

technical bulletin

April 09, 2018 **UPDATE**
No. 102a

ORIGINAL RELEASE: January 31, 2018

Field Bulletin – Unexpected Motion in TAC32T Units with Magnetek Drives

Unexpected motion without warning is possible on TAC32T controller units with Magnetek Drives. Inspect suspect units immediately to identify compromised units and address this critical issue. The unexpected motion could continue for as far as two feet, it could be in an unintended direction, and could accelerate at a rate that is higher than expected.

Scope: TAC32T Controller units equipped with Magnetek Drives.

All TAC32T Controllers equipped with Magnetek Drives (DSD-412 SCR and Quattro PWM models) are assumed to be at risk at this time (a complete listing of known units is attached).

Issue: Unexpected motion is possible in multiple operating modes.

As noted above, unexpected motion can occur during automatic and inspection operation modes. Motion may be in unexpected directions (wrong way), and the rate of acceleration may be higher than expected.

When this motion occurs, the only factor determining the direction of travel is the load on the unit. This motion may also activate the Unintended Motion Protection on the unit.

Intermittent signal loss at Magnetek input terminals is a root cause of the behavior. The specific terminals involved vary by model, but will be either MC1 or DRVE. (See Figures 1 and 2.)

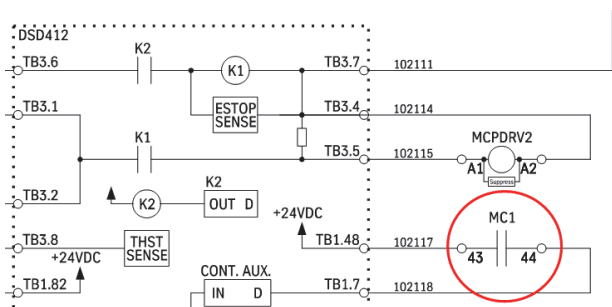


Figure 1 - DSD412 SCR Drive

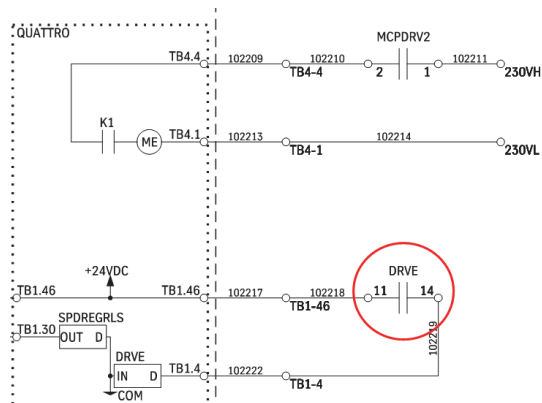


Figure 2 - Quattro PWM Drive

Solution: Complete the following tasks.

Always remember that uncontrolled movement is possible when affected units are on inspection operation. The distance travelled can range as far as two feet.

1. Check for errors using the FLTN command in IMS Remote FAST: 1610, 1614, and 1652. If evidence of past errors is found, take the following steps immediately:
2. Verify that the current software versions for CPUA and NPT are installed. CPUA version should be V6R2J and NPT should be V4R6. If installed versions are not current, complete this step, otherwise skip to Step 3.
 - a. Download current versions of required software on The Lobby by navigating to Tools & Resources > Technical Resources > Controller Software > TAC32T Software, or on bigtincan by navigating to the Controller Software Category and the Software – TAC32T Smart Folder.
 - CPUA generic software version V6R2J (tac-cpu.v6r2j)
 - NPT software version V4R6 (NPT.V4R6)
 - b. Install new software versions according to the procedures in the TAC32T Product Manual
3. Remove the unit from service, and Lock-Out/Tag-Out (LOTO) until all changes are complete.
4. Routine all connections to the Magnetek Drive Control Interface card terminals (as listed). Always refer to actual job wiring diagrams to determine the exact job requirements.
5. Inspect or replace hardware according to the drive model used, as follows.
 - For Quattro PWM Drives, replace the DRVE relay.
 - For DSD-412 SCR Drives test the contact assembly and continue as directed.
 - a. Use a digital multimeter to measure across the MC1 auxiliary contact 43/44.
 - b. Manually activate the contactor while monitoring changes in resistance.
 - c. If resistance is ever greater than 10 ohms, replace the contact assembly.

Materials: Order the replacement parts listed below, as required.

Order one of the following replacement parts, as required (listed below by model):

- DSD-412: tkE Part No. 297AJ1, Contact Block, Auxiliary, 2 pole, 1 N.O. 1 N.C.
- Quattro PWM: tkE Part No. 690CA3, Relay, Power, DPDT, 6A, 24 VDC

Determine the parts resource according to unit warranty status (as follows):

In Warranty: Submit claims to thyssenkrupp Elevator Warranty for parts and reimbursements.

