Replacing the Drum Drive With Automotion Amplifier

Document number: 719-00493A

PRODUCT
ThermoFlex Wide II

FCO priority
Next PM

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

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

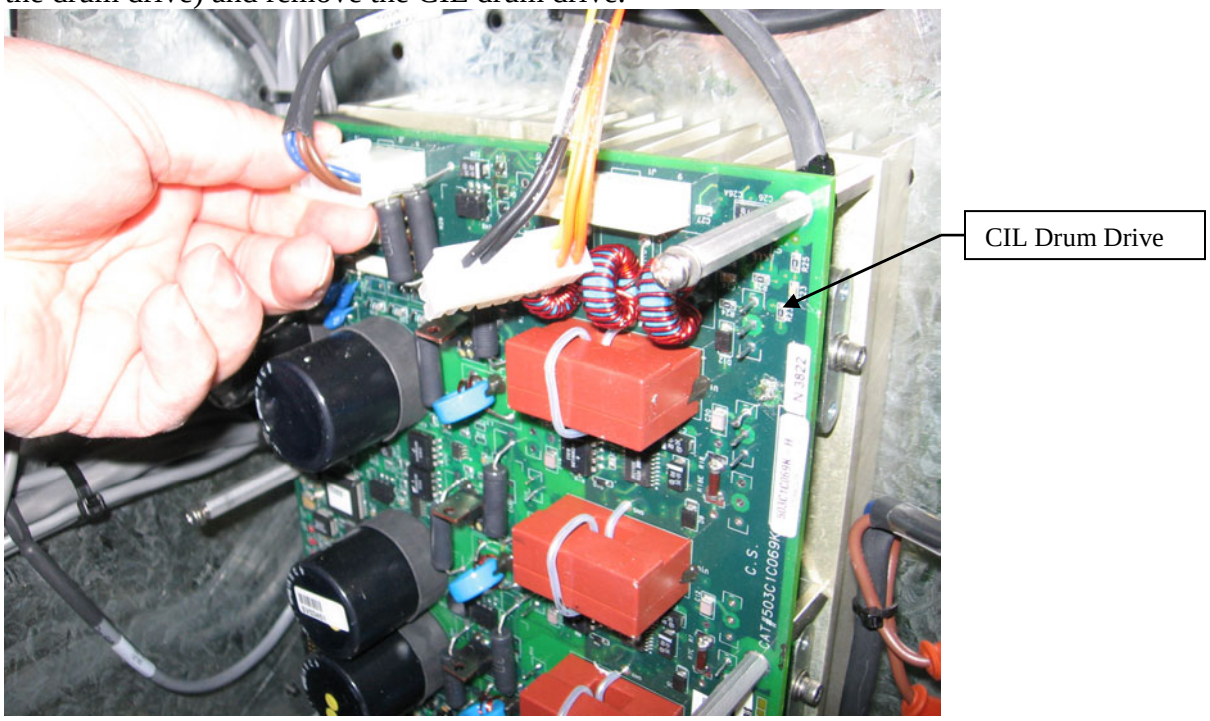
Parts required

Part Number	Part Name	Quantity
512-00271A	**Kit,Field Upgrade, ACE 1300,SLV**	**1**
500-02138A	Drum Amp & Adapter Plate Assy SLV	
601-00019C	Servoamp,BLDC,MTR,30A,MAX,ACE1300	
252-07229A	Fab,Drum Amp Adapter Plate	
52-4042	Nut,M4,Nylock	(4)
52-4054	Wash,M4,Flt,S-Plated	(4)
52-4459	Scrw,M4*8,Sock-Cap,S-Plated	(4)
50-3072	Wash,M4,Lock,Ext-tooth,SS	(1)
52-4087	Nut,8-32,Hex,SS	(1)
220-00545A	CABL,Assy,ACE-DA,Com-Mod Choke, SLV	
220-00546A	CABL,Assy,ACE 1300-DA,LF2-DA(P1),SLV	
220-00547A	CABL,Assy,ACE-DA,DA-DM(HES),SLV	
220-00548A	CABL,Assy,ACE-DA,TMCE-DA(CTRL),SLV	
220-01101A	CABL,Assy,Ext Res,ACE1300 Drum Amp,SLV	
18-3061	Cab,Tie,Adh Mnt,1”sq,Centerhole,Blk	(5)
18-3049	Cab,Tie,7.5”,Black Weather Resistant	(10)
18-3017	Cab,Tie,10 cm,Black	(10)

