

StorageTek®

4220 Cartridge Tape Subsystem
Illustrated Parts Catalog

Pub. 28742001

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It has been tested and found to comply with the limits for a Class A computing device pursuant to subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

CHANGE PAGE

Change History:

| | | | |
|----------|-----------------|-------------|----------|
| 28742000 | Initial Release | May 1991 | |
| 28742001 | Revision | August 1992 | EC 35730 |

Page

Change

Incorporated Engineering Changes since last iteration.
Addition of ICRC.

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How To Use This Guide

The StorageTek 4220 Illustrated Parts Catalog provides a rapid visual and numeric reference to all field replaceable units (FRUs) and orderable items associated with the 4220 product.

The drive may be on the right side of the unit, as viewed from the front (right-hand mount) or on the left side (left-hand mount).

The guide is organized into major sections:
Electro-Mechanical; Pneumatics; Cards; Cables; and Orderable Parts (non-FRU).

In each section are exploded views of the field replaceable units within the assembly.

Each illustration shows several FRUs in their surroundings. Callouts in the illustration correlate the drawing of the FRU to its part number and description on the facing page.

Each FRU reference contains:

1. Figure reference number
2. Part number
3. Description

Figure reference codes for sub-sections are:

Electro-Mechanical Group - EM
Pneumatics Group - PN
Card Group - CD
Cable Group - CB
Orderable Parts (non-FRU) - OP

This manual contains a table of contents, table of figures, and an index, by part number, description and page.

SPECIAL NOTES ON PART NUMBERS:

Certain part numbers contain "XX" as the last digits. These variables are used to track form/fit/function changes.

For Cards, the part numbers contain "XXX" as the last three digits. The first "X" indicates imbed changes while the last two track form/fit/function changes.

Part numbers for attaching hardware appear only for those hardware items which are unique and require ordering through the Illustrated Parts Catalog. Other attaching hardware is seen as generally available in the community and should be obtained locally.

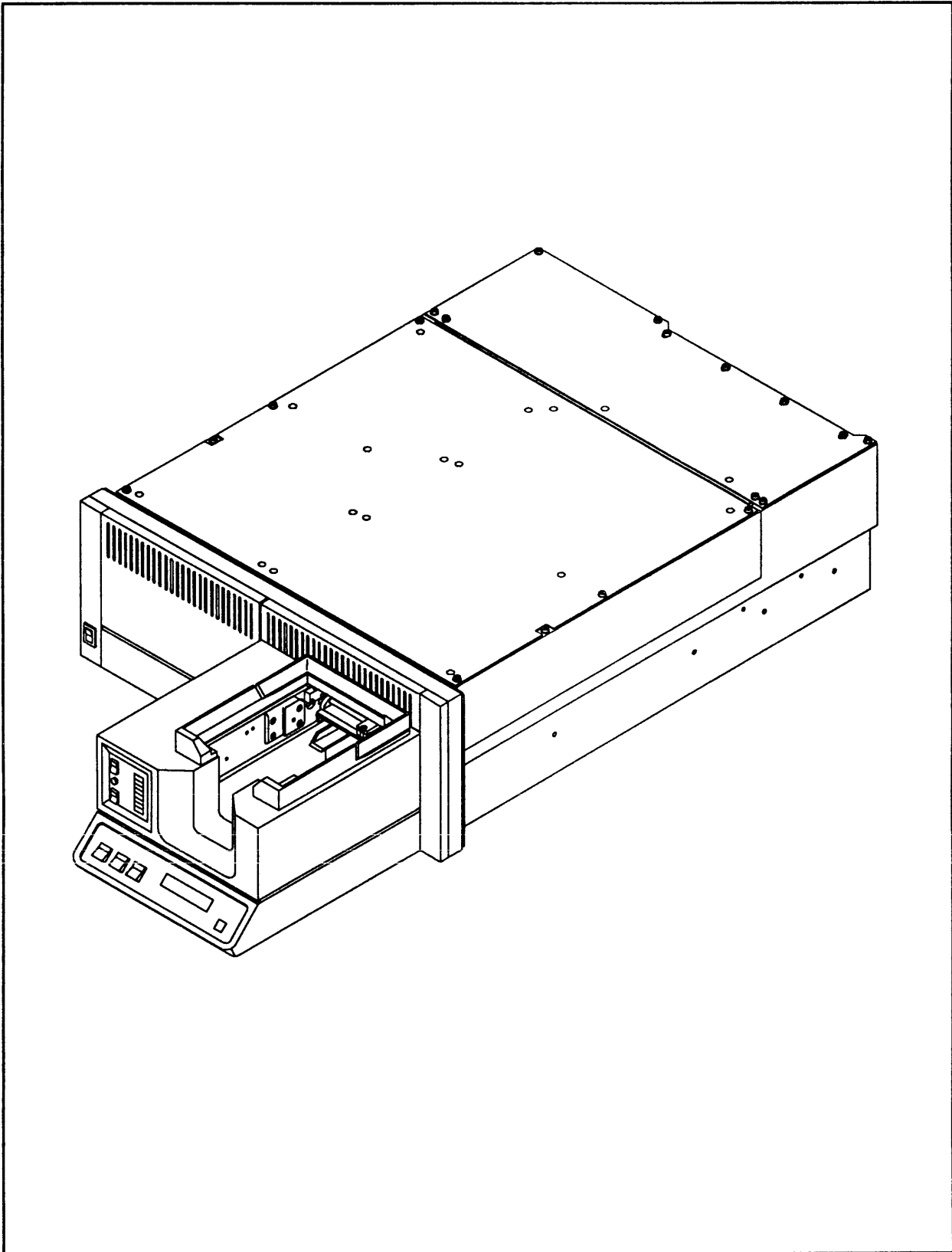


Figure 1.
4220 Basic Assembly (Right-hand Mount)

4220 Assembly

Basic Assembly

The 4220 basic assembly consists of the deck and all associated covers, hardware and electronic components.

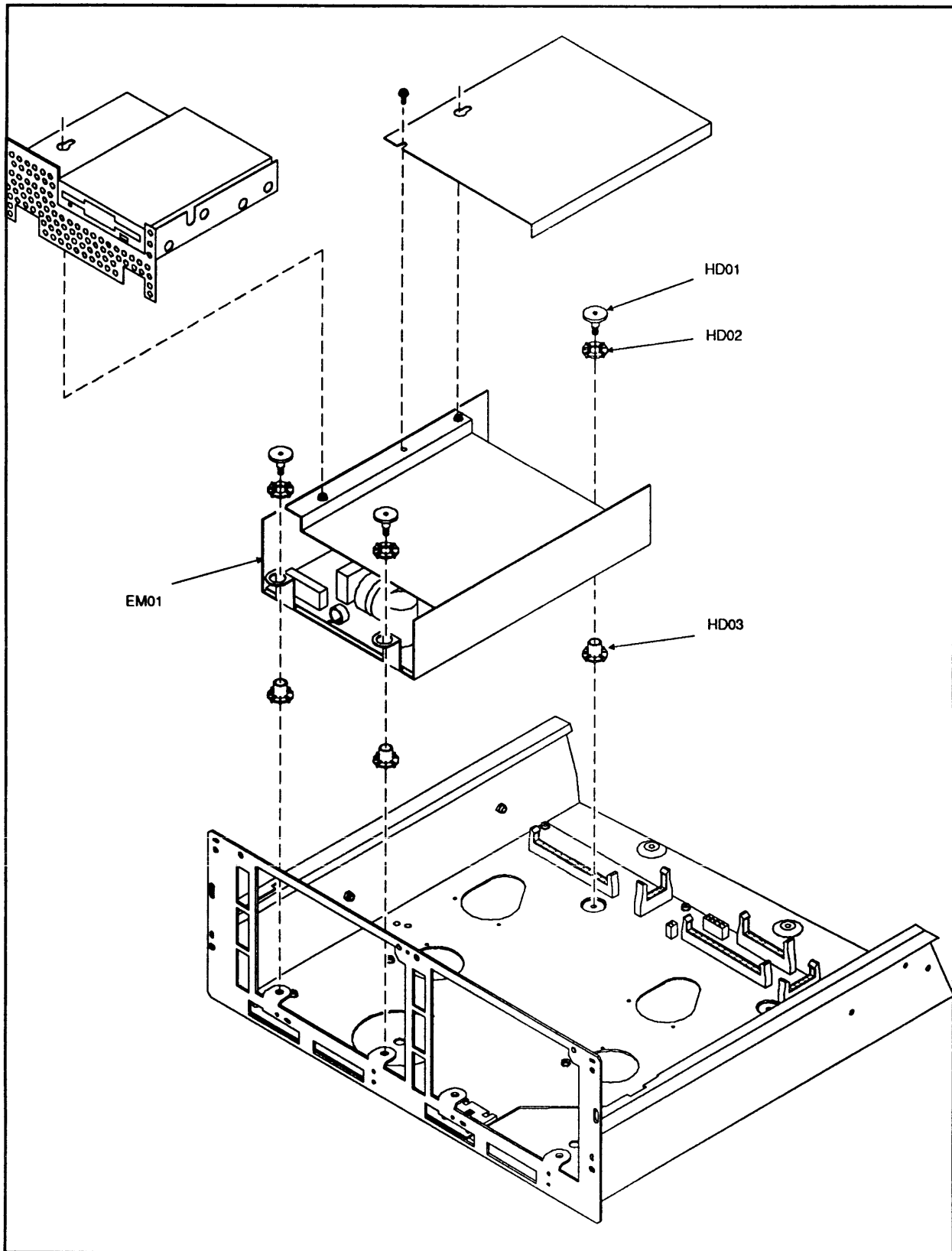


Figure 2. Electro-Mechanical Group
Power Supply Assembly

4220 Assembly

Electro-Mechanical Group

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|-----------------------|------------|
| EM01 | 289463XX | POWER SUPPLY ASSEMBLY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| HD01 | 287663XX | SCREW ISOLATOR | 3 |
| HD02 | 24020856 | RING ISOLATOR | 3 |
| HD03 | 24020853 | BUSHING, ISOLATOR | 3 |

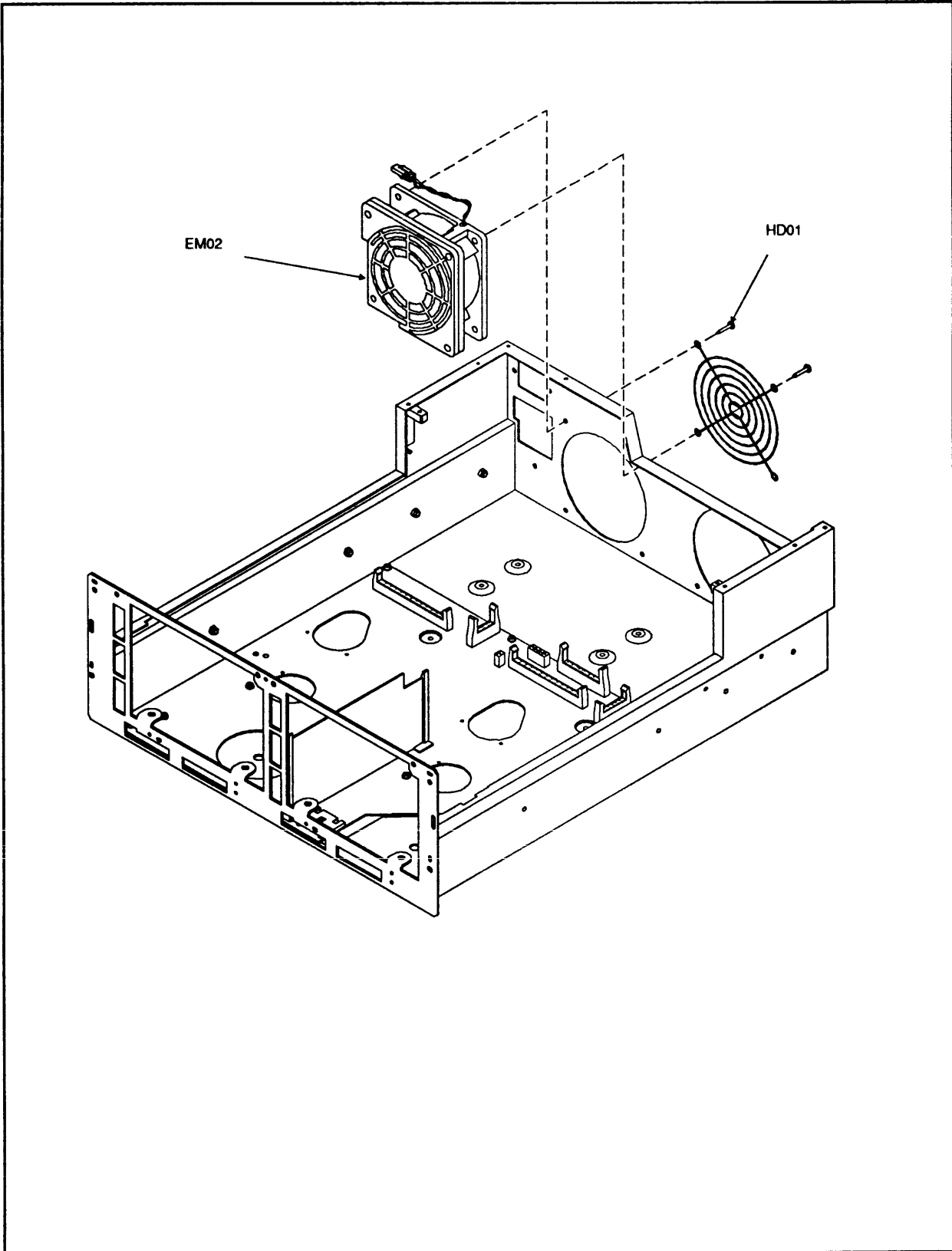


Figure 3. Electro-Mechanical Group
Fan 24V Assembly

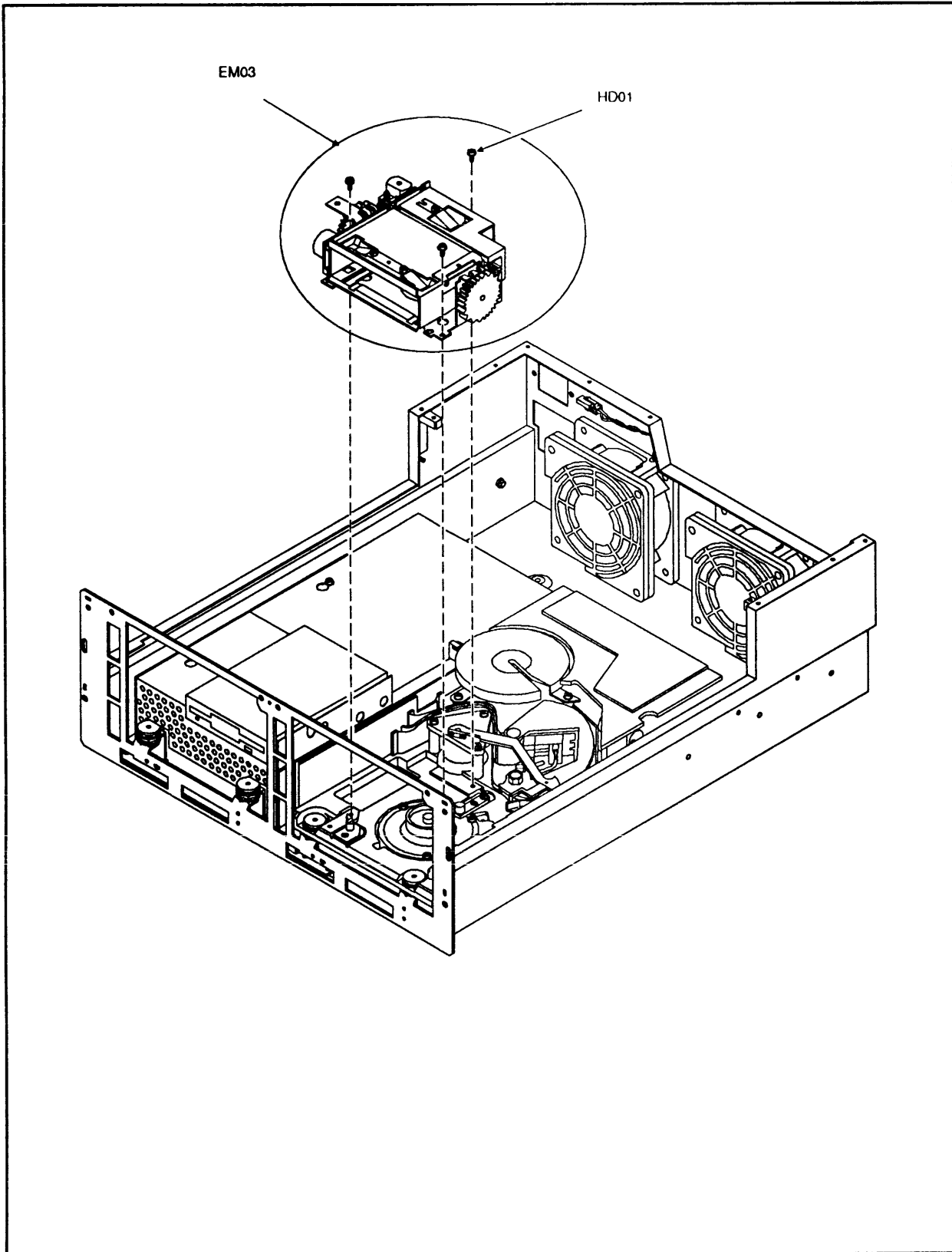
4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| EM02 | 288567XX | FAN 24V ASSY | 2 |

Attaching Hardware

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|-------------------------|------------|
| HD01 | 24013201 | SCREW, TORX, PH, METRIC | 8 |



**Figure 4. Electro-Mechanical Group
Manual Loader Assembly (Right-hand Mount)**

4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| EM03 | 288589XX | MANUAL LOADER ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------------------|------------|
| HD01 | SCR, PHT, SEMS, 6-32X3/8, ZINC | 3 |

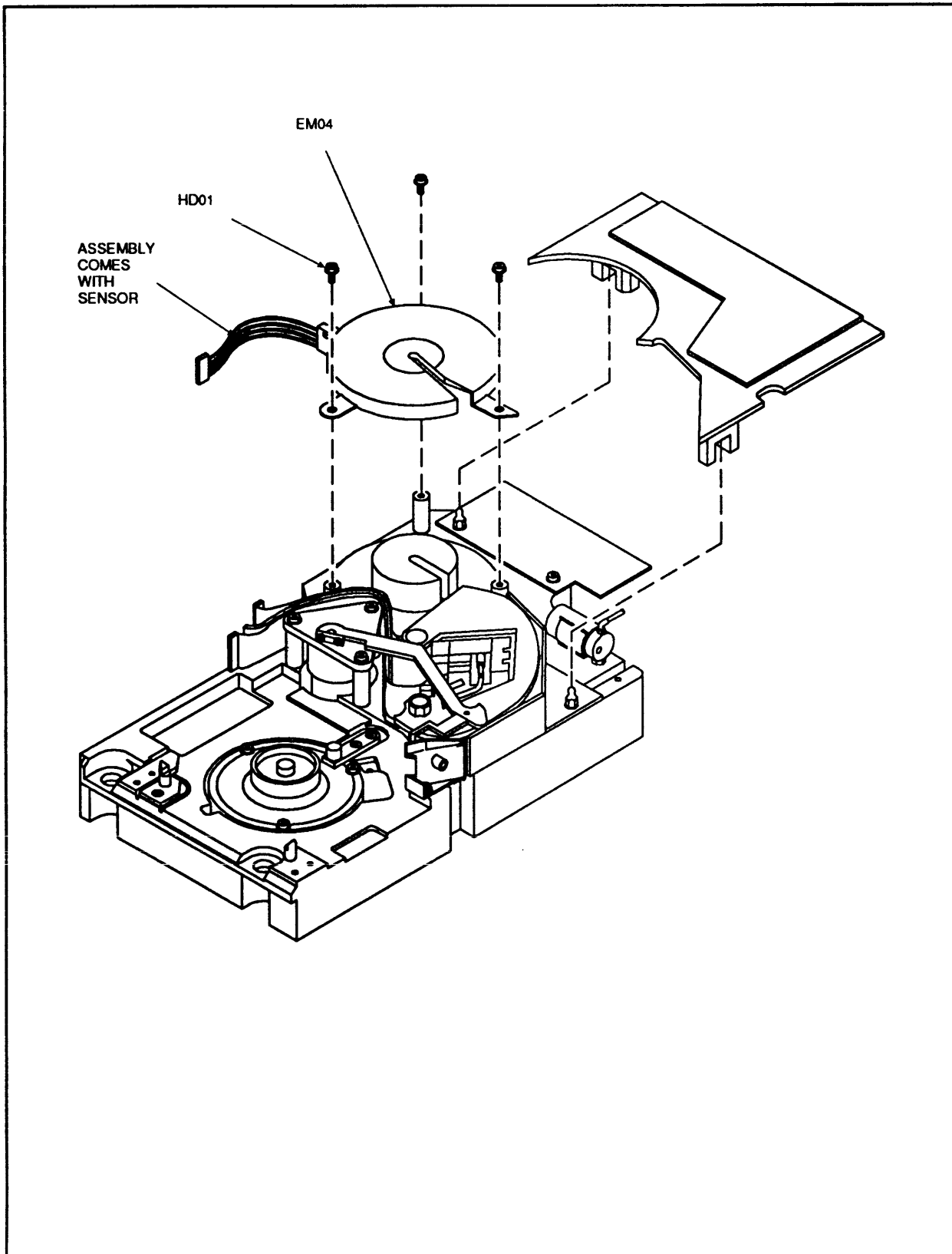


Figure 5. Electro-Mechanical Group
Locator Leader Block Assembly

4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|-------------------------|------------|
| EM04 | 288552XX | LOCATOR LEADER BLK ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------------------|------------|
| HD01 | SCR, PHT, SEMS, 6-32X3/8, ZINC | 3 |

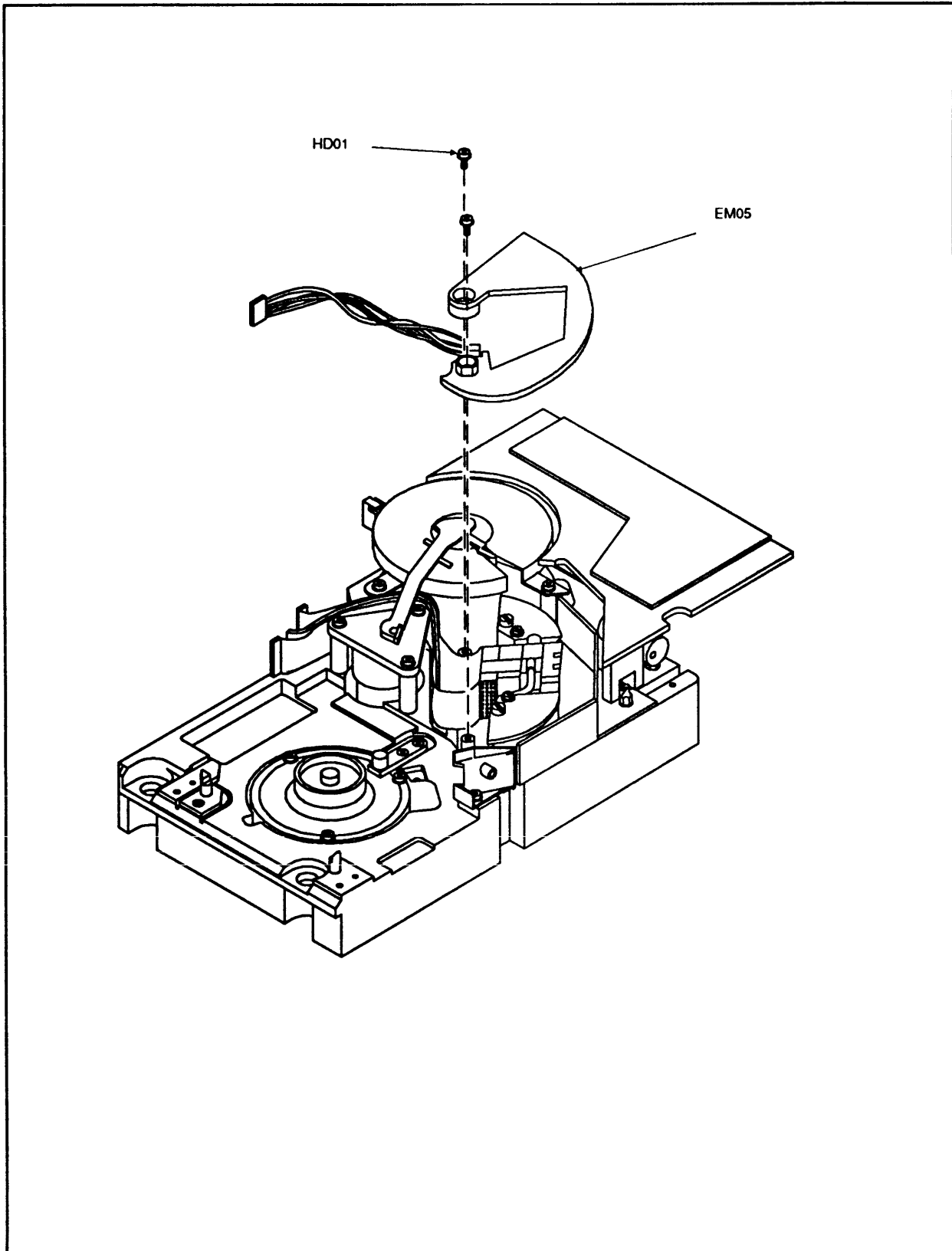


Figure 6. Electro-Mechanical Group
Thread Arm Cam Assembly

4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|---------------------|------------|
| EM05 | 288554XX | THREAD ARM CAM ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------------------|------------|
| HD01 | SCR, PHT, SEMS, 6-32X3/8, ZINC | 2 |

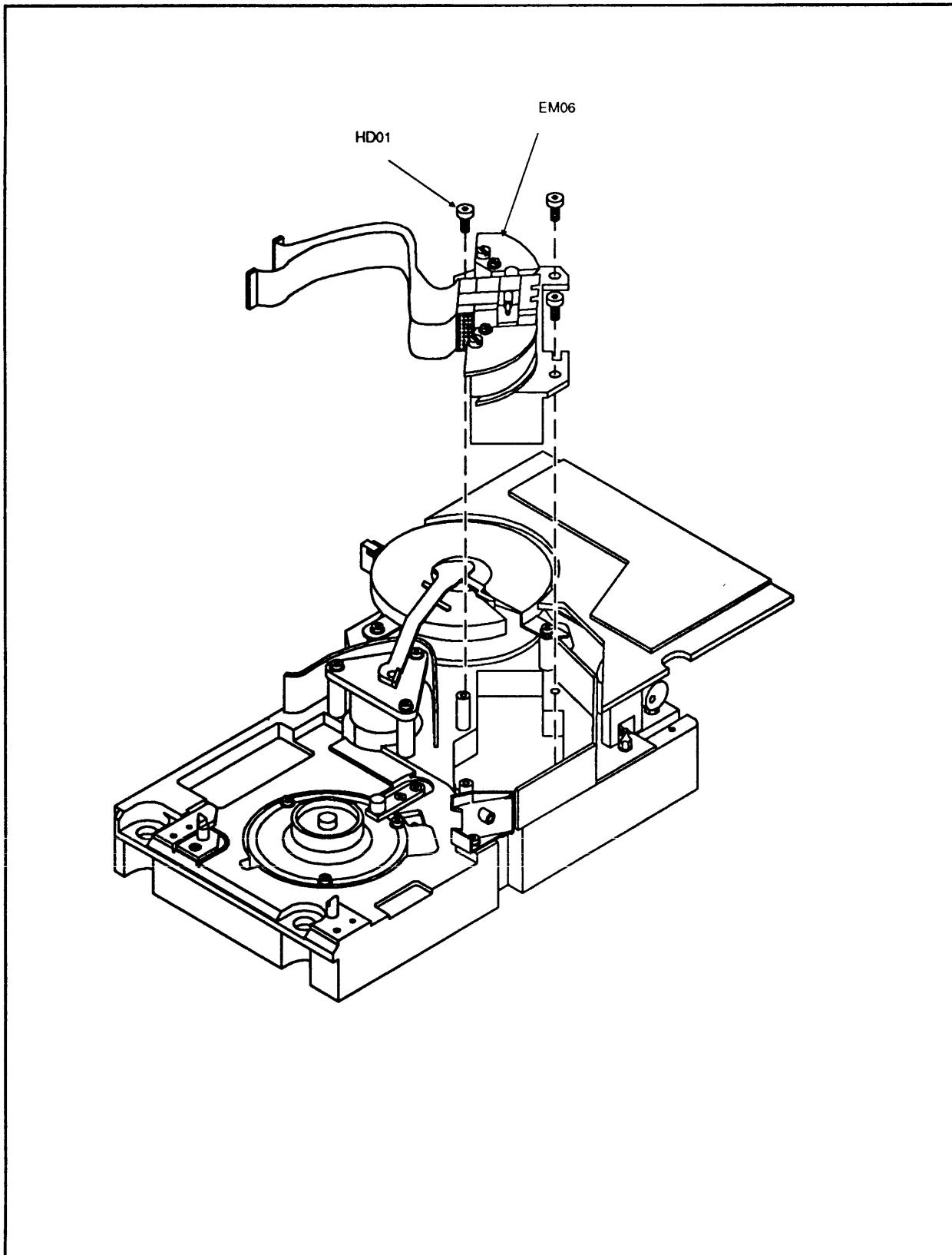


Figure 7. Electro-Mechanical Group
Head FRU Assembly

4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| EM06 | 404323101 | HEAD FRU ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|---------------------------------|------------|
| HD01 | SCR, PHT, SEMS, 10-32X1/2, ZINC | 3 |