Claims are eligible for a reimbursement of up to 4 man-hours.

Claims must be submitted on or before 05/02/2018; any later claims may be refused

Out of Warranty: Order any necessary parts from thyssenkrupp Spare Parts.

Jobs: Affected units list follows.

A list of affected units follows on the next ten pages.

All work must be performed in compliance with the thyssenkrupp safety policy.

All thyssenkrupp technical manual content is available on bigtincan, and The Lobby.

Technical bulletins are available on bigtincan in the Operations category and on The Lobby in Technical Resources.

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Dist. Code	Distributor	Job Number	Job Name	Drive Type
34	CHARLESTON	BDL676	COLUMBIA GAS MODERNIZATIO	DSD-412
34	CHARLESTON	BDL677	COLUMBIA GAS MODERNIZATIO	DSD-412
34	CHARLESTON	BDL678	COLUMBIA GAS MODERNIZATIO	DSD-412
34	CHARLESTON	BDL679	COLUMBIA GAS MODERNIZATIO	DSD-412
37	INDIANAPOLIS	BCP750	JF WILD BUILDING	DSD-412
37	INDIANAPOLIS	BCP751	JF WILD BUILDING	DSD-412
41	ATLANTA	BCH158	CRESCENT CENTRE	DSD-412
41	ATLANTA	BCH159	CRESCENT CENTRE	DSD-412
41	ATLANTA	BCH160	CRESCENT CENTRE	DSD-412
41	ATLANTA	BCH161	CRESCENT CENTRE	DSD-412
41	ATLANTA	BCK366	CUMBERLAND CENTER II	DSD-412
41	ATLANTA	BCK367	CUMBERLAND CENTER II	DSD-412
41	ATLANTA	BCK368	CUMBERLAND CENTER II	DSD-412
41	ATLANTA	BCK369	CUMBERLAND CENTER II	DSD-412
41	ATLANTA	BCM566	VOGTLE 1 & 2 ELECTRIC	DSD-412
41	ATLANTA	BCM567	VOGTLE 1 & 2 ELECTRIC	DSD-412
41	ATLANTA	BCX716	999 PEACHTREE 1-6	DSD-412
41	ATLANTA	BCX717	999 PEACHTREE 1-6	DSD-412
41	ATLANTA	BCX718	999 PEACHTREE 1-6	DSD-412
41	ATLANTA	BCX719	999 PEACHTREE 1-6	DSD-412
41	ATLANTA	BCX720	999 PEACHTREE 1-6	DSD-412
41	ATLANTA	BCX721	999 PEACHTREE 1-6	DSD-412
41	ATLANTA	BCX722	999 PEACHTREE 7-11	DSD-412
41	ATLANTA	BCX723	999 PEACHTREE 7-11	DSD-412
41	ATLANTA	BCX724	999 PEACHTREE 7-11	DSD-412
41	ATLANTA	BCX725	999 PEACHTREE 7-11	DSD-412
41	ATLANTA	BCX726	999 PEACHTREE 7-11	DSD-412
41	ATLANTA	BCZ542	PEACHTREE TOWER	DSD-412
41	ATLANTA	BCZ543	PEACHTREE TOWER	DSD-412
41	ATLANTA	BCZ544	PEACHTREE TOWER	DSD-412
41	ATLANTA	BDU183	191 PEACHTREE MIDRISE	DSD-412
41	ATLANTA	BDU184	191 PEACHTREE MIDRISE	DSD-412
41	ATLANTA	BDU185	191 PEACHTREE MIDRISE	DSD-412
41	ATLANTA	BDU186	191 PEACHTREE MIDRISE	DSD-412
41	ATLANTA	BDU187	191 PEACHTREE MIDRISE	DSD-412
41	ATLANTA	BDU188	191 PEACHTREE MIDRISE	DSD-412
41	ATLANTA	BDU189	191 PEACHTREE UPPER MID	DSD-412
41	ATLANTA	BDU190	191 PEACHTREE UPPER MID	DSD-412
41	ATLANTA	BDU191	191 PEACHTREE UPPER MID	DSD-412
41	ATLANTA	BDU192	191 PEACHTREE UPPER MID	DSD-412
41	ATLANTA	BDU193	191 PEACHTREE UPPER MID	DSD-412
41	ATLANTA	BDU194	191 PEACHTREE UPPER MID	DSD-412
41	ATLANTA	BDU200	191 PEACHTREE UPPER HIGH	DSD-412
41	ATLANTA	BDU201	191 PEACHTREE UPPER HIGH	DSD-412
41	ATLANTA	BDU202	191 PEACHTREE UPPER HIGH	DSD-412
41	ATLANTA	BDU203	191 PEACHTREE UPPER HIGH	DSD-412
41	ATLANTA	BDU204	191 PEACHTREE UPPER HIGH	DSD-412
41	ATLANTA	BDZ123	1050 CROWN POINTE	DSD-412

