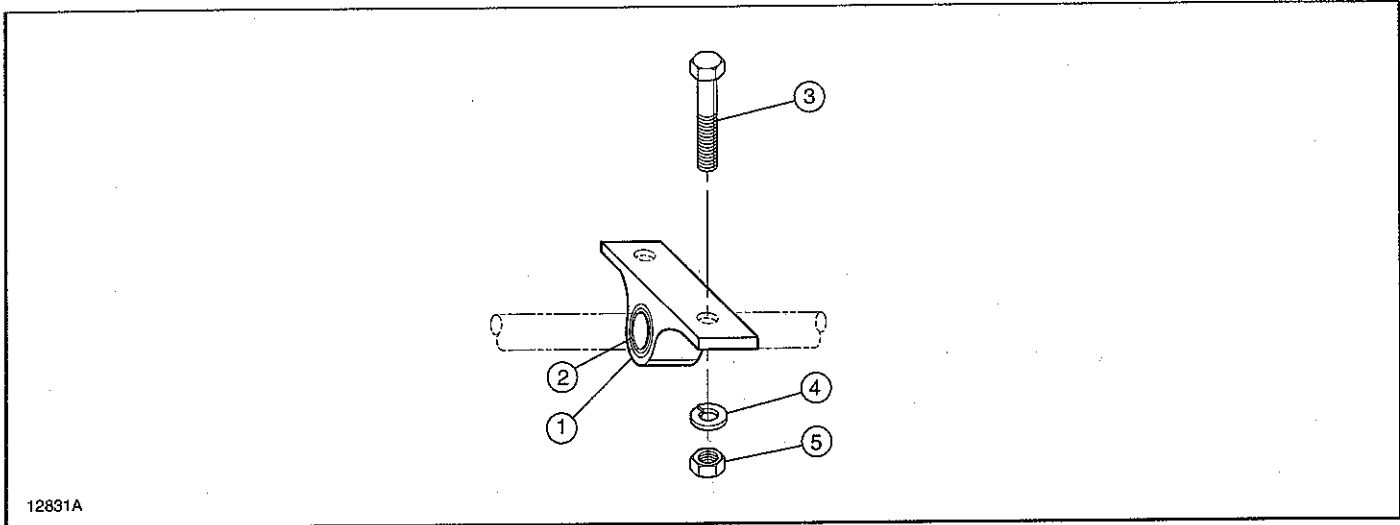


Figure 2. Cross Shaft Bearing Assembly. (Catalog Numbers 904625 and 912112).

Ref. No.	Part Number		Qty. Description	Req'd
	1-3/16" Shaft	1-5/16" Shaft		
1	STK-201	STK-1201	Pillow Block	1
2	--	--	Locking Collar (Included with Pillow Block)	1
3	STK-202	STK-1202	Hex Head Bolt	2
4	STK-203	STK-1203	Spring Lockwasher	2
5	STK-204	STK-1204	Hex Nut	2

