ACH580-01 BxR, UL Type 1/12 Frame R5-R8

Base drive replacement instructions

Purpose or Scope

The following are the instructions for replacing an ACH580-01 UL Type 1 & 12 (Frames R5 - R8) drive in BxR enclosures.

Equipment required*:

– Replacement drive (see note below)
– Corner and joint gasket (UL type 12 only)
– T20 bit
– T25 bit
– T30 bit
– 4mm hex bit
– 5mm hex bit
– 8mm socket
– 10mm socket
– 13mm socket
– Torque wrench
– Zip ties

Basic overview of steps

– Back-up drive parameters (if you can)
– Remove power and verify after 5 minutes
– Open enclosure
– Disconnect all wiring
– Remove flange plate
– Remove drive
– Prepare replacement drive
– Remove conduit assembly
– Install in reverse order
– Check connections
– Power drive
– Reprogram and test

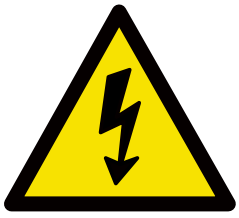
Notes and cautions

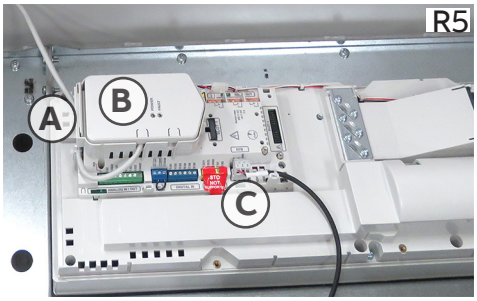
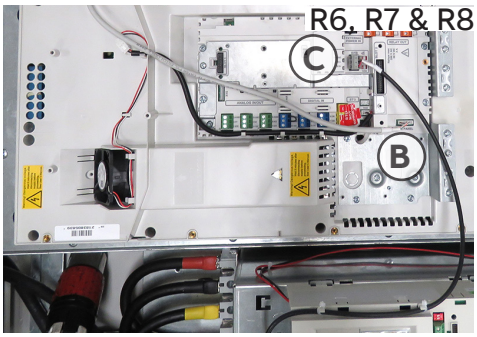
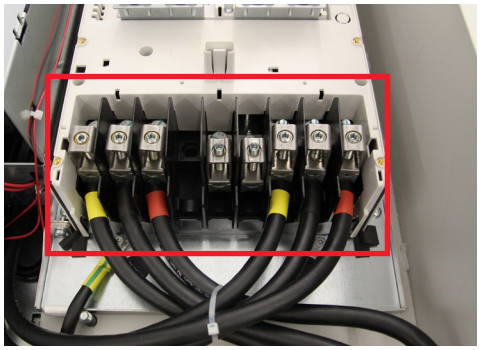
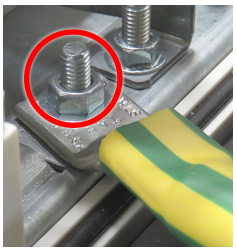
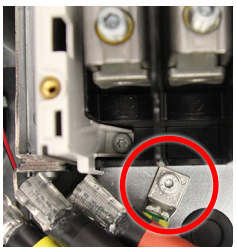
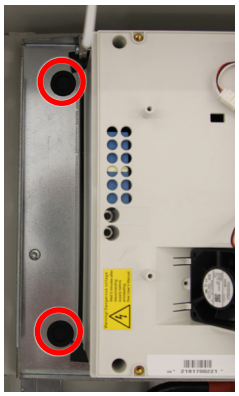
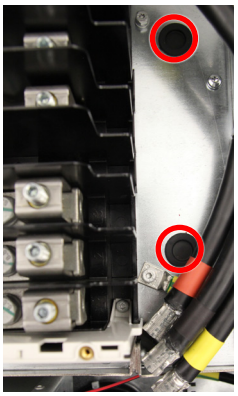
CAUTION! Review complete safety and electrical considerations prior to replacing the drive. See ACH580 IOM (3AXD50000049127).