Dist. Code	Distributor	Job Number	Job Name	Drive Type
41	ATLANTA	BDZ124	1050 CROWN POINTE	DSD-412
41	ATLANTA	BDZ125	1050 CROWN POINTE	DSD-412
42	BIRMINGHAM	BCV740	COLONIAL PLAZA JV	DSD-412
42	BIRMINGHAM	BCV741	COLONIAL PLAZA JV	DSD-412
42	BIRMINGHAM	BCV742	COLONIAL PLAZA JV	DSD-412
46	GREENSBORO	BCU785	WAKE FOREST UNIV BAPTIST	DSD-412
46	GREENSBORO	BCU786	WAKE FOREST UNIV BAPTIST	DSD-412
46	GREENSBORO	BCU787	WAKE FOREST UNIV BAPTIST	DSD-412
46	GREENSBORO	BCU788	WAKE FOREST UNIV BAPTIST	DSD-412
46	GREENSBORO	BCU789	WAKE FOREST UNIV BAPTIST	DSD-412
46	GREENSBORO	BCU790	WAKE FOREST UNIV BAPTIST	DSD-412
46	GREENSBORO	BCU791	WAKE FOREST UNIV BAPTIST	DSD-412
49	DALLAS	BCL315	HOMEWOOD SUITES	DSD-412
49	DALLAS	BCL316	HOMEWOOD SUITES	DSD-412
49	DALLAS	BCL317	HOMEWOOD SUITES	DSD-412
49	DALLAS	BCM691	THANKSGIVING TOWER 1-8	DSD-412
49	DALLAS	BCM692	THANKSGIVING TOWER 1-8	DSD-412
49	DALLAS	BCM693	THANKSGIVING TOWER 1-8	DSD-412
49	DALLAS	BCM694	THANKSGIVING TOWER 1-8	DSD-412
49	DALLAS	BCM695	THANKSGIVING TOWER 1-8	DSD-412
49	DALLAS	BCM696	THANKSGIVING TOWER 1-8	DSD-412
49	DALLAS	BCM697	THANKSGIVING TOWER 1-8	DSD-412
49	DALLAS	BCM698	THANKSGIVING TOWER 1-8	DSD-412
49	DALLAS	BCM699	THANKSGIVING TOWER 9-16	DSD-412
49	DALLAS	BCM700	THANKSGIVING TOWER 9-16	DSD-412
49	DALLAS	BCM701	THANKSGIVING TOWER 9-16	DSD-412
49	DALLAS	BCM702	THANKSGIVING TOWER 9-16	DSD-412
49	DALLAS	BCM703	THANKSGIVING TOWER 9-16	DSD-412
49	DALLAS	BCM704	THANKSGIVING TOWER 9-16	DSD-412
49	DALLAS	BCM705	THANKSGIVING TOWER 9-16	DSD-412
49	DALLAS	BCM706	THANKSGIVING TOWER 9-16	DSD-412
49	DALLAS	BCM707	THANKSGIVING TOWER 17-22	DSD-412
49	DALLAS	BCM708	THANKSGIVING TOWER 17-22	DSD-412
49	DALLAS	BCM709	THANKSGIVING TOWER 17-22	DSD-412
49	DALLAS	BCM710	THANKSGIVING TOWER 17-22	DSD-412
49	DALLAS	BCM711	THANKSGIVING TOWER 17-22	DSD-412
49	DALLAS	BCM712	THANKSGIVING TOWER 17-22	DSD-412
49	DALLAS	BCM713	THANKSGIVING TOWER 23-28	DSD-412
49	DALLAS	BCM714	THANKSGIVING TOWER 23-28	DSD-412
49	DALLAS	BCM715	THANKSGIVING TOWER 23-28	DSD-412
49	DALLAS	BCM716	THANKSGIVING TOWER 23-28	DSD-412
49	DALLAS	BCM717	THANKSGIVING TOWER 23-28	DSD-412
49	DALLAS	BCM718	THANKSGIVING TOWER 23-28	DSD-412
49	DALLAS	BCM719	THANKSGIVING TOWER 29-30	DSD-412
49	DALLAS	BCM720	THANKSGIVING TOWER 29-30	DSD-412
49	DALLAS	BCT059	BAYLOR HOBITZELLE 5	DSD-412
49	DALLAS	BCV982	2221 LAKESIDE 5-8	Quattro PWM
49	DALLAS	BCV983	2221 LAKESIDE 5-8	Quattro PWM