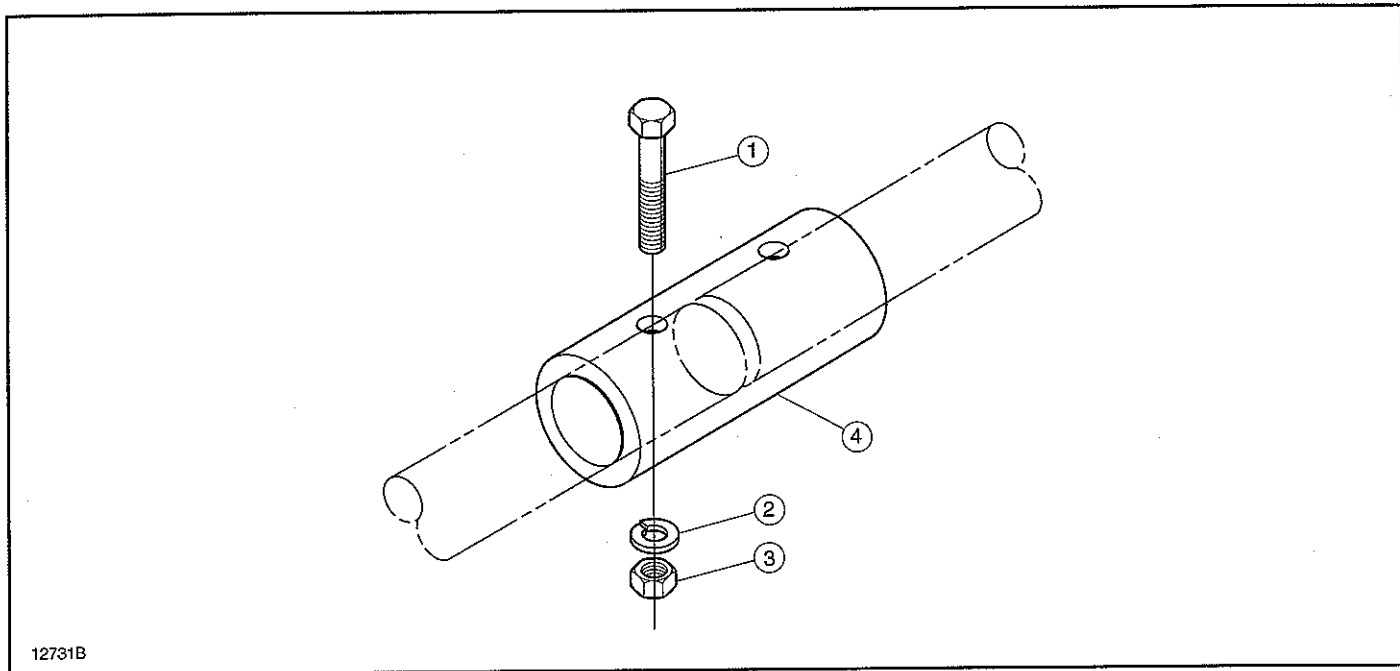


Figure 3. Coupling. (Catalog Number 8280 and 912122).

Ref. No.	Part Number		Qty. Description	Req'd
	1-3/16" Shaft	1-5/16" Shaft		
1	STK-301	STK-1301	Hex Head Fit Bolt	2
2	STK-302	STK-1302	Spring Lockwasher	2
3	STK-303	STK-1303	Heavy Semi-Finish Hex Nut	2
4	STK-304	STK-1304	Coupling	1

