



NEW EQUIPMENT AND SYSTEM APPROVAL CERTIFICATE

Certificate No. S 02-1214-163

Approval date 18/11/2015
Approved by GM Technical Standards
Report no. TAS 02-1214-WC163
Report date 14/10/2015

This certificate is issued to

Supplier BRADKEN
20 McIntosh Drive, Mayfield West
NSW, Australia 2304

In respect of

Manufacturer Western Cullen Hayes
Product description 3590-131-MI & 3593-131-MI Level Crossing Equipment
Item identification See Approved Items List
Application ARTC Network Wide
Relevant Standards SPS 02 Environmental Conditions
SPS 05 Electrical & Electronic Components (Ratings & Construction Requirements)
ESC-03-01 Level Crossing Equipment
ESD-03-01 Level Crossing Design

Conditions of Approval

1. The design and installation is in accordance & compatible with ARTC specification ESD-03-01 Level Crossing Design and ESC-03-01 Level Crossing Equipment.
2. For use in accordance with ARTC standard typical circuits.
3. Only components from the list in Approved Item List A may be utilised for 3590-131-MI mechanisms.
4. Only components from the list in Approved Item List B may be utilised for 3593-131-MI mechanism.
5. Only tools from Approved Item List C may be utilised for install and ongoing maintenance of the W.C.Hayes 3590-131-MI & 3593-131-MI mechanisms.
6. Unless otherwise specified items with approvals for earlier versions still valid may be retained and re-installed in existing installations or upgraded to any later version with the relevant updating of site

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installation records.

7. Service and Installation Manual - M10_35-1 – 'Model 10 Signals Equipped with 3590 Series Gate Mechanism' must be used for the set up and ongoing maintenance of the 3590-131-MI & 3593-131-MI mechanisms.
8. Any change to the 3590-131-MI & 3593-131-MI mechanisms, barrier gates or signal mast must be detailed to ARTC to enable a compliance check to ARTC standards.
9. Power feed for the bell must be derived from a supply bus bar which is positively limited to 15v maximum.
10. Type 1951 Gate Arm Lights to only include the 4-LED-BOARD and not incandescent bulbs.
11. ARTC to supply Bradken Ltd. with a list of components they require Bradken Ltd. to keep sufficient stock levels of for spares holdings.
12. Bradken Ltd. to ensure the circuit diagram provided inside the mechanism lid matches the mechanism type ordered.
13. Bradken Ltd. to label the inside of each case with the corresponding part number to identify the mechanism type.
14. Bradken Ltd. will provide support & training if necessary, as required.
15. Bradken Ltd. and Western Cullen Hayes to remain ISO9001 accredited and to inform ARTC of any change in their accreditation.

A general condition of approval is that the supplier remains accredited to ISO 9001 specifically for these products and ARTC is advised on a 12 monthly basis that accreditation is current. ARTC reserves the right to conduct its own audit of the manufacture and supply of these components to AS 19011.

Any subsequent change to the design, materials or manufacturing process is not covered by this approval. The manufacturer should notify ARTC of any modification or changes in order to obtain a valid updated certificate.

Note/Comments**Issue date**

23/11/2015

Expiry date

N/A

Issued by**John Furness****ARTC Manager Standards**

Approved Item List**Approved Item List A: 3590-131-MI Component List****3590-131-MI Series Crossing Gate Mechanism**

Part No.	Description	Ver.	Includes
3590-131-BE	Type 3590 Crossing Gate Mechanism for roadway with 12-20VDC motor	-	Mechanism support and Conduit

Motor and Ratchet Wheel

Part No.	Description	Ver.	Includes
38-0045-82X	Motor Assembly Complete	-	-
38-0045-262	Ratchet wheel assembly	-	-
38-0045-86	Motor Pinion Woodruff Key	-	-
38-0045-182	Washer	-	-
3580-270	Ratchet Wheel Key	-	-
3580-271	Snap Ring	-	-
3590-217X	Motor	-	-
3590-218	Motor Pinion Gear	-	-
BJ-10-BB-3-005	Round head Nylok Machine Screw 8-32 x ½"	-	-
38-0045-241	Washer	-	-
38-0045-117	Brush Holder	-	-
38-0045-118	Motor Brush	-	-
38-0045-137	Cap Spring	-	-
38-0045-268	Brush Cap	-	-