Dist. Code	Distributor	Job Number	Job Name	Drive Type
49	DALLAS	BCV984	2221 LAKESIDE 5-8	Quattro PWM
49	DALLAS	BCV985	2221 LAKESIDE 5-8	Quattro PWM
49	DALLAS	BCV986	2221 LAKESIDE 9	DSD-412
49	DALLAS	BDB874	BAYLOR HOBLITZELLE 1-2	DSD-412
49	DALLAS	BDB875	BAYLOR HOBLITZELLE 1-2	DSD-412
49	DALLAS	BDB876	BAYLOR HOBLITZELLE 3-4	DSD-412
49	DALLAS	BDB877	BAYLOR HOBLITZELLE 3-4	DSD-412
49	DALLAS	BDK113	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDK114	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDK115	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDK116	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDK117	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDK118	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDK120	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDK121	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDK122	1401 ELM STREET MOD	DSD-412
49	DALLAS	BDP763	DOMINION PLAZA	DSD-412
49	DALLAS	BDP764	DOMINION PLAZA	DSD-412
49	DALLAS	BDP765	DOMINION PLAZA	DSD-412
49	DALLAS	BDP766	DOMINION PLAZA	DSD-412
50	AUSTIN	BCU849	301 CONGRESS 3-6	Quattro PWM
50	AUSTIN	BCU850	301 CONGRESS 3-6	Quattro PWM
50	AUSTIN	BCU851	301 CONGRESS 3-6	Quattro PWM
50	AUSTIN	BCU852	301 CONGRESS 3-6	Quattro PWM
50	AUSTIN	BCU853	301 CONGRESS 7-10	Quattro PWM
50	AUSTIN	BCU854	301 CONGRESS 7-10	Quattro PWM
50	AUSTIN	BCU855	301 CONGRESS 7-10	Quattro PWM
50	AUSTIN	BCU856	301 CONGRESS 7-10	Quattro PWM
50	AUSTIN	BDX830	98 SAN JACINTO	DSD-412
50	AUSTIN	BDX831	98 SAN JACINTO	DSD-412
50	AUSTIN	BDX832	98 SAN JACINTO	DSD-412
50	AUSTIN	BDX833	98 SAN JACINTO	DSD-412
50	AUSTIN	BDX834	98 SAN JACINTO	DSD-412
50	AUSTIN	BDX835	98 SAN JACINTO	DSD-412
50	AUSTIN	BDX836	98 SAN JACINTO	DSD-412
50	AUSTIN	BDX837	98 SAN JACINTO	DSD-412
52	HOUSTON	BDA897	PARK TOWERS I	DSD-412
52	HOUSTON	BDA898	PARK TOWERS I	DSD-412
52	HOUSTON	BDA899	PARK TOWERS I	DSD-412
52	HOUSTON	BDA900	PARK TOWERS I	DSD-412
52	HOUSTON	BDA901	PARK TOWERS I	DSD-412
52	HOUSTON	BDA902	PARK TOWERS II	DSD-412
52	HOUSTON	BDA903	PARK TOWERS II	DSD-412
52	HOUSTON	BDA904	PARK TOWERS II	DSD-412
52	HOUSTON	BDA905	PARK TOWERS II	DSD-412
52	HOUSTON	BDA906	PARK TOWERS II	DSD-412
52	HOUSTON	BDE753	1010 LAMAR	DSD-412
52	HOUSTON	BDE754	1010 LAMAR	DSD-412

