



Test Procedures

If there is any uncertainty about performing these tests with a GALaxy controller, please call G.A.L. toll free at 1 (877) 425-3538 for free technical assistance.

WARNING: When performing any of the following tests, the mechanic should follow the required precautions and procedures set forth in the local and national elevator codes.

Buffer Test

The following test procedure explains how to override the car's position system so that it will run into the terminal landing at contract speed but is not intended to circumvent any procedure mandated by the elevator code.

1. Inspect and prepare the car according to the "Elevator Industry Inspection Handbook". Make sure that the car is loaded properly for the test and that the appropriate car or counterweight safety is tied.

2. For the car buffer test, jump DT, DT1, DT2, DT3 and DTS terminal limits to SFC (110VAC). For the counterweight buffer test, jump UT, UT1, UT2, UT3 and UTS terminal limits also to SFC. Refer to the job schematics specific terminal wiring locations.

3. From the Controller's LCD display, select the "Elevator Setup" menu and then select "Car Buffer Test" or "Counterweight Buffer Test".

4. Turn off the automatic door switch. To execute the test, the car must be level at the floor and on automatic operation.

5. The test also cannot be started from a terminal landing. If the car is at a terminal landing, the LCD display will show "To position the car press Enter". Pressing "Enter" will place a car call in the middle of the hoistway. If the car is already positioned properly for the run, the display will give the option to position the car or the skip to the next step.

6. Once the car is located in the correct starting position, select "Run Buffer Test". When the "Enter" button is pressed, the car's position will be modified internally to the top of the hoistway for a car buffer test or to the bottom of the hoistway for a counterweight buffer test. The car will then run once high speed to the appropriate buffer.

7. While the car is in motion, the LCD display will change to "Press Enter Button to Cancel Buffer Test". Pressing the "Enter" button will cause the car to execute an emergency slowdown.

8. After the test is complete, place the car on inspection and inspect the car and buffer.

9. Remove all jumpers, remove load weights and untie the car or counterweight safeties if previously tied.

10. Return the car to automatic operation.

Normal Terminal Slowdown Test

The following test procedure explains how to override the car's position system so that it will run into the terminal landing at contract speed but is not intended to circumvent any procedure mandated by the elevator code.

1. Inspect and prepare the car according to the "Elevator Industry Inspection Handbook". Make sure that the car is loaded properly for the test.

2. For the bottom normal terminal slowdown test, jump DTS terminal limit to SFC (110VAC). For the top normal terminal slowdown limit test jump UTS terminal limit also to SFC. Refer to the job schematics for specific terminal wiring locations.

3. From the Controller's LCD display, select the "Elevator Setup" menu and then select "Car Buffer Test" to perform a bottom normal terminal slowdown test or "Counterweight Buffer Test" to perform a top terminal slowdown limit test.

4. Turn off the automatic door switch. To execute the test, the car must be level at the floor and on automatic operation.

5. For this test only adjust parameters UT Vel and DT Vel on the Safety Processor Board to contract speed.

6. The test also cannot be started from a terminal landing. If the car is at a terminal landing, the LCD display will show "To position the car press Enter". Pressing "Enter" will place a car call in the middle of the hoistway. If the car is already positioned properly for the run, the display will give the option to position the car or the skip to the next step.

7. Once the car is located in the correct starting position, select "Run Buffer Test". When the "Enter" button is pressed, the car's position will be modified internally to the top of the hoistway for a car buffer test or to the bottom of the hoistway for a counterweight buffer test. The car will then run once high speed to the appropriate limit.

8. While the car is in motion, the LCD display will change to "Press Enter Button to Cancel Buffer Test". Pressing the "Enter" button will cause the car to execute an emergency slowdown.

9. After the test is complete remove all jumpers and adjust the UT Vel and DT Vel parameters on the Safety Processor Board back to their original values.

10. Return the car to automatic operation.



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Emergency Terminal Limit Test

The following test procedure explains how to override the car's position system so that it will run into the terminal landing at contract speed but is not intended to circumvent any procedure mandated by the elevator code.

1. Inspect and prepare the car according to the "Elevator Industry Inspection Handbook". Make sure that the car is loaded properly for the test.