Tools required No special tools needed.

Procedure

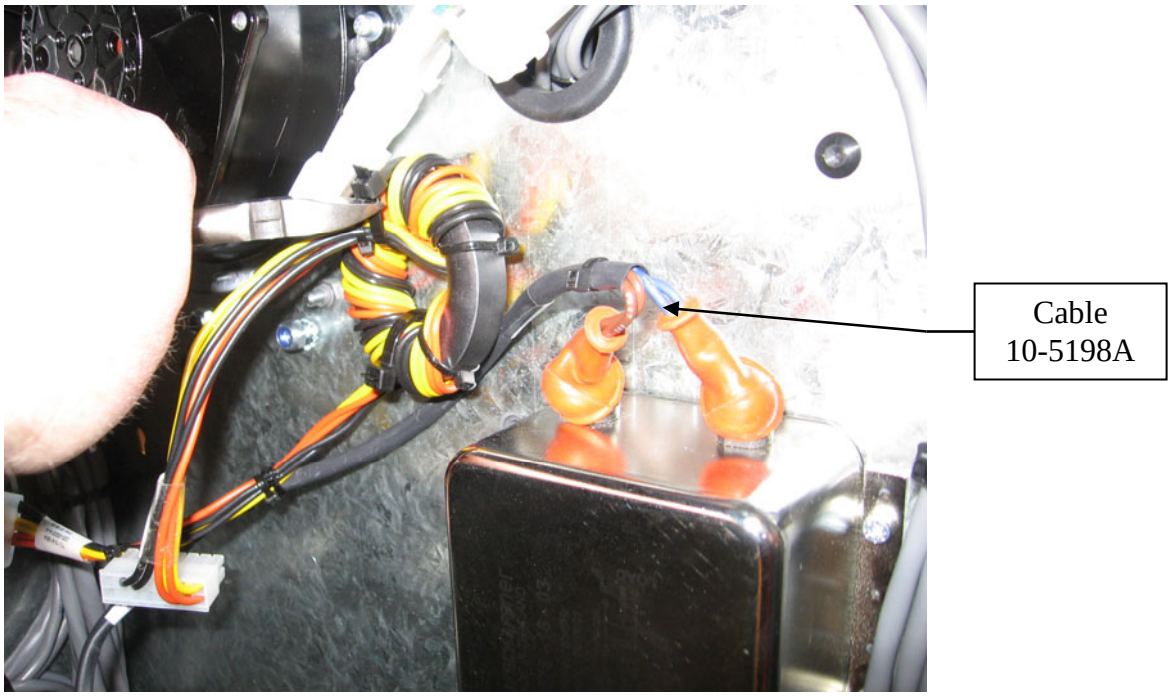
1. Remove the CIL drum drive cover and disconnect the cables to the drum drive. Loosen the screws holding the CIL drum drive (on outside of power box, behind the drum drive) and remove the CIL drum drive.