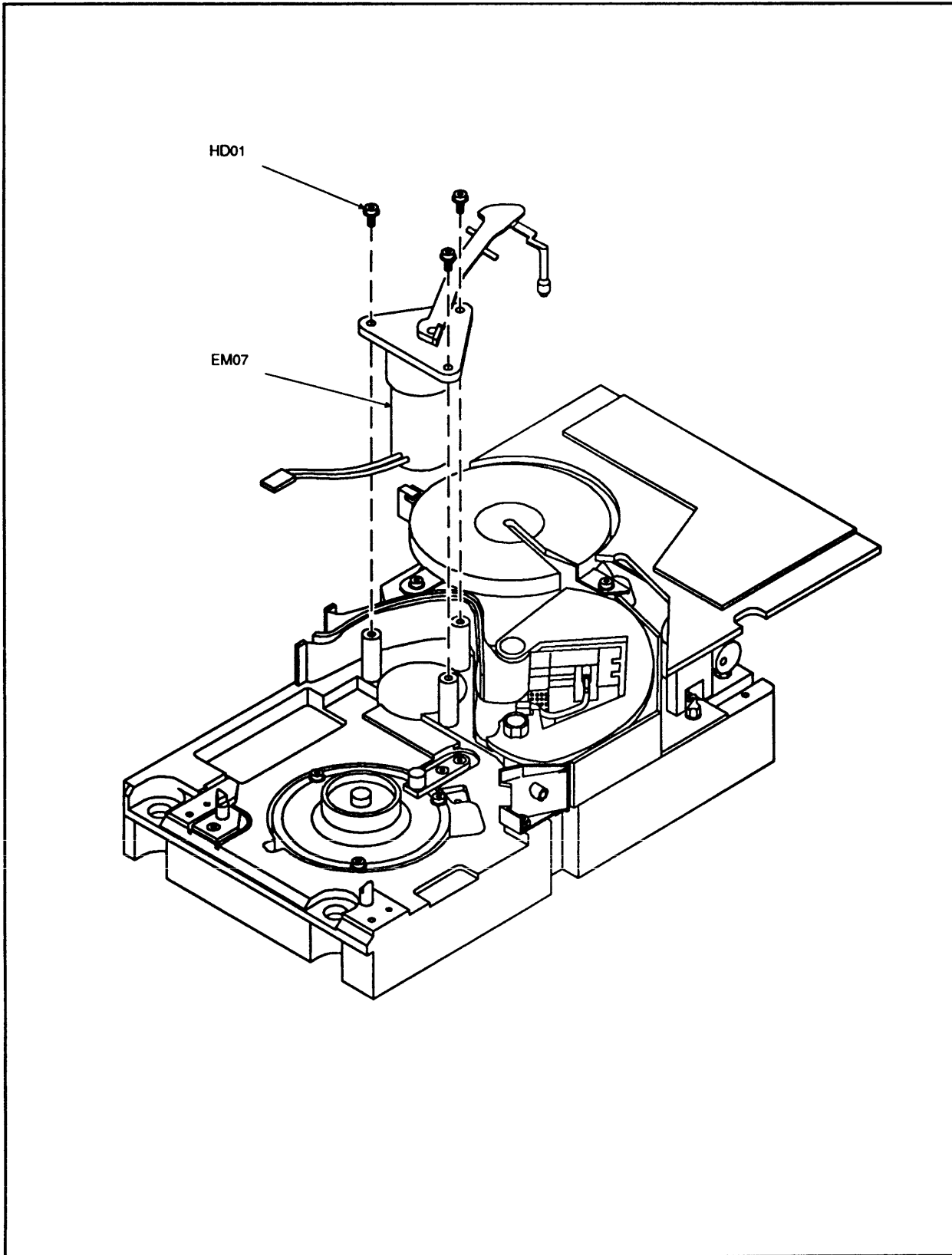


Figure 8. Electro-Mechanical Group
Thread Arm Motor

4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------------|---------------------------|---------------------------|-------------------|
| EM07 | 288534XX | MTR/THR ARM ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------------|--------------------------------|-------------------|
| HD01 | SCR, PHT, SEMS, 6-32X3/8, ZINC | 3 |

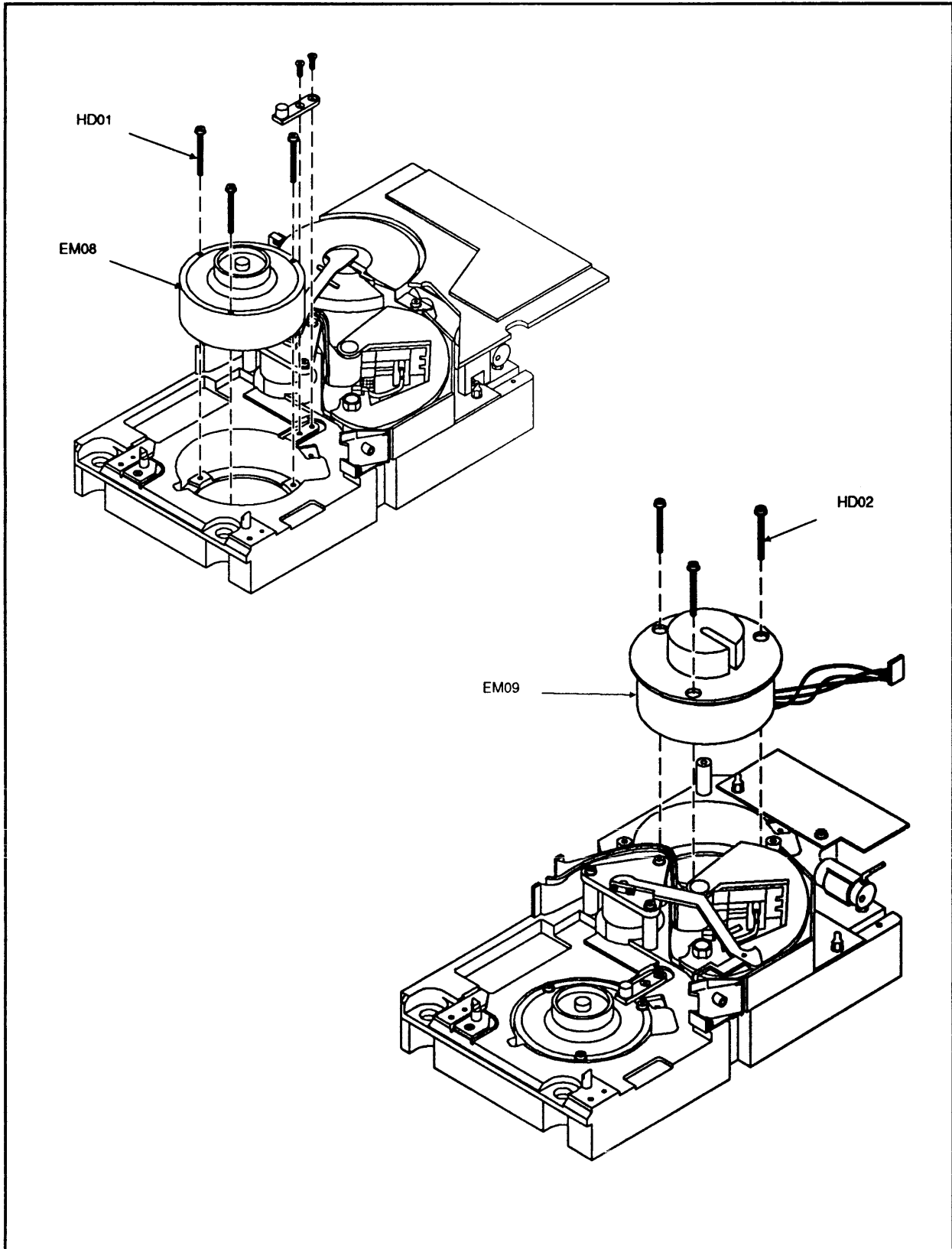


Figure 9. Electro-Mechanical Group
Supply and Take-Up Motors

4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| EM08 | 288532XX | SUPPLY MOTOR ASSY | 1 |
| EM09 | 288533XX | TAKE-UP MOTOR ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCR, PHT, SEMS, 6-32X1-5/8, Z | 3 |
| HD02 | SCR, PHT, SEMS, 6-32X1-5/8, Z | 3 |

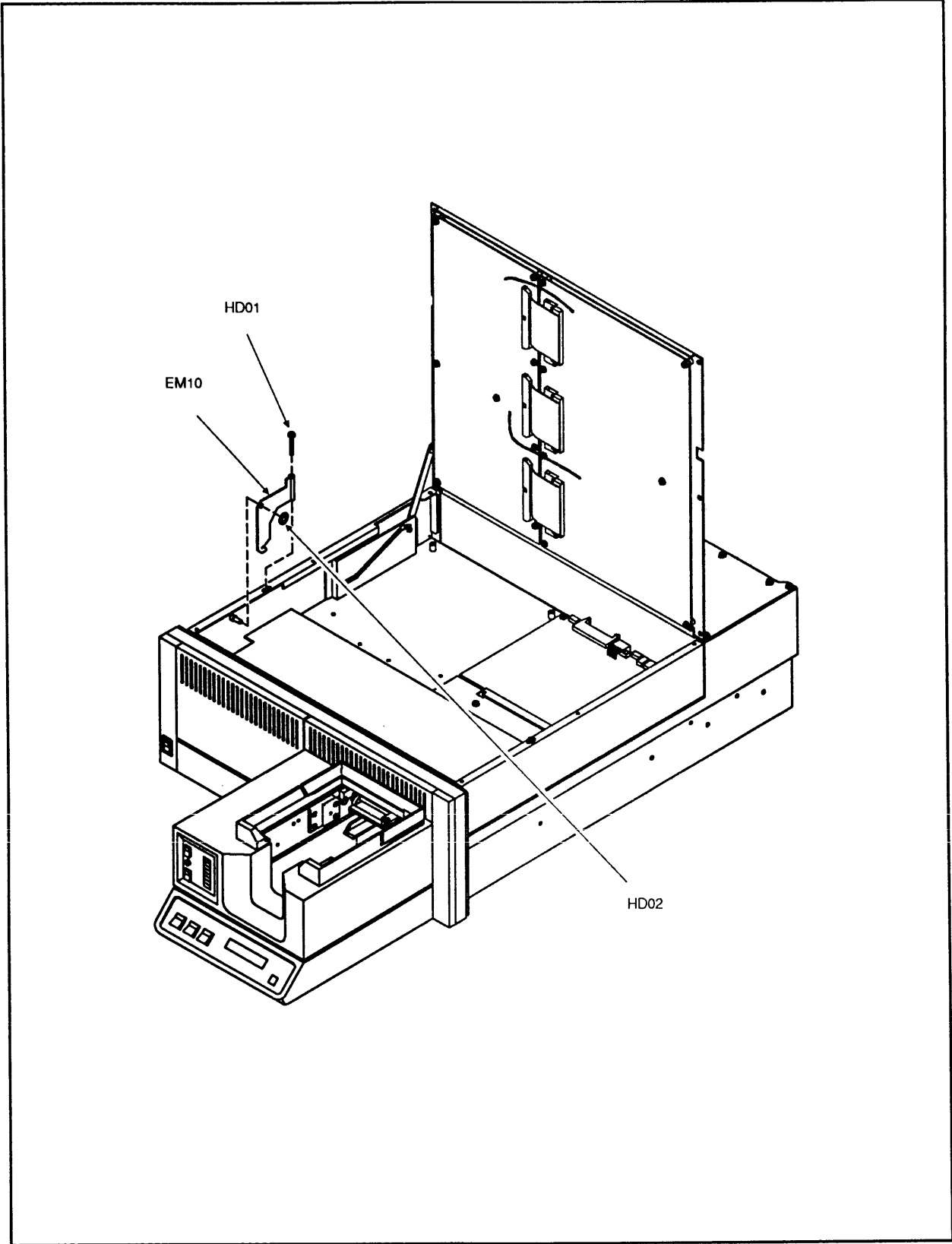


Figure 10. Electro-Mechanical Group
Cover Latch

4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| EM10 | 287532XX | LATCH, COVER | 2 |

Attaching Hardware

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|------------------------------------|------------|
| HD01 | | SCREW, PHT, SEMS, 6-32X1-5/8, ZINC | 1 |
| HD02 | 24020106 | RING RET, R-C P/O-EXT, .184 | 1 |

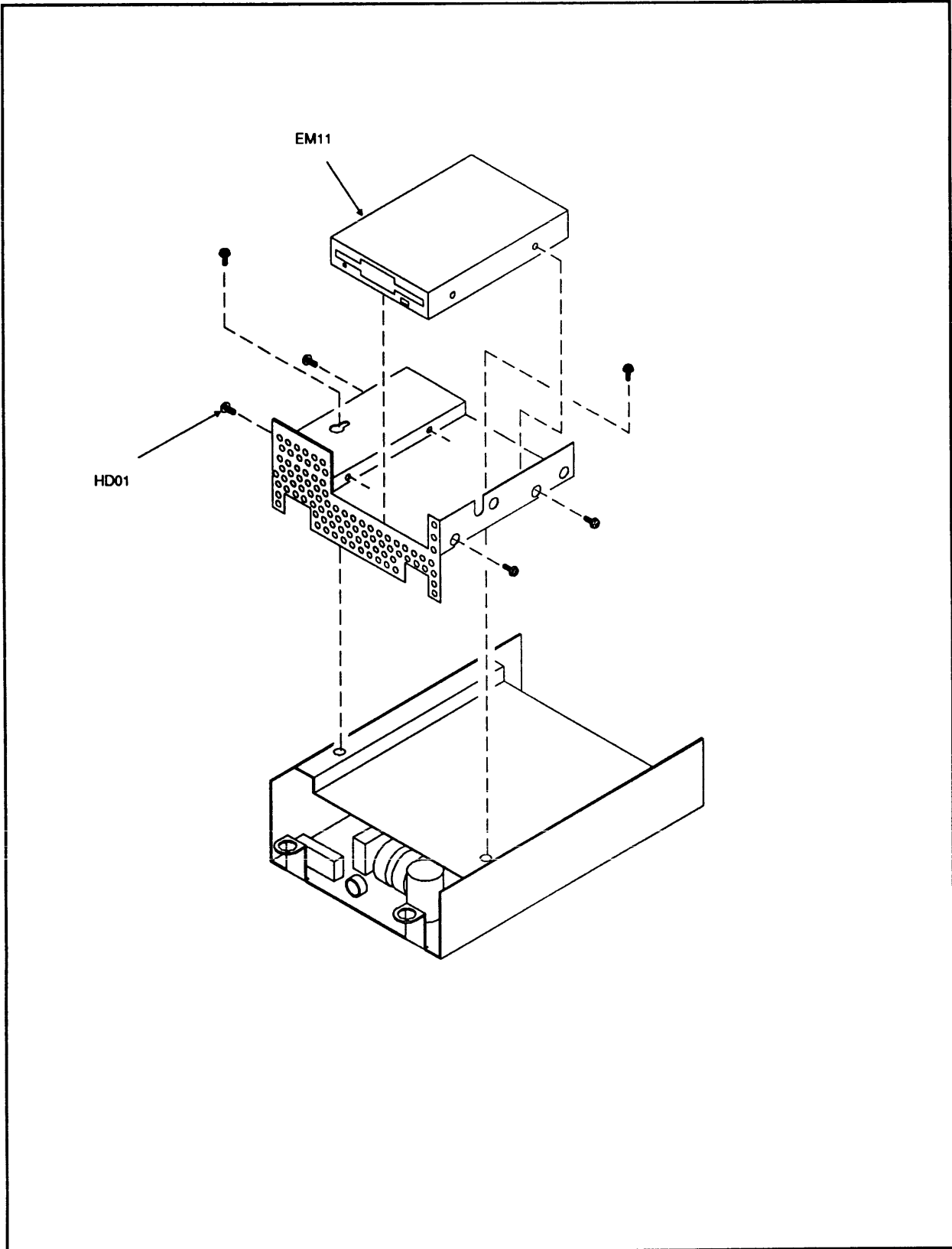


Figure 11. Electro-Mechanical Group
3.5 Inch Floppy Drive

4220 Assembly

Electro-Mechanical Group, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|-------------------------|------------|
| EM11 | 289439XX | DRIVE, FLOPPY, 3.5 INCH | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8, Z | 4 |

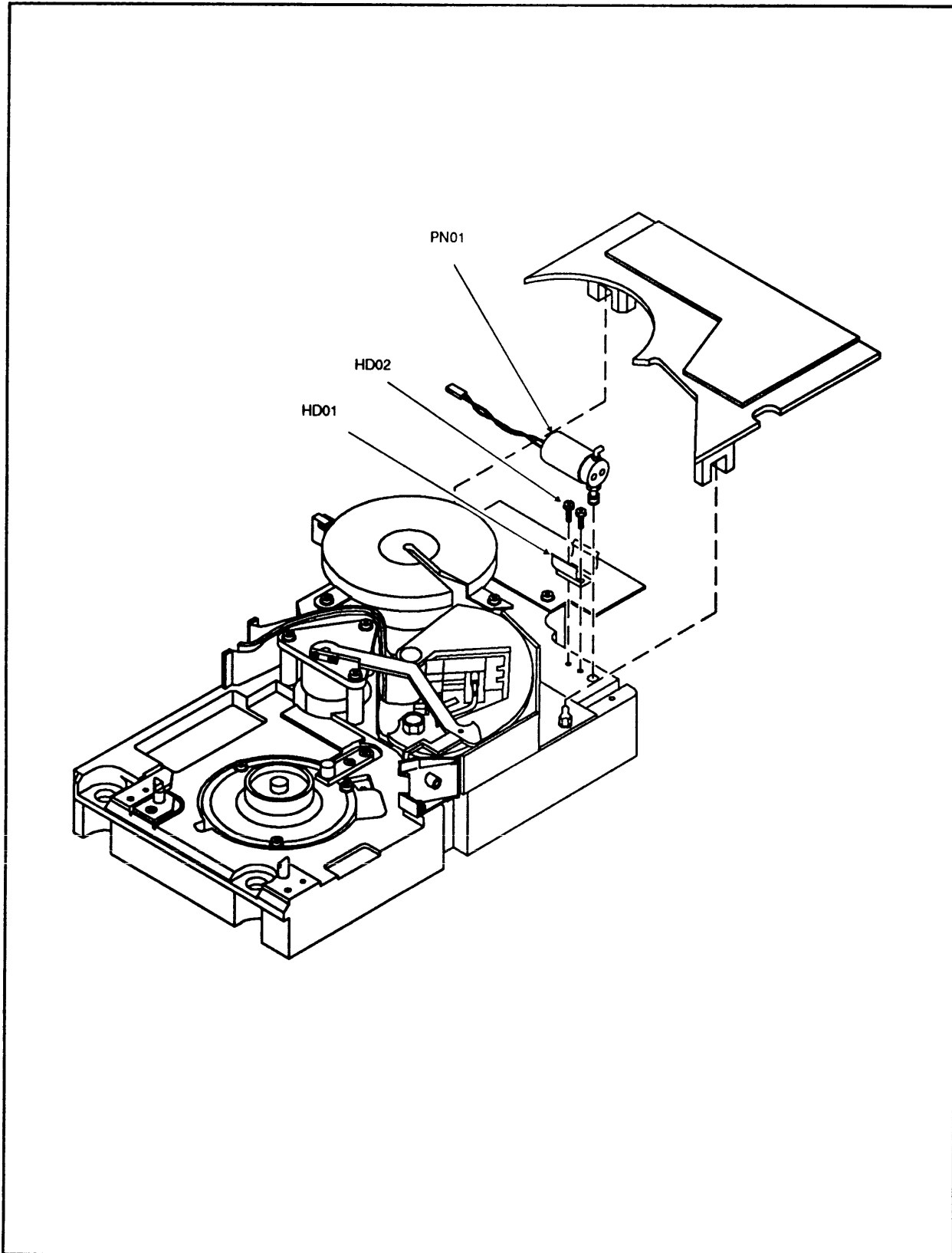


Figure 12. Pneumatics Group
Air Valve Assembly

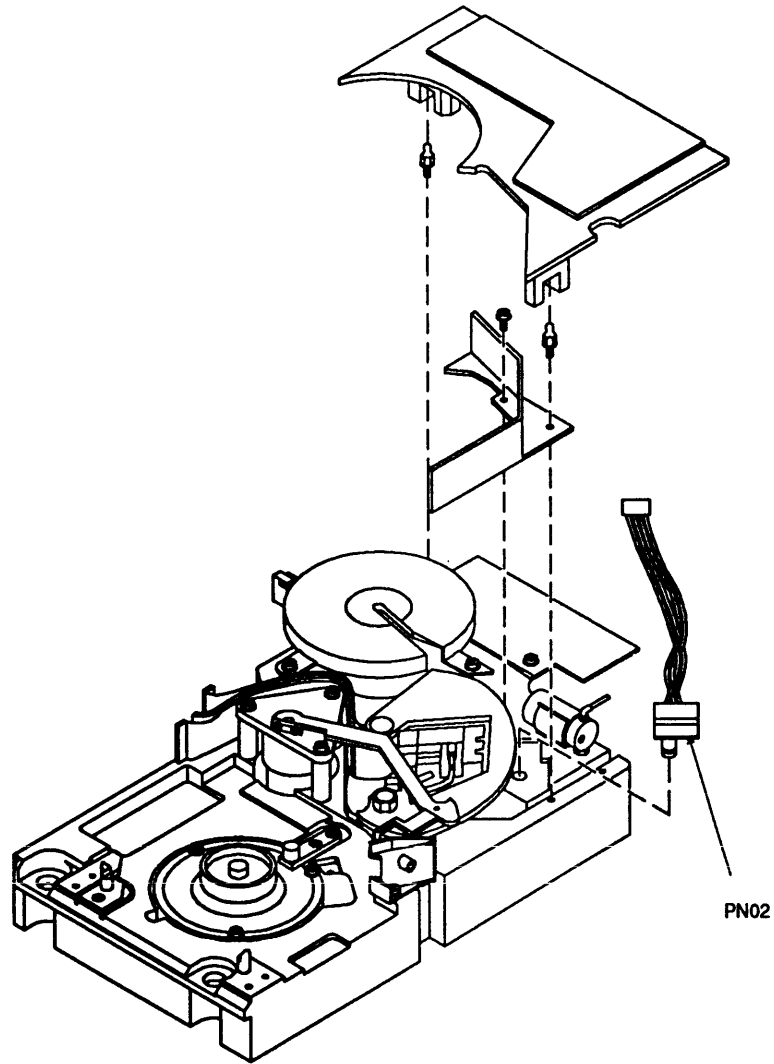
4220 Assembly

Pneumatics Group

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| PN01 | 288536XX | AIR VALVE ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|-----------------------------|------------|
| HD01 | 24021716 | CLIP, SPRING | 1 |
| HD02 | | SCR, PHT, SEMS, 4-40X3/8, Z | 2 |



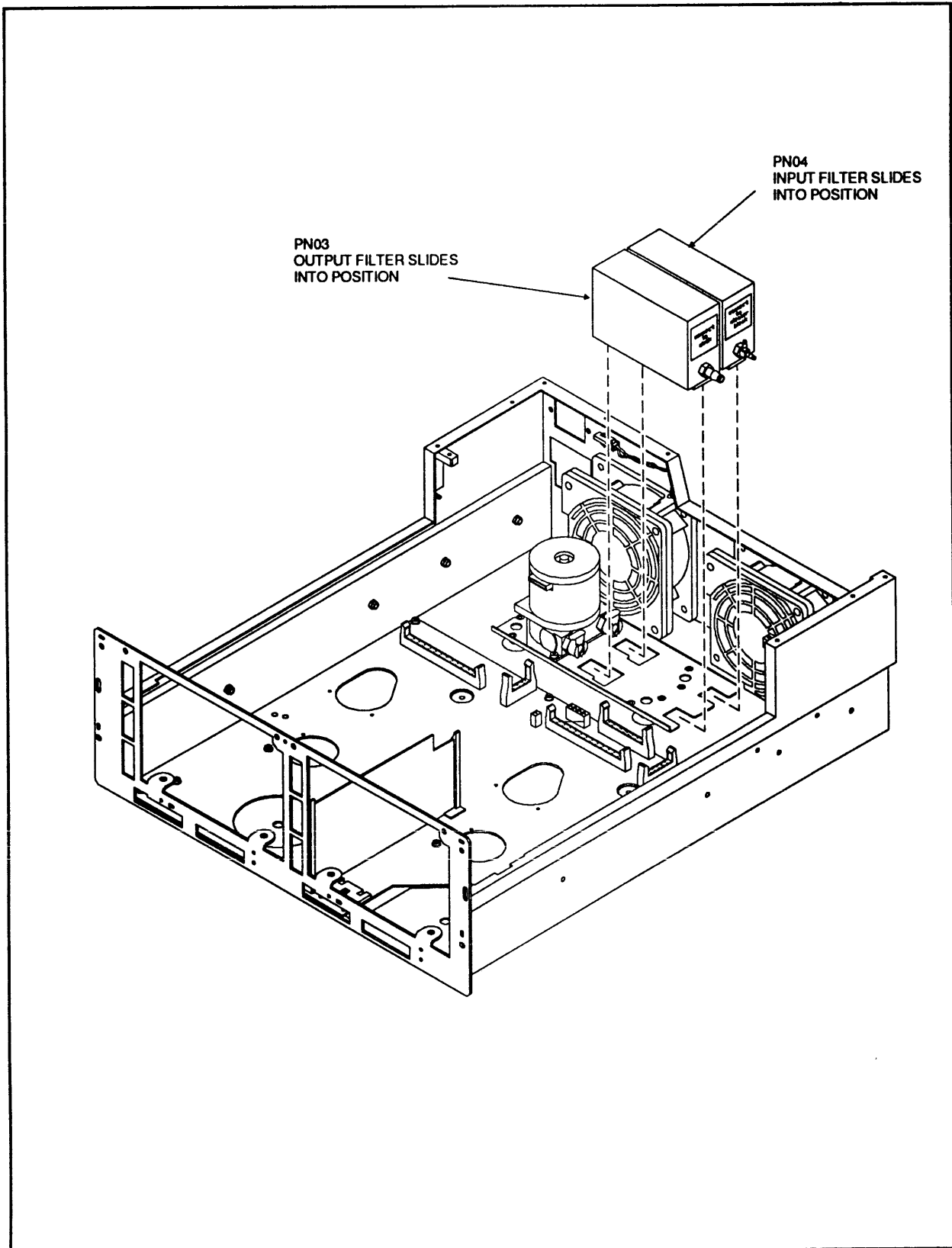
PRESSURE TRANSDUCER SNAPS INTO POSITION.
IT HAS NO MOUNTING HARDWARE.