2. For the bottom emergency terminal limit test, jump the bottom normal terminal slowdown limit switches DT, DT1, DT2, DT3 depending on how many normal slowdown switches the job has to SFC (110VAC). For the top emergency terminal limit test jump the top normal terminal slowdown limit switches UT, UT1, UT2, UT3 also to SFC. Refer to the job schematics specific terminal wiring locations.

3. From the Controller's LCD display, select the "Elevator Setup" menu and then select "Car Buffer Test" to perform a bottom emergency terminal limit test or "Counterweight Buffer Test" to perform a top emergency terminal limit test.

4. Turn off the automatic door switch. To execute the test, the car must be level at the floor and on automatic operation.

5. The test also cannot be started from a terminal landing. If the car is at a terminal landing, the LCD display will show "To position the car press Enter". Pressing "Enter" will place a car call in the middle of the hoistway. If the car is already positioned properly for the run, the display will give the option to position the car or the skip to the next step.

6. Once the car is located in the correct starting position, select "Run Buffer Test". When the "Enter" button is pressed, the car's position will be modified internally to the top of the hoistway for a car buffer test or to the bottom of the hoistway for a counterweight buffer test. The car will then run once high speed to the appropriate limit.

7. While the car is in motion, the LCD display will change to "Press Enter Button to Cancel Buffer Test". Pressing the "Enter" button will cause the car to execute an emergency slowdown.

8. After the test is complete remove all jumpers.

9. Return the car to automatic operation.

Overspeed Test

1. With the car on automatic, run the car to the top or bottom (away from the desired test run direction).

2. Access the Overspeed Reference Multiplier parameter (Function #81) in the drive and set to the desired multiplier value (1.25 for 125%).

3. Set the Overspeed % (Function #12) fault trip value to a number greater than the desired over speed.

4. Set the Overspeed Test flag (Function #80) in the drive. This will cause the drive to run over speed for one run.

5. Please note that the "Weak Field Current" parameter (Function #49) may need to be adjusted to allow the car to reach the desired overspeed velocity.

6. On the controller main LCD interface, select "Run Overspeed Test" under the Elevator Setup menu. Follow the directions on the LCD display to make sure the automatic door switch is off and the car is level at the floor on automatic operation. Enabling the overspeed test will prevent the CPU from detecting an overspeed condition for one run.