Dist. Code	Distributor	Job Number	Job Name	Drive Type
52	HOUSTON	BDE755	1010 LAMAR	DSD-412
52	HOUSTON	BDE756	1010 LAMAR	DSD-412
52	HOUSTON	BDE757	1010 LAMAR	DSD-412
52	HOUSTON	BDG783	UT UNIVERSITY CENTER TOWE	DSD-412
52	HOUSTON	BDG784	UT UNIVERSITY CENTER TOWE	DSD-412
52	HOUSTON	BDG785	UT UNIVERSITY CENTER TOWE	DSD-412
52	HOUSTON	BDG786	UT UNIVERSITY CENTER TOWE	DSD-412
52	HOUSTON	BDG787	UT UNIVERSITY CENTER TOWE	DSD-412
52	HOUSTON	BDJ961	7400 FANNIN	DSD-412
52	HOUSTON	BDJ962	7400 FANNIN	DSD-412
52	HOUSTON	BDJ963	7400 FANNIN	DSD-412
52	HOUSTON	BDJ964	7400 FANNIN	DSD-412
52	HOUSTON	BDJ965	7400 FANNIN	DSD-412
52	HOUSTON	BDJ966	7400 FANNIN	DSD-412
53	KANSAS CITY	BCP023	KCP&L 5-6	DSD-412
53	KANSAS CITY	BCP024	KCP&L 5-6	DSD-412
53	KANSAS CITY	BCP025	KCP&L 7-8	DSD-412
53	KANSAS CITY	BCP026	KCP&L 7-8	DSD-412
53	KANSAS CITY	BCV560	40 CORPORATE WOODS	DSD-412
53	KANSAS CITY	BCV561	40 CORPORATE WOODS	DSD-412
53	KANSAS CITY	BCV562	40 CORPORATE WOODS	DSD-412
53	KANSAS CITY	BCV563	40 CORPORATE WOODS	DSD-412
53	KANSAS CITY	BCV564	40 CORPORATE WOODS	DSD-412
53	KANSAS CITY	BCV565	40 CORPORATE WOODS	DSD-412
53	KANSAS CITY	BDD487	WESTAR ENERGY	DSD-412
53	KANSAS CITY	BDD488	WESTAR ENERGY	DSD-412
56	CHICAGO	BCL538	222 N LASALLE 1-8	DSD-412
56	CHICAGO	BCL539	222 N LASALLE 1-8	DSD-412
56	CHICAGO	BCL540	222 N LASALLE 1-8	DSD-412
56	CHICAGO	BCL541	222 N LASALLE 1-8	DSD-412
56	CHICAGO	BCL542	222 N LASALLE 1-8	DSD-412
56	CHICAGO	BCL543	222 N LASALLE 1-8	DSD-412
56	CHICAGO	BCL544	222 N LASALLE 1-8	DSD-412
56	CHICAGO	BCL545	222 N LASALLE 1-8	DSD-412
56	CHICAGO	BCL546	222 N LASALLE 9-15	DSD-412
56	CHICAGO	BCL547	222 N LASALLE 9-15	DSD-412
56	CHICAGO	BCL548	222 N LASALLE 9-15	DSD-412
56	CHICAGO	BCL549	222 N LASALLE 9-15	DSD-412
56	CHICAGO	BCL550	222 N LASALLE 9-15	DSD-412
56	CHICAGO	BCL551	222 N LASALLE 9-15	DSD-412
56	CHICAGO	BCL552	222 N LASALLE 9-15	DSD-412
56	CHICAGO	BCL553	222 N LASALLE 16	DSD-412
56	CHICAGO	BDA687	200 W MONROE	DSD-412
56	CHICAGO	BDA688	200 W MONROE	DSD-412
56	CHICAGO	BDA690	200 W MONROE	DSD-412
56	CHICAGO	BDA691	200 W MONROE	DSD-412
56	CHICAGO	BDA692	200 W MONROE	DSD-412
56	CHICAGO	BDA693	200 W MONROE	DSD-412

Dist. Code	Distributor	Job Number	Job Name	Drive Type
56	CHICAGO	BDA694	200 W MONROE	DSD-412
56	CHICAGO	BDA695	200 W MONROE	DSD-412
56	CHICAGO	BDA696	200 W MONROE	DSD-412
56	CHICAGO	BDA697	200 W MONROE	DSD-412
56	CHICAGO	BDA698	200 W MONROE	DSD-412
56	CHICAGO	BDD642	222 N LASALLE	DSD-412
56	CHICAGO	BDN430	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN431	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN432	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN433	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN434	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN435	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN436	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN437	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN438	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDN439	33 NORTH LASALLE	DSD-412
56	CHICAGO	BDW739	2 PIERCE PLACE	DSD-412
56	CHICAGO	BDW740	2 PIERCE PLACE	DSD-412
56	CHICAGO	BDW741	2 PIERCE PLACE	DSD-412
56	CHICAGO	BDW742	2 PIERCE PLACE	DSD-412
56	CHICAGO	BDW743	2 PIERCE PLACE	DSD-412
56	CHICAGO	BDZ646	123 N WACKER	DSD-412
56	CHICAGO	BDZ648	123 N WACKER	DSD-412
56	CHICAGO	BDZ649	123 N WACKER	DSD-412
56	CHICAGO	BDZ650	123 N WACKER	DSD-412
56	CHICAGO	BDZ651	123 N WACKER	DSD-412
56	CHICAGO	BDZ652	123 N WACKER	DSD-412
56	CHICAGO	BDZ653	123 N WACKER	DSD-412
56	CHICAGO	BDZ654	123 N WACKER	DSD-412
56	CHICAGO	BDZ655	123 N WACKER	DSD-412
56	CHICAGO	BDZ656	123 N WACKER	DSD-412
56	CHICAGO	BDZ657	123 N WACKER	DSD-412
64	DENVER	BDB298	UC DENVER BLDG 500	DSD-412
64	DENVER	BDB299	UC DENVER BLDG 500	DSD-412
64	DENVER	BDW928	AT&T 1425 CHAMPA	DSD-412
64	DENVER	BDW929	AT&T 1425 CHAMPA	DSD-412
64	DENVER	BDW930	AT&T 1425 CHAMPA	DSD-412
64	DENVER	BDW931	AT&T 1425 CHAMPA	DSD-412
127	FORT WORTH	BCY827	777 MAIN 1-6	DSD-412
127	FORT WORTH	BCY828	777 MAIN 1-6	DSD-412
127	FORT WORTH	BCY829	777 MAIN 1-6	DSD-412
127	FORT WORTH	BCY830	777 MAIN 1-6	DSD-412
127	FORT WORTH	BCY831	777 MAIN 1-6	DSD-412
127	FORT WORTH	BCY832	777 MAIN 1-6	DSD-412
127	FORT WORTH	BCY833	777 MAIN 7-12	DSD-412
127	FORT WORTH	BCY834	777 MAIN 7-12	DSD-412
127	FORT WORTH	BCY835	777 MAIN 7-12	DSD-412
127	FORT WORTH	BCY836	777 MAIN 7-12	DSD-412