Hold Clear Assembly

Part No.	Description	Ver.	Includes
38-0045-254	Hold-Clear assembly	-	-
38-0045-340	Hold-Clear assembly with Motor Down Contact	-	-
38-0045-159	Armature and support bracket	-	-
38-0045-159-1	Armature and support bracket assembly for hold clear with motor down contact	-	-

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38-0045-7	Pawl	-	-
38-0045-139	Cotter Pin	-	-
38-0045-140	Castle Nut	-	-
38-0045-220	Cup Washer	-	-
38-0045-223	Compression Spring	-	-
38-0045-246	Armature Support Bracket	-	-
38-0045-390	Cam	-	-
38-0045-261	Pawl Mounting Screw	-	-
38-0045-265	Armature Sub-Assembly	-	-
KK-12-EE-8	¼"-20 Hex Jam Nut	-	-
38-0045-266	Set Screw	-	-
38-0045-147	Coil Spacer	-	-
38-0045-148	Magnet Yoke	-	-
38-0045-151	Magnet Pole and Core Sub-Assembly	-	-
38-0045-158	Hold Coil, 340 Ohms	-	-
38-0045-162	Pick Coil, 32Ohms	-	-
38-0045-260	Mounting Screw, Pole/Core Sub Assembly to Hold Clear Base	-	-
38-0045-248	Hold Clear Base	-	-
38-0045-322	Hold Clear Base for contact plate	-	-
38-0045-264	Mounting screw, magnet yoke to pole/core sub assembly	-	-
38-0045-152	Hinge pin stop	-	-
38-0045-153	Bolt/Screw Keeper	-	-
38-0045-157	Set Screw, Nickel Plated Brass	-	-
38-0045-160	Hinge Pin	-	-
38-0045-279	Hex bolt, Nickel Plated Brass	-	-
38-0045-282	Hex Head Cap Screw, Grade 8	-	-
38-0045-410	Motor Down Contact Block	-	-
AH-00-AJ-8	Plain washer ¼" ID-7/16" OD x 1/32"	-	-
AL-00-EE-3	Nylok Nut ¼" - 20	-	-
TT-00-AJ-3	External Lock Washer	-	-

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3590-131-MI Series Crossing Gate Assembly

Part no.	Description	Ver.	Includes
38-0045-30	Bearing cover	-	-
38-0045-38	Spring, Vertical stop	-	-
38-0045-42	Spacer Tube	-	-
38-0045-55	Cam assembly	-	-
38-0045-321	Wiring diagram	-	-
38-0045-92	Slide Cam Assembly	-	-
38-0045-138	Hex Bushing	-	-
38-0045-267	Gear Shaft for Intermediate Gears	-	-
38-0045-305	Horizontal Stop Spring Assembly	-	-
38-0045-329-M	Stop Pin cover	-	-
1110-1	Adjustable Resistance Unit	-	-
1265-4	Staple	-	-
1265-6-B	Ventilator Screen	-	-
1265-40	Hasp Assembly	-	-
3580-166	Main Shaft Bearing	-	-
3580-291	End Cap	-	-
3580-281	Neoprene Gasket	-	-
3590-219-F	Gear Segment	-	-
3590-220-F	Gear Cluster	-	-
3590-220-G	Gear Cluster with hole	-	-
3590-222	Main Shaft	-	-
3590-226	Single end (Right) Main Shaft	-	-
3590-231	Nut, Nylon Insert for Vertical Stop Assembly	-	-
3590-232	Main shaft cap	-	-
3590-232-1	Main shaft cap without hole	-	-
3590-234-2-M	Case	-	-
3590-240-M	Cover	-	-
3590-249	Bearing	-	-
3590-251	Set Screw	-	-