Figure 13. Pneumatics Group
Pressure Transducer Assembly

4220 Assembly

Pneumatics Group

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------------|------------|
| PN02 | 288551XX | PRESSURE TRANSDUCER ASSY | 1 |



**Figure 14. Pneumatics Group
Input Filter and Output Filter**

4220 Assembly

Pneumatics Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------------|---------------------------|---------------------------|-------------------|
| PN03 | 288548XX | OUTPUT FILTER SUB-ASSY | 1 |
| PN04 | 288549XX | INPUT FILTER SUB-ASSY | 1 |

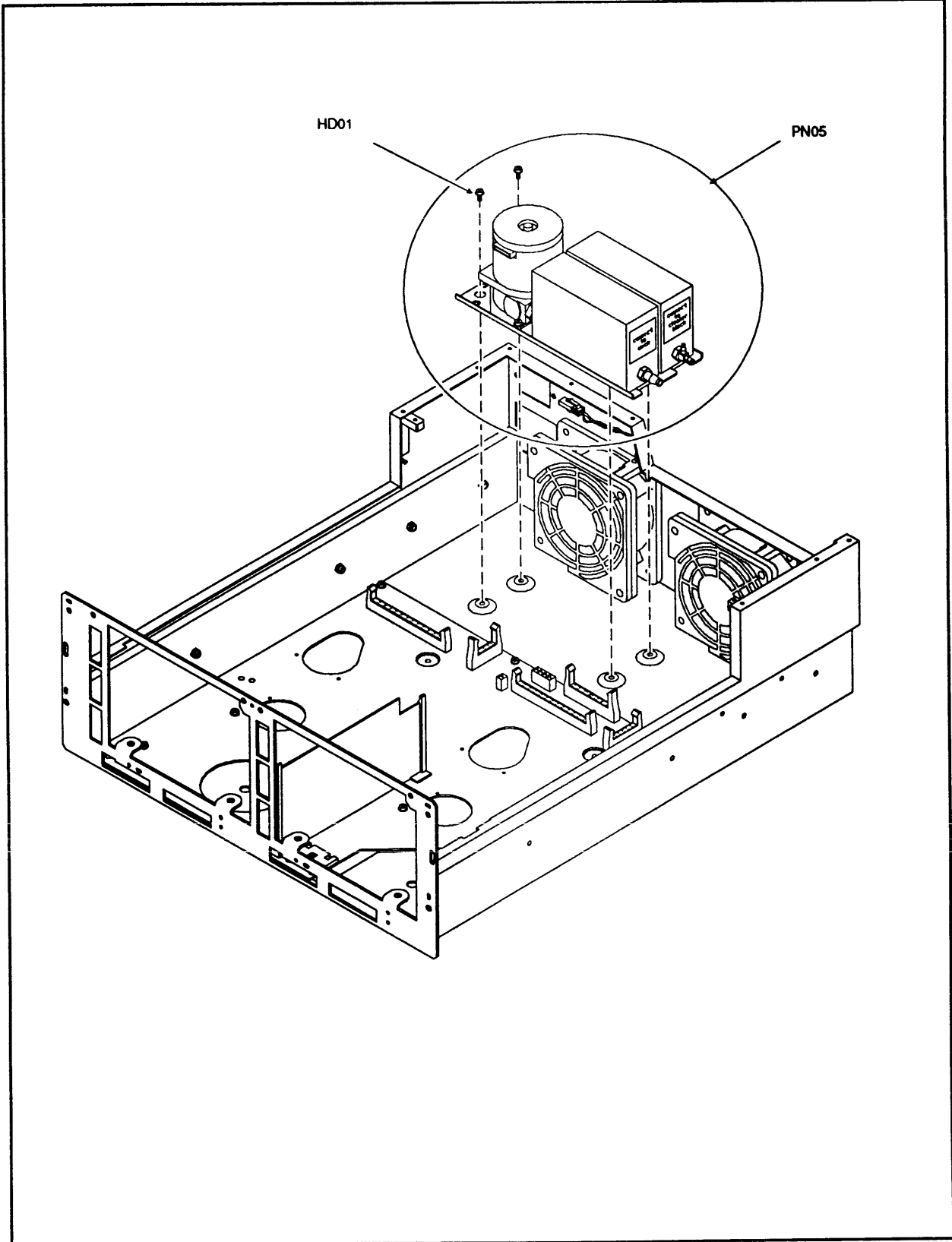


Figure 15. Pneumatics Group
Pneumatics Assembly

4220 Assembly

Pneumatics Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| PN05 | 289438XX | PNEUMATICS ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8, Z | 4 |

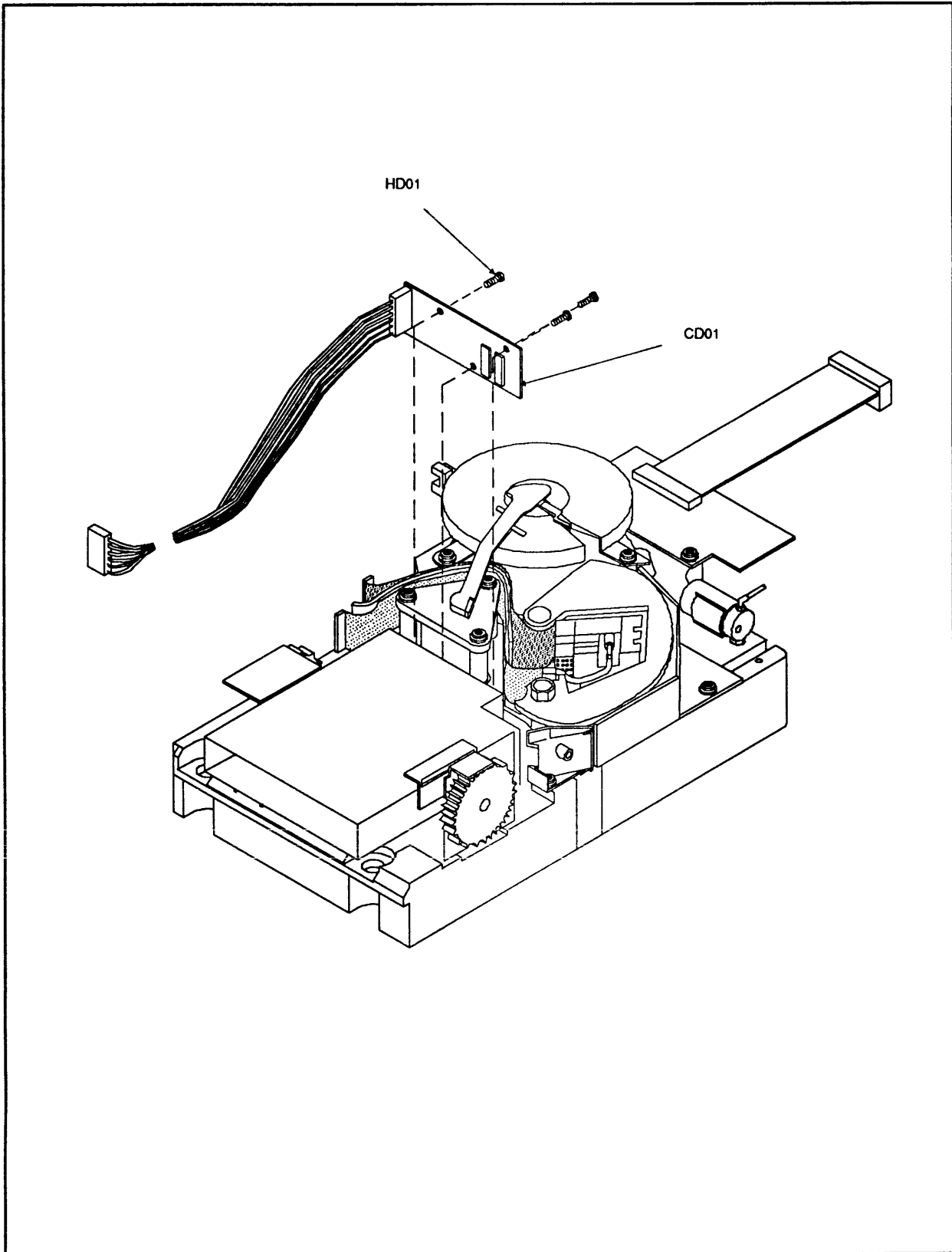


Figure 16. Card Group
ML Card

4220 Assembly

Card Group

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| CD01 | 29330XXX | CKT CD ML ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-----------------------------|------------|
| HD01 | SCREW, THRFM, PHT, 4-20X3/8 | 3 |

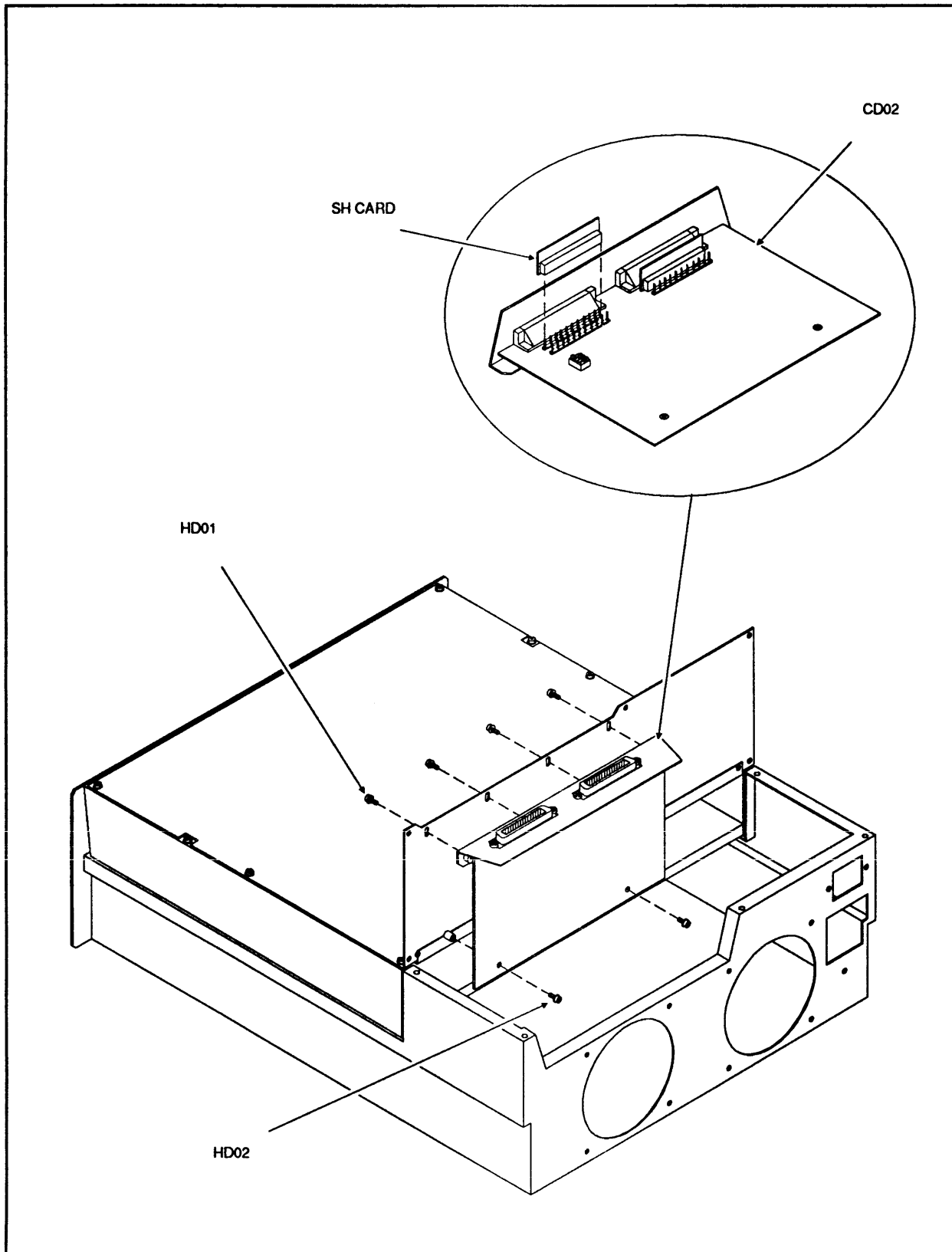


Figure 17. Card Group
SZ/SZI Card

4220 Assembly

Card Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| CD02 | 29306XXX | CKT CD SZ/SZI ASSY | 1 |

NOTE: SZ/SZI card comes with SH card attached.

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X1/4, Z | 4 |
| HD02 | SCREW, PHT, SEMS, 6-32X3/8, Z | 2 |

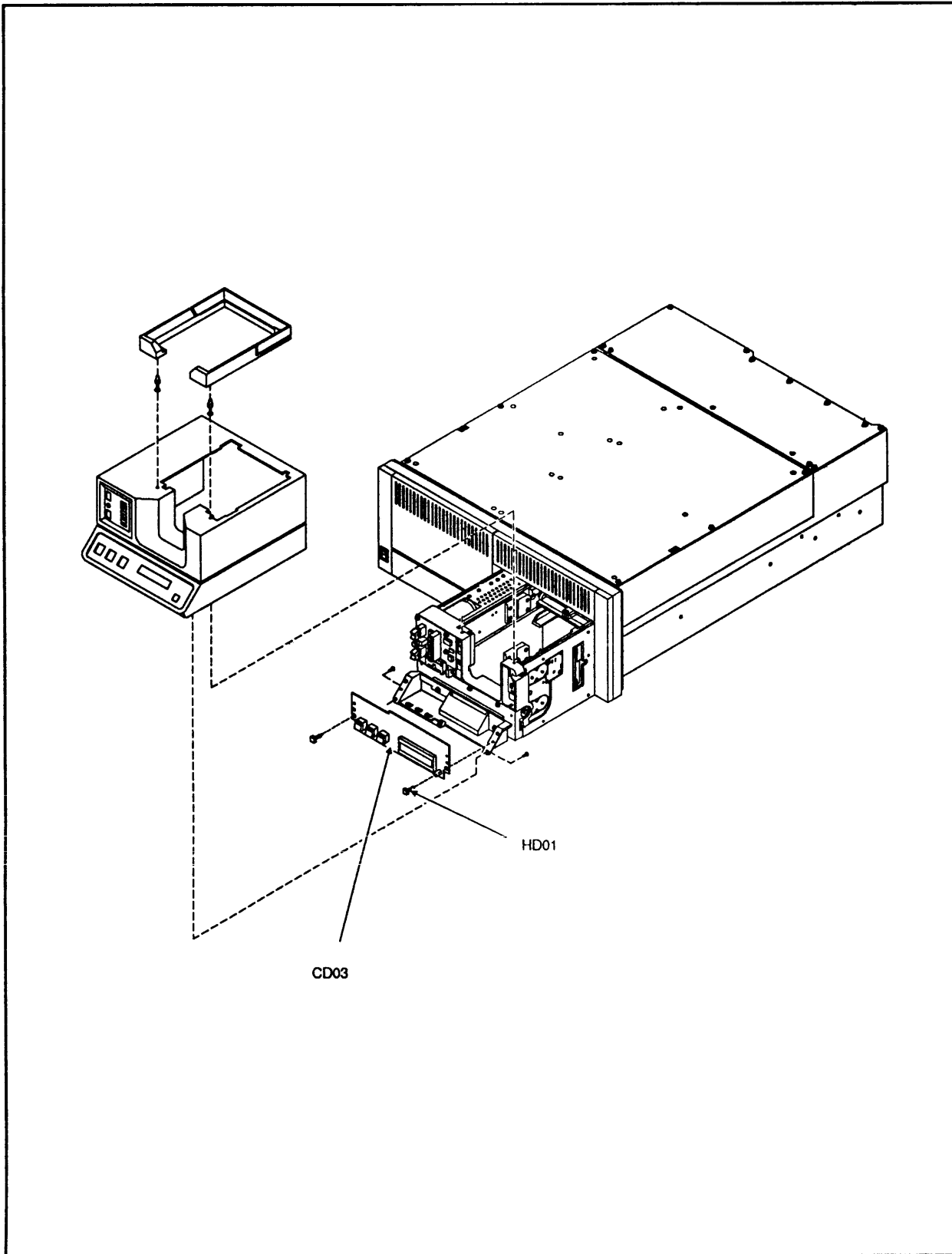


Figure 18. Card Group
DP Card

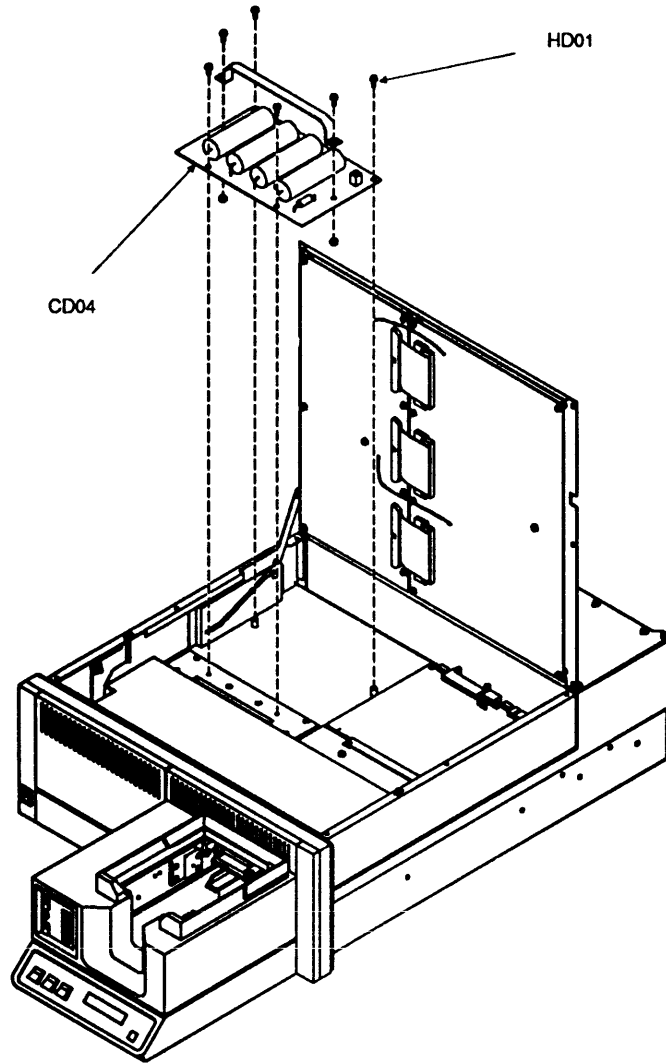
4220 Assembly

Card Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| CD03 | 29318XXX | CKT CD DP ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------------------|------------|
| HD01 | 2000330101 | RIVET, MTG BTN, 5/32, N | 2 |
| HD02 | | SCREW, PHIT, SEMS, 6-32X3/8, Z | 2 |
| HD03 | | SCREW, MACH, TXPH, 6-32X7/8, Z | 2 |



NOTE: WHEN THE DRIVE IS ON THE LEFT SIDE, THE CP CARD IS TRANSPOSED WITH THE SM AND SP CARDS.

Figure 19. Card Group
CP Card

4220 Assembly

Card Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| CD04 | 29333XXX | CKT CD CP ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|----------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8 | 4 |

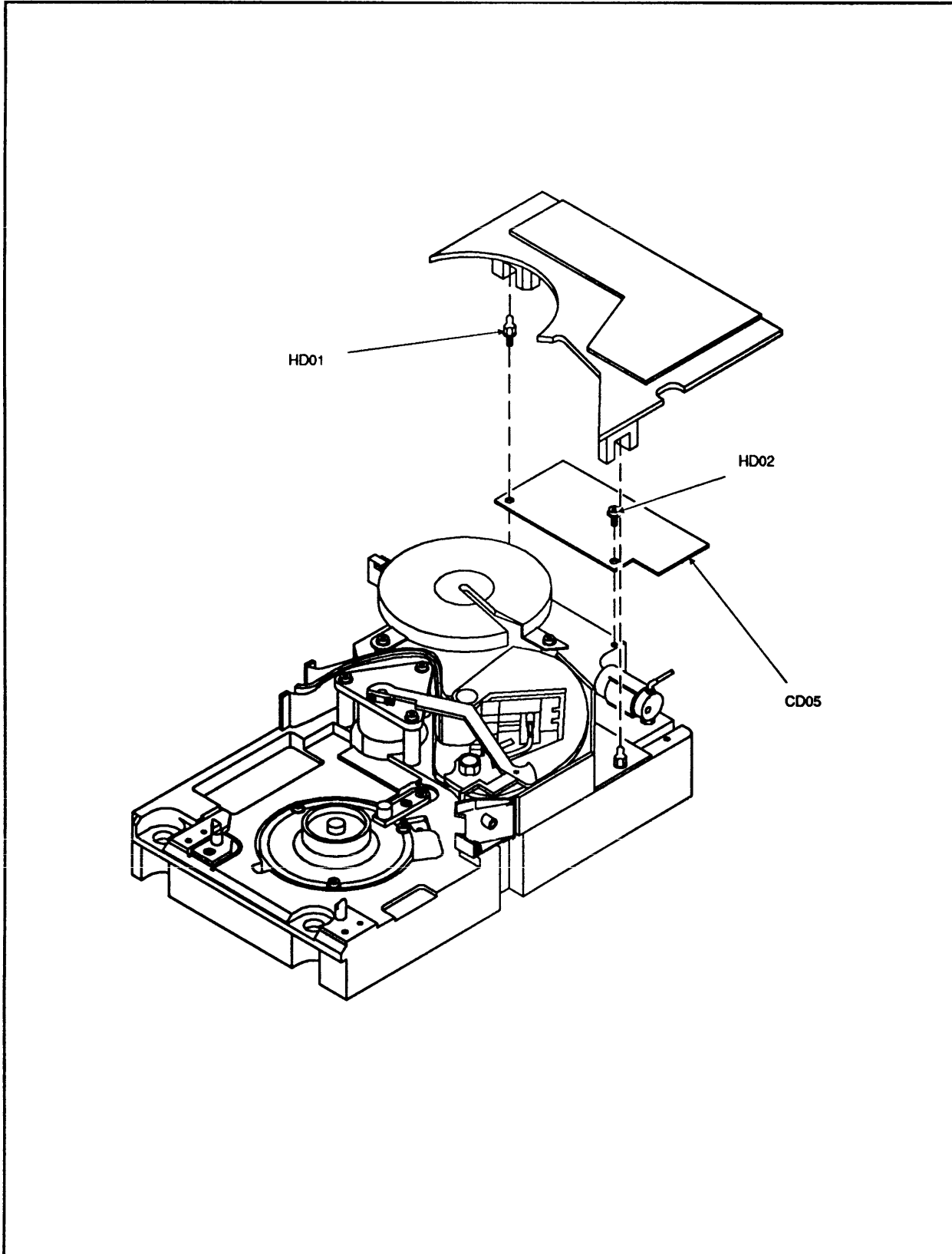


Figure 20. Card Group
ST Card

4220 Assembly

Card Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| CD05 | 29312XXX | CKT CD ST ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|----------------------------------|------------|
| HD01 | BALL STUD, .406X.218 | 1 |
| HD02 | SCREW, PHT, SEMS, 6-32X1/2, ZINC | 1 |

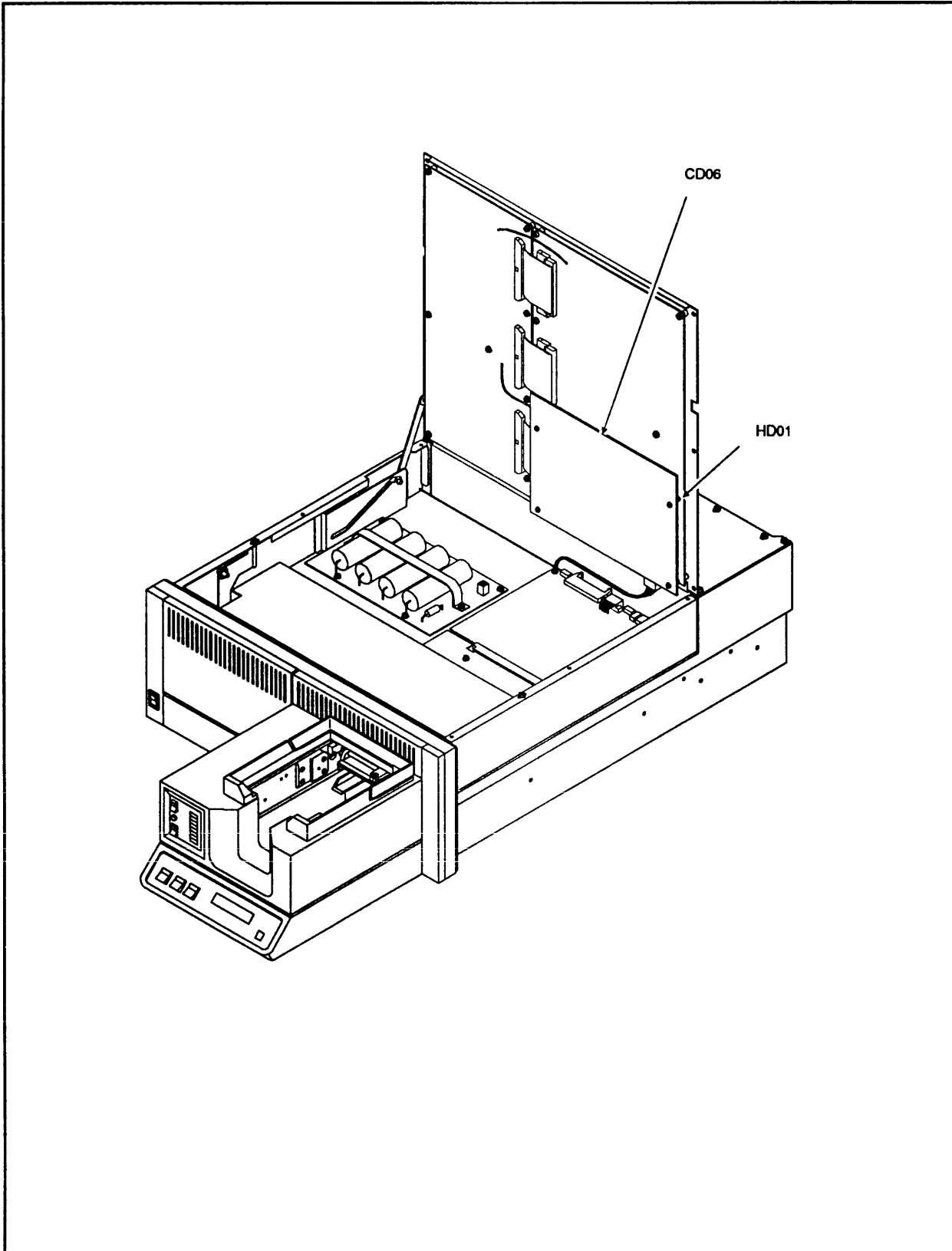


Figure 21. Card Group
DCI Card

4220 Assembly

Card Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| CD06 | 29402XXX | CKT CD DCI ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|------------|
| HD01 | SPACER, ICRC, M/F | 4 |

IDENTICAL MOUNTING HARDWARE
IS USED FOR THESE TWO CARDS.
ONE SCREW IS CALLED OUT ON
THIS ILLUSTRATION BUT THERE
ARE FIFTEEN IN ACTUAL USE.

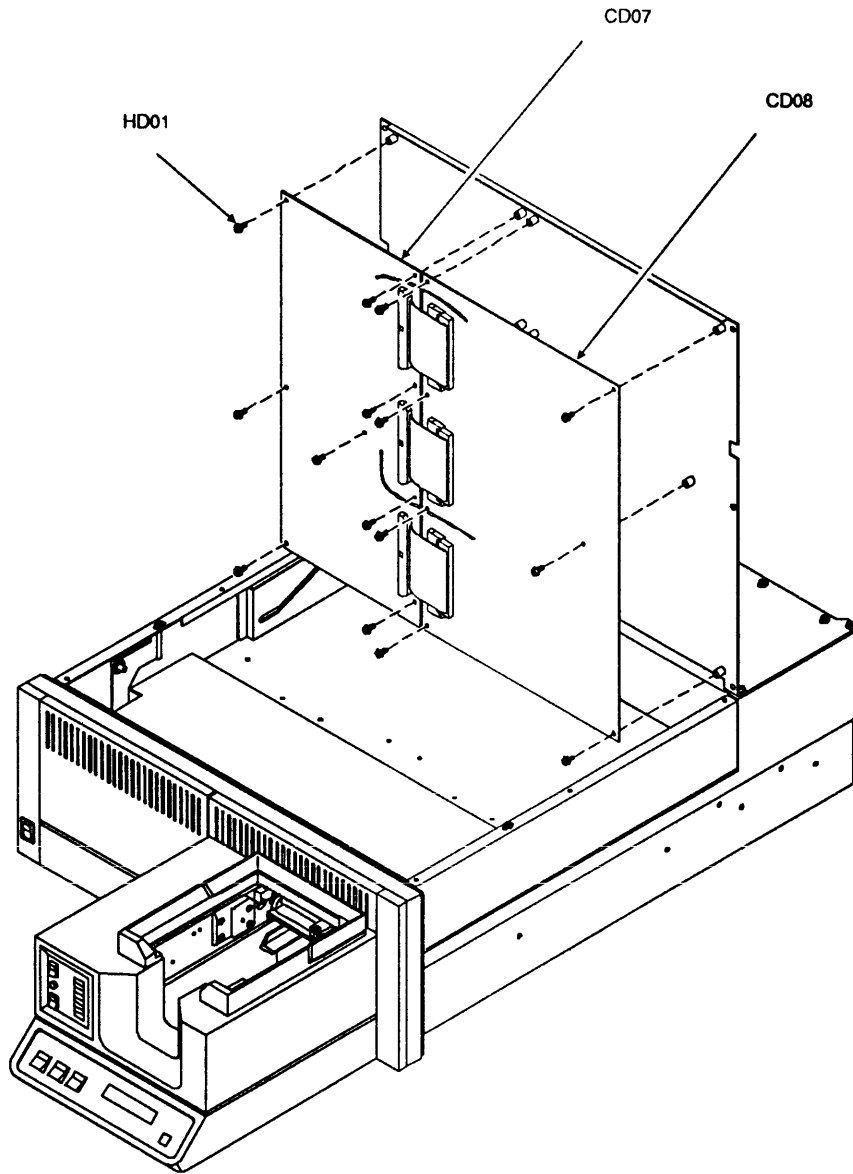


Figure 22. Card Group
SB/SBI and RI Cards

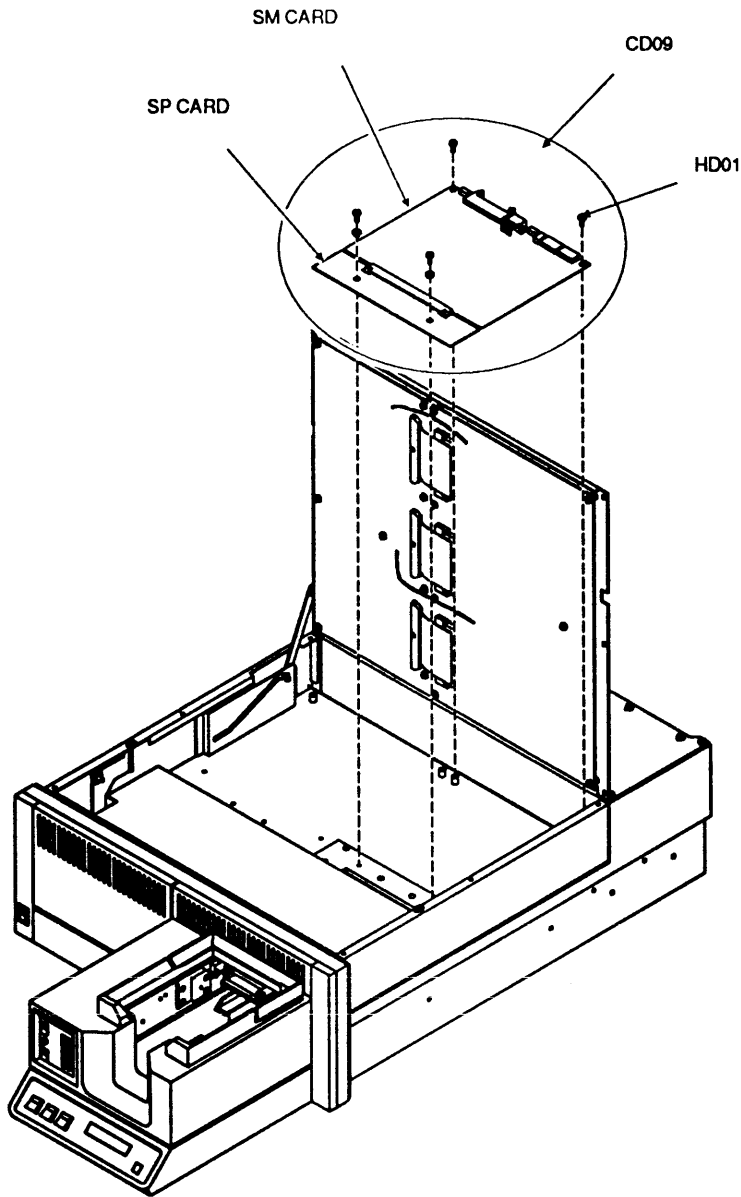
4220 Assembly

Card Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------------|---------------------------|---------------------------|-------------------|
| CD07 | 29291XXX | CKT CD RI ASSY | 1 |
| CD08 | 29204XXX | CKT CD SB/SBI ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------------|----------------------------|-------------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8 | 15 |



NOTE: WHEN THE DRIVE IS ON THE LEFT SIDE,
THE SM AND SP CARDS ARE TRANSPOSED
WITH THE CP CARD.