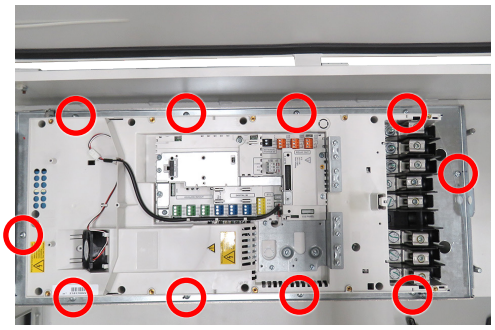
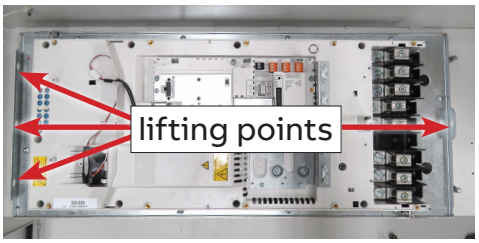
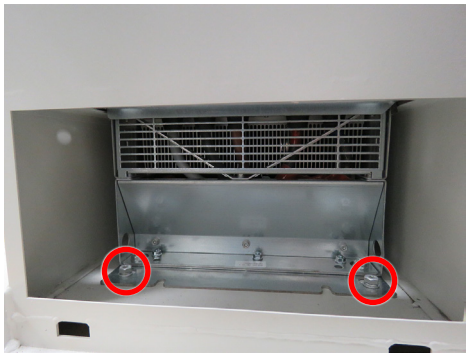
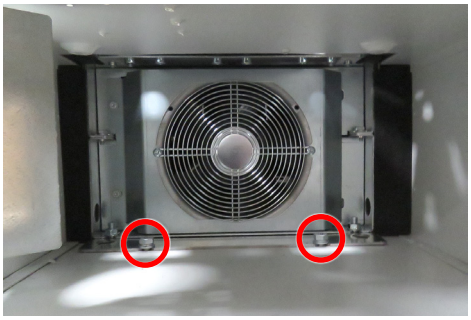
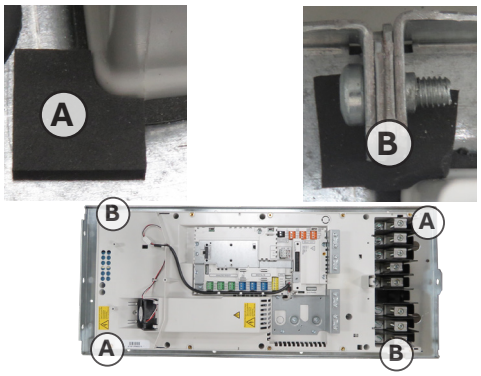
CAUTION! Two people are recommended for this job. The drive is heavy and can fall, causing property damage and injury.

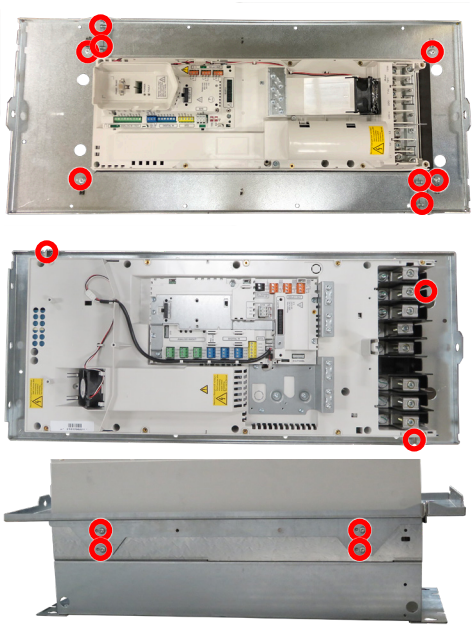
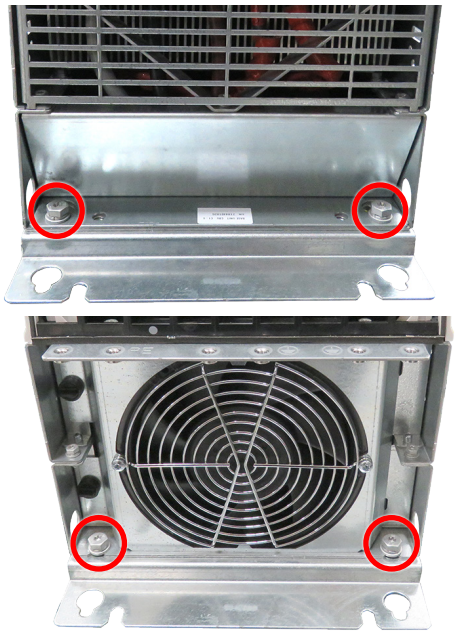
NOTE: UL Type 12 drives require a UL Type 12 replacement drive, UL Type 1 drives are not allowed as substitutes for UL Type 12.