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Part no.	Description	Ver.	Includes
3590-254	Woodruff Key	-	-
3590-258	Cover Gasket	-	-
3590-275	Bearing Cap Spacer	-	-
3590-277	Spacer	-	-
3590-278	Spacer	-	-
3590-279	Spacer	-	-
3590-293	Vertical Stop Pin Assembly	-	-
BB-32-BB-3-0037	#8.32 x 3/8" Button Head Socket Cap Screw	-	-
AA-10-CC-3-0125	#10 24 x 1 1/4" Round Head Machine Screw	-	-
RR-00-AH-3	#10 Split Lock Washer	-	-
VV-00-BM-3-025	3/16" x 2 1/2" Cotter Pin	-	-
BB-23-EE-3-0075	1/4"-20 x 3/4" Hex Head Socket Cap Screw	-	-
BB-23-EE-3-0125	1/4"-20 x 1 1/4" Hex Head Socket Cap Screw	-	-
VWV-00-AK-3-0162	5/16" x 1-5/8" Roll Pin	-	-
BB-35-JJ-1-01	3/8"-16x1" Flat Head Socket Cap Screw	-	-
PP-00-AM-3	3/8" Flat washer	-	-
VWV-00-AM-3-02	3/8" x 2" Roll Pin	-	-
JJ-12-AD-3	1-1/4"-7 Hex nut	-	-
PP-00-AW-3	1-1/4" ID Flat Washer	-	-
AA-10-CC-3-0175	10-24 x 1-3/4" Round Head Brass Machine Screw	-	-
PP-00-AJ-3	1/4" Plain Washer	-	-
BB-23-EE-3-0037	1/4"-20 x 3/8" Hex Socket Cap Screw	-	-
38-0045-225	Mounting Bracket & Spring Assembly for Vital Relay	-	-
38-0045-190-1	Mounting Bracket for Non-Vital Relay	-	-
RR-00-Ah-3	#10 Split Lockwasher	-	-
JJ-12-DD-8	#10-32 Hex Nut	-	-
AA-10-DD-8-005	#10-32 x 1/2" Round Head Machine Screw	-	-
38-0045-293	Arc Suppressor (Optional)	-	-
3590-218	Pinion Gear	-	-

Part no.	Description	Ver.	Includes
3590-294	Mounting Kit for 4" and 5" Diameter Mast	-	-
38-0045-282	Cap Screw	-	-
3590-275	Spacer for Bearing Cap	-	-

Circuit Controller Assembly

Part no.	Description	Ver.	Includes
38-0045-20	Complete Circuit Control Assembly 3590	-	-

Replacement Parts

38-0045-21-A	Terminal Board	-	-
38-0045-27	Contact Spring Assy, Back	-	-
38-0045-28	Contact Spring Assy, Front	-	-
38-0045-29-A	Insulator Bushing	-	-
38-0045-29-B	Insulator Washer	-	-
38-0045-77	Binding Post Seat	-	-
38-0045-89-R	Test Terminal	-	-
38-0045-290	Gold Test Nut	-	-
1705-4	Connector	-	-
10706	Binding Nut	-	-
10707	Clamp Nut	-	-
10708	Washer	-	-
10709-2	Binding Post 1-7/8"	-	-
10709-3	Binding Post 2-1/4"	-	-

Mechanism Relays

Part no.	Description	Ver.	Includes
38-0050-200	1000 OHM Vital Relay	-	-
38-0050-300	160 OHM Vital Relay	-	-
38-0045-188-2	Non-Vital Relay for all other mechanisms with mounting plate	-	-
91254-11	Non-Vital Relay for all other mechanisms	-	-

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Part no.	Description	Ver.	Includes
91254-1	Cover for Non-Vital Relay	-	-

Motor Down Contact Block

Part no.	Description	Ver.	Includes
38-0045-410	Motor Down Contact Block Complete	-	-
38-0045-375	Mounting Bracket	-	-
38-0045-376	Washer plate	-	-
38-0045-380	Keeper	-	-
38-0045-381	Mounting Block Spacer	-	-
38-0045-382	Spacer	-	-
38-0045-383	Insulator	-	-
38-0045-384	Screw	-	-
38-0045-387	Upper Contact Spring Assembly	-	-
38-0045-388	Lower Contact Spring Assembly	-	-
2506-212	Terminal Block	-	-
AA-10-DD-8-005	#10-32 x ½ Round Head Machine Screw	-	-
TT-00-AH-3	#10 Lockwasher External	-	-
38-0045-386	Guard	-	-
AA-10-BB-8-0025	#8-32 x ¼ Round Head Machine Screw	-	-