Figure 23. Card Group
SM and SP Cards

4220 Assembly

Card Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| CD09 | 29800XXX | SM/SP FRU KIT | 1 |

The SM and SP cards must be ordered together as a unit.
Replacing only one may cause the failure of the other.

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|----------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8 | 4 |

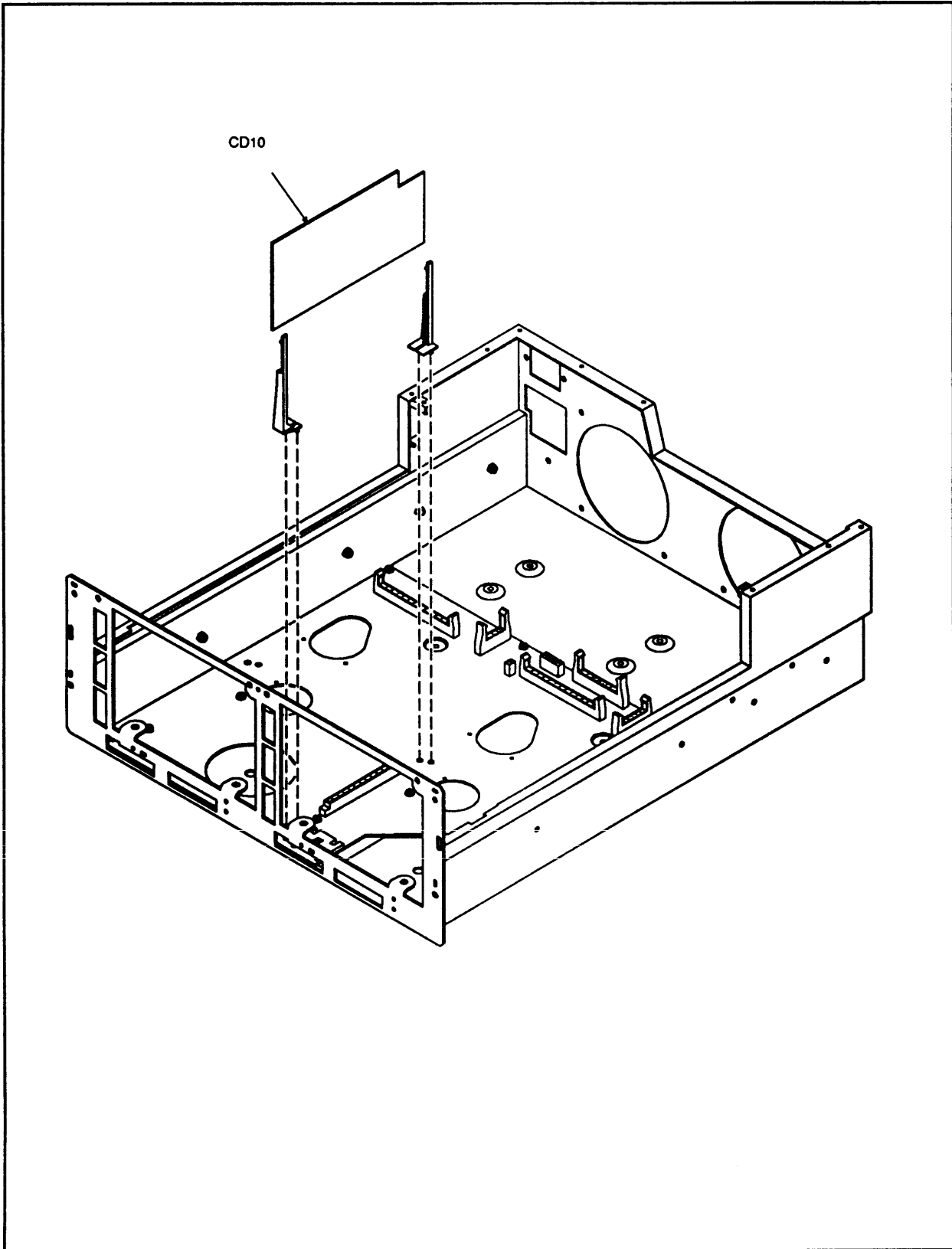


Figure 24. Card Group
HI Card

4220 Assembly

Card Group, cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| CD09 | 29294XXX | CKT CD HI ASSY | 1 |

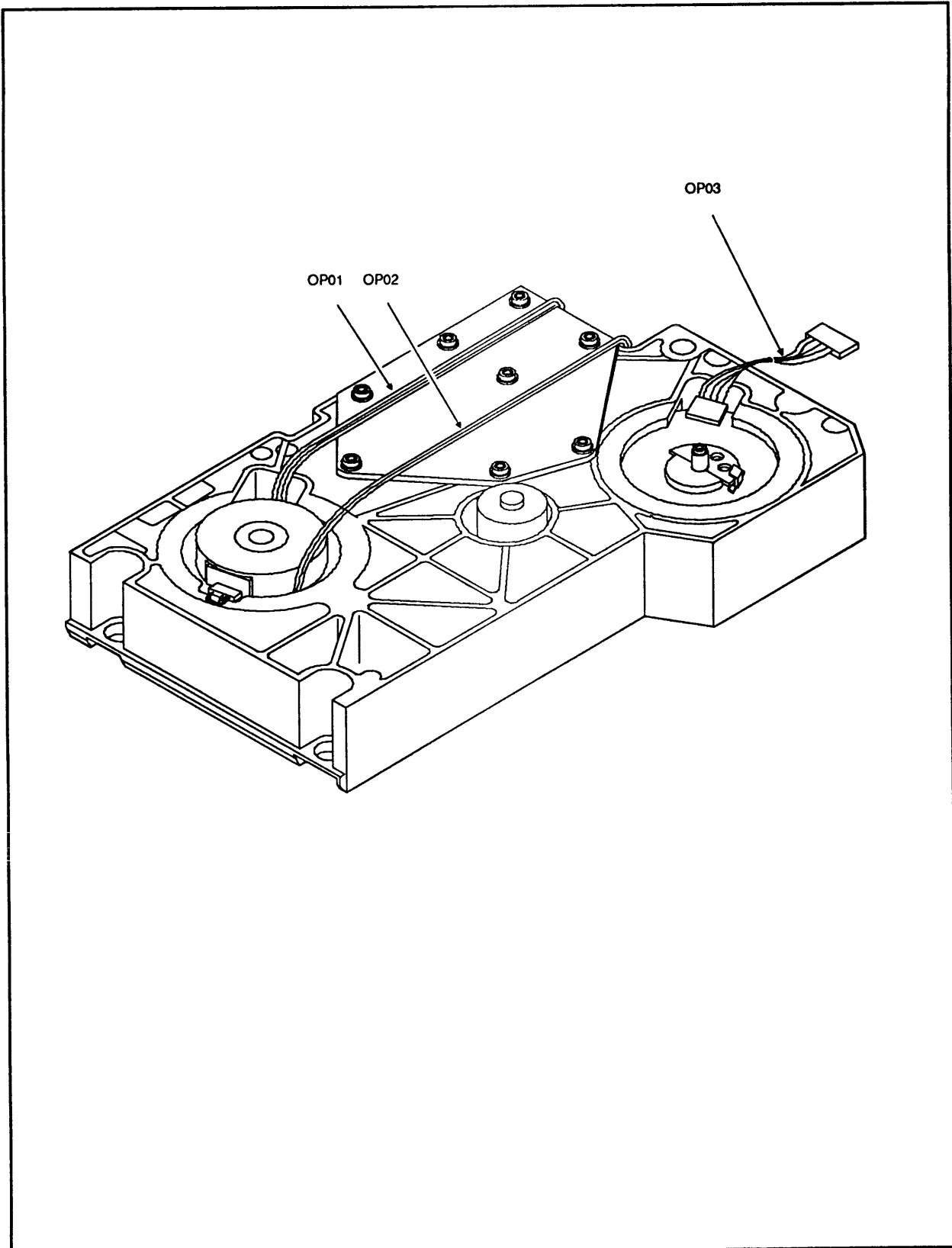


Figure 25. 4220 Orderable Parts
Supply Motor/SM, Take-Up Motor/SM and Tach/ST Cables

4220 Assembly

Orderable Parts (non-FRU)

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|---------------------|------------|
| OP01 | 289534XX | CBL, SUPPLY MTR/SM | 1 |
| OP02 | 289530XX | CBL, TACH/ST | 1 |
| OP03 | 289532XX | CBL, TAKE UP MTR/SM | 1 |

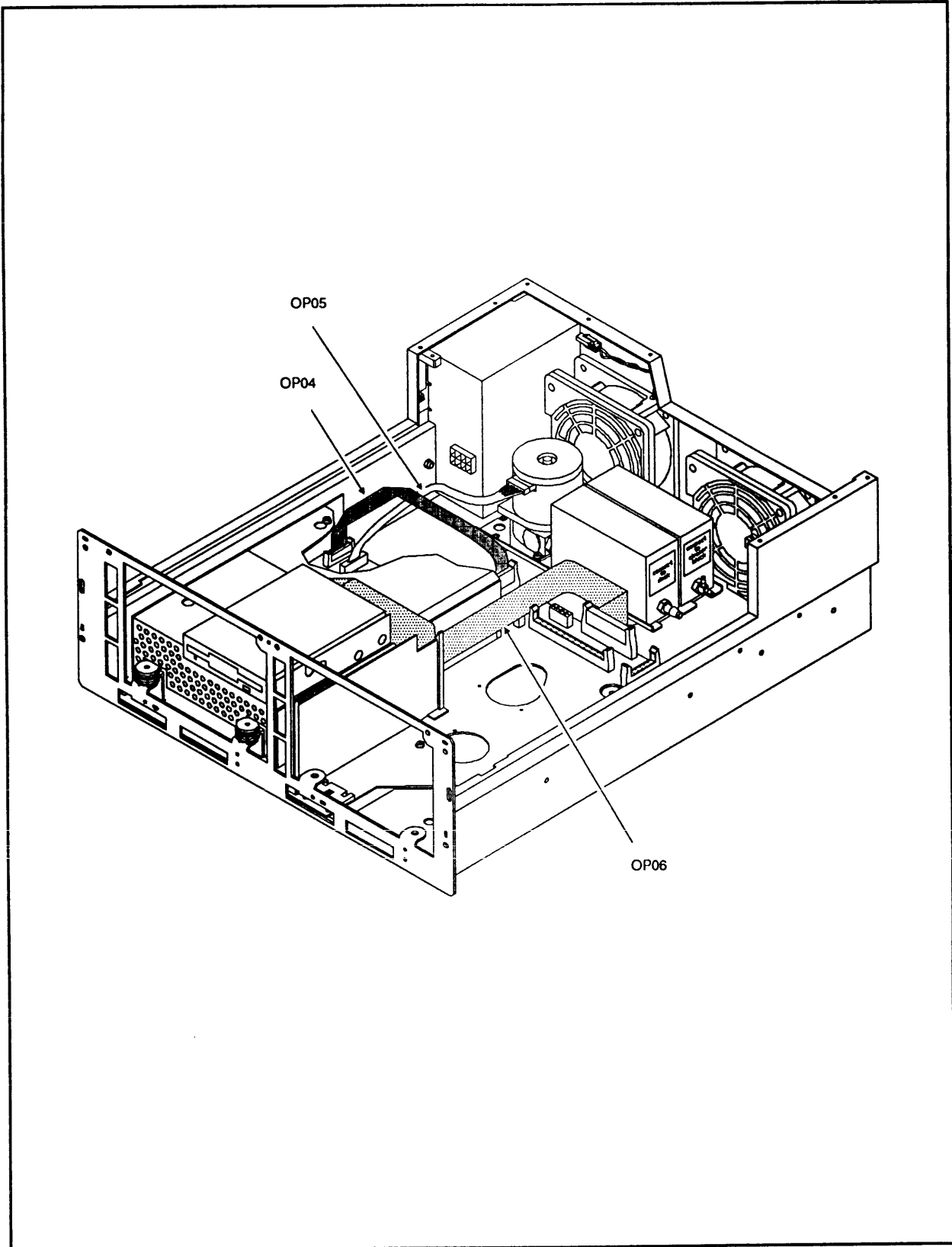


Figure 26. 4220 Orderable Parts
PI/BT, PI/Pump and BT/Floppy Cables

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP04 | 290504XX | CBL, PI/BT LOGIC | 1 |
| OP05 | 290507XX | CBL, PI/PUMP | 1 |
| OP06 | 290502XX | CBL, BT/FLOPPY | 1 |

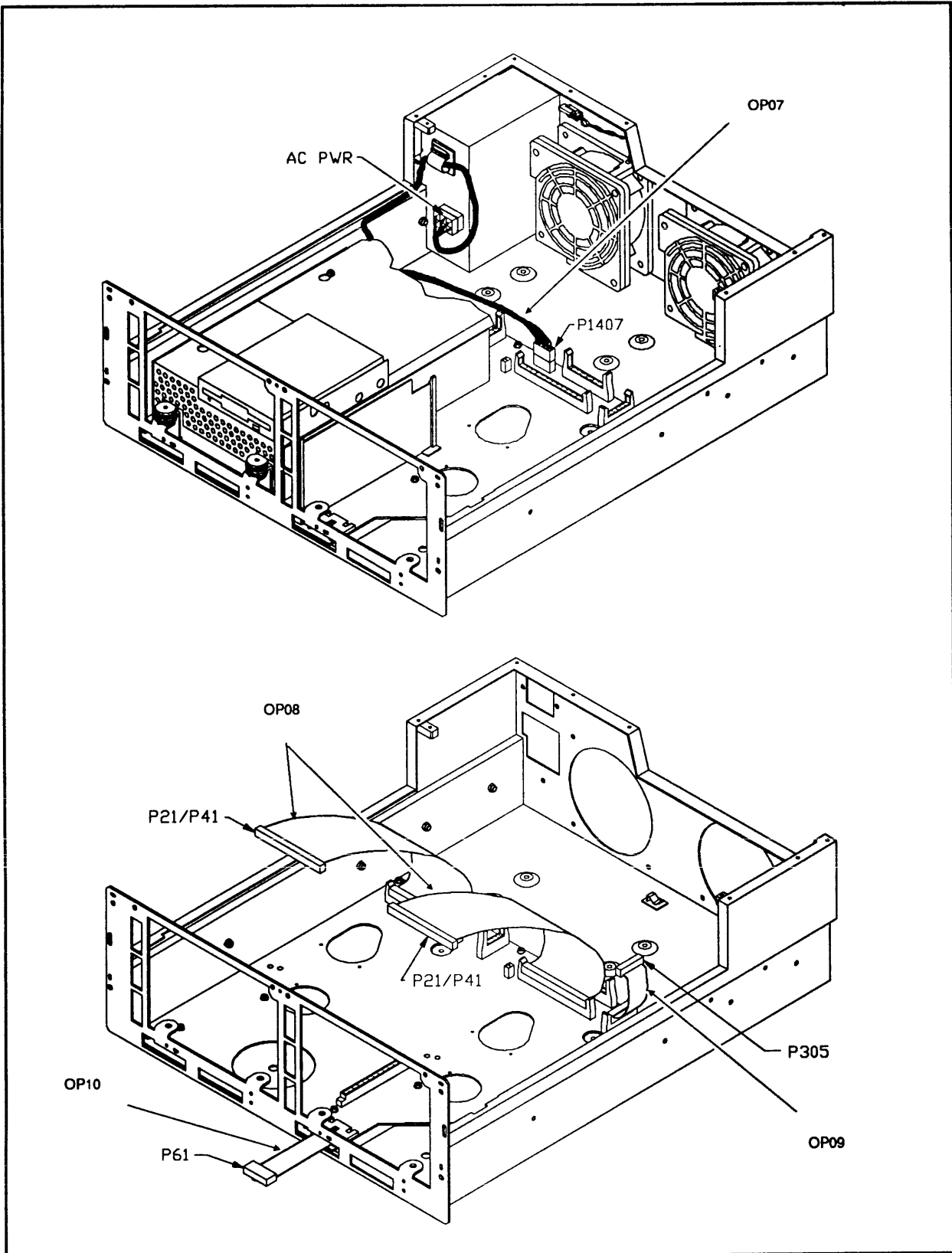


Figure 27. 4220 Orderable Parts
PI/BT Power, RI/BT, ST/BT and ML/BT Cables

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP07 | 290503XX | CBL, PWR PI/BT | 1 |
| OP08 | 289535XX | CBL, RI/BT | 2 |
| OP09 | 289536XX | CBL, ST/BT | 1 |
| OP10 | 289540XX | CBL, ML DISP/BT | 1 |

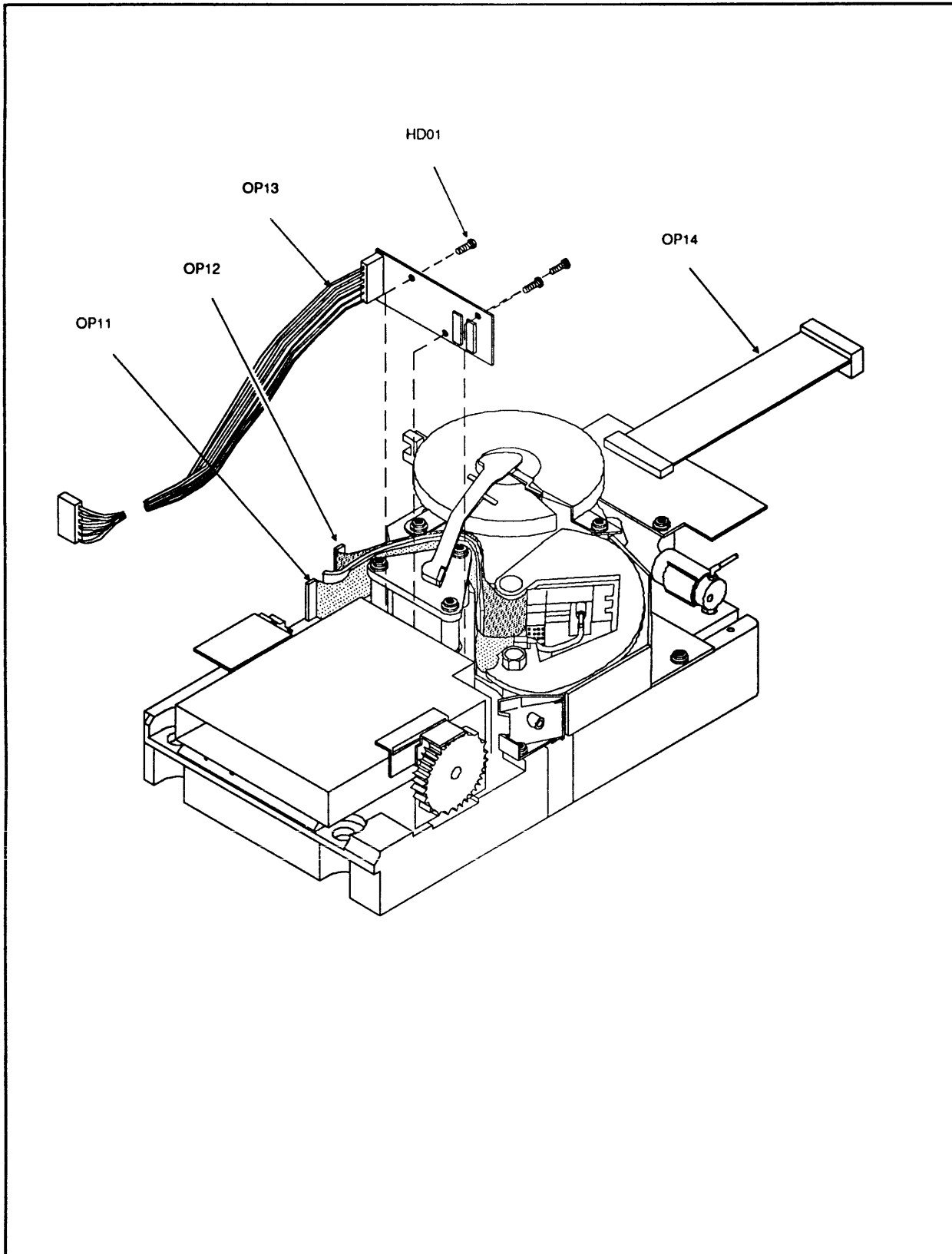


Figure 28. 4220 Orderable Parts
Read/Write Flex Circuits, ML/Display and SM/ST Cables

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------------|---------------------------|---------------------------|-------------------|
| OP11 | 290981XX | FLEX CIRCUIT WRITE ASSY | 1 |
| OP12 | 290980XX | FLEX CIRCUIT READ ASSY | 1 |
| OP13 | 289542XX | CBL, ML/DISP | 1 |
| OP14 | 289538XX | CBL, SM/ST | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------------|-----------------------------|-------------------|
| HD01 | SCREW, THRFM, PHT, 4-20X3/8 | 3 |

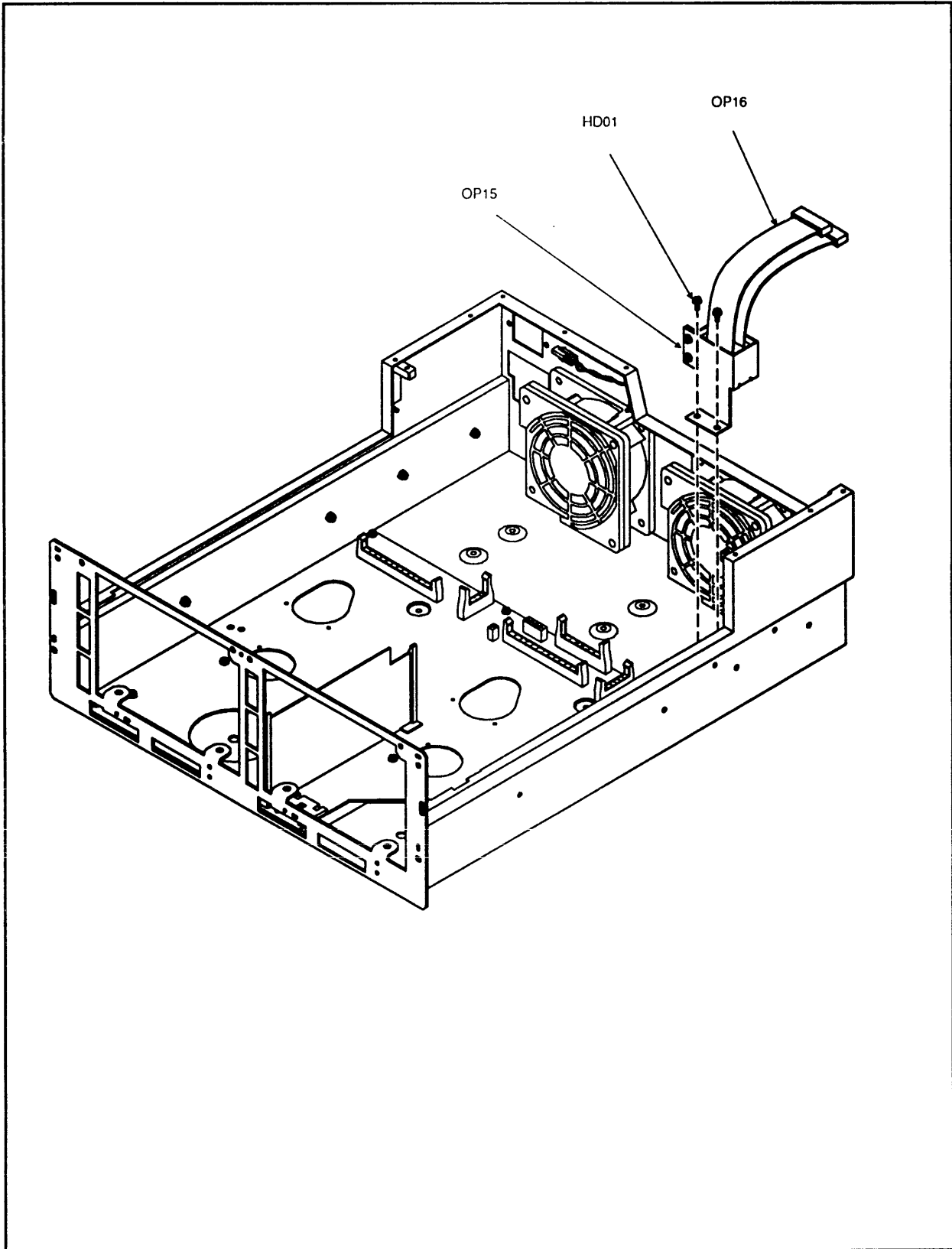


Figure 29. 4220 Orderable Parts
SB/SBI I/O Cable and Ferrite Bracket

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP15 | 288441XX | FERRITE BRKT | 1 |
| OP16 | 289543XX | CBL, SB/SBI I/O | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X1/4, Z | 2 |

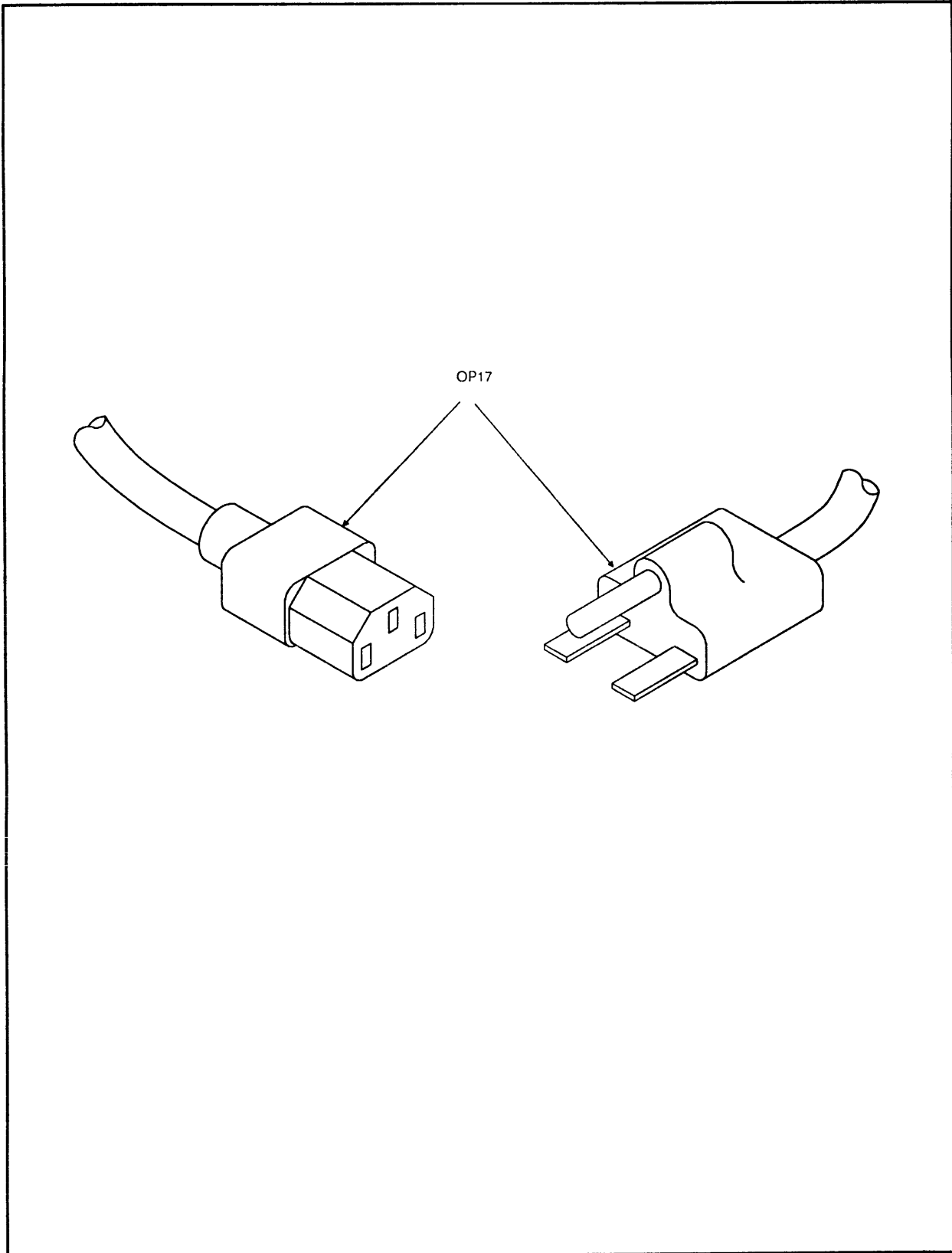


Figure 30. 4220 Orderable Parts
Power Cable

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP17 | 24055634 | POWER CABLE | 1 |