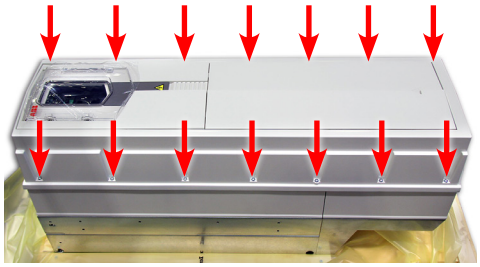
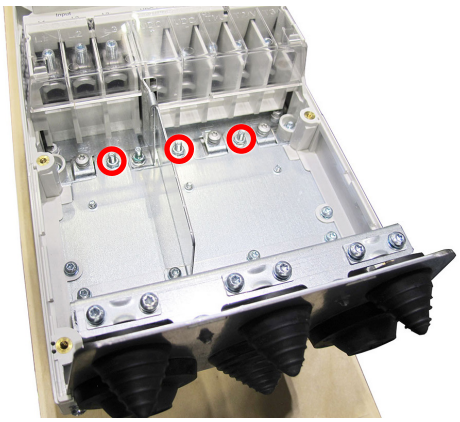
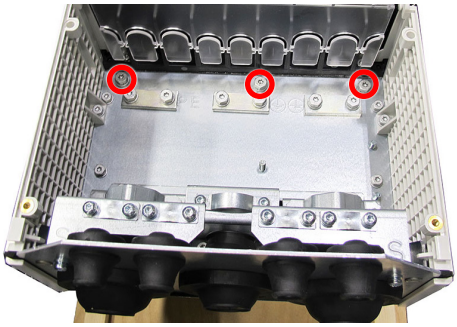
* Not all of these tools are needed for each frame size.

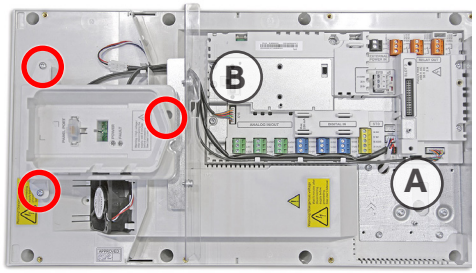
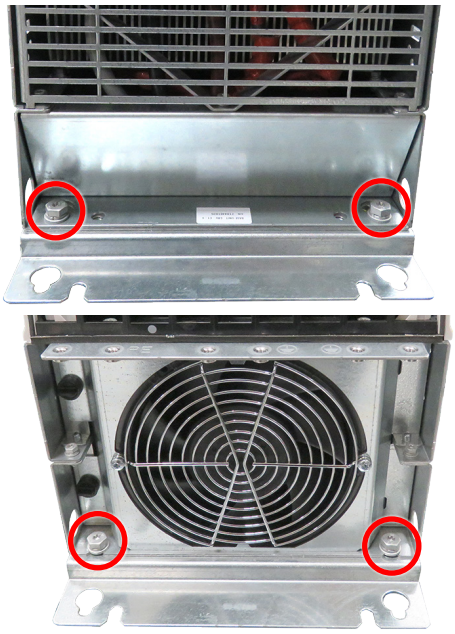
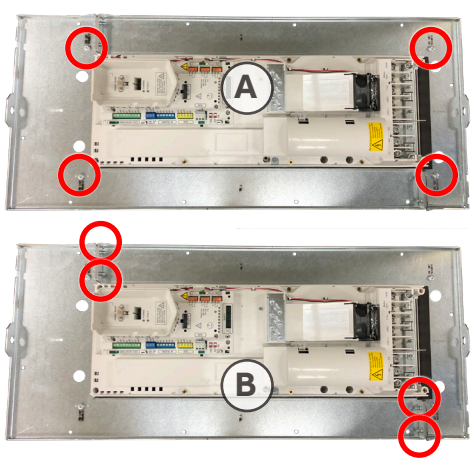
Step	Instruction	Diagram
1	**NOTE:** If needed, back-up parameters prior to disconnecting power. Turn off source power and wait 5 minutes for the DC bus capacitors to discharge. Turn handle to the off position.	
2	Rotate latches clockwise and open the enclosure door.	
3	Perform voltage check to confirm no voltage is present. **NOTE:** If you have control wiring connected to the control unit, disconnect at this time.	