Dist. Code	Distributor	Job Number	Job Name	Drive Type
127	FORT WORTH	BCY837	777 MAIN 7-12	DSD-412
127	FORT WORTH	BCY838	777 MAIN 7-12	DSD-412
127	FORT WORTH	BCY839	777 MAIN 13-18	DSD-412
127	FORT WORTH	BCY840	777 MAIN 13-18	DSD-412
127	FORT WORTH	BCY841	777 MAIN 13-18	DSD-412
127	FORT WORTH	BCY842	777 MAIN 13-18	DSD-412
127	FORT WORTH	BCY843	777 MAIN 13-18	DSD-412
127	FORT WORTH	BCY844	777 MAIN 13-18	DSD-412
159	THYSSEN LOS ANGELES	BCL516	ANTHEM-WELLPOINT	DSD-412
159	THYSSEN LOS ANGELES	BCL517	ANTHEM-WELLPOINT	DSD-412
159	THYSSEN LOS ANGELES	BCL518	ANTHEM-WELLPOINT	DSD-412
159	THYSSEN LOS ANGELES	BCL519	ANTHEM-WELLPOINT	DSD-412
159	THYSSEN LOS ANGELES	BCL520	ANTHEM-WELLPOINT	DSD-412
159	THYSSEN LOS ANGELES	BCL521	ANTHEM-WELLPOINT	DSD-412
159	THYSSEN LOS ANGELES	BDK231	RIVERSIDE COMMUNITY HOSP	DSD-412
159	THYSSEN LOS ANGELES	BDK232	RIVERSIDE COMMUNITY HOSP	DSD-412
159	THYSSEN LOS ANGELES	BDK233	RIVERSIDE COMMUNITY HOSP	DSD-412
160	HAYWARD	BCK193	100 FIRST MOD A-D	Quattro PWM
160	HAYWARD	BCK194	100 FIRST MOD A-D	Quattro PWM
160	HAYWARD	BCK195	100 FIRST MOD A-D	Quattro PWM
160	HAYWARD	BCK196	100 FIRST MOD A-D	Quattro PWM
160	HAYWARD	BCK197	100 FIRST MOD E-H	Quattro PWM
160	HAYWARD	BCK198	100 FIRST MOD E-H	Quattro PWM
160	HAYWARD	BCK199	100 FIRST MOD E-H	Quattro PWM
160	HAYWARD	BCK200	100 FIRST MOD E-H	Quattro PWM
160	HAYWARD	BCL355	333 BUSH ST.	Quattro PWM
160	HAYWARD	BCL356	333 BUSH ST.	Quattro PWM
160	HAYWARD	BDE534	235 PINE	Quattro PWM
160	HAYWARD	BDE535	235 PINE	Quattro PWM
160	HAYWARD	BDE536	235 PINE	Quattro PWM
160	HAYWARD	BDE537	235 PINE	Quattro PWM
162	THYSSEN SACRAMENTO	BCV186	300 CAPITOL MALL 5-8	DSD-412
162	THYSSEN SACRAMENTO	BCV187	300 CAPITOL MALL 5-8	DSD-412
162	THYSSEN SACRAMENTO	BCV188	300 CAPITOL MALL 5-8	DSD-412
162	THYSSEN SACRAMENTO	BCV189	300 CAPITOL MALL 5-8	DSD-412
214	KIRKLAND	BDW815	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW816	TWO UNION SQUARE	Quattro PWM