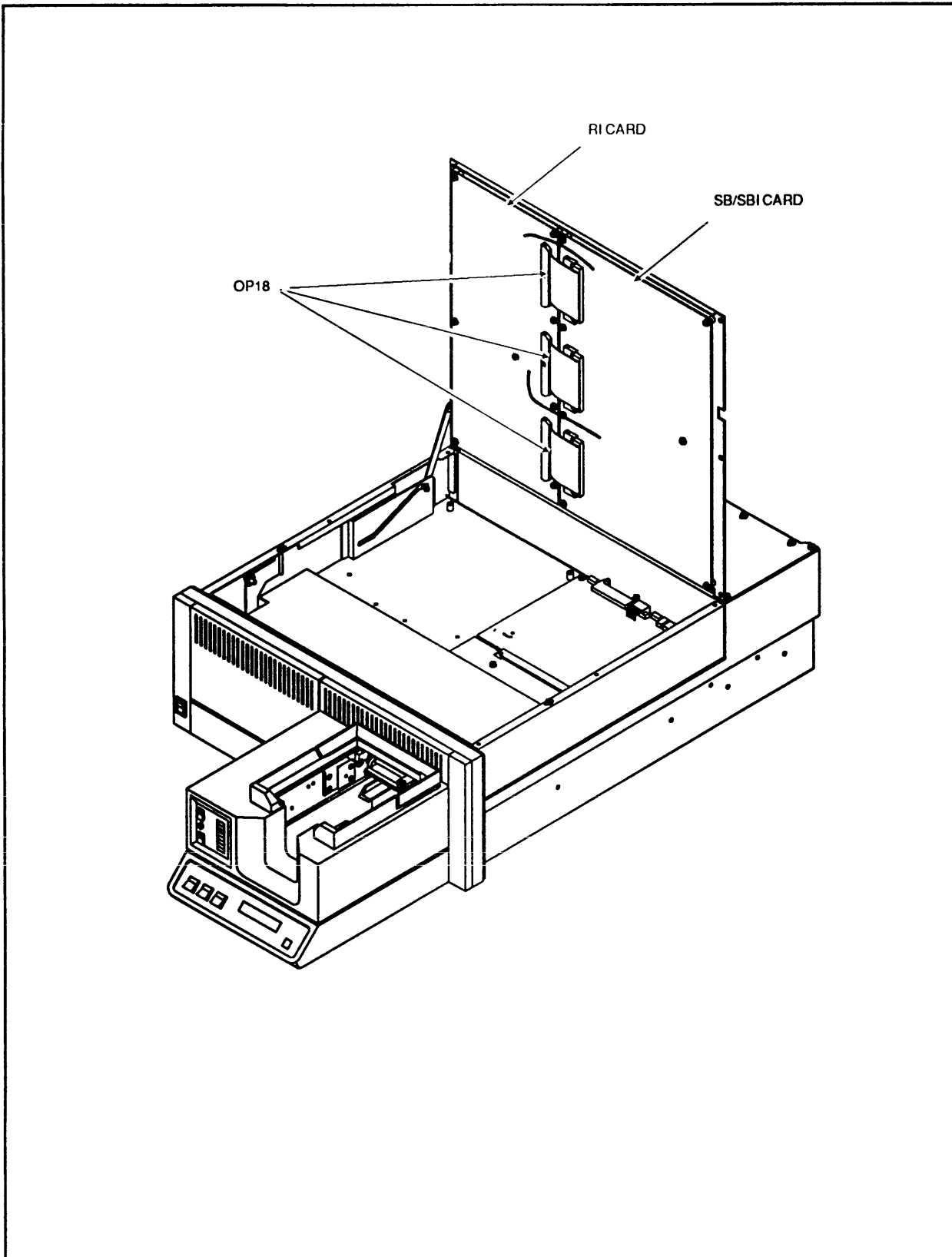


Figure 31. 4220 Orderable Parts
RI/SB/SBI Cables

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP18 | 289537XX | CBL, RI/SB/SBI | 3 |

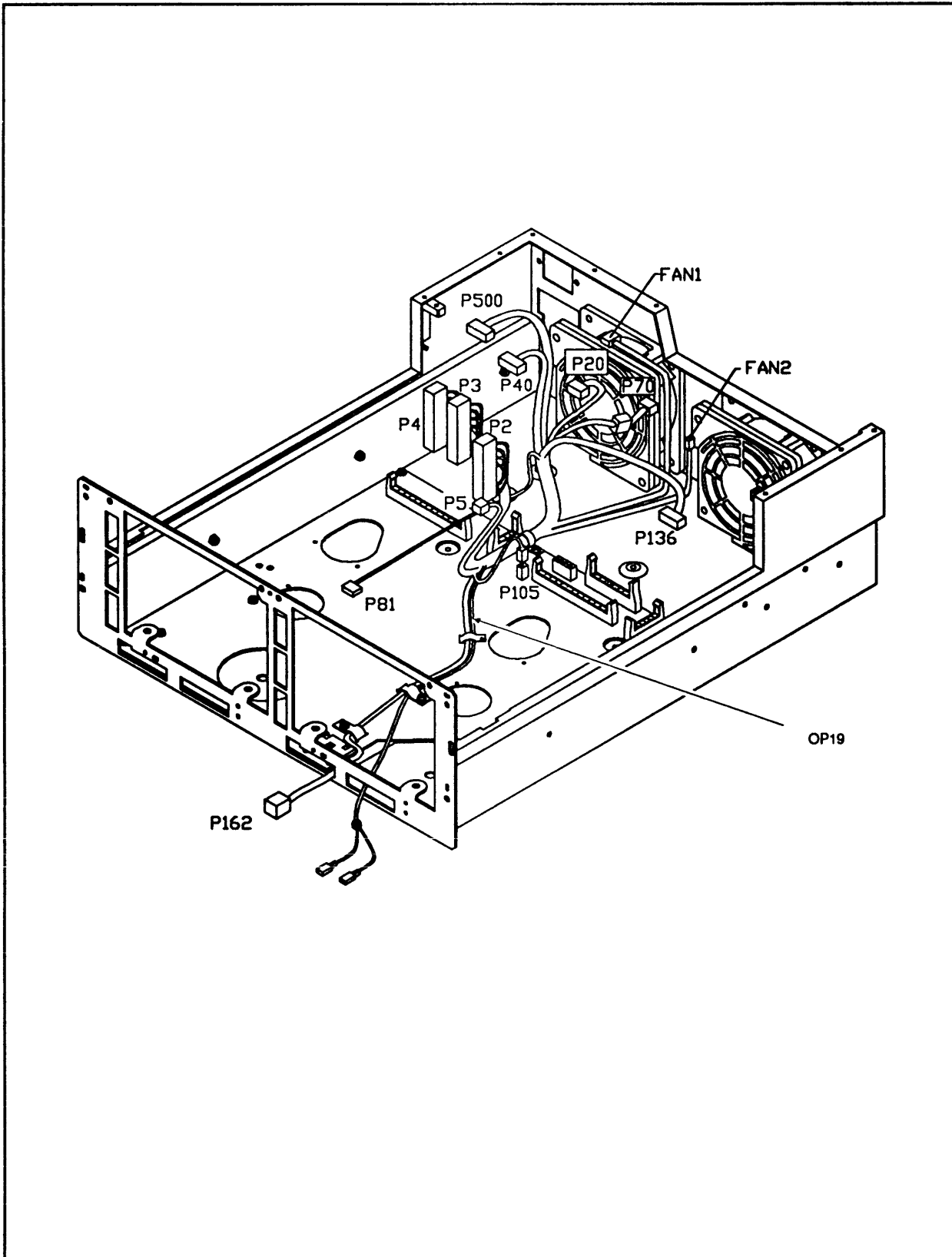


Figure 32. 4220 Orderable Parts
DC Cable

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP19 | 290500XX | CBL, DC POWER 4220 | 1 |

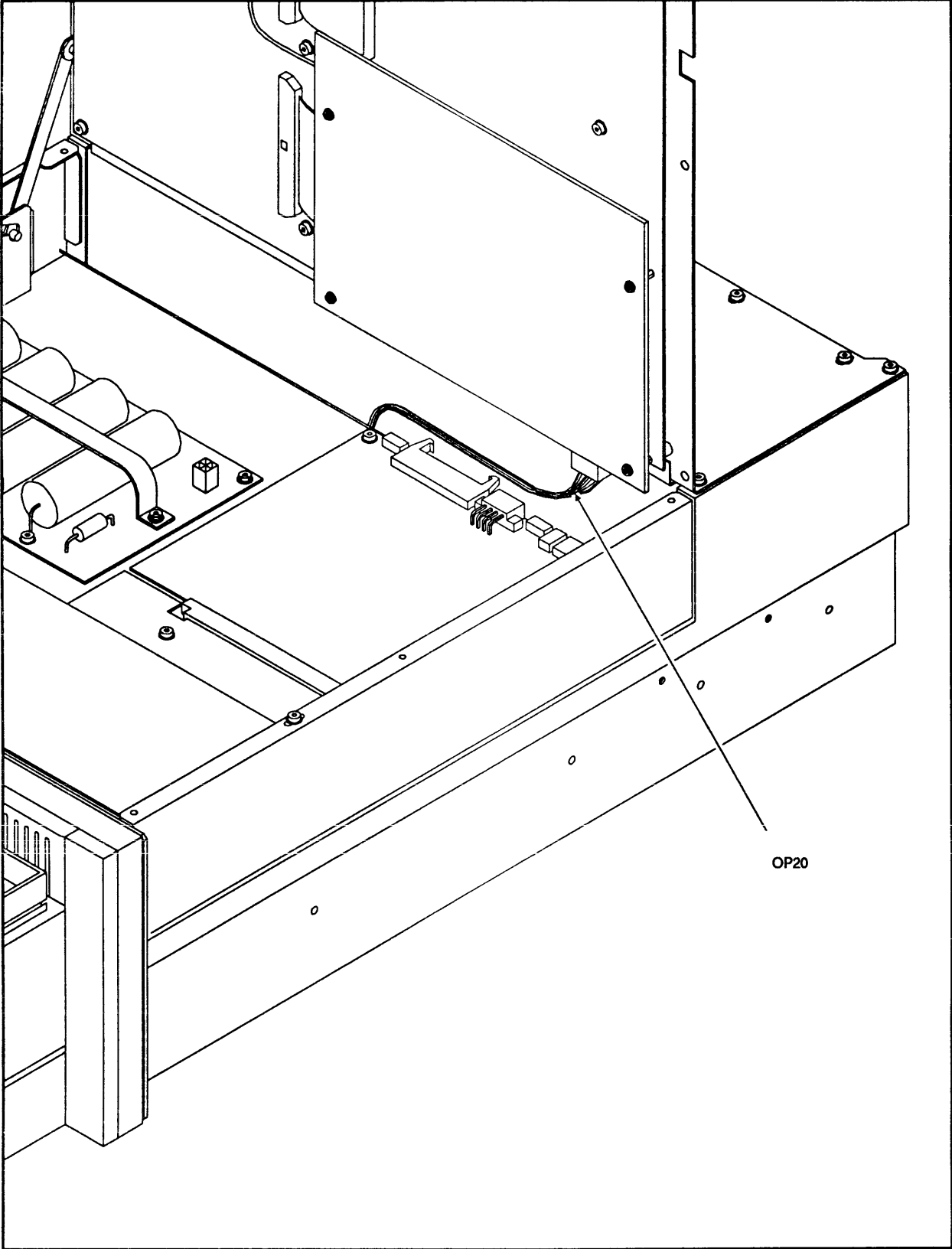


Figure 33. 4220 Orderable Parts
DCI Cable

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP20 | 289582XX | CBL, DCI PWR | 1 |

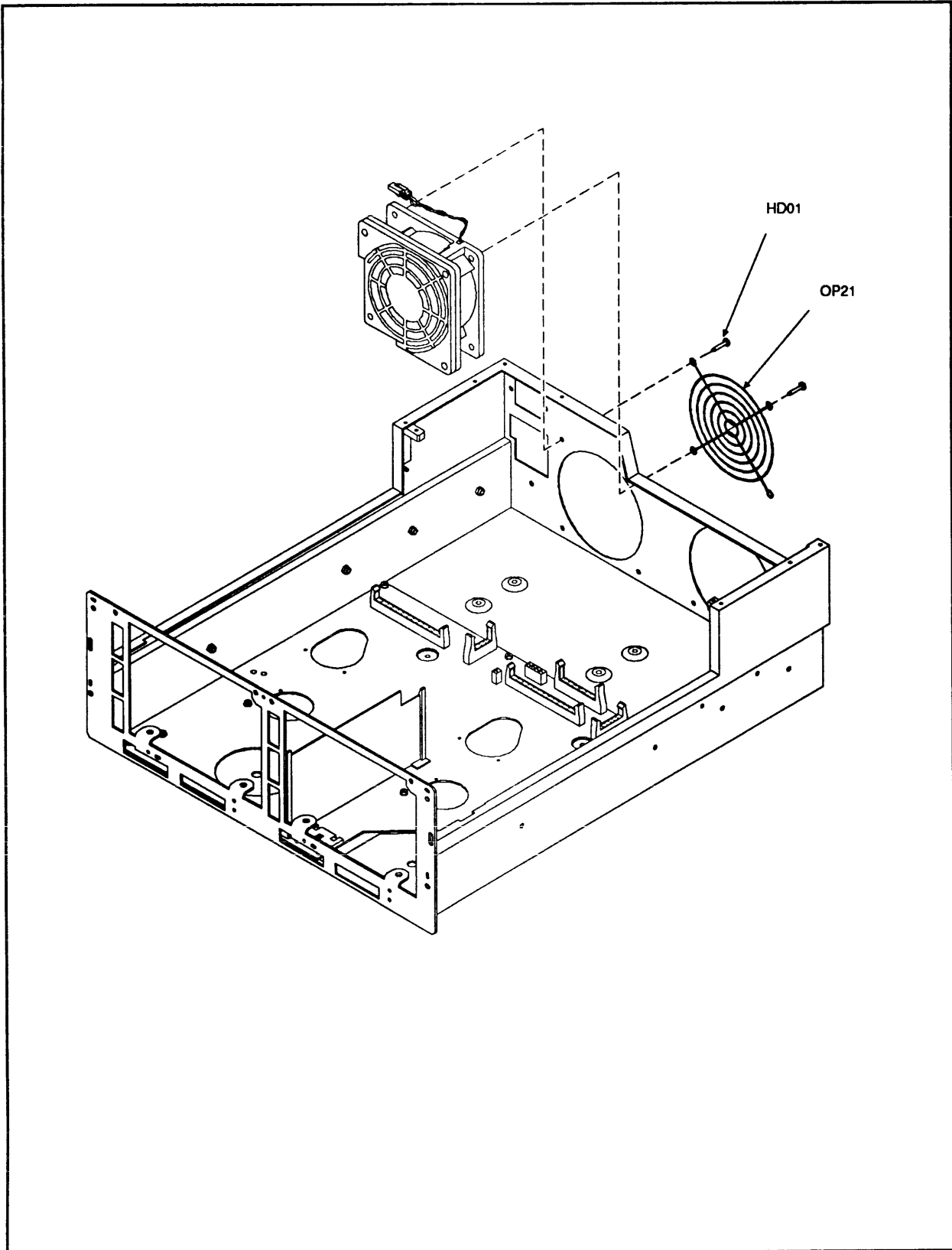


Figure 34. 4220 Orderable Parts
Finger Guard

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|------------------------------|------------|
| OP21 | 24017457 | FINGER GUARD, FAN, 4.69 INCH | 2 |

Attaching Hardware

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|---------------------------------------|------------|
| HD01 | 24013201 | TAPTITE, TRX PAN HEAD, M5-0.8X12MM | 8 |

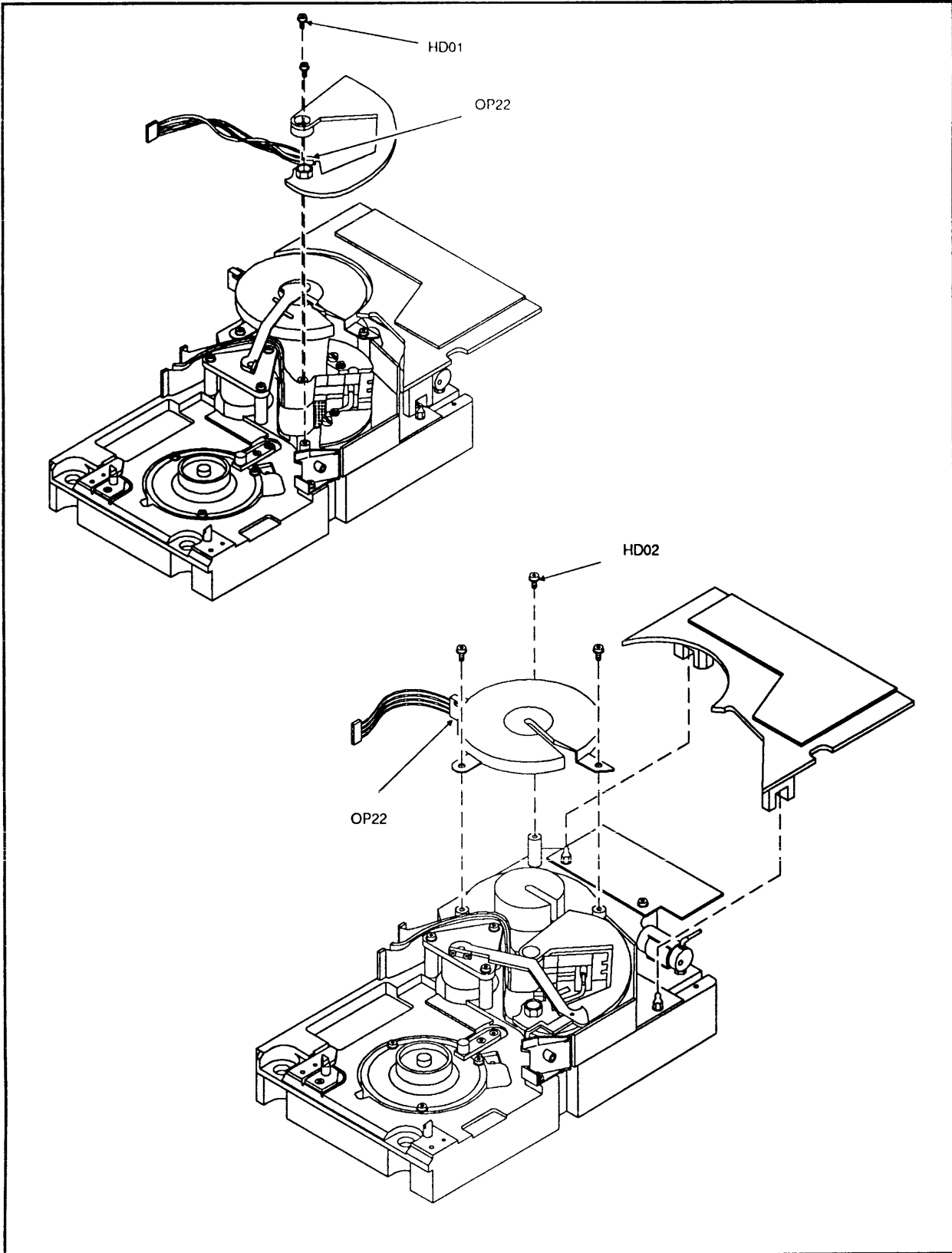


Figure 35. 4220 Orderable Parts
Thread Arm Sensors

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|----------------------|------------|
| OP22 | 288555XX | THRD ARM SENSOR ASSY | 2 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|----------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 4-40X1/4, ZINC | 1 |
| HD02 | SCREW, PHT, SEMS, 4-40X3/8, ZINC | 1 |

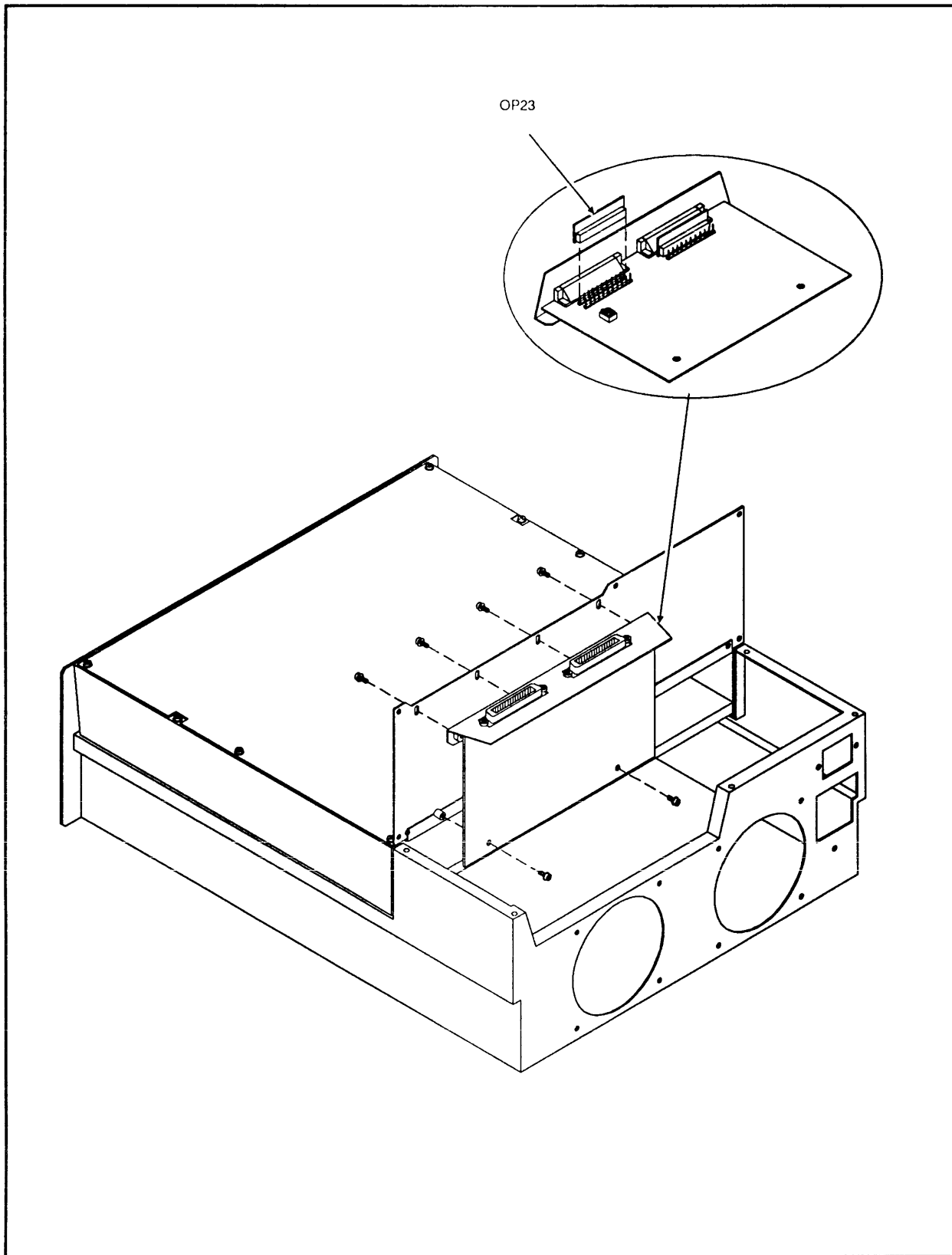


Figure 36. 4220 Orderable Parts
SH Card

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP23 | 29321XXX | CKT CD SH ASSY | 1 |

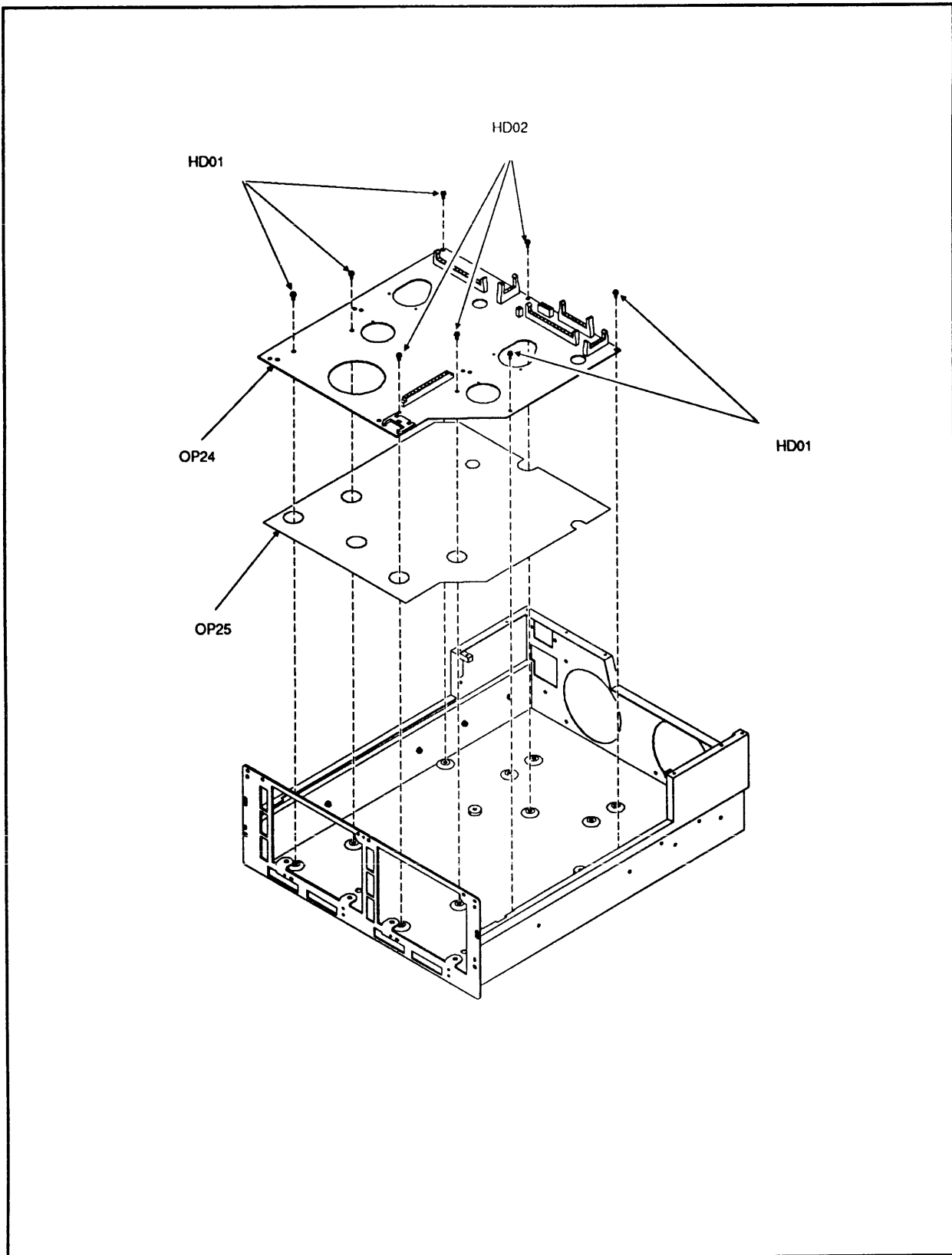


Figure 37. 4220 Orderable Parts
BT Card

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|-----------------------|------------|
| OP24 | 29342XXX | CKT CD BT ASSY | 1 |
| OP25 | 287629XX | INSULATOR, BT/CHASSIS | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X1/4, Z. | 5 |
| HDO2 | SCREW, PHT, SEMS, 6-32X3/8, Z | 3 |

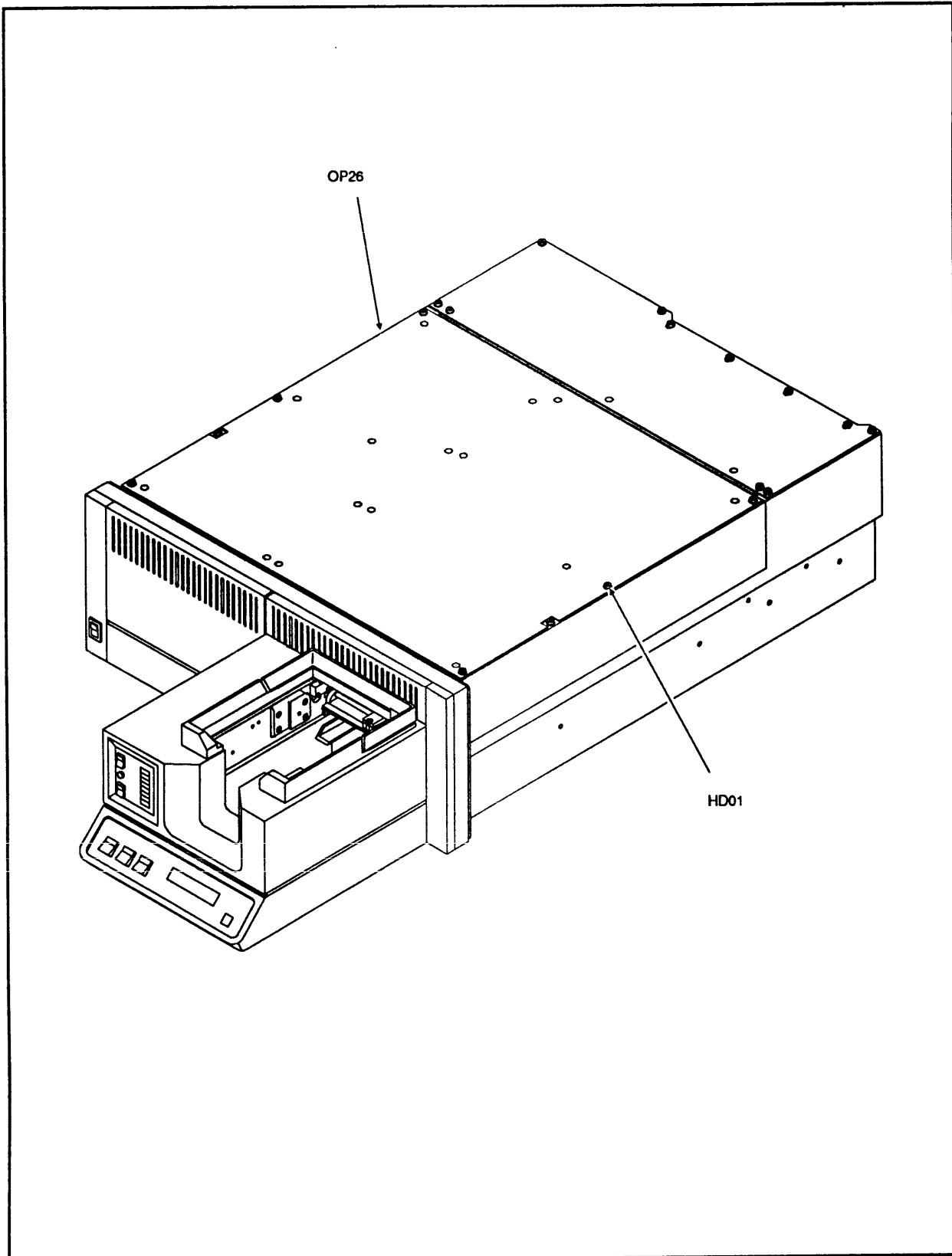


Figure 38. 4220 Orderable Parts
Hinged Top Cover

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP26 | 288433XX | HINGED TOP COVER | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8, Z | 13 |