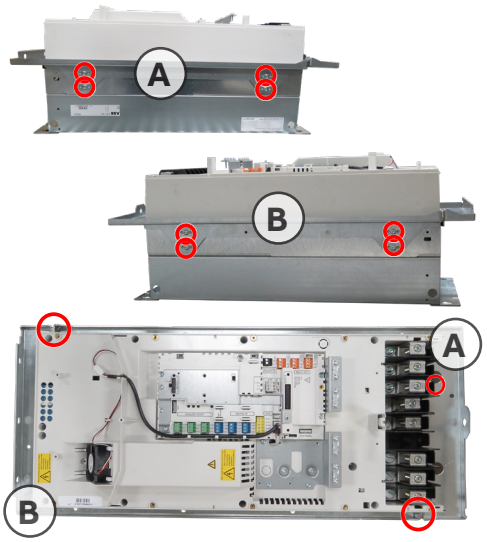
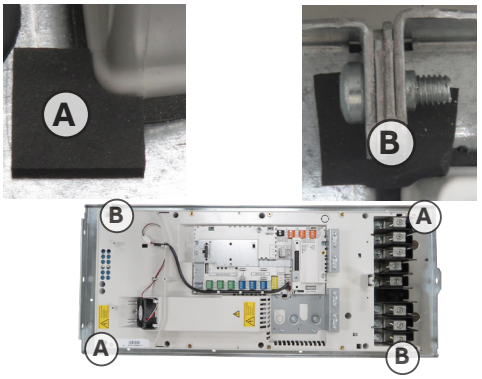
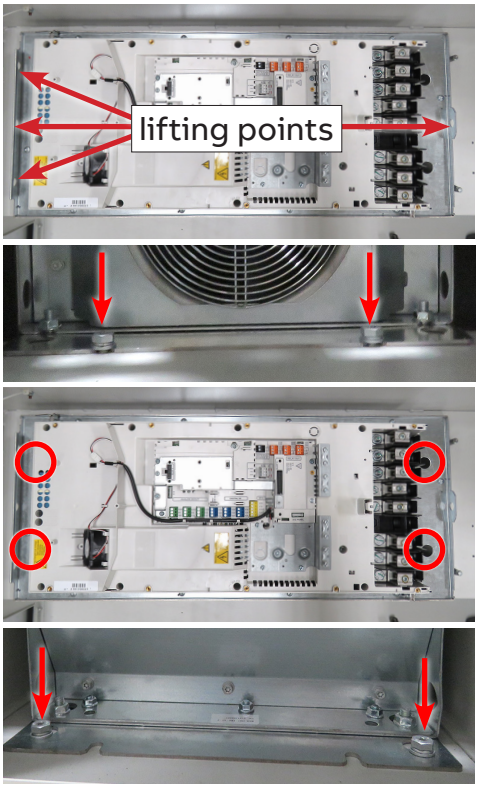
Step	Instruction	Diagram
4	**R5 Frame:** Cut zip tie (A) and remove the CDPI (B) from drive. Set aside. **R6, R7 & R8 Frame:** Disconnect the data cable (A) from the drive. Set aside. Disconnect the RS485 cable (C) from the drive by pulling out the terminal block. **NOTE:** Remove any additional drive I/O wiring.	 
5	Cut zip tie securing the power wires. **R5 Frame:** Using a 4mm bit, loosen and remove wires from the Input and motor terminals of the drive. **R6, R7 & R8 Frame:** Using a 5mm bit, loosen and remove wires from the Input and motor terminals of the drive.	
6	**R5 Frame:** Using a 10mm socket, loosen and remove ground wire from the drive. **R6, R7 & R8 Frame:** Using a T25 bit, loosen and remove ground wire from the drive.	 
7	**UL Type 12:** Remove grommets from drive mounting holes.	 