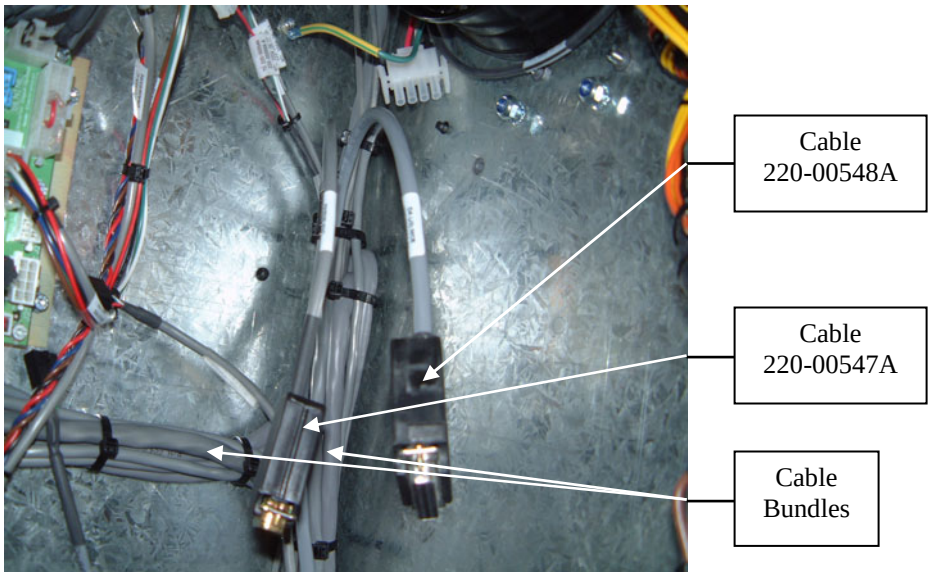
2. To remove the cable 10-5198A from the Load of Line Filter #2 and remove the Drum Drive choke:

   a. Disconnect the brown and blue wires from the Line Filter #2 Load side (top side).

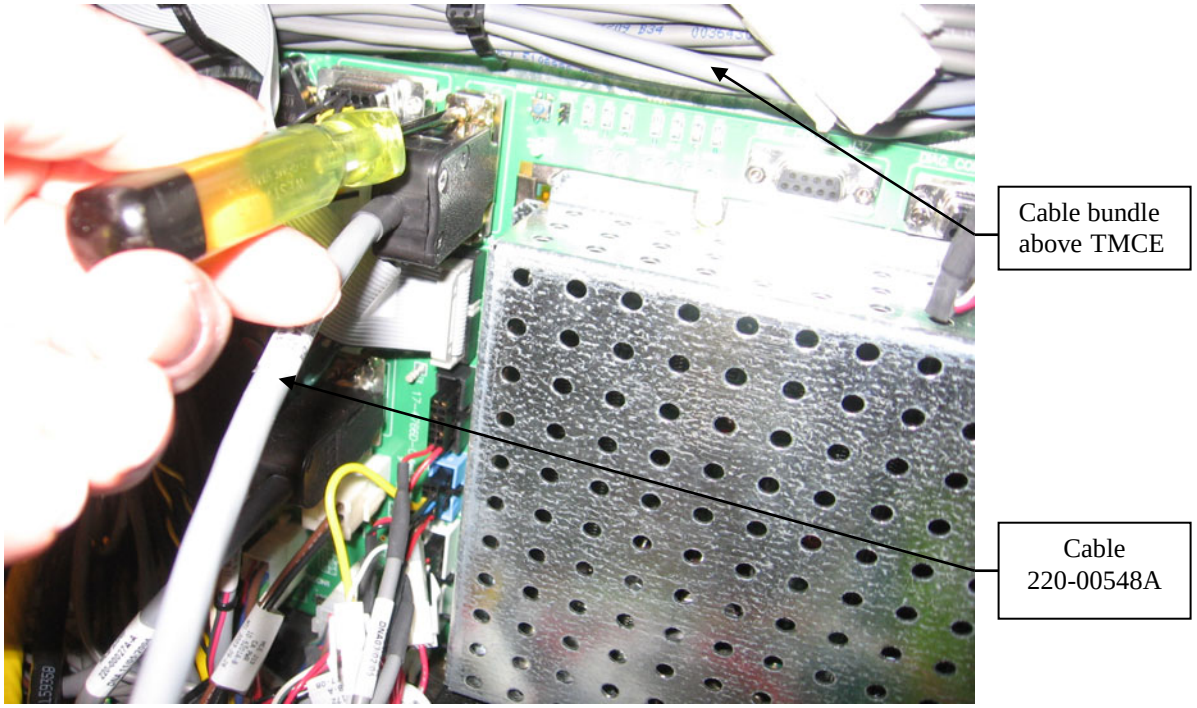
   b. Disconnect the Drum Drive choke from cable 10-5190A. Cut the cable tie that holds the drum drive choke in place and remove. (Cable 10-5198A is usually tie wrapped to the choke assembly. If not, cut the tie wrap connection(s) to 10-5198A and remove the cable.)