Other Parts

Part no.	Description	Ver.	Includes
3562-390	Buffer Leg (Aluminum /Fibreglass arms)	-	-
38-0027-600	Pivot Breakaway Adaptor complete	-	-
38-0026-251-2	Cast Adaptor only	-	-
3565-180	High Wind Bracket for 5" (127mm) Mast	-	-
38-0027-62-A	Post Complete	-	-
3870 White	Reflective Tape 11 3/8" x 150ft	-	-
3872 Red	Reflective Tape 11 3/8" x 150ft	-	-
38-0027-6	Pins in Cast Adapter x 2	-	-
38-0027-11	Post Pin Only	-	-

Part no.	Description	Ver.	Includes
38-0027-60	Adapter bracket only	-	-
3575-177	Adapter complete	-	-
3575-201-1	Shear Pin	-	-
38-2502-44-1	Sleeve for Gate Arm	-	-
38-0065-10	11, 12, Tip Plugs	-	-
38-0026-298	8' aluminum Sleeve for Gate Arm	-	-
714-00-00	4" mast with no holes	-	-
715-00-00	5" mast	-	-

Boom Gates

Part no.	Description	Ver.	Includes	Feet - Metric conversion
38-2504-14-A	14' Gate Arm	-	High Intensity Reflective Sheeting No Gate Lights	4.2 metres
38-2504-18	Aluminum gate Arm 18'	-	High Intensity Reflective Sheeting No Gate Lights	5.5 metres
38-2504-24	Alum/FGlass gate Arm 24'	-	High Intensity Reflective Sheeting No Gate Lights	7.3 metres
38-2504-28	Alum/FGlass gate Arm 28'	-	High Intensity Reflective Sheeting No Gate Lights	8.5 metres
38-2504-32	Alum/FGlass gate Arm 32'	-	High Intensity Reflective Sheeting No Gate Lights	9.8 metres
38-2504-38	Alum/FGlass gate Arm 38'	-	High Intensity Reflective Sheeting No Gate Lights	11.5 metres
38-2504-40	Alum/FGlass gate Arm 40'	-	High Intensity Reflective Sheeting No Gate Lights	12.2 metres
38-2502-18	Fibreglass gate Arm 18'	-	High Intensity Reflective Sheeting No Gate Lights	5.5 metres
38-2502-24	Fibreglass gate Arm 24'	-	High Intensity Reflective Sheeting No Gate Lights	7.3 metres
38-2502-28	Fibreglass gate Arm 28'	-	High Intensity Reflective Sheeting No Gate Lights	8.5 metres
38-2502-32	Fibreglass gate Arm 32'	-	High Intensity Reflective Sheeting No Gate Lights	9.8 metres

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Part no.	Description	Ver.	Includes	Feet - Metric conversion
38-2502-38	Fibreglass gate Arm 38'	-	High Intensity Reflective Sheeting No Gate Lights	11.5 metres
38-2502-40	Fibreglass gate Arm 40'	-	High Intensity Reflective Sheeting No Gate Lights	12.2 metres
38-2504-50	Aluminum gate Arm 18'	-	High Intensity Reflective Sheeting Type 1591 Gate Light	5.5 metres
38-5504-56	Aluminum gate Arm 24'	-	High Intensity Reflective Sheeting Type 1591 Gate Light	7.3 metres
38-2504-60	Alum/FGlass gate Arm 28'	-	High Intensity Reflective Sheeting Type 1591 Gate Light	8.5m
38-2504-70	Alum/FGlass gate Arm 32'	-	High Intensity Reflective Sheeting Type 1591 Gate Light	9.8 metres
38-2504-80	Alum/FGlass gate Arm 38'	-	High Intensity Reflective Sheeting Type 1591 Gate Light	11.5 metres
38-2504-90	Alum/FGlass gate Arm 40'	-	High Intensity Reflective Sheeting Type 1591 Gate Light	12.2 metres

Electronic Bell

Part no.	Description	Ver.	Includes
0777	Electronic Bell	-	-

Crossarm Assemblies for use with Flashing Light Signals, Cantilevers and Model 10 Gate Signals

Part no.	Description	Ver.	Comments
975-304	12" Light Assembly	-	5" Mounting
970-304	8-3/8" Light Assembly	-	5" Mounting
960-58	Arm Only	-	5" Mounting
975-418	12" Light Assembly	-	5" Mounting
970-417	8-3/8" Light Assembly	-	5" Mounting
960-88	Arm Only	-	5" Mounting
975-412	12" Light Assembly	-	Use with 4" or 5" mast
970-412	8-3/8" Light Assembly	-	Use with 4" or 5" mast
960-83	Arm Only	-	Use with 4" or 5" mast