Dist. Code	Distributor	Job Number	Job Name	Drive Type
214	KIRKLAND	BDW817	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW818	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW819	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW820	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW821	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW822	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW823	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW824	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW825	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW826	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW827	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW828	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW829	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW830	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW831	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW832	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW833	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW834	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW835	TWO UNION SQUARE	Quattro PWM
214	KIRKLAND	BDW836	TWO UNION SQUARE	Quattro PWM
220	PHOENIX	BCT964	ARIZONA CENTER TOWER I 5-	DSD-412
220	PHOENIX	BCT965	ARIZONA CENTER TOWER I 5-	DSD-412
220	PHOENIX	BCT966	ARIZONA CENTER TOWER I 5-	DSD-412
220	PHOENIX	BCT967	ARIZONA CENTER TOWER I 5-	DSD-412
245	TAMPA	BCZ046	RIVERGATE TOWER 1-6	DSD-412
245	TAMPA	BCZ047	RIVERGATE TOWER 1-6	DSD-412
245	TAMPA	BCZ048	RIVERGATE TOWER 1-6	DSD-412
245	TAMPA	BCZ049	RIVERGATE TOWER 1-6	DSD-412
245	TAMPA	BCZ050	RIVERGATE TOWER 1-6	DSD-412
245	TAMPA	BCZ051	RIVERGATE TOWER 1-6	DSD-412
245	TAMPA	BCZ052	RIVERGATE TOWER 13	DSD-412
245	TAMPA	BCZ053	RIVERGATE TOWER 14	DSD-412
246	ORLANDO	BCT785	20 NORTH ORANGE	DSD-412
246	ORLANDO	BCT786	20 NORTH ORANGE	DSD-412
246	ORLANDO	BCT787	20 NORTH ORANGE	DSD-412
246	ORLANDO	BCT788	20 NORTH ORANGE	DSD-412
246	ORLANDO	BCT789	20 NORTH ORANGE	DSD-412
246	ORLANDO	BCT790	20 NORTH ORANGE	DSD-412
246	ORLANDO	BDF414	TOWER PLACE AT THE SUMMIT	DSD-412
246	ORLANDO	BDF415	TOWER PLACE AT THE SUMMIT	DSD-412
246	ORLANDO	BDF416	TOWER PLACE AT THE SUMMIT	DSD-412
246	ORLANDO	BDF417	TOWER PLACE AT THE SUMMIT	DSD-412
246	ORLANDO	BDF418	TOWER PLACE AT THE SUMMIT	DSD-412
251	JACKSONVILLE	BDM743	ONE ENTERPRISE CENTER	DSD-412
251	JACKSONVILLE	BDM744	ONE ENTERPRISE CENTER	DSD-412
251	JACKSONVILLE	BDM745	ONE ENTERPRISE CENTER	DSD-412
251	JACKSONVILLE	BDM746	ONE ENTERPRISE CENTER	DSD-412
251	JACKSONVILLE	BDM747	ONE ENTERPRISE CENTER	DSD-412

Dist. Code	Distributor	Job Number	Job Name	Drive Type
251	JACKSONVILLE	BDM748	ONE ENTERPRISE CENTER	DSD-412
251	JACKSONVILLE	BDM749	ONE ENTERPRISE CENTER	DSD-412
251	JACKSONVILLE	BDM750	ONE ENTERPRISE CENTER	DSD-412
257	KING OF PRUSSIA	BDP595	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP596	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP597	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP598	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP599	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP600	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP601	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP602	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP603	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP604	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP605	UNITED PLAZA	DSD-412
257	KING OF PRUSSIA	BDP606	UNITED PLAZA	DSD-412
201	TORONTO CANADA	BCN751	100 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN752	100 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN753	100 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN754	100 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN755	100 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN756	100 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN759	200 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN760	200 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN761	200 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN762	200 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN763	200 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN764	200 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN765	200 CONSILLIUM	DSD-412
201	TORONTO CANADA	BCN767	300 CONSILLIUM S-X	DSD-412
201	TORONTO CANADA	BCN768	300 CONSILLIUM S-X	DSD-412
201	TORONTO CANADA	BCN769	300 CONSILLIUM S-X	DSD-412
201	TORONTO CANADA	BCN770	300 CONSILLIUM S-X	DSD-412
201	TORONTO CANADA	BCN771	300 CONSILLIUM S-X	DSD-412
201	TORONTO CANADA	BCN772	300 CONSILLIUM S-X	DSD-412
201	TORONTO CANADA	BCX413	5140 YONGE STREET	DSD-412
201	TORONTO CANADA	BCX414	5140 YONGE STREET	DSD-412
201	TORONTO CANADA	BCX415	5140 YONGE STREET	DSD-412
201	TORONTO CANADA	BCX416	5140 YONGE STREET	DSD-412
201	TORONTO CANADA	BCX594	25 SHEPPARD	DSD-412
201	TORONTO CANADA	BCX595	25 SHEPPARD	DSD-412
201	TORONTO CANADA	BCX596	25 SHEPPARD	DSD-412
201	TORONTO CANADA	BCX597	25 SHEPPARD	DSD-412
201	TORONTO CANADA	BCX598	25 SHEPPARD	DSD-412
201	TORONTO CANADA	BCX599	25 SHEPPARD	DSD-412
201	TORONTO CANADA	BCY267	5140 YONGE STREET	DSD-412
201	TORONTO CANADA	BCY268	5140 YONGE STREET	DSD-412
201	TORONTO CANADA	BCY269	5140 YONGE STREET	DSD-412
201	TORONTO CANADA	BCY270	5140 YONGE STREET	DSD-412