3. Disconnect the current motor hall sensor cable (10-5191A) from the drum motor. You will have to gain access to the space beneath the drum motor to disconnect the cable. (Note the orientation of the connector pins when uninstalling the original cable – it helps when installing the new cable.) Connect the motor hall sensor cable 220-00547A to the motor. Route the sensor cable from the motor into the power box. Route the sensor cable along the cable bundles at the back of the power box until the end of the cable is positioned where the top of the drum drive will be. Leave at least 280 mm of loose cable (from the vertical cable bundle) to allow for connection to the drum drive amp. Remove the old hall sensor cable if desired.

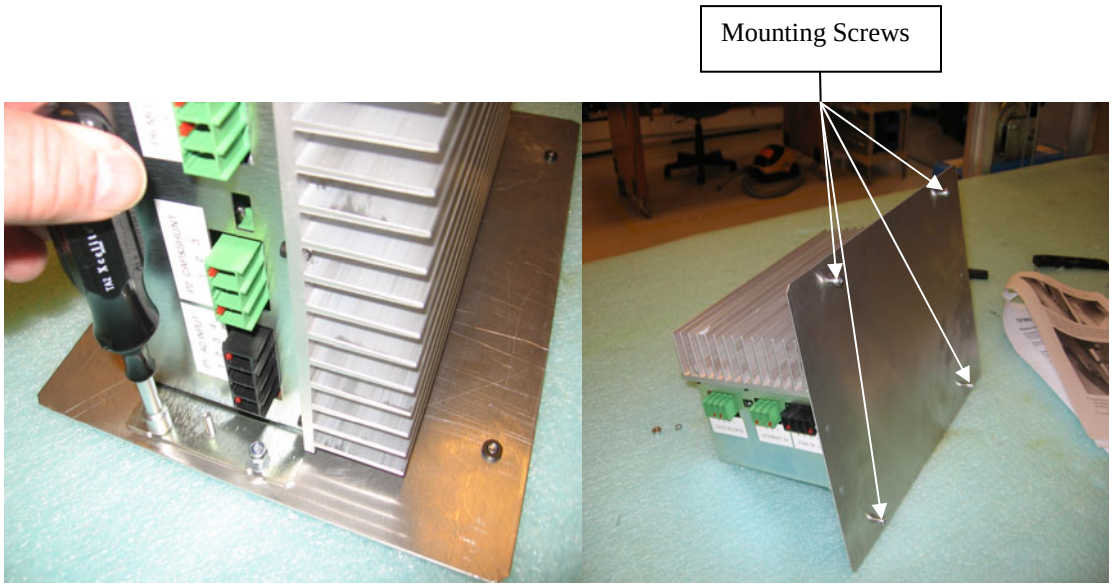


4. Remove the control cable 10-5202A from connector J35 on the TMCE board. Connect cable 220-00548A in its place (to J35). Route the cable along the cable bundle above the TMCE board and up the vertical cable bundle (in the corner of the power box) until the end of the cable is positioned where the top of the drum drive will be. Leave at least 300 mm of loose cable (from the vertical cable bundle) to allow for connection to the drum drive amp. Remove the old control cable if desired.