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Split Bases

Part no.	Description	Ver.	Comments
2149-A-112-E	Split Base Assembly with 48 terminals 5"	-	Use with 5" Mast
2149-A-213	Split Base for 5" mast	-	Use with 5" Mast
2149-A-111-G	Split Base Assembly with 24 terminals	-	-
2146-A-11	Split Base Assembly with 12 terminals 4"	-	Use with 4" Mast
14492A	Plain Split Base Assembly 4" Mast	-	Use with 4" Mast

4-LED-BOARD

Part no.	Description	Ver.	Comments
4-LED-BOARD	4-LED-BOARD	-	For installation within Type 1591 Barrier Gate Lights.

Approved Item List B: 3593-131-MI Component List**3593-131-MI Series Crossing Gate Mechanism**

Piece No.	Description	Ver.	Includes
3593-131-MI	Type 3593 Crossing Gate Mechanism for roadway with 11-16VDC motor	-	-

Motor and Ratchet Wheel

Piece No.	Description	Ver.	Includes
38-0045-82X	Motor Assembly Complete	-	-
38-0045-262	Ratchet wheel assembly	-	-
38-0045-86	Motor Pinion Woodruff Key	-	-
38-0045-182	Washer	-	-
3580-270	Ratchet Wheel Key	-	-
3580-271	Snap Ring	-	-
3590-217X	Motor	-	-
3590-218	Motor Pinion Gear	-	-
BJ-10-BB-3-005	Round head Nylok Machine Screw 8-32 x ½"	-	-
38-0045-241	Washer	-	-
38-0045-117	Brush Holder	-	-
38-0045-118	Motor Brush	-	-
38-0045-137	Cap Spring	-	-
38-0045-268	Brush Cap	-	-

Hold Clear Assembly

Piece No.	Description	Ver.	Includes
38-0045-254	Hold-Clear assembly	-	-
38-0045-159	Armature and support bracket	-	-
38-0045-159-1	Armature and support bracket assembly for hold clear with motor down contact	-	-
38-0045-7	Pawl	-	-
38-0045-139	Cotter Pin	-	-
38-0045-140	Castle Nut	-	-

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38-0045-220	Cup Washer	-	-
38-0045-223	Compression Spring	-	-
38-0045-246	Armature Support Bracket	-	-
38-0045-390	Cam	-	-
38-0045-261	Pawl Mounting Screw	-	-
38-0045-265	Armature Sub-Assembly	-	-
KK-12-EE-8	¼"-20 Hex Jam Nut	-	-
38-0045-266	Set Screw	-	-
38-0045-147	Coil Spacer	-	-
38-0045-148	Magnet Yoke	-	-
38-0045-151	Magnet Pole and Core Sub-Assembly	-	-
38-0045-158	Hold Coil, 340 Ohms	-	-
38-0045-162	Pick Coil, 32Ohms	-	-
38-0045-260	Mounting Screw, Pole/Core Sub Assembly to Hold Clear Base	-	-
38-0045-248	Hold Clear Base	-	-
38-0045-322	Hold Clear Base for contact plate	-	-
38-0045-264	Mounting screw, magnet yoke to pole/core sub assembly	-	-
38-0045-152	Hinge pin stop	-	-
38-0045-153	Bolt/Screw Keeper	-	-
38-0045-157	Set Screw, Nickel Plated Brass	-	-
38-0045-160	Hinge Pin	-	-
38-0045-279	Hex bolt, Nickel Plated Brass	-	-
38-0045-282	Hex Head Cap Screw, Grade 8	-	-
AH-00-AJ-8	Plain washer ¼" ID-7/16" OD x 1/32"	-	-
AL-00-EE-3	Nylok Nut ¼" - 20	-	-
TT-00-AJ-3	External Lock Washer	-	-