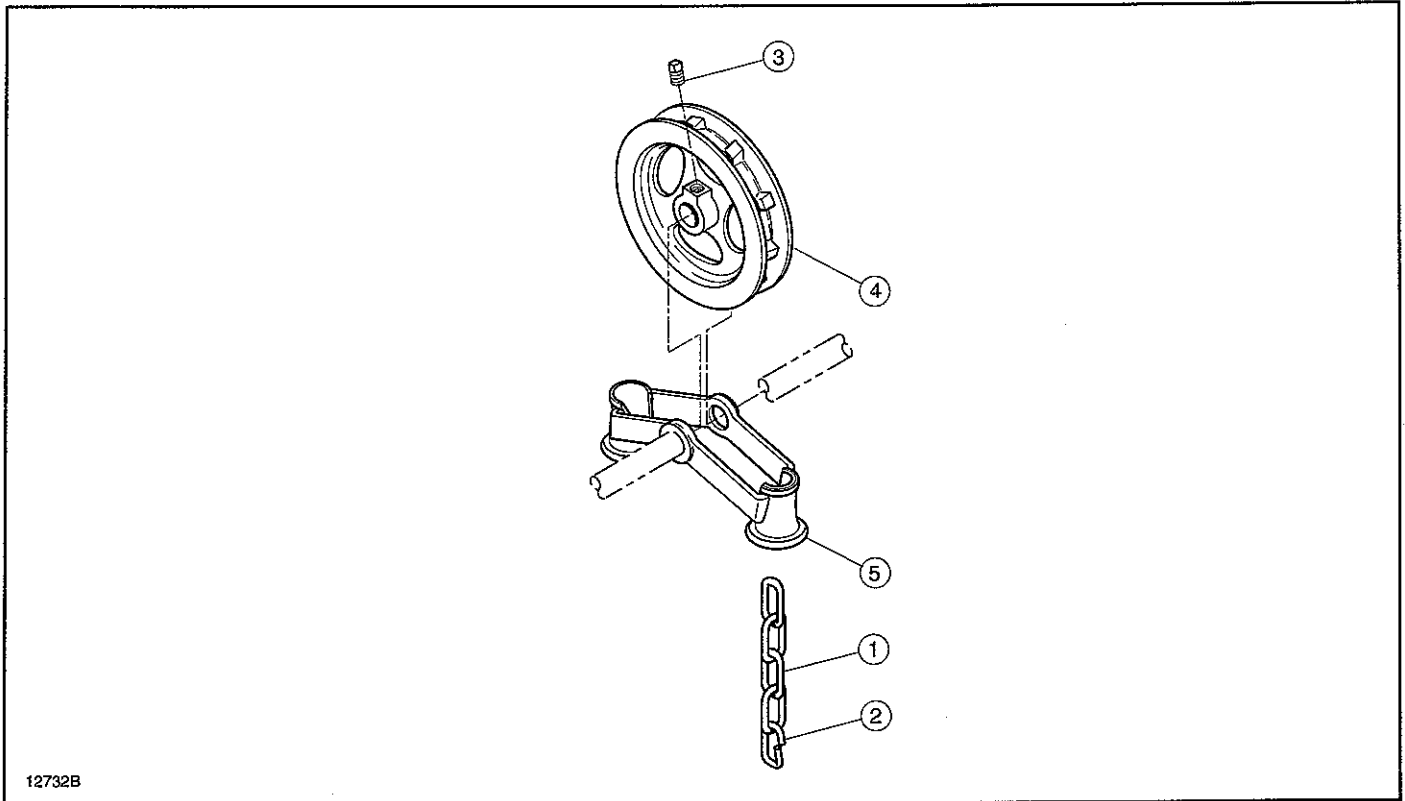


Figure 4. Hand Chain Drive. (Catalog Numbers 8282, 913115 and 912116).

Ref. No.	Part Number		Qty. Description	Req'd		
	1-3/16" Shaft	1-5/16" Shaft				
1	Catalog Number 8282		Consists of Ref. Nos. 1 and 2: Hand Chain	36 ft.		
2	STK-1104					
	STK-1105		Connecting Link	1		
	Catalog Numbers 913115 or 912116		Consists of Ref. Nos. 3,4 and 5:			
3	STK-1101	STK-1101			Square Head Set Screw, Cup Point (3/8-16 x 1 Pltd.)	1
4	STK-401	STK-1401			Hand Chain Wheel	1
5	STK-402	STK-1402	Chain Wheel Guide	1		