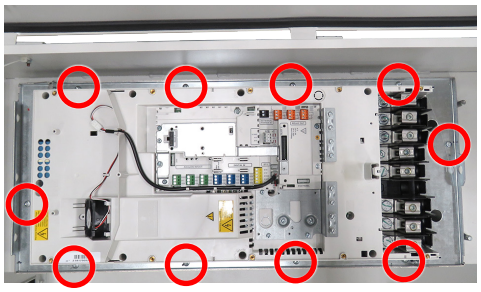
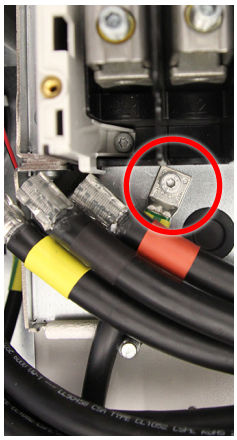
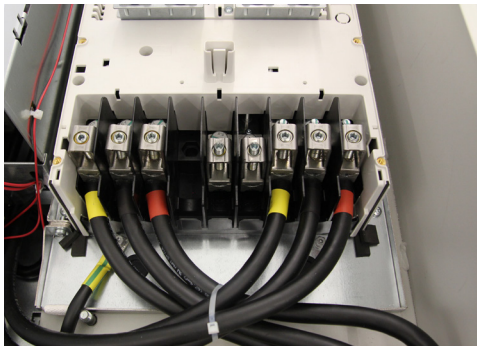
Step	Instruction	Diagram
8	Using a T30 bit, loosen and remove ten (10) screws securing the flange plate. Save hardware.	
9	Secure crane to flange plate. Using a 13mm socket, loosen the two (2) bottom M8 screws securing the drive, four (4) turns of the screw. **NOTE:** Do not remove the screw completely. Only loosen enough to be able to lift the drive off the screws.	 
10	Using a 13mm socket, loosen and remove the top two (2) M8 screws securing the drive. Slide the drive up to clear mounting holes and take drive out of enclosure.	
11	**UL Type 12:** Remove corner (A) and joint (B) gasket from the flange plates.	

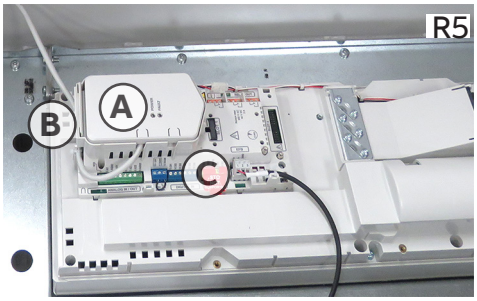
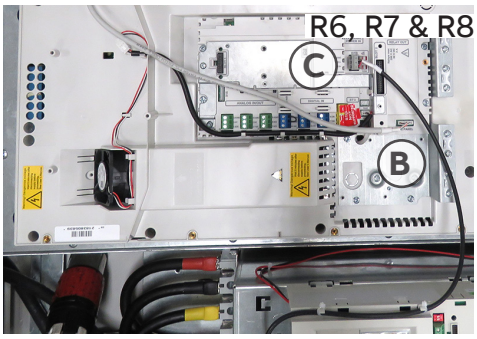
Step	Instruction	Diagram
12	**R5 Frame:** Using a T30 bit, loosen and remove eight (8) screws securing flange plates. **R6, R7 & R8 Frame:** Using a T30 bit, loosen and remove eleven (11) screws securing the flange plates. Save hardware.	
13	**R5 Frame:** Using a T30 bit, loosen and remove four (4) screws securing the mounting feet. **R6 & R7 Frame:** Using a 13mm socket, loosen and remove four (4) screws securing the mounting feet. **R8 Frame:** Using a 13mm socket, loosen and remove four (4) serpress nuts. Save hardware. Note: R7 shown to the right.	

Step	Instruction	Diagram
14	Unpack the replacement drive. **UL Type 12:** UL Type 12 drives require a UL Type 12 replacement drive, UL Type 1 are not allowed as substitutes for UL Type 12. Using a T20 bit, loosen screws securing the drive cover. Recycle drive cover. **UL Type 12:** Recycle the hood that was included in the box and the drive cover that was removed.	Type 1  R8 Type 12 
15	**UL Type 12 R5 Frame:** Using a 8mm socket, loosen and remove four (4) M5 nuts securing the conduit assembly. **UL Type 12 R6, R7 & R8 Frame:** Using a 10mm socket, loosen and remove three (3) M6 screws securing the conduit assembly. Remove conduit assembly. Recycle the conduit assembly and hardware.	 
16	Remove the terminal cover from the drive.	