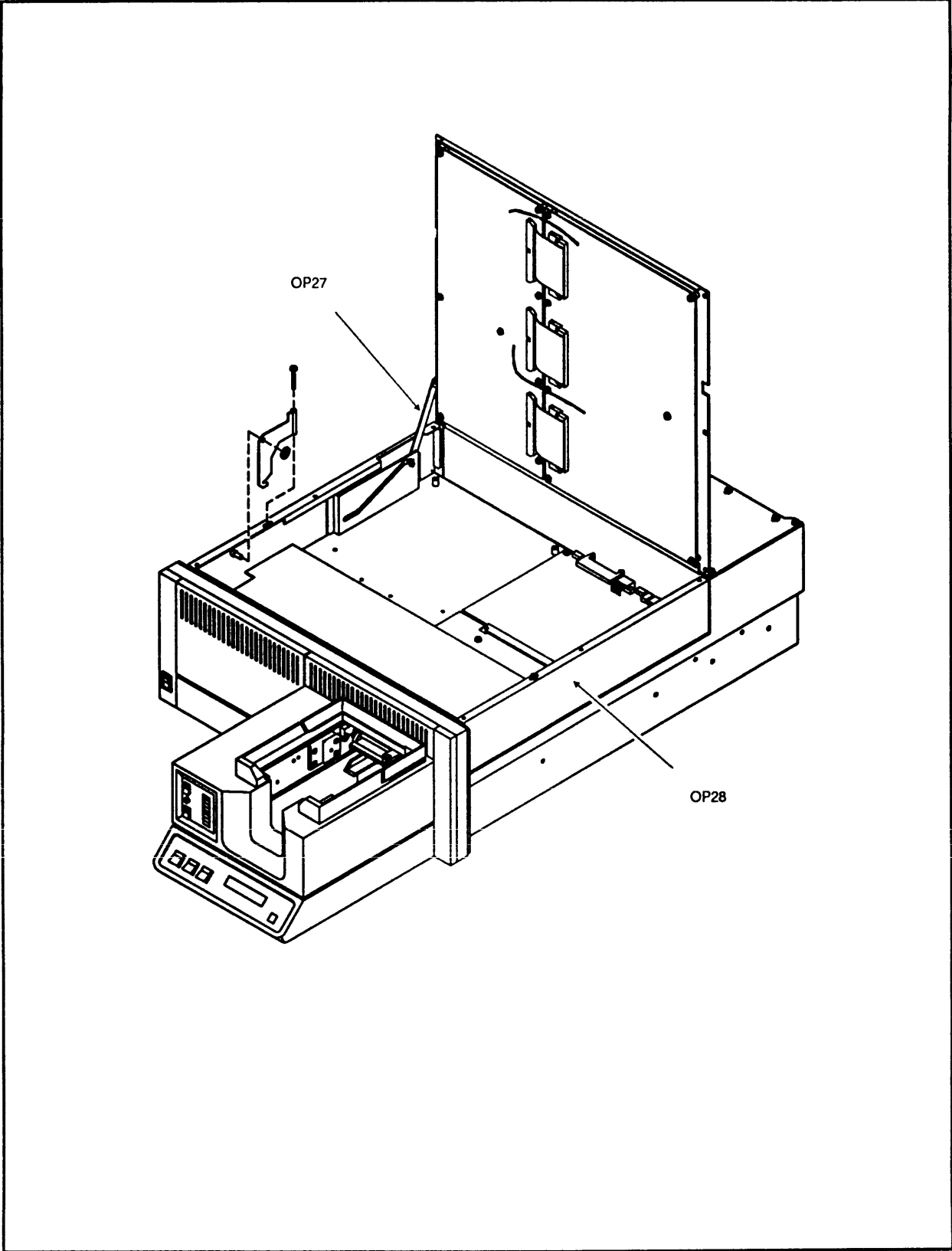


Figure 39. 4220 Orderable Parts
Cover Partition and Support Bar

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--------------------|------------|
| OP27 | 287664XX | SUPPORT BAR, TOP | 1 |
| OP28 | 288437XX | COVER, PARTITION | 1 |

NOTE: RETAINERS SNAP INTO PLACE

HI CARD IS SHOWN IN THE POSITION
USED FOR A RIGHT-HAND MOUNTED
UNIT.

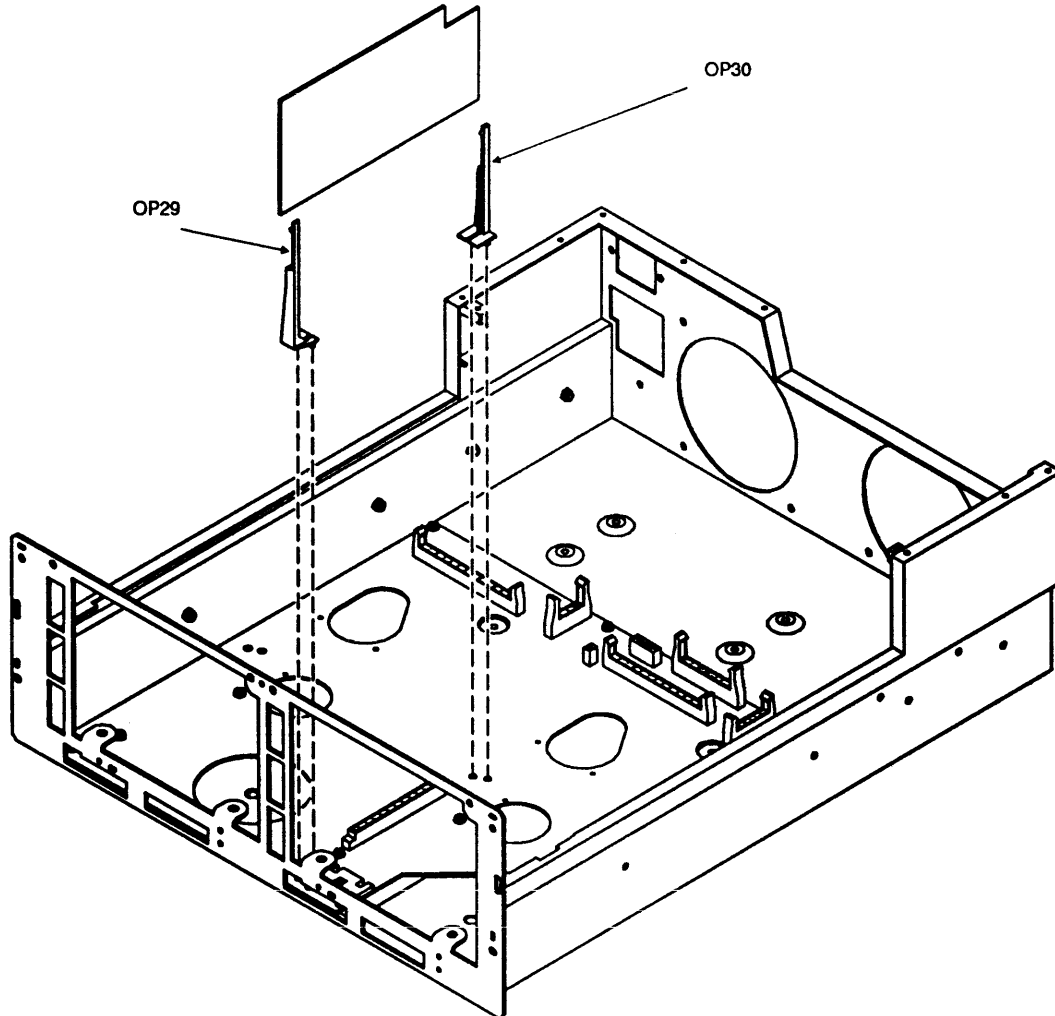


Figure 40. 4220 Orderable Parts
BT/HI Retainers

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|---------------------------|---------------------------|---------------------------|-------------------|
| OP29 | 288622XX | RETAINER, FRONT, HI | 1 |
| OP30 | 288621XX | RETAINER, BACK, HI | 1 |

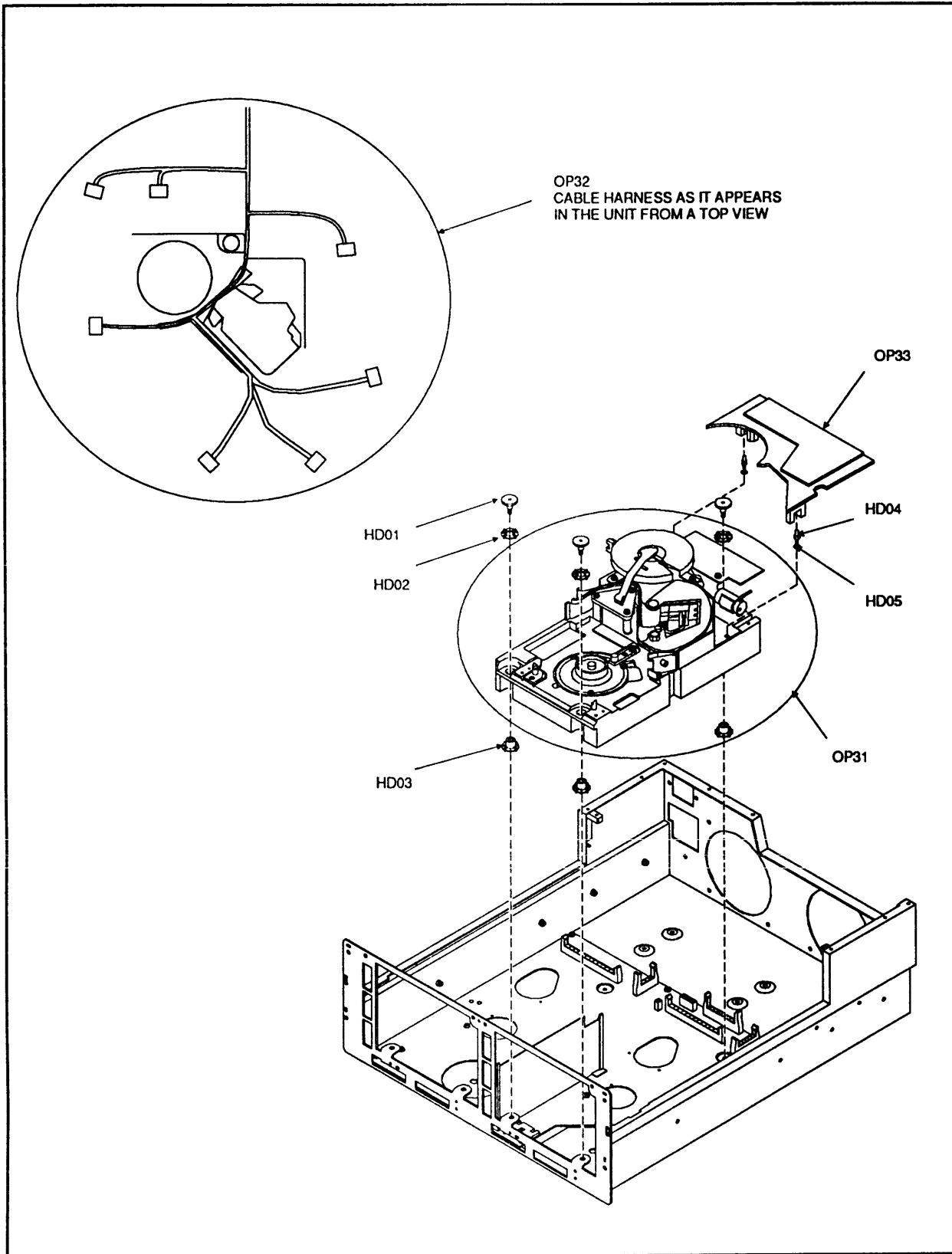


Figure 41. 4220 Orderable Parts
Deckplate Assembly, Deck Cover and SM/ST/Deck Cable

4220 Assembly**Orderable Parts (non-FRU), cont.**

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|---------------------------------|------------|
| OP31 | 288587XX | DECKPLATE ASSY | 1 |
| OP32 | 289569XX | CBL, SM/ST/DECK (CABLE HARNESS) | 1 |
| OP33 | 288611XX | DECK COVER | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|----------------------|------------|
| HD01 | 287663XX | SCREW, ISOLATOR | 3 |
| HD02 | 24020856 | RING, ISOLATOR | 3 |
| HD03 | 24020853 | BUSHING, ISOLATOR | 3 |
| HD04 | 24022045 | BALL STUD, .406X.218 | 2 |
| HD05 | | WASHER | 2 |

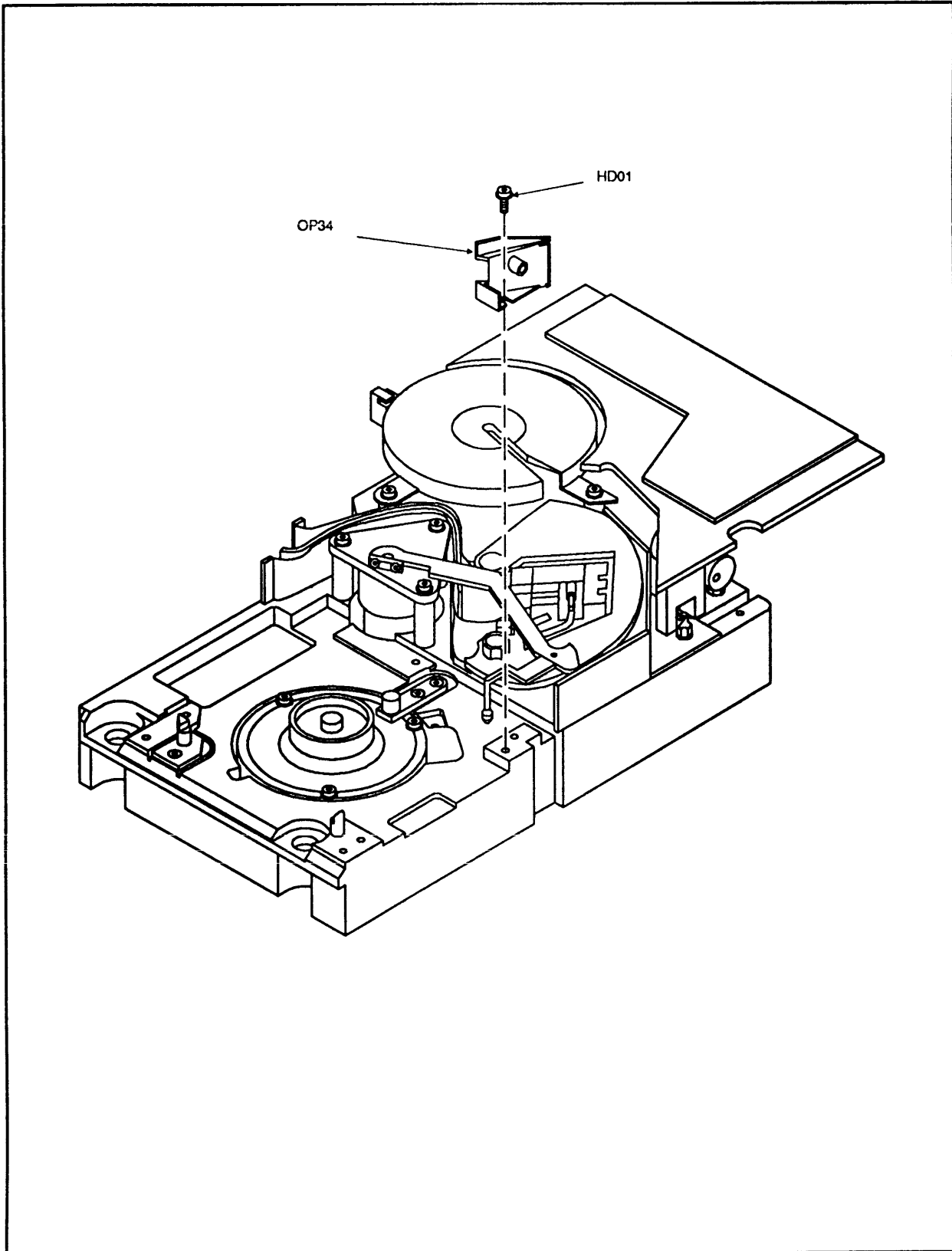


Figure 42. 4220 Orderable Parts
Leader Block Guide

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP34 | 250590XX | LEADER BLOCK GUIDE | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-----------------------------|------------|
| HD01 | SCR, PHT, SEMS, 6-32X3/8, Z | 1 |

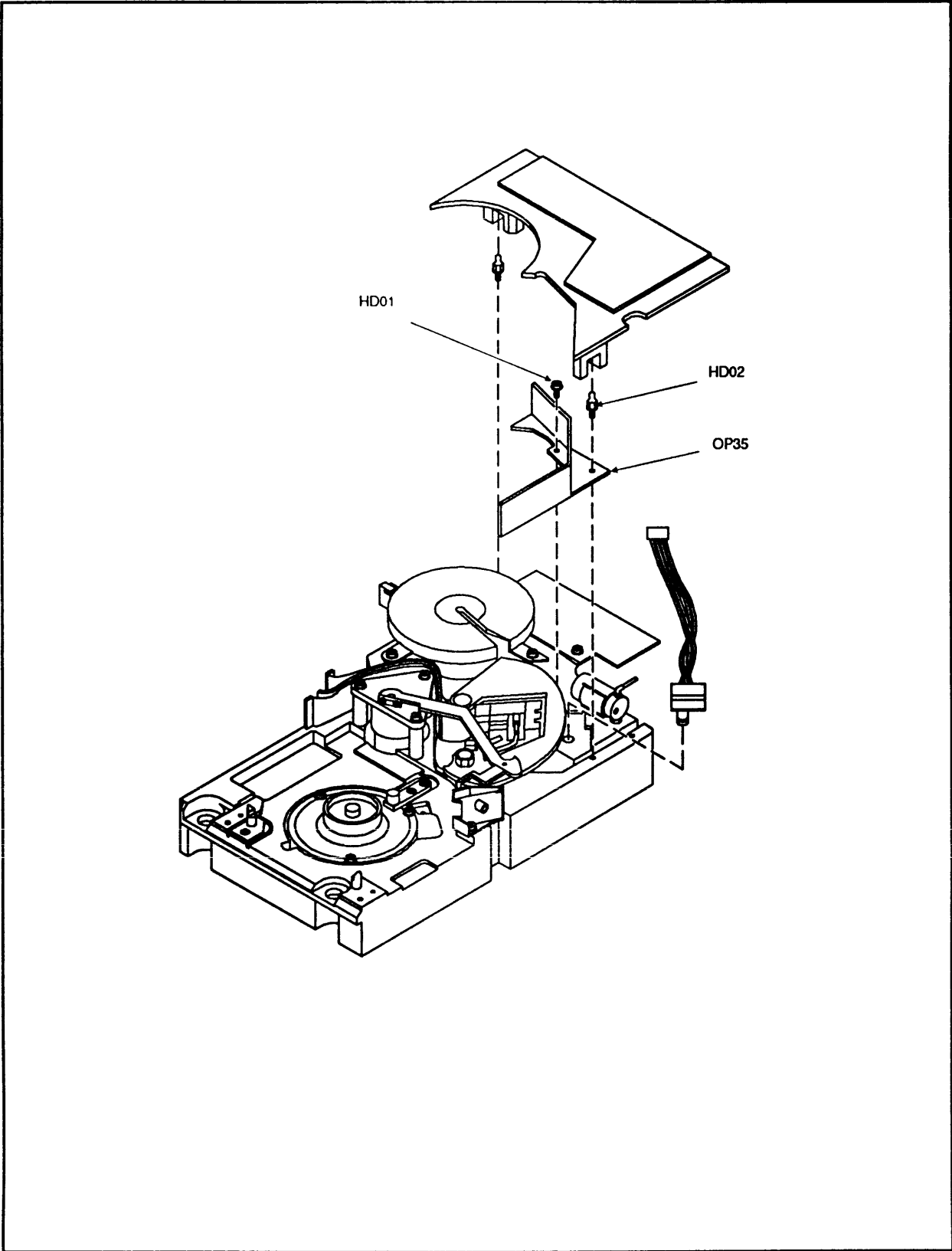


Figure 43. 4220 Orderable Parts
Plate Tape Path

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP35 | 287533XX | PLATE TAPE PATH | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|--------------------|--|------------|
| HD01 | | SCREW, PHT, SEMS, 6-32X3/8, ZINC | 1 |
| HD02 | 24022045 | BALL STUD, .406X.218 Although two ball studs are present, only one helps hold the plate tape path. | 1 |

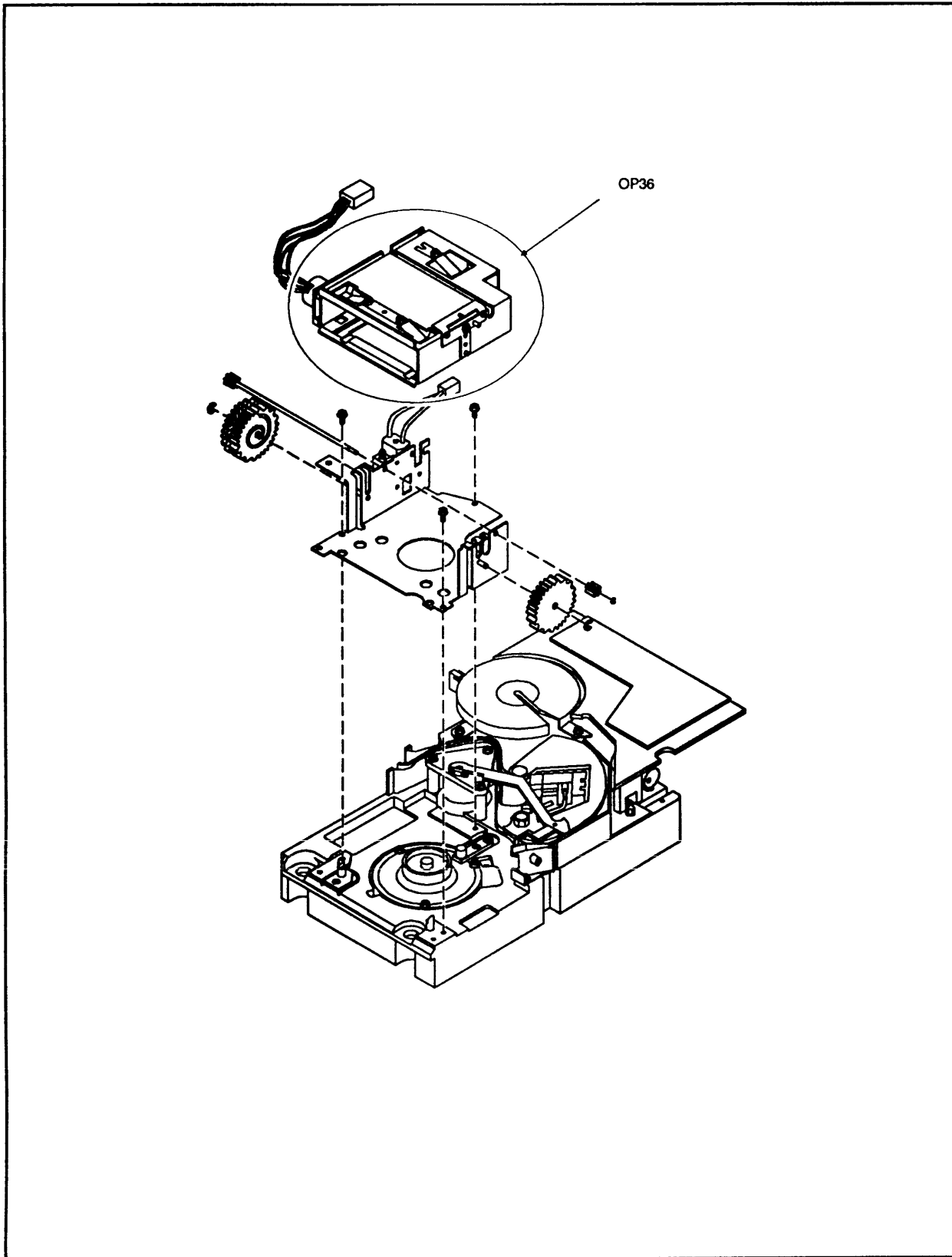


Figure 44. 4220 Orderable Parts
Carrier Assembly

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP36 | 288561XX | CARRIER, ASSY | 1 |

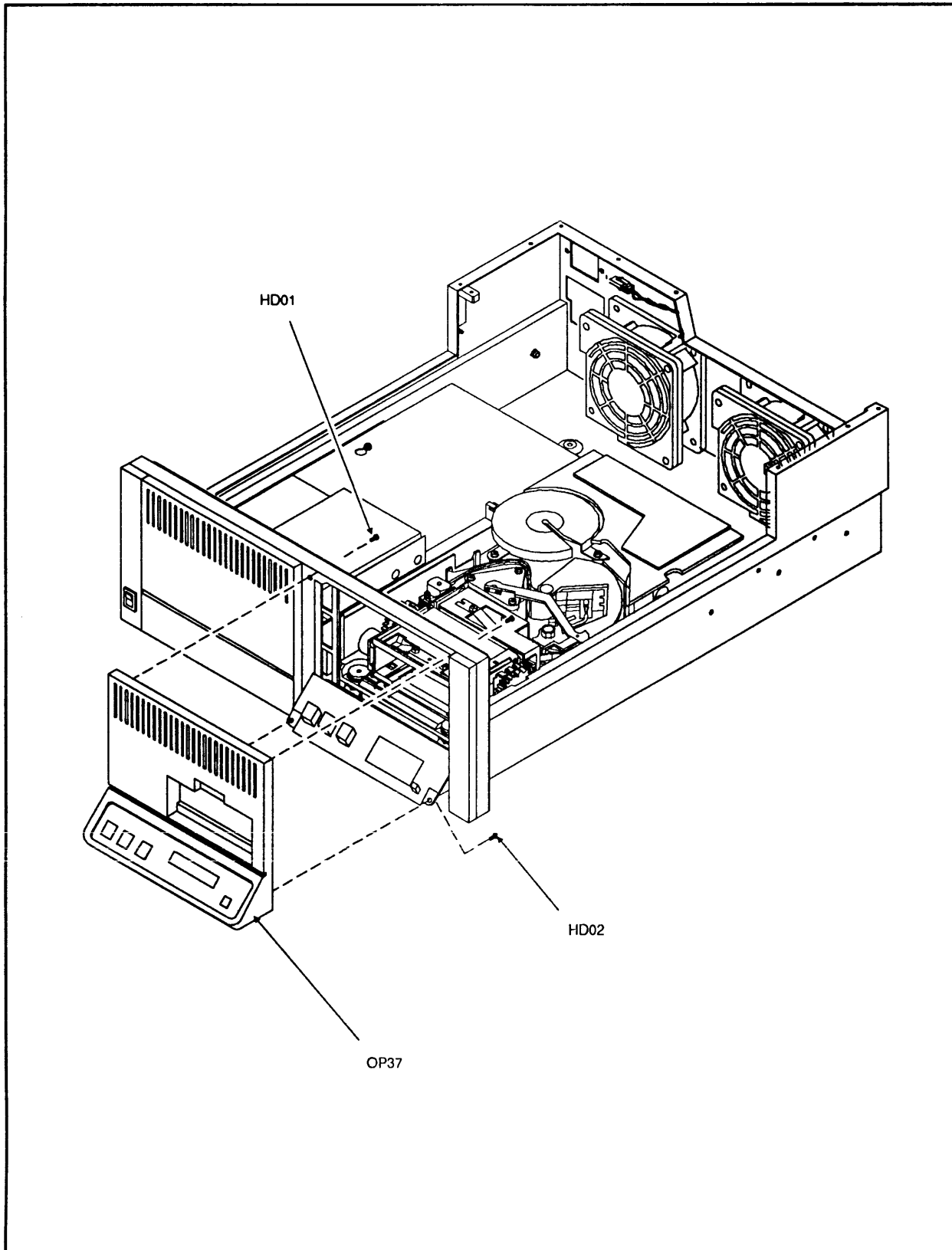


Figure 45. 4220 Orderable Parts
Front Covers (Manual Loader)

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|---------------------|------------|
| OP37 | 289462XX | PANEL, FRT, ML, PRL | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, MACH TXPH, 6-32X7/8, Z | 2 |
| HD02 | SCREW, PHT, SEMS, 6-32X3/8 | 2 |