NOTES

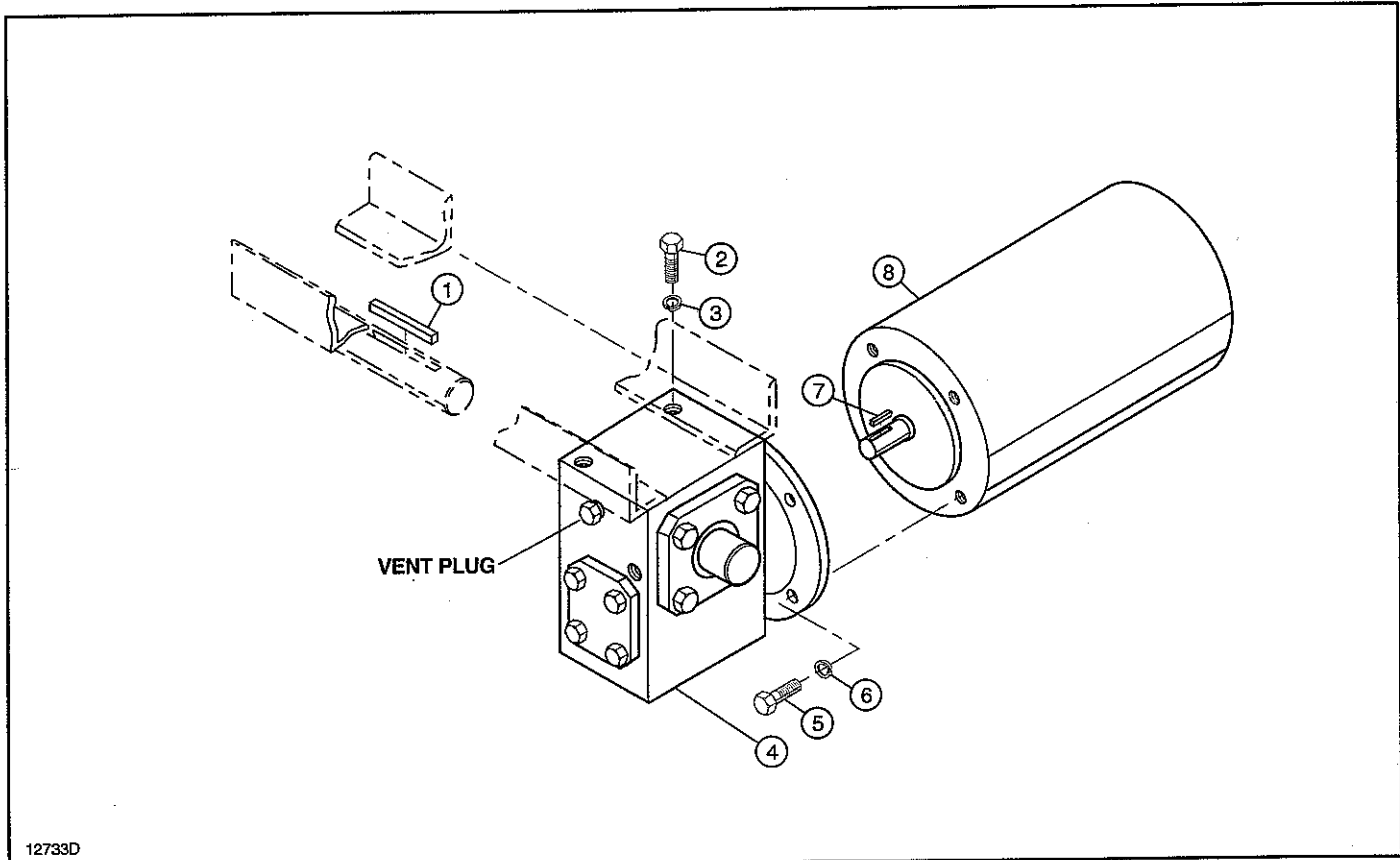
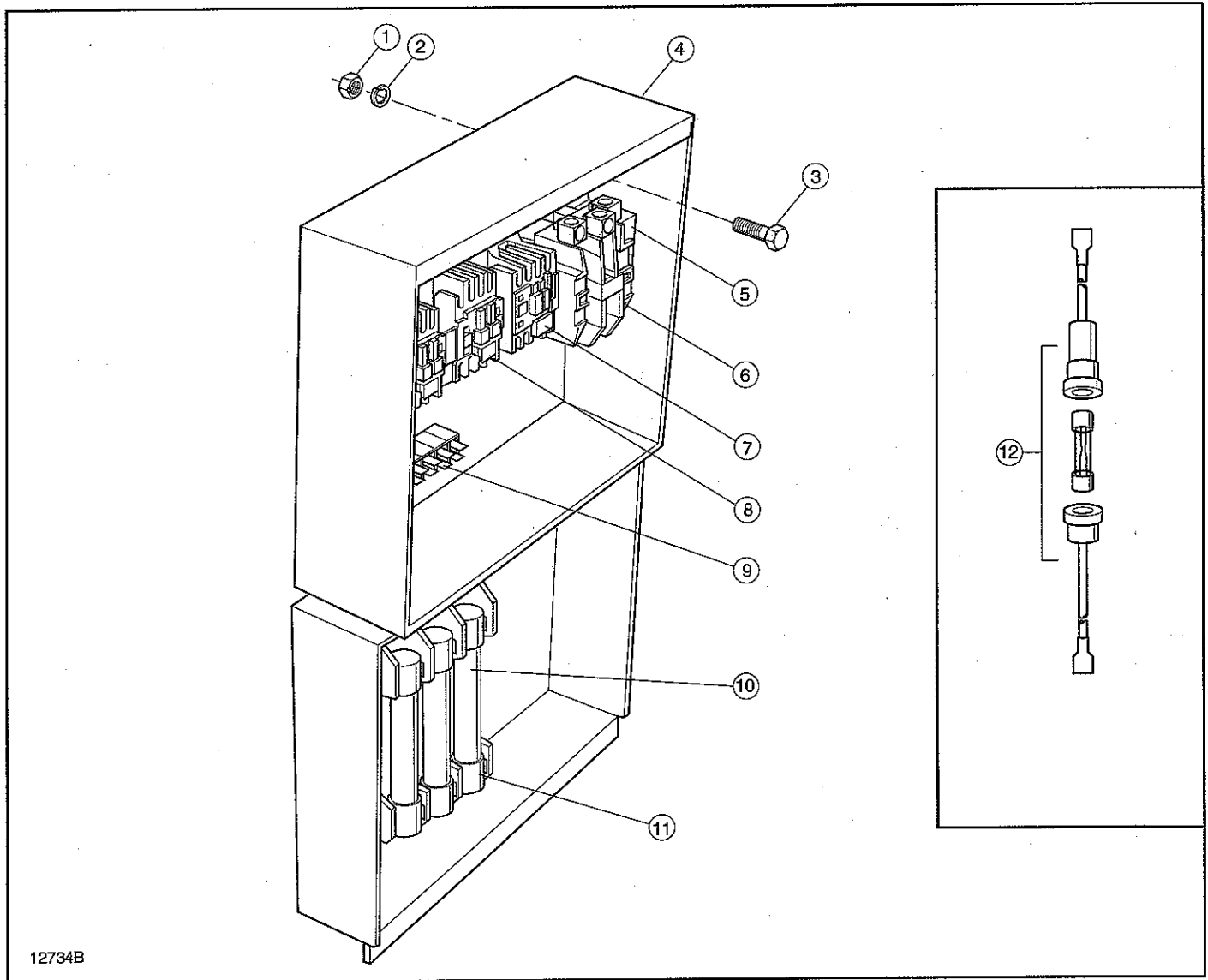