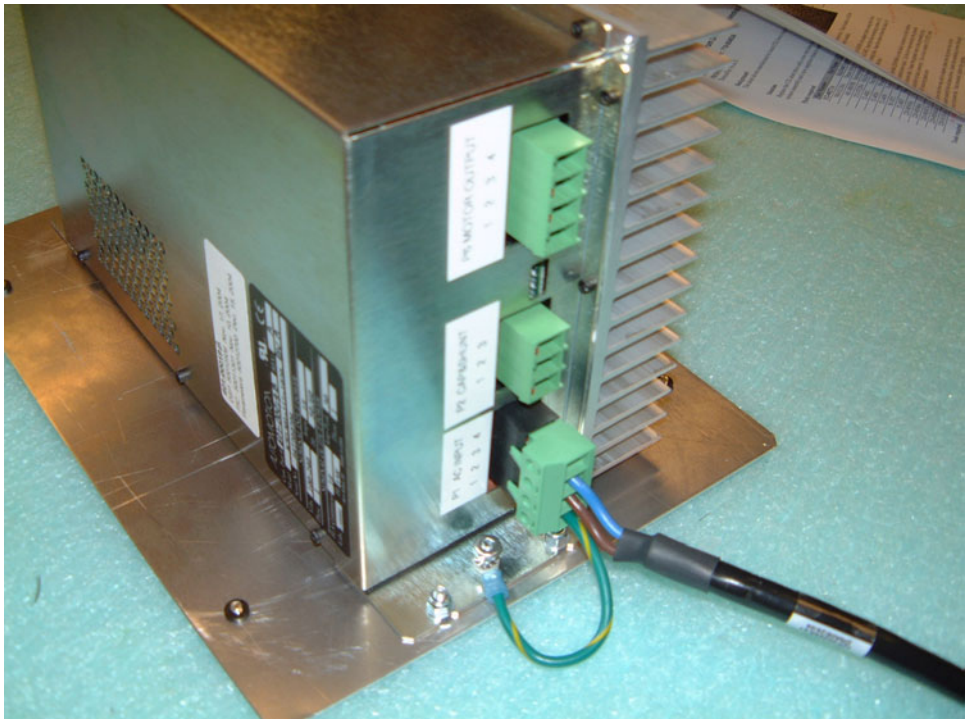


5. Tidy up the cable bundles at the back of the power box. These bundles will be difficult to access after the drum driver amp is installed.

6. Install the Automotion drum amp 601-00019C to the adapter plate using the four washers (52-4054) and four nuts (52-4042). Insert the four mounting screws (52-4459) into the adaptor plates mounting holes. Insert the screws from the back of the adaptor plate. Leave them loose.



7. Connect the power input cable (220-00546A) to the black connector at the bottom of the drum drive (marked as AC input). Cut the tie wrap securing the ground wire attached to the power cable. Connect the ground wire to the grounding lug on the Drum amp (below the black connector). Use a lock washer (52-3072) and nut (52-4087) to secure the ground wire.