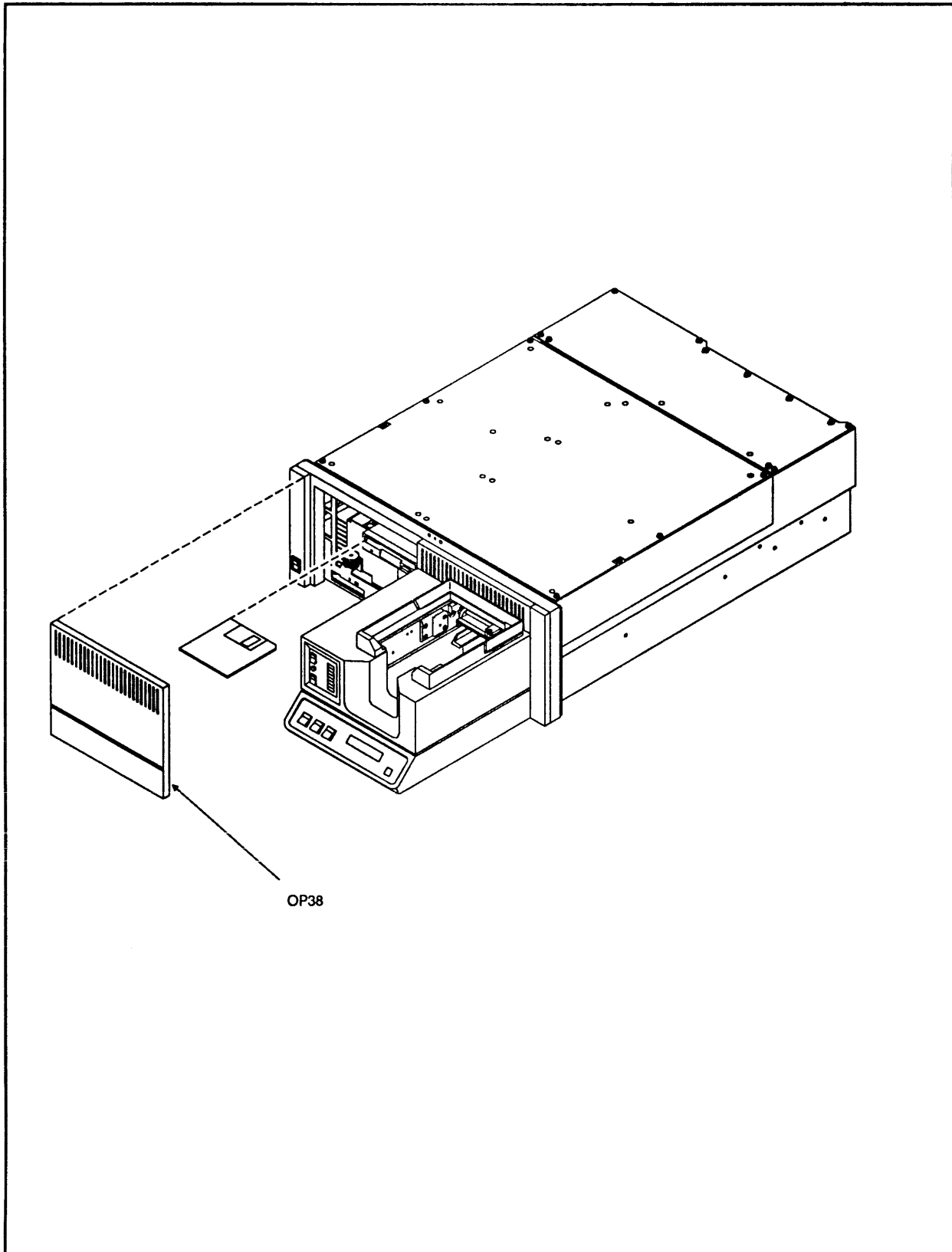


Figure 46. 4220 Orderable Parts
Blank Front Panel

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP38 | 288596XX | PANEL, FRT, BLANK | 1 |

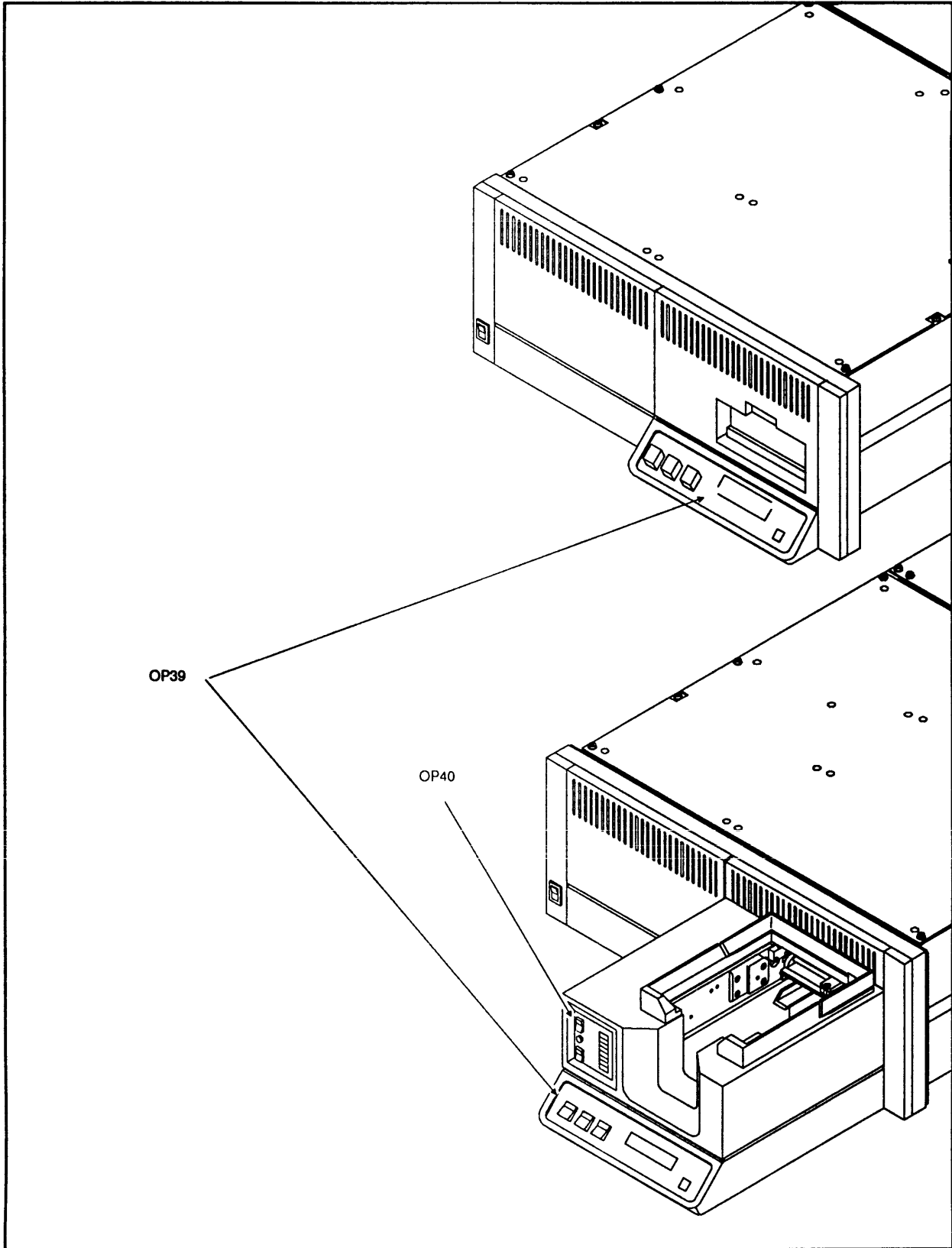


Figure 47. 4220 Orderable Parts
Overlay Assembly

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|---------------------|------------|
| OP39 | 288596XX | OVERLAY DISPLAY | 1 |
| OP40 | 276961XX | OVERLAY, AUTOLOADER | 1 |

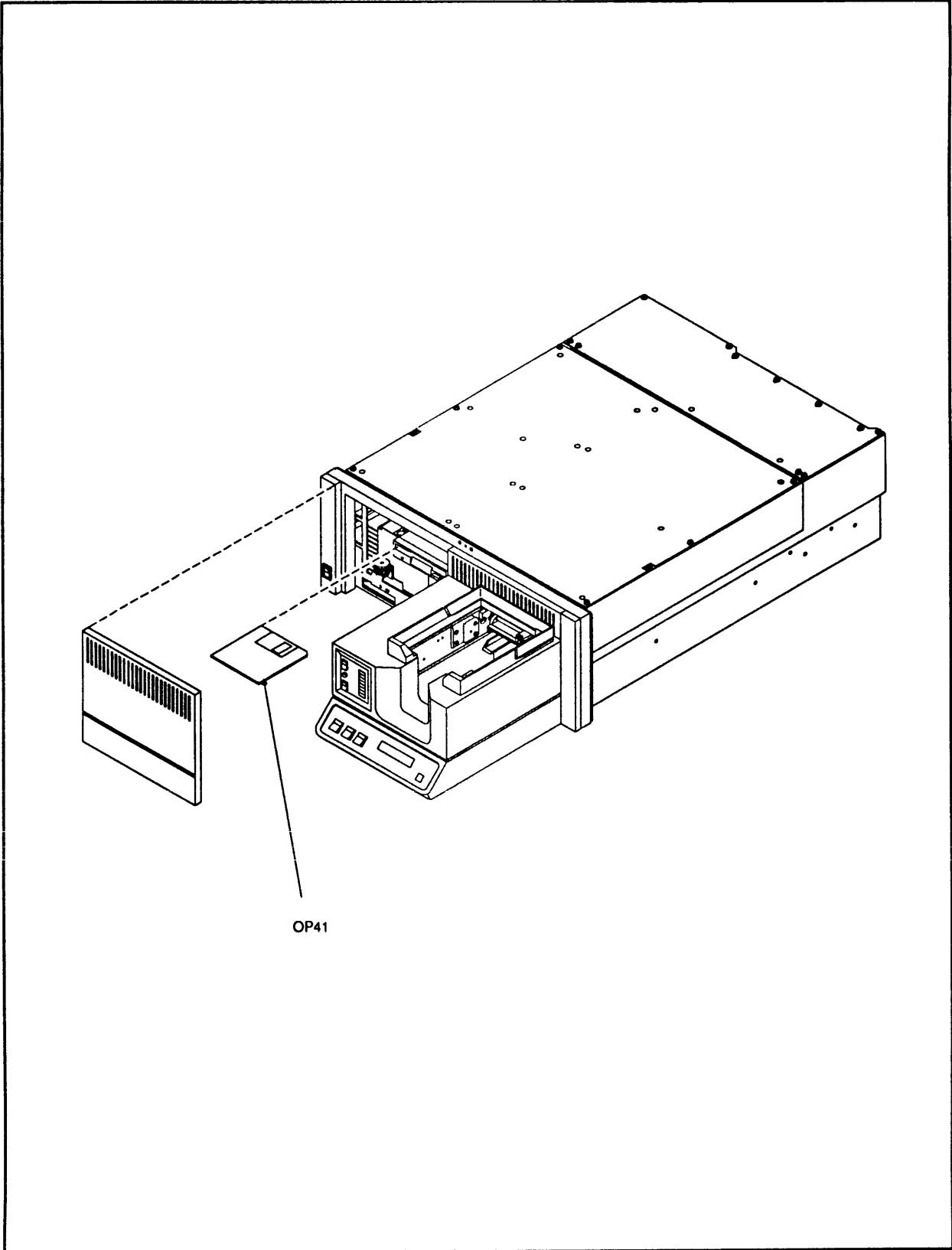


Figure 48. 4220 Orderable Parts
SCSI Floppy

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP41 | 287300XX | SCSI FLOPPY | 1 |

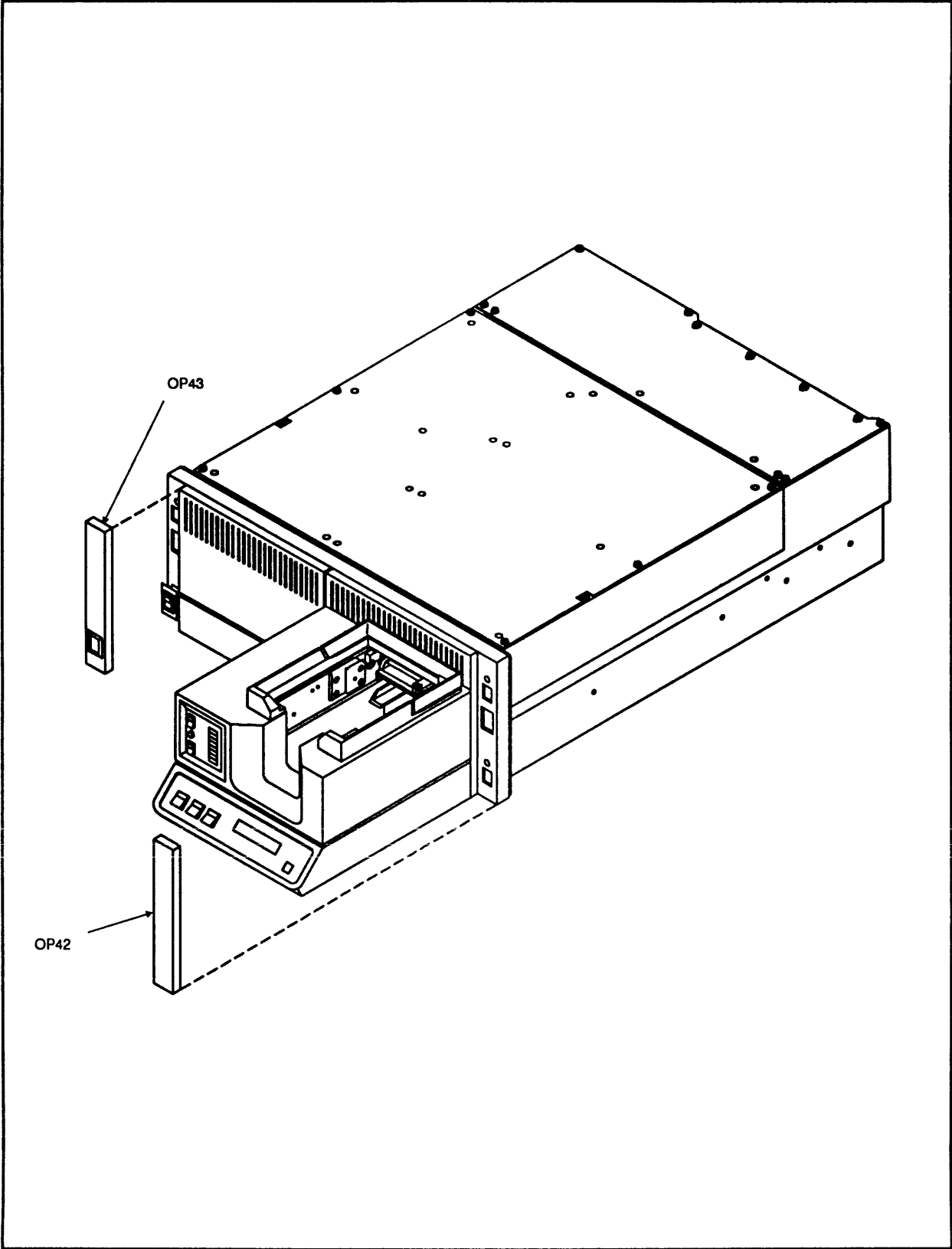


Figure 49. 4220 Orderable Parts
End Caps

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|---------------------------|---------------------------|---------------------------|-------------------|
| OP42 | 289451XX | END CAP (RIGHT) | 1 |
| OP43 | 289452XX | END CAP (LEFT) | 1 |

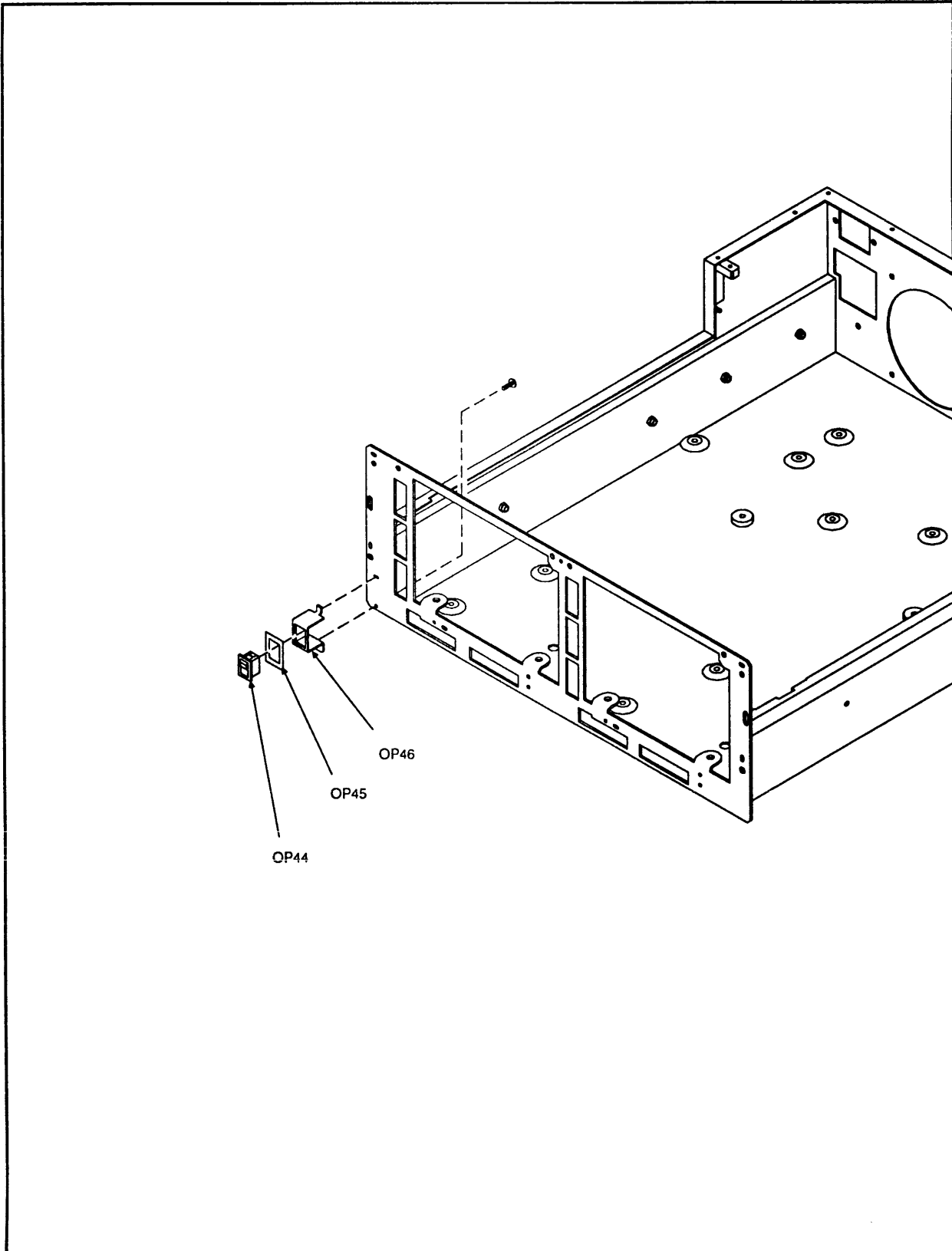


Figure 50. 4220 Orderable Parts
Front Switch

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|-----------------------|------------|
| OP44 | 24050539 | FRONT POWER SWITCH | 1 |
| OP45 | 287659XX | BEZEL, FRONT POWER | 1 |
| OP46 | 288475XX | BRACKET, FRONT SWITCH | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|----------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8 | 1 |

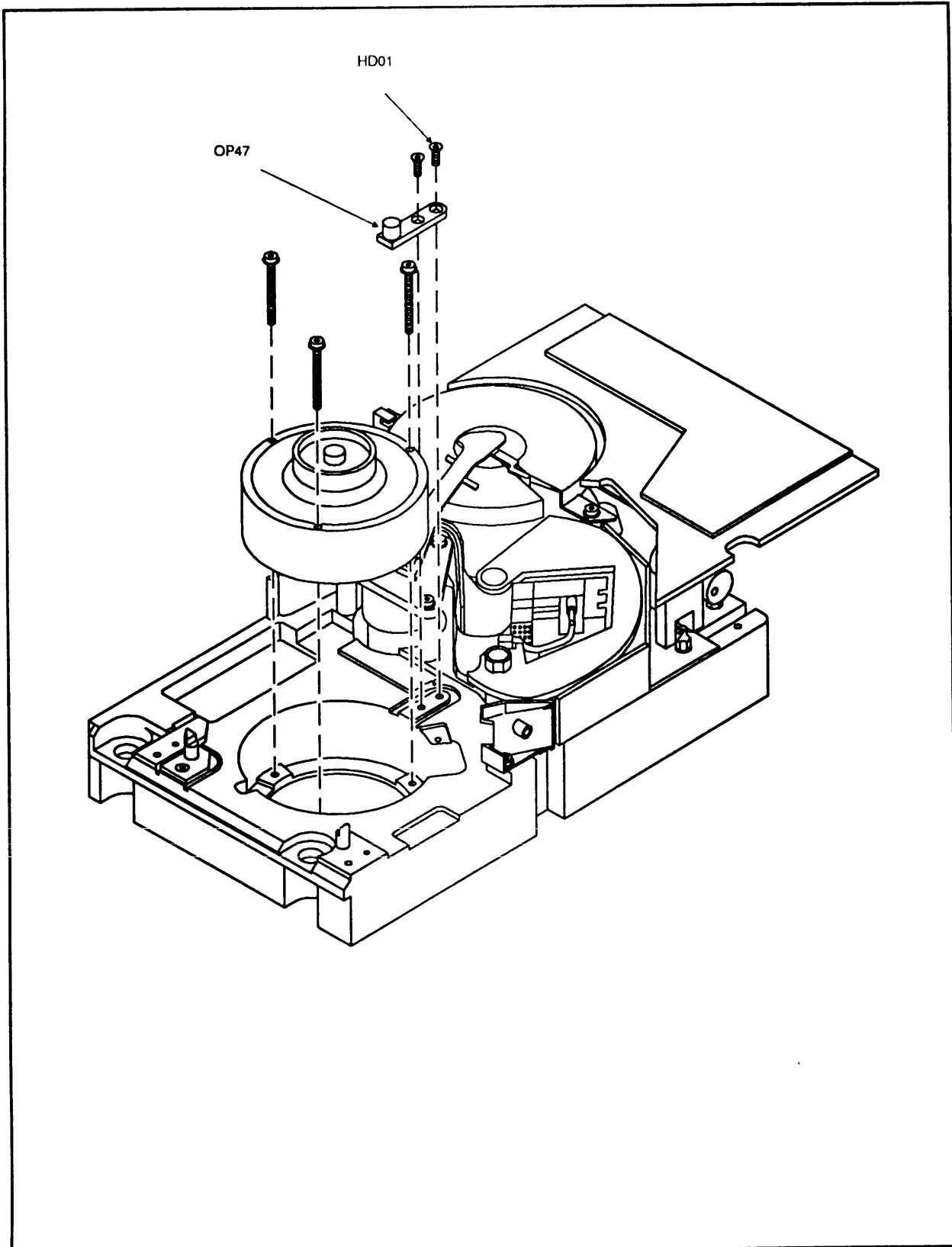


Figure 51. 4220 Orderable Parts
Cartridge Pin

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP47 | 287566XX | PIN, CARTRIDGE | 2 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, FLATHEAD, 6-32X3/8, BO | 2 |

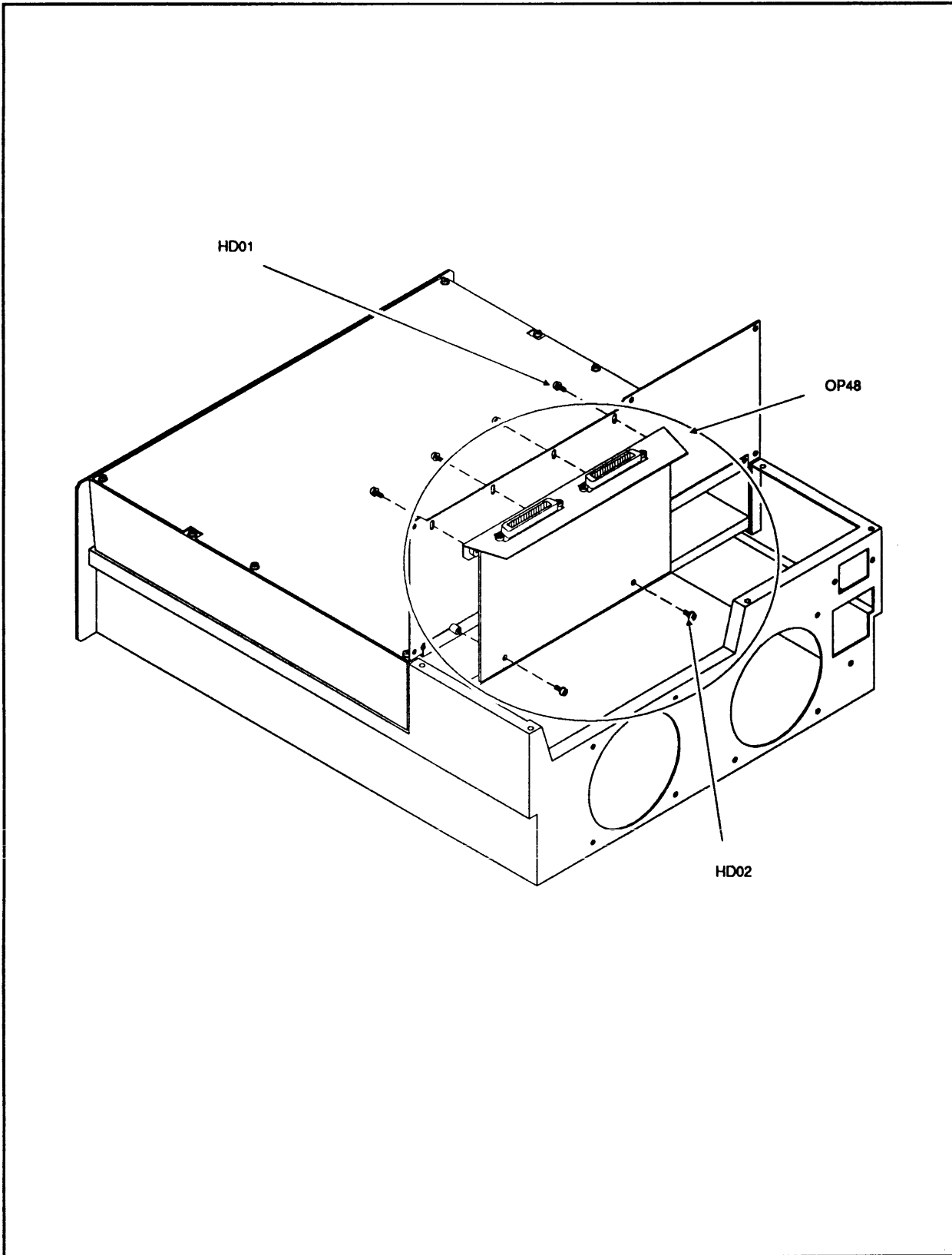


Figure 52. 4220 Orderable Parts
SCSI I/F Assembly

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP48 | 286990XX | SCSI I/F, ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X1/4, Z | 4 |
| HD02 | SCREW, PHT, SEMS, 6-32X3/8, Z | 2 |

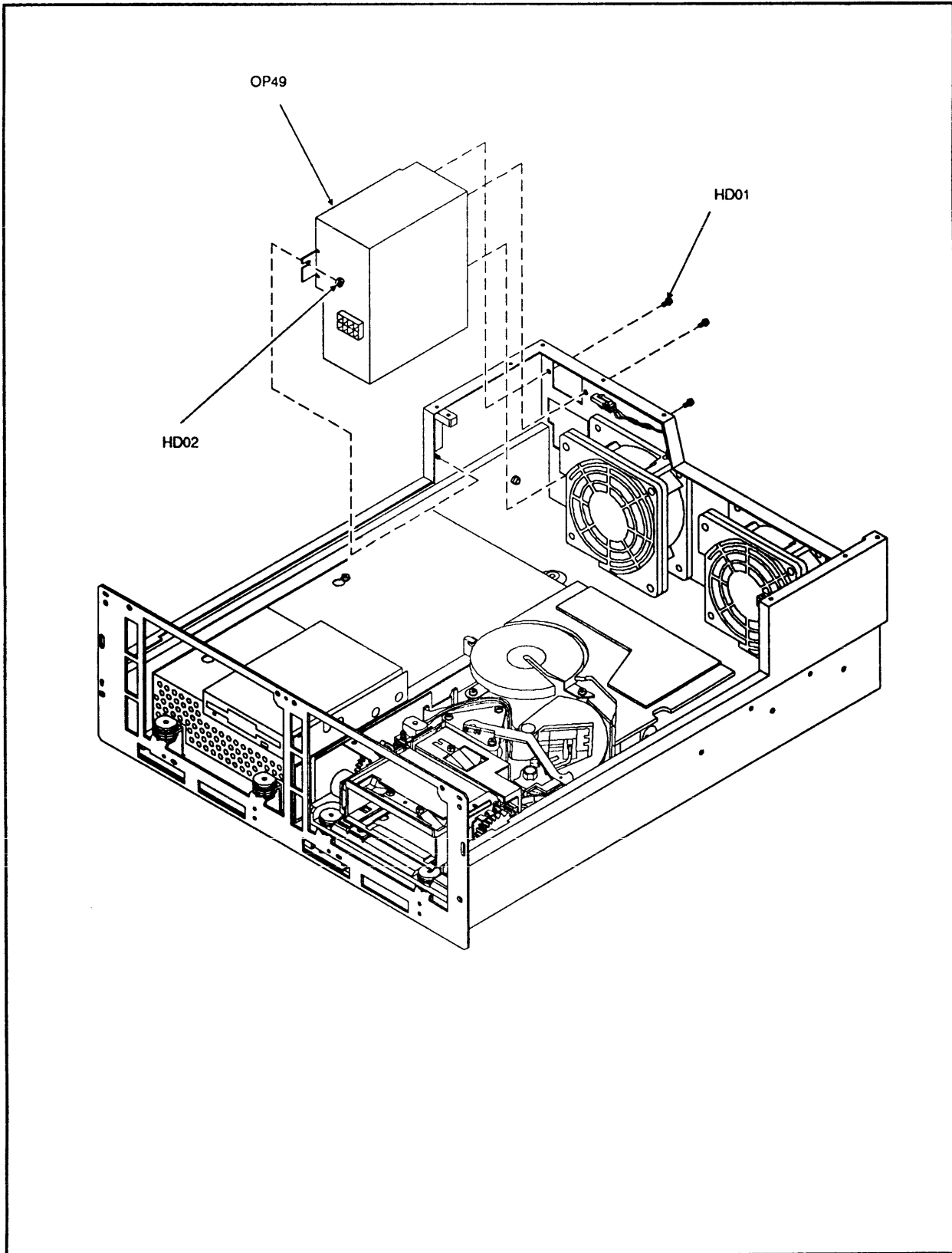


Figure 53. 4220 Orderable Parts
Line Filter

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP49 | 289440XX | LINE FILTER | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8, Z | 3 |
| HD02 | KEPS NUT, 6-32 | 1 |