Figure 5. Gear Reducer. (Catalog Numbers 913108, 913109, 913110, 913191, 913192, 913193, 913262, 913263, 913264) and Motors (Catalog Numbers 905148 thru 905150, 905381, 905382, 905394 thru 905396, 913120, 913121, 913124, 913125, 913128 thru 913134, 913139 thru 913141 and 913145 thru 913147).

Ref. No.	Part Number		Qty. Description	Req'd
	1-3/16" Shaft	1-5/16" Shaft		
	Gear Reducer Catalog Numbers 913108, 913109, 913110, 913191, 913192, 913193			
	Consist of Ref. Nos. 1 thru 6:			
1	STK-501	STK-1501	Key	1
2	STK-502	STK-502	Self-Locking Socket Head Cap Screw (5/16-18 x 7/8)	4
3	STK-503	STK-503	Spring Lockwasher (5/16)	4
4			Gear Reducer (with hollow shaft bushing kit)	1
	STK-504	—	5:1 Gear Ratio (Cat. No. 913108)	
	STK-505	—	7.5:1 Gear Ratio (Cat. No. 913109)	
	STK-506	—	10:1 Gear Ratio (Cat. No. 913110)	
	—	STK-1504	5:1 Gear Ratio (Cat. No. 913191)	
	—	STK-1505	7.5:1 Gear Ratio (Cat. No. 913192)	
	—	STK-1506	10:1 Gear Ratio (Cat. No. 913193)	
5	STK-509	STK-509	Hex Head Bolt (3/8-16 x 1)	4
6	STK-510	STK-510	Spring Lockwasher (3/8)	4