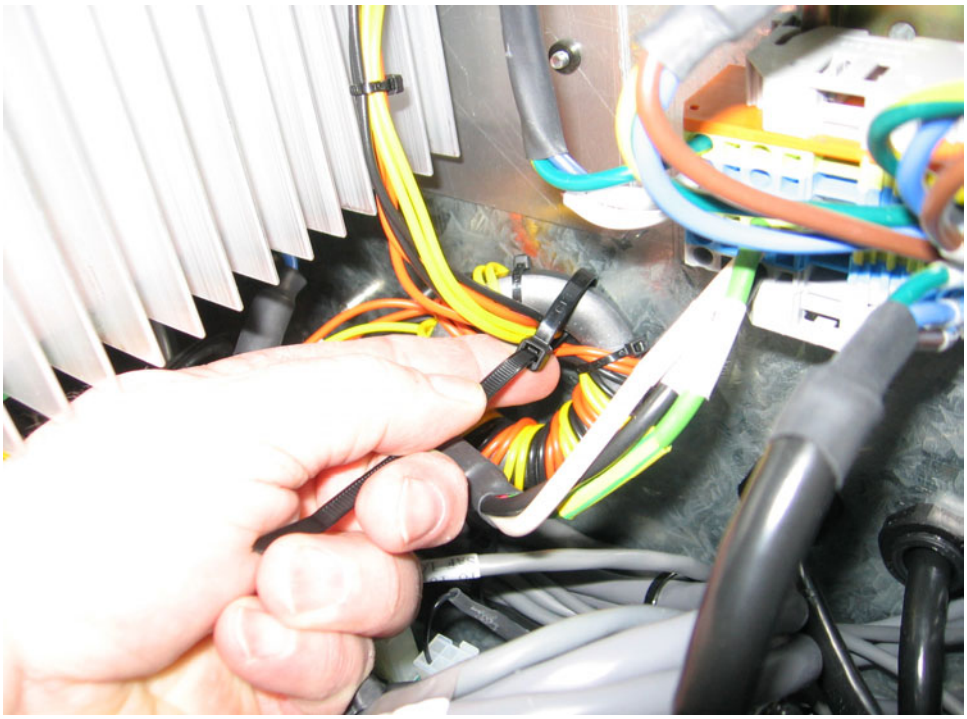
8. Install the new drum driver amp and its adapter plate into the power box in the same position vacated by the old drum driver. Insert the mounting screws through the holes in the power box. Once mounted, tighten the screws.



9. To connect the power cable to Line Filter #2 and install the new choke:

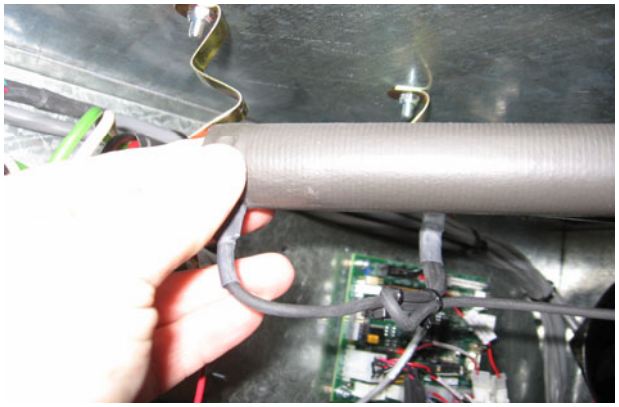
    a. Route the power input cable (220-00546A) up along the front side of the drum driver amp to the top of the Line Filter #2. Connect the brown wire to terminal L and the blue wire to terminal N.

    b. Connect the drum amp choke assembly 220-00545A to the Automotion drum amp. (Green four position connector at bottom of amp.) Mount the choke assembly to the interior wall of the power box using an adhesive tie plate and large tie wrap. Position the coil near the bottom, front side of the drum amp. Route the cable portion of the choke assembly up along the front side and then top side of the drum and connect to cable 10-5190A. Secure the choke assembly cable using tie wraps and, if necessary, tie plates.



c. Secure the power cable (220-00546A) with tie wraps to the drum amp choke assembly.

10. Cut any cable ties attached to the External shunt resistor assembly's cable. Remove the external shunt resistor assembly from its mounting clips.



11. Install the new resistor assembly 220-01101A in the mounting clips. Choose the mounting clip pair closest to the drum drive. Route the assembly's cable over to the area of the drum drive (bottom side) and connect to the green three position connector on the drum drive.

12. Connect the hall sensor cable (220-00547A) to the drum amp, connector J9.

13. Connect the drum drive control cable (220-00548A) to the drum amp, connector J5.

14. Make tidy with tie-wraps where necessary.

Change the following NVS parameters before drum initialization:

>> set drum Ipk 30

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