Dist. Code	Distributor	Job Number	Job Name	Drive Type
201	TORONTO CANADA	BCY271	5140 YONGE STREET	DSD-412
201	TORONTO CANADA	BDD733	TD CENTRE BUILDING 1	DSD-412
201	TORONTO CANADA	BDD734	TD CENTRE BUILDING 1	DSD-412
201	TORONTO CANADA	BDE501	TD CENTRE 5 LOW RISE	DSD-412
201	TORONTO CANADA	BDE502	TD CENTRE 5 LOW RISE	DSD-412
201	TORONTO CANADA	BDE503	TD CENTRE 5 LOW RISE	DSD-412
201	TORONTO CANADA	BDE504	TD CENTER 5 MID RISE	DSD-412
201	TORONTO CANADA	BDE505	TD CENTER 5 MID RISE	DSD-412
201	TORONTO CANADA	BDE506	TD CENTER 5 MID RISE	DSD-412
201	TORONTO CANADA	BDE507	TD CENTER 5 MID RISE	DSD-412
201	TORONTO CANADA	BDE508	TD CENTER 5 MID RISE	DSD-412
201	TORONTO CANADA	BDE509	TD CENTER 5 HIGH RISE	DSD-412
201	TORONTO CANADA	BDE510	TD CENTER 5 HIGH RISE	DSD-412
201	TORONTO CANADA	BDE511	TD CENTER 5 HIGH RISE	DSD-412
201	TORONTO CANADA	BDE512	TD CENTER 5 HIGH RISE	DSD-412
201	TORONTO CANADA	BDE513	TD CENTER 5 HIGH RISE	DSD-412
201	TORONTO CANADA	BDE549	123 FRONT STREET LOW RISE	DSD-412
201	TORONTO CANADA	BDE550	123 FRONT STREET LOW RISE	DSD-412
201	TORONTO CANADA	BDE551	123 FRONT STREET LOW RISE	DSD-412
201	TORONTO CANADA	BDE552	123 FRONT STREET HIGH RIS	DSD-412
201	TORONTO CANADA	BDE553	123 FRONT STREET HIGH RIS	DSD-412
201	TORONTO CANADA	BDE554	123 FRONT STREET HIGH RIS	DSD-412
201	TORONTO CANADA	BDE555	123 FRONT STREET HIGH RIS	DSD-412
201	TORONTO CANADA	BDZ156	TD5 CAR 143	DSD-412
204	OTTAWA CANADA	BDE984	45 O'CONNOR	DSD-412
204	OTTAWA CANADA	BDE985	45 O'CONNOR	DSD-412
204	OTTAWA CANADA	BDE986	45 O'CONNOR	DSD-412
204	OTTAWA CANADA	BDE987	45 O'CONNOR	DSD-412
204	OTTAWA CANADA	BDE988	45 O'CONNOR	DSD-412
204	OTTAWA CANADA	BDE989	45 O'CONNOR	DSD-412
204	OTTAWA CANADA	BDE990	45 O'CONNOR SERVICE	DSD-412
204	OTTAWA CANADA	BDX843	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX844	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX845	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX846	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX847	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX848	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX849	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX850	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX851	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX852	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX853	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX854	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX855	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX856	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX857	PLACE BELL	DSD-412
204	OTTAWA CANADA	BDX858	PLACE BELL	DSD-412

Dist. Code	Distributor	Job Number	Job Name	Drive Type
213	VANCOUVER CANADA	BCF450	1185 WEST GEORGIA 1-3	DSD-412
213	VANCOUVER CANADA	BCF451	1185 WEST GEORGIA 1-3	DSD-412
213	VANCOUVER CANADA	BCF452	1185 WEST GEORGIA 1-3	DSD-412
213	VANCOUVER CANADA	BCY901	SHERATON WALL CENTER	DSD-412
213	VANCOUVER CANADA	BCY902	SHERATON WALL CENTER	DSD-412
213	VANCOUVER CANADA	BCY903	SHERATON WALL CENTER	DSD-412
213	VANCOUVER CANADA	BCY904	SHERATON WALL CENTER	DSD-412
270	QUEBEC CANADA	BDE969	PLACE HAUTEVILLE	DSD-412
270	QUEBEC CANADA	BDE970	PLACE HAUTEVILLE	DSD-412
270	QUEBEC CANADA	BDE971	PLACE HAUTEVILLE	DSD-412
270	QUEBEC CANADA	BDE972	PLACE HAUTEVILLE	DSD-412
270	QUEBEC CANADA	BDE973	PLACE HAUTEVILLE	DSD-412
270	QUEBEC CANADA	BDW968	INDUSTRIELLE ALLIANCE	DSD-412
270	QUEBEC CANADA	BDW969	INDUSTRIELLE ALLIANCE	DSD-412