Figure 5. Gear Reducer. (Catalog Numbers 913108, 913109, 913110, 913191, 913192, 913193, 913262, 913263, 913264) and Motor (Catalog Numbers 905148 thru 905150, 905381, 905382, 905394 thru 905396, 913120, 913121, 913124, 913125, 913128 thru 913134, 913139 thru 913141 and 913145 thru 913147). (Continued).

Ref. No.	Part Number		Qty. Description	Req'd
	1-3/16" Shaft	1-5/16" Shaft		
	Gear Reducer (Catalog Numbers 913262, 913263, 913264) used on Center Drive Capacities greater than 10 ton consist of Ref. Nos. 1 thru 6.			
1	—	STK-2501	Key	1
2	—	STK-2502	Self-Locking Socket Head Cap Screw (3/8-16 x 7/8)	4
3	—	STK-510	Spring Lockwasher (3/8)	4
4	—	STK-2504	Gear Reducer (with hollow shaft bushing kit).	1
	—	STK-2505	5:1 Gear Ratio (Cat. No. 913262)	
	—	STK-2506	7.5:1 Gear Ratio (Cat. No. 913263)	
	—	STK-2506	10:1 Gear Ratio (Cat. No. 913264)	
5	—	STK-509	Hex Head Bolt (3/8-16 x 1)	4
6	—	STK-510	Spring Lockwasher (3/8)	4
Ref. No.	Part Number	Description		Qty. Req'd
7	STK-511	Key		1
8		Motor:		1
		Single Speed:		
		208-230 / 460-3-60:		
	STK-527	1/2 HP, 1800 RPM (Cat. No. 905381)		
	STK-512	3/4 HP, 1800 RPM (Cat. No. 913120)		
	STK-513	1 HP, 1800 RPM (Cat. No. 913124)		
	STK-514	1-1/2 HP, 1800 RPM (Cat. No. 913128)		
	STK-528	2 HP, 1800 RPM (Cat. No. 913130)		
		575-3-60:		
	STK-529	1/2 HP, 1800 RPM (Cat. No. 905382)		
	STK-515	3/4 HP, 1800 RPM (Cat. No. 913121)		
	STK-516	1 HP, 1800 RPM (Cat. No. 913125)		
	STK-517	1-1/2 HP, 1800 RPM (Cat. No. 913129)		
	STK-530	2 HP, 1800 RPM (Cat. No. 913131)		
		Two Speed:		
		208-230-3-60:		
	STK-531	.5 / .17 HP, 1800 RPM (Cat. No. 905394)		
	STK-518	.75 / .25 HP, 1800 RPM (Cat. No. 913132)		
	STK-519	1 / .33 HP, 1800 RPM (Cat. No. 913139)		
	STK-520	1.5 / .5 HP, 1800 RPM (Cat. No. 913145)		
	STK-532	2 / .67 HP, 1800 RPM (Cat. No. 905148)		
		460-3-60:		
	STK-533	.5 / .17 HP, 1800 RPM (Cat. No. 905395)		
	STK-521	.75 / .25 HP, 1800 RPM (Cat. No. 913133)		
	STK-522	1 / .33 HP, 1800 RPM (Cat. No. 913140)		
	STK-523	1.5 / .5 HP, 1800 RPM (Cat. No. 913146)		
	STK-534	2 / .67 HP, 1800 RPM (Cat. No. 905149)		
		575-3-60:		
	STK-535	.5 / .17 HP, 1800 RPM (Cat. No. 905396)		
	STK-524	.75 / .25 HP, 1800 RPM (Cat. No. 913134)		
	STK-525	1 / .33 HP, 1800 RPM (Cat. No. 913141)		
	STK-526	1.5 / .5 HP, 1800 RPM (Cat. No. 913147)		
	STK-536	2 / .67 HP, 1800 RPM (Cat. No. 905150)		



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Figure 6. Electrical Enclosure. (Catalog Numbers 905385, 905386, 905387, 905397, 905398, 905399, 913158 thru 913158 and 913165 thru 913169).

