Replacing the Drum Drive

Document number: 719-00448A

Product	FCO priority
Magnus VLF	Next visit

Background

The drum drives manufactured in Israel (CIL) have a high failure rate.

Solution

Replace the CIL drum drive with the new one from Automotion. Also install a new shunt resistor assembly and a new amplifier choke to support the new drum drive.

Parts required

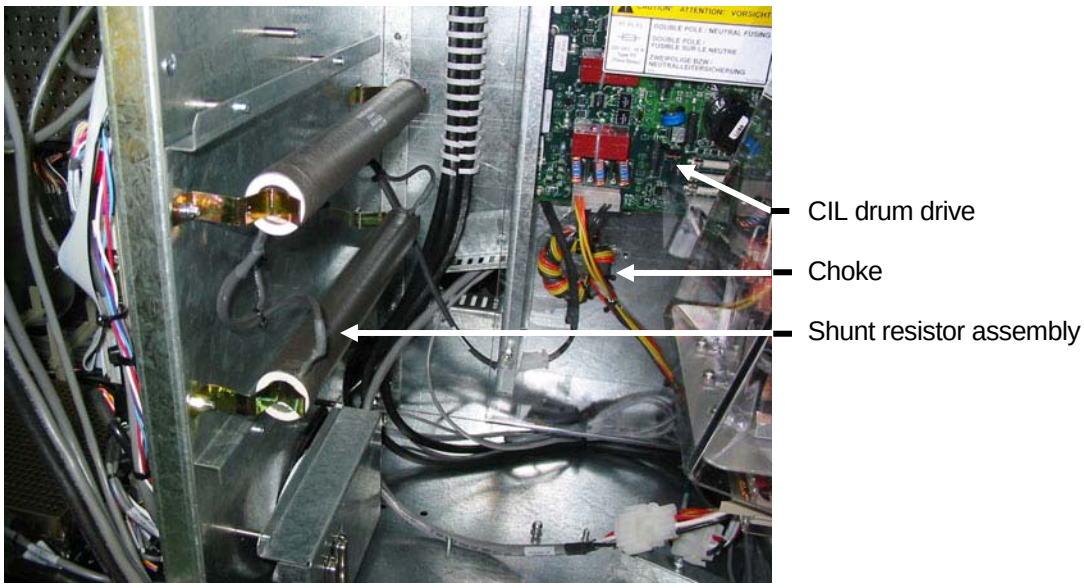
Part Number	Part Name	Quantity
512-00253A	**FCO CA05590 upgrade kit**	**1**
252-07275A	BRKT,MOUNT,DRUM DRIVER,MTA	
252-07666A	BRKT,ADAPT,DRUM DRIVER,MTA	
220-00938A	CAB,ASSY,DRUM AMP CHOKE,AUTOMOTION,MTA	
220-00941A	CAB,ASSY,DA(CTRL)-MCE(J35),AUTOMOTN,MTA	
220-00940A	CAB,ASSY,DM(HALLS)-DA(J9),AUTOMOTION,MTA	
220-00939A	CAB,ASSY,AC SW2-DA(P1),AUTOMOTION,MTA	
601-00019	SERVOAMP,BLDC,MTR,30A MAX,ACE1300	
500-02503A	ASSY,DRUMAMP RESISTORS,MTA	
52-4477	4P,SCREW,M4X10,SOCK CAP,S-PLATED	
52-3247	4P,WASHER,M4,HEAVY,S-PLATED	

Tools required

No special tools needed.

Procedure

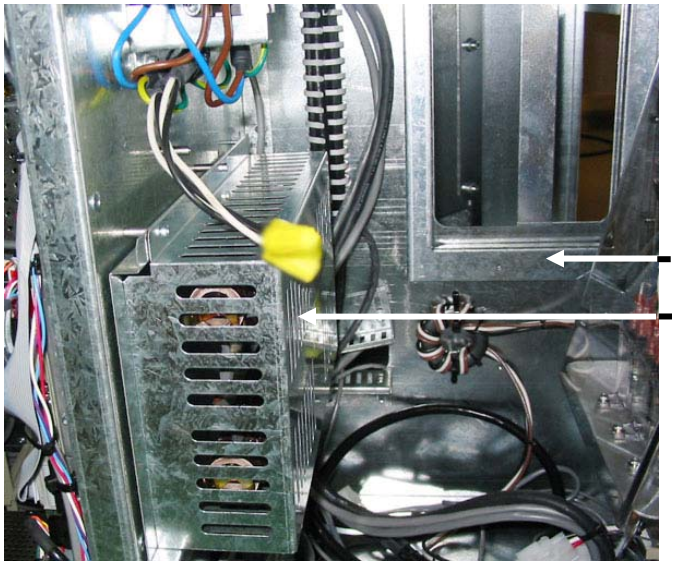
1. Disconnect the cables and unscrew the holding screws to remove the external shunt resistor assembly, the CIL drum drive, and the drum drive choke.