Step	Instruction	Diagram
17	**R6, R7 & R8 Frame:** Remove wire connected at x12 (A) and x15 (B). **R6, R7 & R8 Frame:** Using a T20 bit, loosen and remove three (3) screws securing the panel support assembly.	
18	Install drive mounting feet. **R5 Frame:** Using a T30 bit, secure each drive mounting foot using two (2) M6x14 screws. Torque to 44 in-lb (5 Nm). **R6 & R7 Frame:** Using a 13mm socket, secure each drive mounting foot using two (2) M8x16 screws. Torque to 177 in-lb (20 Nm). **R8 Frame:** Using a 13mm socket, secure each drive mounting foot using two (2) M8 serpress nuts. Torque to 177 in-lb (20 Nm).	
19	**R5 Frame:** (A) Use half shear to align each flange with mounting foot and reinstall two (2) M6x16 screws removed earlier. Using a T30 bit, torque to 44 in-lb (5 Nm). (B) Secure two mounting flange together using four (4) M6x16 removed earlier. Using a T30 bit, torque to 44 in-lb (5 Nm).	

Step	Instruction	Diagram
20	**R6, R7 & R8 Frame:** Secure left flange kit (A) and right flange kit (B) to the drive using eight (8) M6x10 screws removed earlier. Using a T30 bit, torque to 44 in-lb (5 Nm). Secure the two mounting flange pieces together using two (2) M6x14 removed earlier. Using a T30 bit, torque to 44 in-lb (5 Nm). Secure right flange to drive using one (1) M6x14 screw removed earlier. Using a T30 bit, torque to 44 in-lb (5 Nm).	
21	**UL Type 12:** Apply corner (A) and joint (B) gasket from the flange plates.	
22	⚠ **CAUTION!** Use crane to lift the drive into enclosure. Using a 13mm socket, reinstall the four (4) M8x16 screws that were removed earlier. Torque all four (4) mounting screws to 177 in-lb (20 Nm).	

Step	Instruction	Diagram
23	Secure flange plate to enclosure using ten (10) M6x16 screws removed earlier. Using a T30 bit, torque to 44 in-lb (5 Nm).	
24	Secure the ground wire. **R5 Frame**: Using a 10mm socket, torque M6 nut removed earlier to 44 in-lb (5 Nm). **R6, R7 & R8 Frame**: Using a T30 bit, torque M6x14 screw removed earlier to 44 in-lb (5 Nm).	 
25	Connect the input wires (from fuse block) to the input terminals of the drive. Yellow to U1 Black to V1 Red to W1 **R5 Frame:** Using a 4mm bit, torque terminals to 50 in-lb (5.6 Nm). **R6 Frame:** Using a 5mm bit, torque terminals to 266 in-lb (30 Nm). **R7 Frame:** Using a 5mm bit, torque terminals to 354 in-lb (40 Nm). **R8 Frame:** Using a 5mm bit, torque terminals to 354 in-lb (40 Nm). Connect the motor wires (from 1M contactor) to motor terminals of the drive. Yellow to U2 Black to V2 Red to W2 **R5 Frame:** Using a 4mm bit, torque terminals to 50 in-lb (5.6 Nm). **R6 Frame:** Using a 5mm bit, torque terminals to 266 in-lb (30 Nm). **R7 Frame:** Using a 5mm bit, torque terminals to 354 in-lb (40 Nm). **R8 Frame:** Using a 5mm bit, torque terminals to 354 in-lb (40 Nm). Tie wrap wires.	

Step	Instruction	Diagram
26	**R5 Frame:** Re-install the CDPI (A) into control unit and secure with two zip ties (B). **R6, R7 & R8 Frame:** Plug data cable into x12 on control unit (A) and tie wrap (B). Plug the RS485 cable into x15 on control unit (C). Zip tie the RS485 cable to the drive. **WARNING!** This configuration does not support Safe Torque Off (STO) functionality in bypass mode.	 
27	Close the door and rotate latches counterclockwise.	
28	Power and reprogram the drive.	
29	Test and verify drive operation and motor direction.	
30	Back-up and save parameters to the keypad prior to putting the drive back into service.	