Ref. No.	Part Number	Description	Qty. Req'd
1	STK-1306	Hex Nut (1/4-20)	2
2	STK-1307	Spring Lockwasher (1/4)	2
3	STK-601	Hex Head Bolt (1/4-20 x 2-1/2)	2
4	STK-1309	Electrical Enclosure	1
5		Transformer	1
	STK-602	208/115V or 230/115V	
	STK-1313	460/115V	
	STK-1314	575/115V	
6	STK-1317	Mainline Contactor	1
7	STK-1319	Accelerating Contactor (For 2 Speed Cranes Only)	1
8	STK-1320	Reversing Contactor	1
9	STK-603	Terminal Board	1
10		Fuses	3
	STK-604	6A, 250V	
	STK-605	10A, 250V	
	STK-606	15A, 250V	
	STK-1324	3A, 600V	
	STK-607	6A, 600V	

Recommended Spare Parts for Your SHAW-BOX Crane Kit

Certain parts of your crane will, in time, require replacement under normal wear conditions. It is suggested that the following parts be purchased for your crane as spares for future use.

- 1 Set of Wheels
- 1 Set of Wheel Bearings
- 1 Set of Fuses
- 1 Set of Contactors

NOTE: When ordering parts always furnish Catalog Number and Part Number.

Parts of your crane are available from your local authorized SHAW-BOX repair station. For the location of your nearest repair station, write:

In USA

LIFT-TECH INTERNATIONAL, INC.
PO BOX 769
MUSKEGON MI 49443-0769

In Canada

LIFT-TECH INTERNATIONAL
CRANES & HOIST, INC.
53-D COWANSVIEW ROAD
CAMBRIDGE, ONTARIO N1R 7L2

or phone:

616-733-0821

519-621-3201

WARRANTY

WARRANTY AND LIMITATION OF REMEDY AND LIABILITY

A. Seller warrants that its products and parts, when shipped, and its work (including installation, construction and start-up), when performed, will meet applicable specifications, will be of good quality and will be free from defects in material and workmanship. All claims for defective products or parts under this warranty must be made in writing immediately upon discovery and, in any event, within one (1) year from shipment of the applicable item unless Seller specifically assumes installation, construction or start-up responsibility. All claims for defective products or parts when Seller specifically assumes installation, construction or start-up responsibility, and all claims for defective work must be made in writing immediately upon discovery and, in any event, within one (1) year from completion of the applicable work by Seller, provided; however, all claims for defective products and parts must be made in writing no later than eighteen (18) months after shipment. Defective items must be held for Seller's inspection and returned to the original f.o.b. point upon request. THE FOREGOING IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

B. Upon Buyer's submission of a claim as provided above and its substantiation, Seller shall at its option either (i) repair or replace its product, part or work at either the original f.o.b. point of delivery or at Seller's authorized service station nearest Buyer or (ii) refund an equitable portion of the purchase price.

C. This warranty is contingent upon Buyer's proper maintenance and care of Seller's products, and does not extend to fair wear and tear. Seller reserves the right to void warranty in event of Buyer's use of inappropriate materials in the course of repair or maintenance, or if Seller's products have been dismantled prior to submission to Seller for warranty inspection.

D. The foregoing is Seller's only obligation and Buyer's exclusive remedy for breach of warranty, and is Buyer's exclusive remedy hereunder by way of breach of contract, tort, strict liability or otherwise. In no event shall Buyer be entitled to or Seller liable for incidental or consequential damages. Any action for breach of this agreement must be commenced within one (1) year after the cause of action has accrued.

LIFTTECH 

LIFT-TECH INTERNATIONAL, INC.
CRANE AND HOIST OPERATIONS
MUSKEGON, MICHIGAN 49443-0769