3593-131-MI Series Crossing Gate Assembly

Piece no.	Description	Ver.	Includes
38-0045-30	Bearing cover	-	-
38-0045-38	Spring, Vertical stop	-	-
38-0045-42	Spacer Tube	-	-
38-0045-55	Cam assembly	-	-
38-0045-321	Wiring diagram	-	-
38-0045-92	Slide Cam Assembly	-	-
38-0045-138	Hex Bushing	-	-
38-0045-267	Gear Shaft for Intermediate Gears	-	-
38-0045-305	Horizontal Stop Spring Assembly	-	-
38-0045-329-M	Stop Pin cover	-	-
1110-1	Adjustable Resistance Unit	-	-
1265-4	Staple	-	-
1265-6-B	Ventilator Screen	-	-
1265-40	Hasp Assembly	-	-
3580-166	Main Shaft Bearing	-	-
3580-291	End Cap	-	-
3580-281	Neoprene Gasket	-	-
3590-219-F	Gear Segment	-	-
3590-220-F	Gear Cluster	-	-
3590-220-G	Gear Cluster with hole	-	-
3590-222	Main Shaft	-	-
3590-226	Single end (Right) Main Shaft	-	-
3590-231	Nut, Nylon Insert for Vertical Stop Assembly	-	-
3590-232	Main shaft cap	-	-
3590-232-1	Main shaft cap without hole	-	-
3590-234-M	Case	-	-
3590-240-M	Cover	-	-
3590-249	Bearing	-	-
3590-251	Set Screw	-	-

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Piece no.	Description	Ver.	Includes
3590-254	Woodruff Key	-	-
3590-258	Cover Gasket	-	-
3590-276	Bearing Cap Spacer	-	-
3590-277	Spacer	-	-
3590-278	Spacer	-	-
3590-279	Spacer	-	-
3590-293	Vertical Stop Pin Assembly	-	-
BB-32-BB-3-0037	#8.32 x 3/8" Button Head Socket Cap Screw	-	-
AA-10-CC-3-0125	#10 24 x 1 1/4" Round Head Machine Screw	-	-
RR-00-AH-3	#10 Split Lock Washer	-	-
VV-00-BM-3-025	3/16" x 2 1/2" Cotter Pin	-	-
BB-23-EE-3-0075	1/4"-20 x 3/4" Hex Head Socket Cap Screw	-	-
BB-23-EE-3-0125	1/4"-20 x 1 1/4" Hex Head Socket Cap Screw	-	-
WW-00-AK-3-0162	5/16" x 1-5/8" Roll Pin	-	-
BB-35-JJ-1-01	3/8"-16x1" Flat Head Socket Cap Screw	-	-
PP-00-AM-3	3/8" Flat washer	-	-
WW-00-AM-3-02	3/8" x 2" Roll Pin	-	-
JJ-12-AD-3	1-1/4"-7 Hex nut	-	-
PP-00-AW-3	1-1/4" ID Flat Washer	-	-
AA-10-CC-3-0175	10-24 x 1-3/4" Round Head Brass Machine Screw	-	-
PP-00-AJ-3	1/4" Plain Washer	-	-
BB-23-EE-3-0037	1/4"-20 x 3/8" Hex Socket Cap Screw	-	-
38-0045-225	Mounting Bracket & Spring Assembly for Vital Relay	-	-
38-0045-190-1	Mounting Bracket for Non-Vital Relay	-	-
RR-00-Ah-3	#10 Split Lockwasher	-	-
JJ-12-DD-8	#10-32 Hex Nut	-	-
AA-10-DD-8-005	#10-32 x 1/2" Round Head Machine Screw	-	-
38-0045-293	Arc Suppressor (Optional)	-	-
3590-218	Pinion Gear	-	-

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Piece no.	Description	Ver.	Includes
3590-294	Mounting Kit for 4" and 5" Dia Mast	-	-
38-0045-282	Cap Screw	-	-
3590-275	Spacer for Bearing Cap	-	-

Circuit Controller Assembly

Piece no.	Description	Ver.	Includes
38-0045-20	Complete Circuit Control Assembly 3593	-	-