7. Place a car call to run the car in the desired direction to perform the overspeed test.

8. Place the car on inspection and inspect the car.

9. Reset the Overspeed % (Function #12) back to the original setting.

10. When the test is complete, return the car to automatic operation.



DSD-412 with Distance Feedback

Drive Settings

FNCT #	DESCRIPTION	UNIT	RANGE	DEFAULT	SETTING
1	CURRENT LIMIT	%	0 - 300	250	250
2	USE SELF-TUNE VALUES	LOGIC	0 - 1	0=OFF	0=OFF
3	RTD. ARMATURE AMPS	ADC	2.0 - 1250.0	50.0	MOTOR NAMEPLATE
4	ARMATURE OHMS	OHMS	0.001 - 5.000	0.100	FROM SELF TUNE
6	ARMATURE INDUCTANCE	HNY	0.0010 - 1.000	0.0100	FROM SELF TUNE
7	RTD. ARMATURE VOLTS	VDC	150 - 550	240	MOTOR NAMEPLATE
8	I REG CROSSOVER	RAD	100 - 1000	500	500
9	NOMINAL AC INPUT	VAC	150 - 525	230	A/C LINE TO LINE VOLTAGE AT DRIVE
10	ENCODER PPR	P/R	600 - 19999	1024	ENCODER NAMEPLATE
11	RATED MOTOR RPM	RPM	50.0 - 1999.0	1150.0	MOTOR NAMEPLATE
12	OVERSPEED %	%	0.0 - 150.0	110.0	110
14	V SENSE %	%	0.0 - 100.0	25.0	25
15	T SENSE %	%	0.0 - 100.0	5.0	5
16	ENCODER / MOTOR RATIO	-	1.000 - 19.000	1.000	1
17	RATED CAR SPEED	FPM	1.0 - 1900.0	400	CONTRACT SPEED
21	EXT ACCEL LIMIT	n/S ²	2.00 - 10.00	4.20	4.2
22	ERROR LIST RESET	LOGIC	0 - 1	0=OFF	0=OFF
32	FULL FIELD DETECT	%	30 - 90	80	45
38	ARM VLT RESPONSE	RAD	1.0 - 4.0	2.0	2.0
39	HI SPEED BANDWIDTH	RAD	1 - 15	6.0	6.0
40	LO SPEED BANDWIDTH	RAD	1 - 15	6.0	6.0
41	PER-UNIT INERTIA	SEC	0.10 - 9.99	2.00	2.00
42	STIFFNESS	-	0.2 - 9.9	1.0	1.0
49	WEAK FIELD CURRENT	ADC	0.2 - 40.00	40.0	40.0
50	FULL FIELD CURRENT	ADC	0.2 - 40.00	1.90	MOTOR NAMEPLATE
51	MOTOR FIELD L/R	SEC	0.10 - 10.00	0.54	FROM SELF TUNE
52	RTD. FIELD VOLTS DC	VDC	50-525	240	MOTOR NAMEPLATE
53	STANDBY FIELD AMPS	%	10 - 100	25	25
54	FIELD RESPONSE	RAD	1.0 - 10.0	5.0	5.0
55	FIELD CONTROL AC SOURCE VOLTS	VAC	0 -525	0	0
110	REFERENCE MODE SELECT	NUM	1 - 4	2	3
182	INVERT ALARM RELAY	LOGIC	0 - 1	0=OFF	1=ON
183	K3 LGC OUT SELECT	NUM	1 - 4	1	3

FNCT#	DESCRIPTION	UNIT
600	CAR SPEED	FPM
601	MOTOR RPM	RPM
602	SPEED REF	FPM
603	PRE-TORQUE SIGNAL	%
609	CEMF VOLTS	VDC
610	MOTOR ARMATURE V	VDC
611	MOTOR ARMATURE I	ADC
612	MOTOR FIELD I	ADC
613	MEASURED RES (R)	OHM
614	MEASURED INDCT (L)	HNY
615	MEASURED L/R	SEC
616	MEASURED SPEED ERROR	%
617	LINE FREQ	Hz
618	HEAT SINK TEMP	DEG C
619	MEASURED AC LINE VOLTS	VAC
620	FIELD TRACKING	PU
621	SERIAL COMM ON	LOGIC
688	CUBE I.D.	-
689	FIELD RANGE	-

DSD-412 SELF DIAGNOSTICS TEST

1. Place the NVRAM protect switch in the off position. *-Note: The unprotect LED will now be lit.*
2. Press the UP arrow on the drive to display the parameter 998.
3. Press DATA/FCTN Key. *-Note: The SCDU will now display "TEST".*
4. Press ENT key on the SCDU.
5. If the test fails with error code 917, swap the armature feedback wires. If test fails with other code refer to drive manual for troubleshooting.
6. After the test is complete the SCDU should flash "Pass".
7. Place the NVRAM switch back to the on position. *-Note: The unprotect LED will turn off.*

MAGNETEK DSD-412 DRIVE SELF TUNE TEST

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|---|--|
| 1. Place the NVRAM protect switch in the off position. <i>-Note: The unprotect LED will now be lit.</i> | 7. After the test is complete the SCDU should flash "Pass". |
| 3. Press the UP arrow on the drive to display the parameter 997. | 8. Take down values in drive parameters 613, 614 and 615. |
| 4. Press DATA/FCTN Key. <i>-Note: The SCDU will now display "TEST".</i> | 9. Take values recorded in step 8 and enter them into parameters 4, 6 and 51 respectively. |
| 5. Press ENT key on the SCDU. <i>-Note: The Motor Contactor (MC) will pull in and drop briefly then pull in again as it tests the motor</i> | 10. Follow procedures in drive's manual to save the parameters using fctn 994. |
| 6. If the test fails, take down error code, and refer to DSD-412 drive manual for troubleshooting. | 11. Place the NVRAM switch back to the on position. <i>-Note: The unprotect LED will turn off.</i> |