2. To disconnect cable 10-9076A from the bottom of SW2:
   a. Disconnect the two white (connected together in terminal 4) and two black (connected together in terminal 2) wires.
   b. Isolate the disconnected wires with electrical tape.
3. To connect power cable 220-00939A to the bottom of SW2:
   a. Connect the brown wire to terminal 2 and the blue wire to terminal 4.
   b. Connect the ground wire behind SW2's mounting bracket.
   c. Secure the cable with a cable tie to the power cable bundle.
4. Connect the motor hall sensor cable 220-00940A (from the drum motor to the drum drive).
   You may need to temporarily remove the motor fans to get access to the motor connector. Note the orientation of the connector pins when uninstalling the original cable—it helps when installing a new cable.
5. Install the drum amp choke 220-00938A.



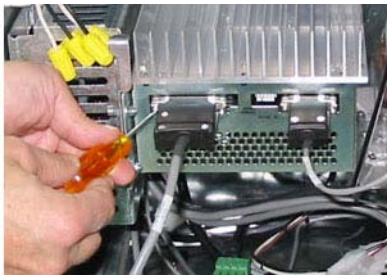
6. Connect cable 220-00941A to the MCE (J35).
7. Install the mounting bracket 252-07275A for the new drum drive and the resistor assembly 500-02503A.



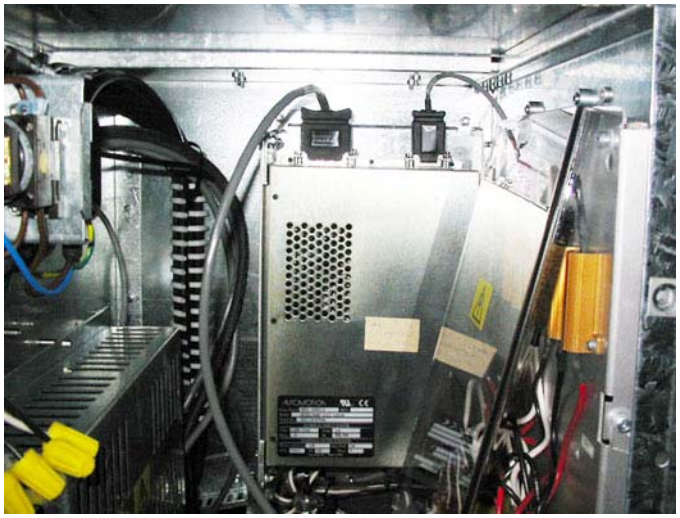
8. Secure the drum amp 601-00019 to the adapter drum drive bracket 252-07666A with four screws and washers from the kit.



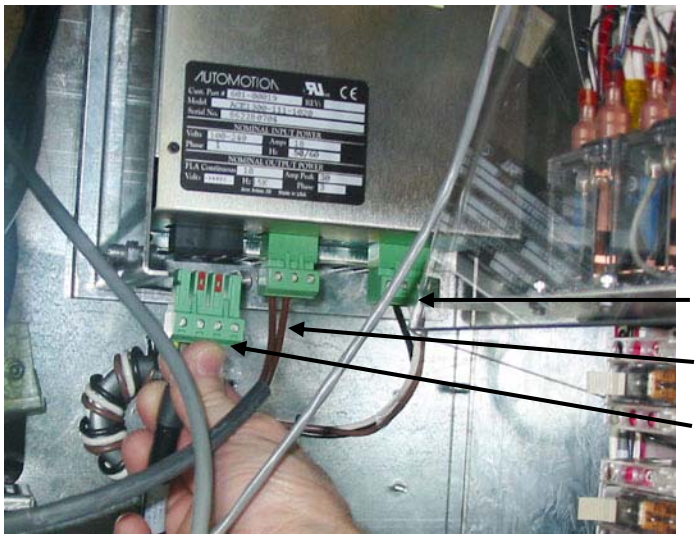
9. Rest the drum amp on the resistor assembly and resistor brake cover and connect the hall sensor and drum drive control cables to J9 and J5.

10. Install the drum drive on the wall support bracket. First hook in the top left corner, then secure the drum drive with a bottom holding screw.



11. Connect the three cables (with green connectors) to the bottom of the drum amp (220-00938A, 220-00939A, and the cable from the drum amp resistor assembly).



12. Change the NVS parameters before drum initialization.
    Set drum :
    ```
    >> Bwvel – 4.5
    >> Ipk – 30
    >> Bwpos – 2.0
    >> Drvdir - 1.0
    ```

Technical contact	Micle Zisman
Date submitted	01 Dec 2004
Last updated	05 Feb 2005