Replacement Parts

Piece no.	Description	Ver.	Includes
38-0045-21-A	Terminal Board	-	-
38-0045-27	Contact Spring Assembly, Back	-	-
38-0045-28	Contact Spring Assembly, Front	-	-
38-0045-29-A	Insulator Sleeve	-	-
38-0045-29-B	Insulator Washer	-	-
38-0045-77	Binding Post Seat	-	-
38-0045-89-R	Test Terminal	-	-
38-0045-290	Gold Test Nut	-	-
38-0045-293	Arc Suppressor (Optional)	-	-
1705-4	Connector	-	-
10706	Binding Nut	-	-
10707	Clamp Nut	-	-
10708	Washer	-	-
10709-2	Binding Post 1-7/8"	-	-
10709-3	Binding Post 2-1/4"	-	-

Mechanism Relays

Piece no.	Description	Ver.	Includes
38-0050-200	1000 OHM Vital Relay	-	-
38-0050-300	160OHM Vital Relay	-	-

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Piece no.	Description	Ver.	Includes
38-0045-188-2	Non-Vital Relay for all other mechanisms with mounting plate	-	-
91254-11	Non-Vital Relay for all other mechanisms	-	-
91254-1	Cover for Non-Vital Relay	-	-

Motor Down Contact Block

Piece no.	Description	Ver.	Includes
38-0045-410	Motor Down Contact Block Complete	-	-
38-0045-375	Mounting Bracket	-	-
38-0045-376	Washer plate	-	-
38-0045-380	Keeper	-	-
38-0045-381	Mounting Block Spacer	-	-
38-0045-382	Spacer	-	-
38-0045-383	Insulator	-	-
38-0045-384	Screw	-	-
38-0045-387	Upper Contact Spring Assembly	-	-
38-0045-388	Lower Contact Spring Assembly	-	-
2506-2	Terminal Block	-	-
AA-10-DD-8-005	#10-32 x ½ Round Head Machine Screw	-	-
TT-00-AH-3	#10 Lockwasher External	-	-
10707	Clamp Nut	-	-
10708	Washer	-	-
38-0045-386	Guard	-	-
AA-10-BB-8-0025	#8-32 x ¼ Round Head Machine Screw	-	-

Counter Weight Assembly

Piece no.	Description	Ver.	Includes
3570-110	Counterweights 25lb	-	-
3570-111	Counterweights 50lb	-	-
3562-229	Counterweights 100lb	-	-
3565-396	Clamp Mechanism Support	-	-
3565-174-A	Counterweight extension arm	-	-
CTWT-CI-28	Counterweight assembly (Cast Iron)	-	-
CTWT-CI-18	Counterweight assembly (Cast Iron)	-	-
3565-610	Strap Counterweight	-	-
CTWT-AL-40	Counterweight Assembly	-	-
CTWT-AL-32	Counterweight Assembly	-	-
CTWT-AL-28	Counterweight Assembly	-	-
CTWT-AL-24	Counterweight Assembly	-	-
CTWT-AL-18	Counterweight Assembly	-	-
3570-112	Arm counterweight AL	-	-
3570-113	Arm counterweight AL	-	-
3565-103	Arm counterweight CI RH	-	-
3565-102	Arm counterweight CI LH	-	-
3565-104	Washer	-	-
3562-211	Set screw and Lock Nut	-	-
3565-182-7	Bolt for CTWTS on both arms	-	-
3565-182-9	Bolt for CTWTS on one arms	-	-
960-A-163	Support Bracket	-	-
3565-607	Counterweight 25lb	-	-
3565-608	Counterweight 50lb	-	-
3562-182-7	Counterweight arm bolt (using two arms 2 bolts)	-	-
3562-182-9	Counterweight arm bolt (using single arm)	-	-
3565-604-211	Counterweight support assembly	-	-
3565-182-9	Bolt for counterweight	-	-
3590-294	Mounting kit for 5" Mast	-	-

Approved Item List C: 3590-131-MI & 3590-131-MI Series
Crossing Gate Mechanism
Maintenance Equipment

Part No.	Description
3562-210	Spring Scale
3590-K9	Torque Wrench with socket
3590-1007	Snap ring pliers
3590-1012	0.020 gauge
3590-1011	0.032 gauge
3565-211	Ounce spring scale
3590-1010	1/16" Insulated gauge
ES-6104-2	Contact bending tool for contacts without stiffeners
ES-6104-1	Contact bending tool for contacts with stiffeners
3590-1014	Angle Finder
3590-1013	3/32" Wire Gauge
3590-K-11	Tool Kit
3590-1650	Bison all temperature lubricating grease