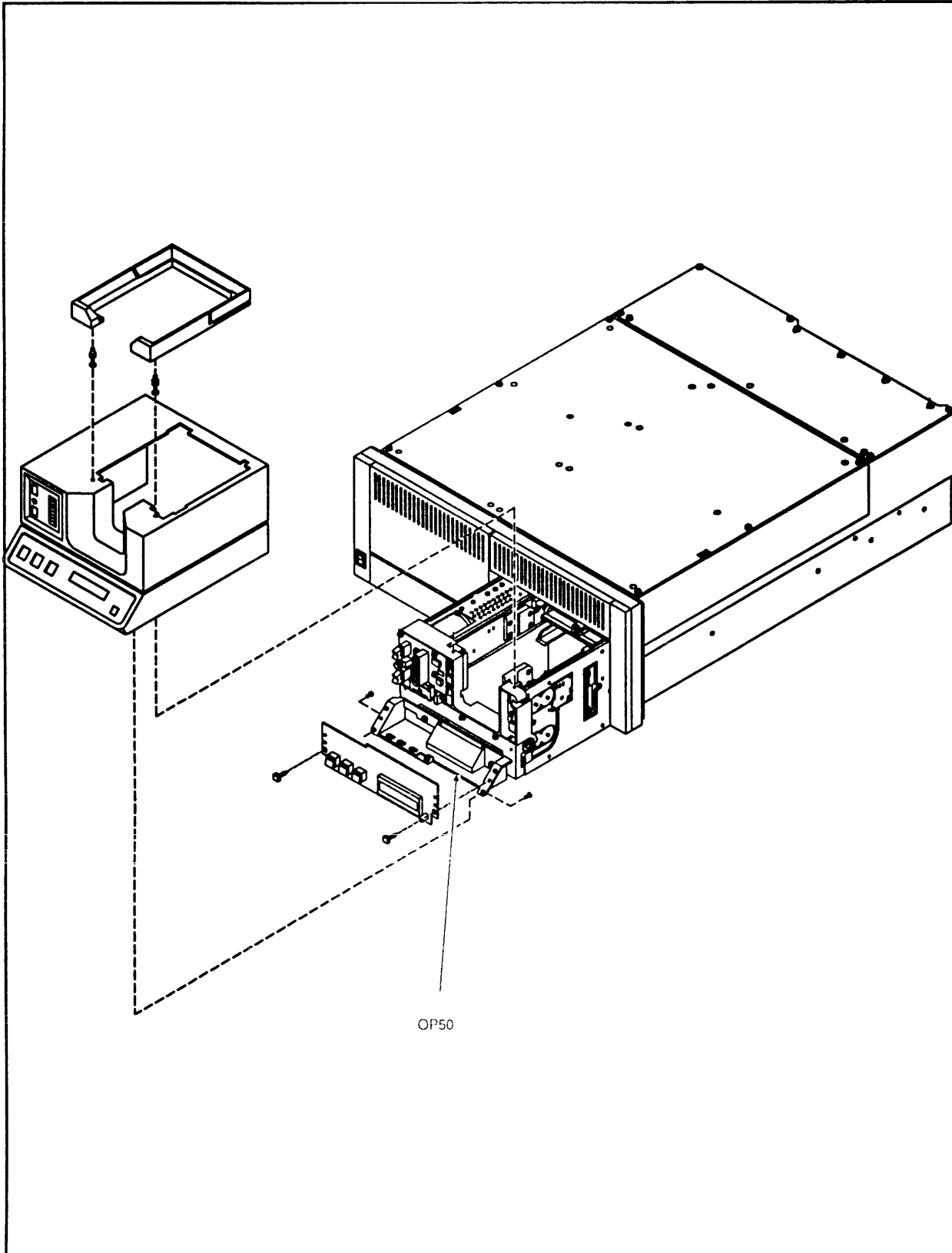


Figure 54. 4220 Orderable Parts
DP Bracket

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP50 | 288547XX | BRACKET, DP | |

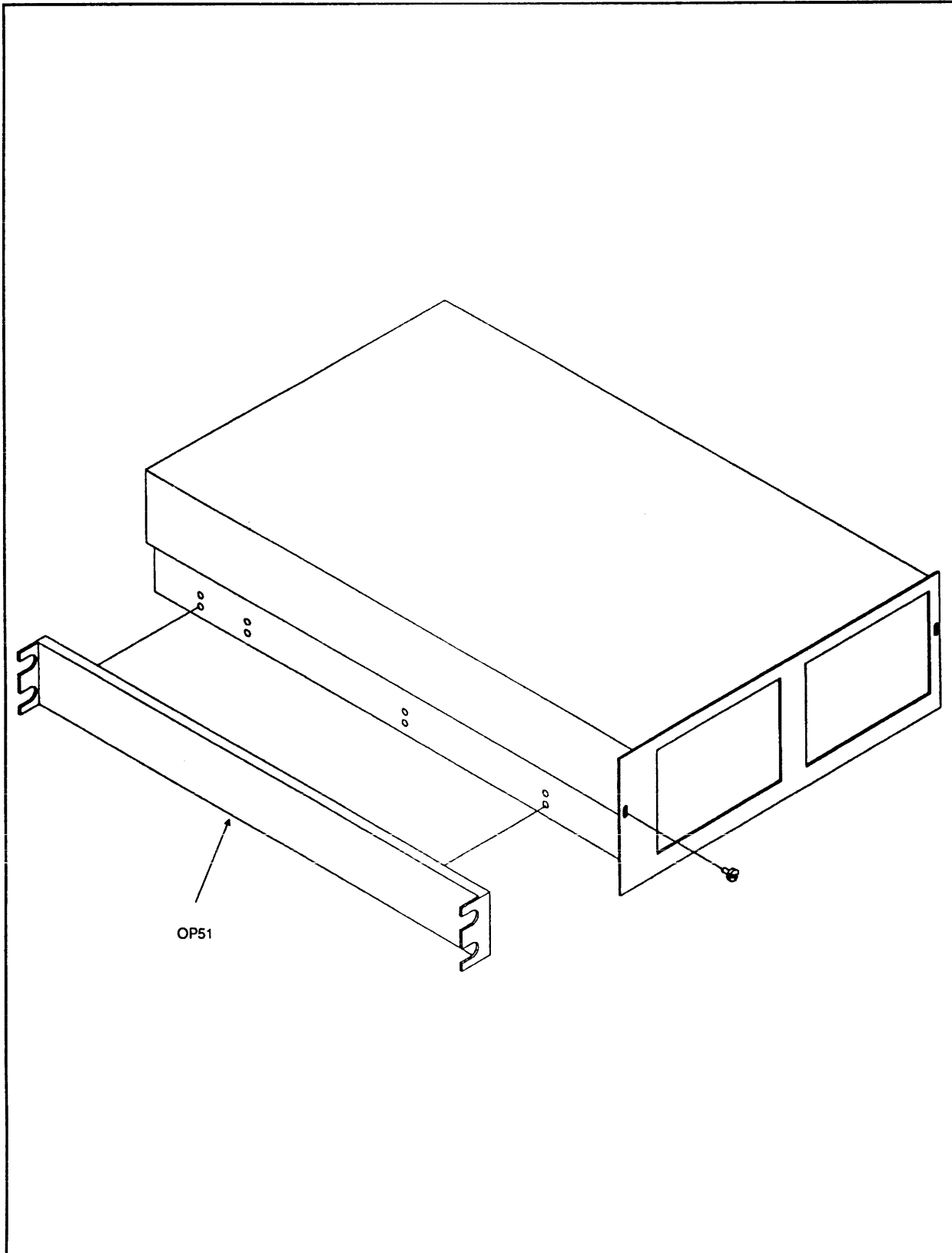


Figure 55. 4220 Orderable Parts
Jonathan Slides

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP51 | 288465XX | SLIDES, JONATHAN | 1 |

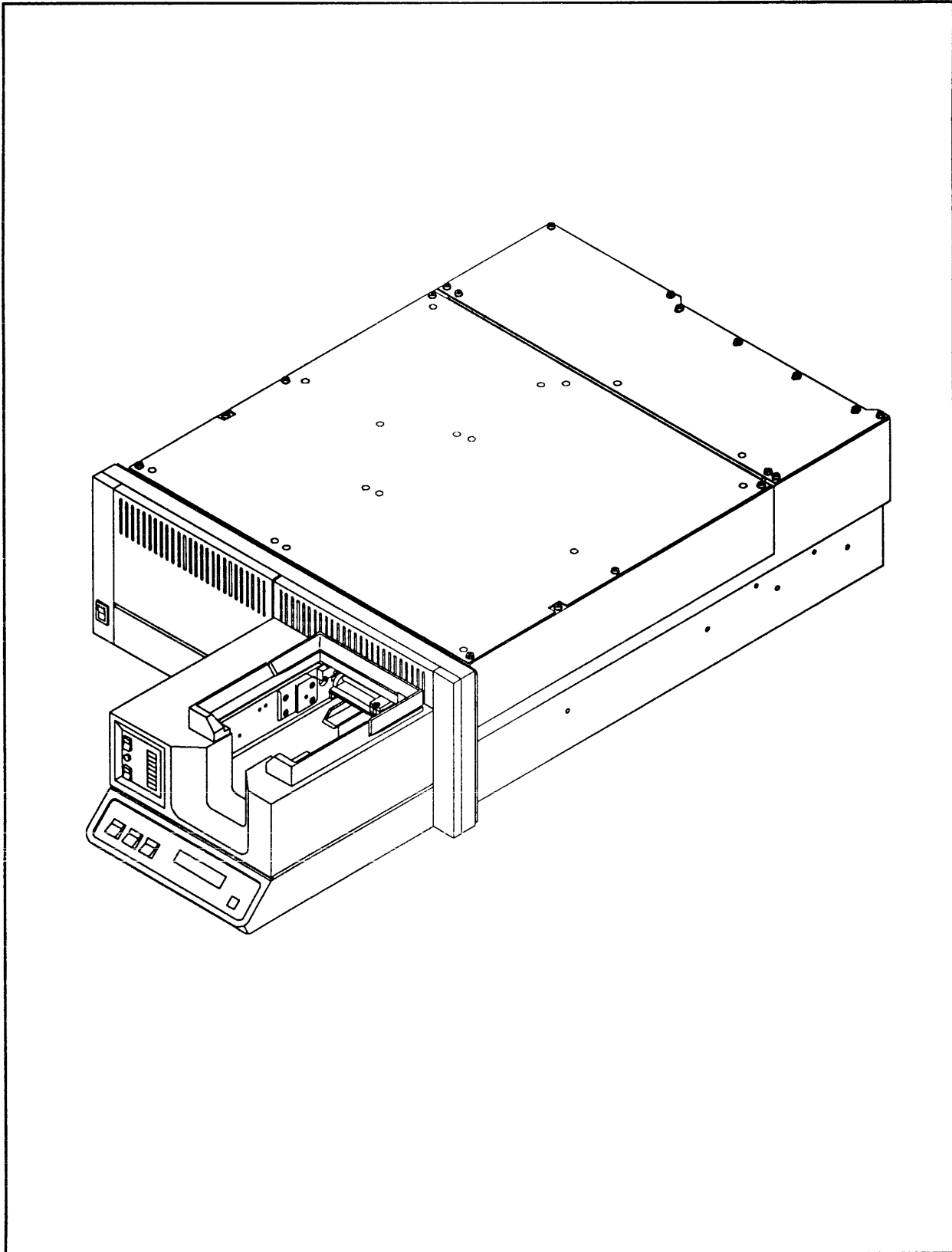


Figure 56. 4220 Orderable Parts
4220 with Autoloader (Right-hand Mount)

4220 Assembly

Orderable Parts (non-FRU), cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| OP51 | 288465XX | COVER, TABLE TOP | 1 |
| OP52 | 288468XX | BRACKET, TABLE TOP | 2 |

Attaching Hardware

| <u>Fig. Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|------------------------|------------|
| HD01 | SCREW, SHNH 8-32X1/4,Z | 6 |
| HD02 | WASHER, EXT ST, #8, Z | 6 |

Automatic Cartridge Loader (ACL)

The Automatic Cartridge Loader (ACL) assembly consists of the ACL and all associated hardware and electronic components.

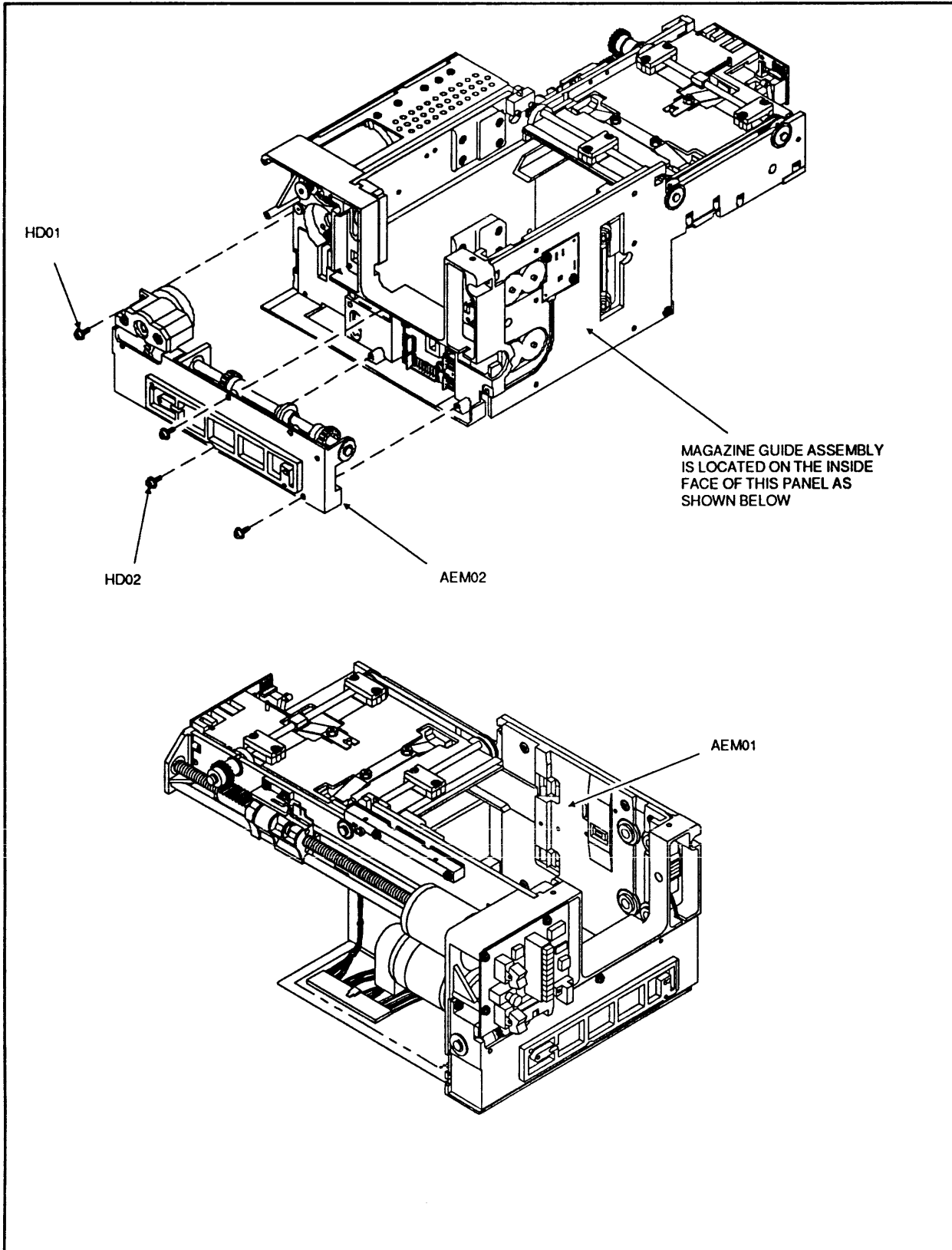


Figure 57. ACL Group
Vertical Transmission and Magazine Guide Assemblies

ACL Assembly

Electro-Mechanical

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|-------------------------|------------|
| AEM01 | 277910XX | MAGAZINE GUIDE ASSY | 1 |
| AEM02 | 277904XX | VERT. TRANSMISSION ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------|------------|
| HD01 | SCREW, PHT, 6-32X1/4, Z | 1 |
| HD02 | SCREW, PHT, 6-32X1/2, Z | 3 |

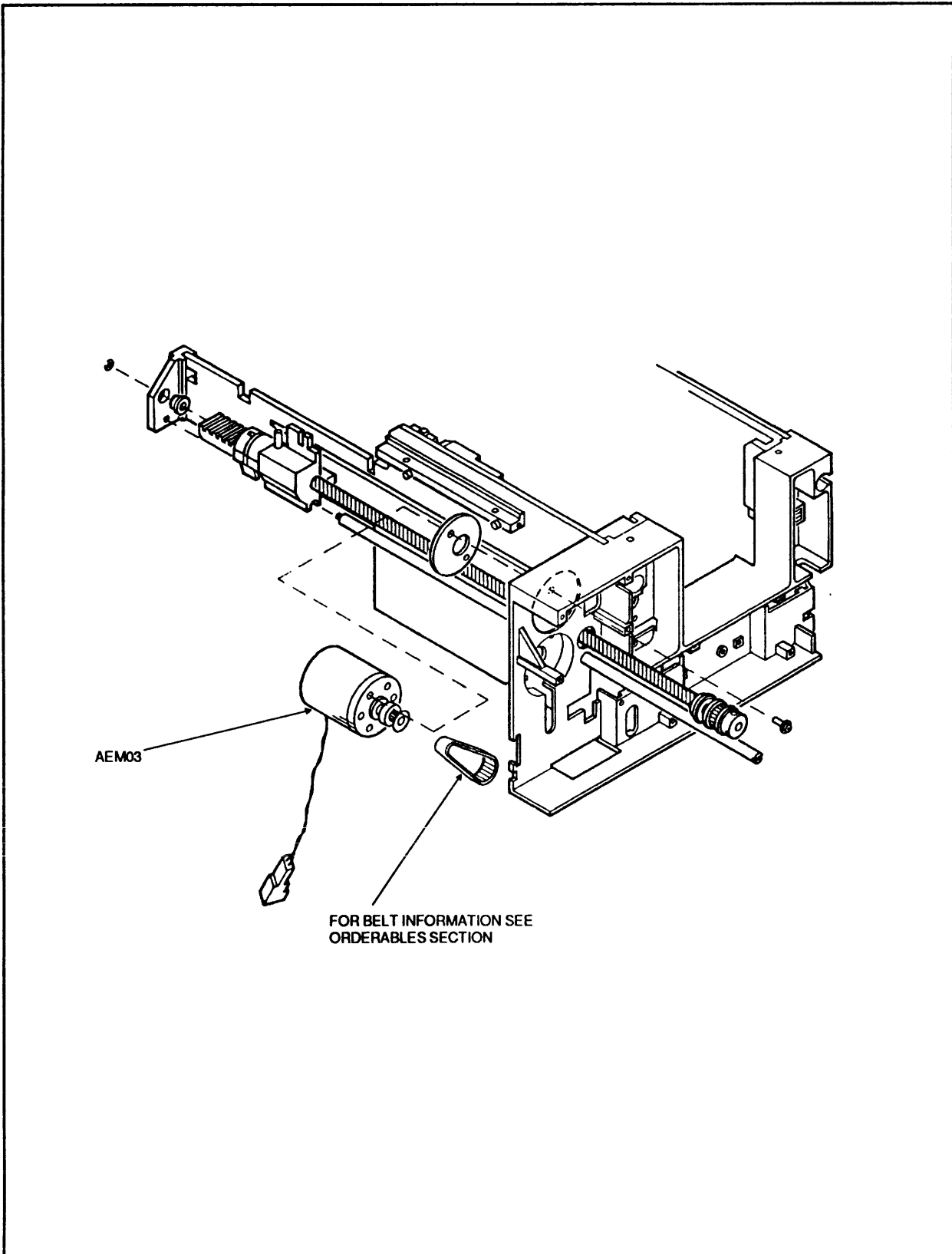


Figure 58. ACL Group
Lead Screw Drive Motor

ACL Assembly

Electro-Mechanical, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|---------------------------|---------------------------|---------------------------|-------------------|
| AEM03 | 277905XX | LEAD SCREW DRIVE MTR ASSY | 1 |

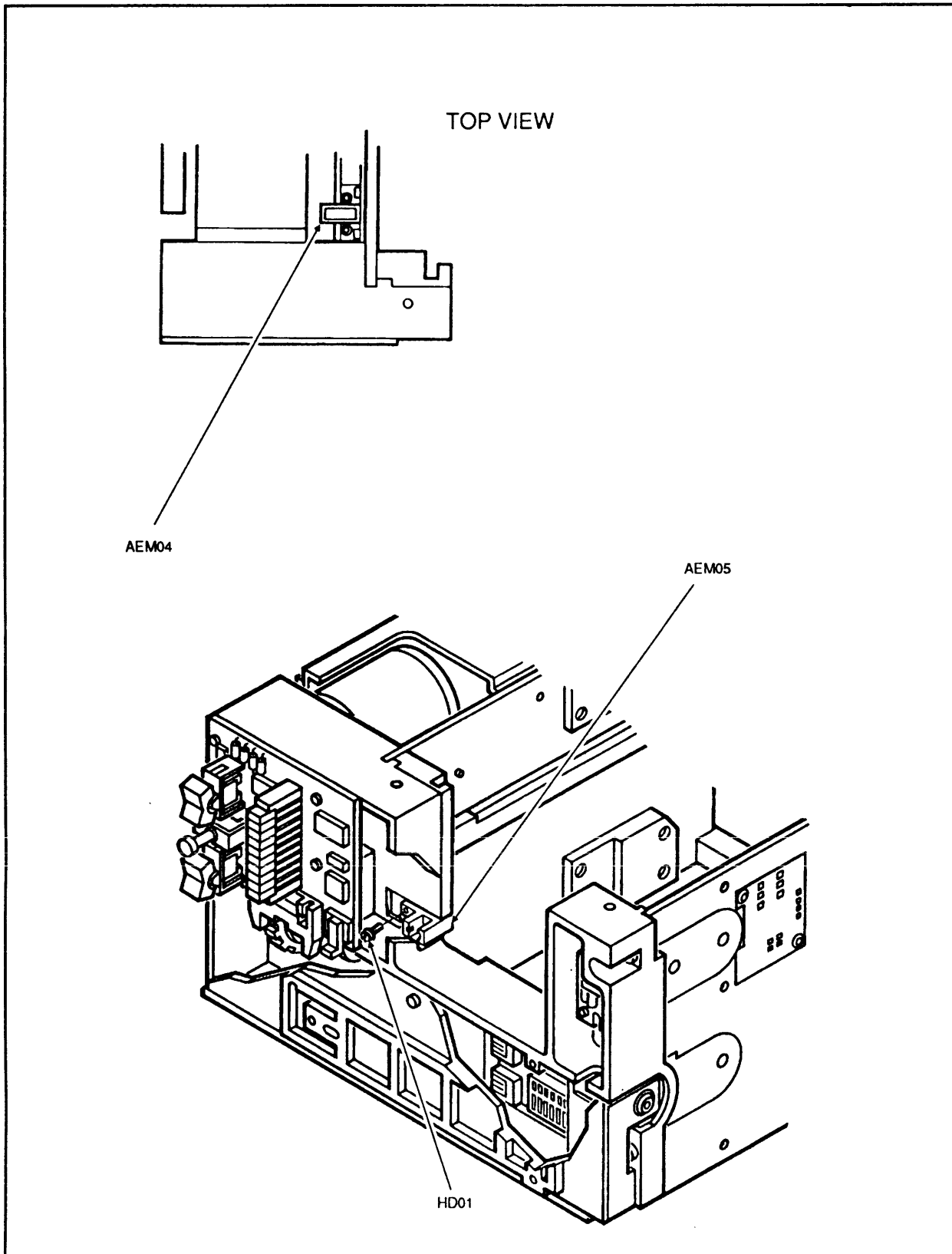


Figure 59. ACL Group
Horizontal Mag. Sensor and Mag. Index Sensor

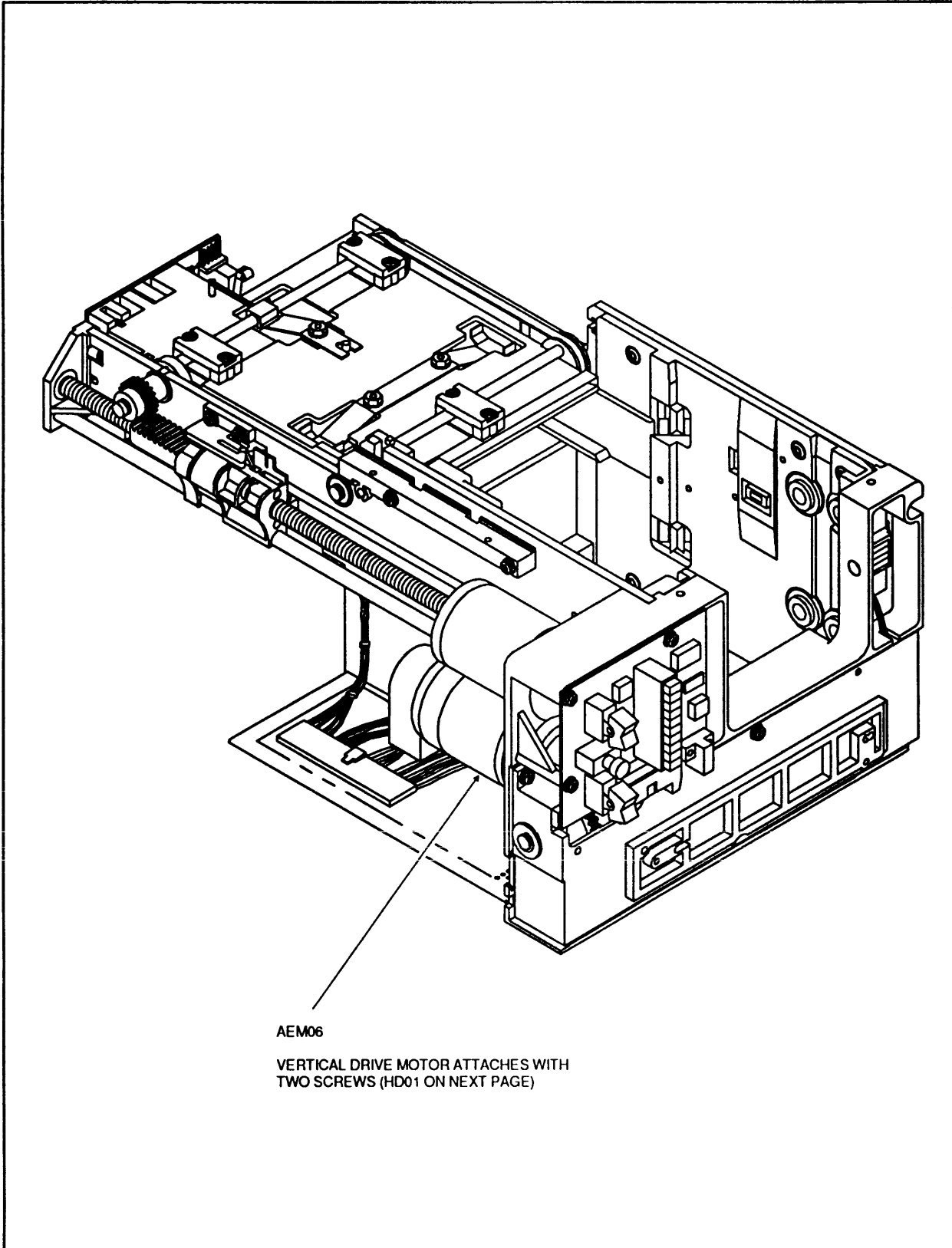
ACL Assembly

Electro-Mechanical, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|-----------------------------|------------|
| AEM04 | 277916XX | HORIZONTAL MAG SENSOR ASSY. | 1 |
| AEM05 | 277917XX | MAG INDEX SENSOR ASSY. | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------|------------|
| HD01 | SCREW, PHT, 4-40X3/8, Z | 1 |



AEM06
VERTICAL DRIVE MOTOR ATTACHES WITH
TWO SCREWS (HD01 ON NEXT PAGE)

Figure 60. ACL Group
Vertical Drive Motor

ACL Assembly

Electro-Mechanical, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|-----------------------|------------|
| AEM06 | 277906XX | VERT DRIVE MOTOR ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 6-32X3/8, Z | 2 |

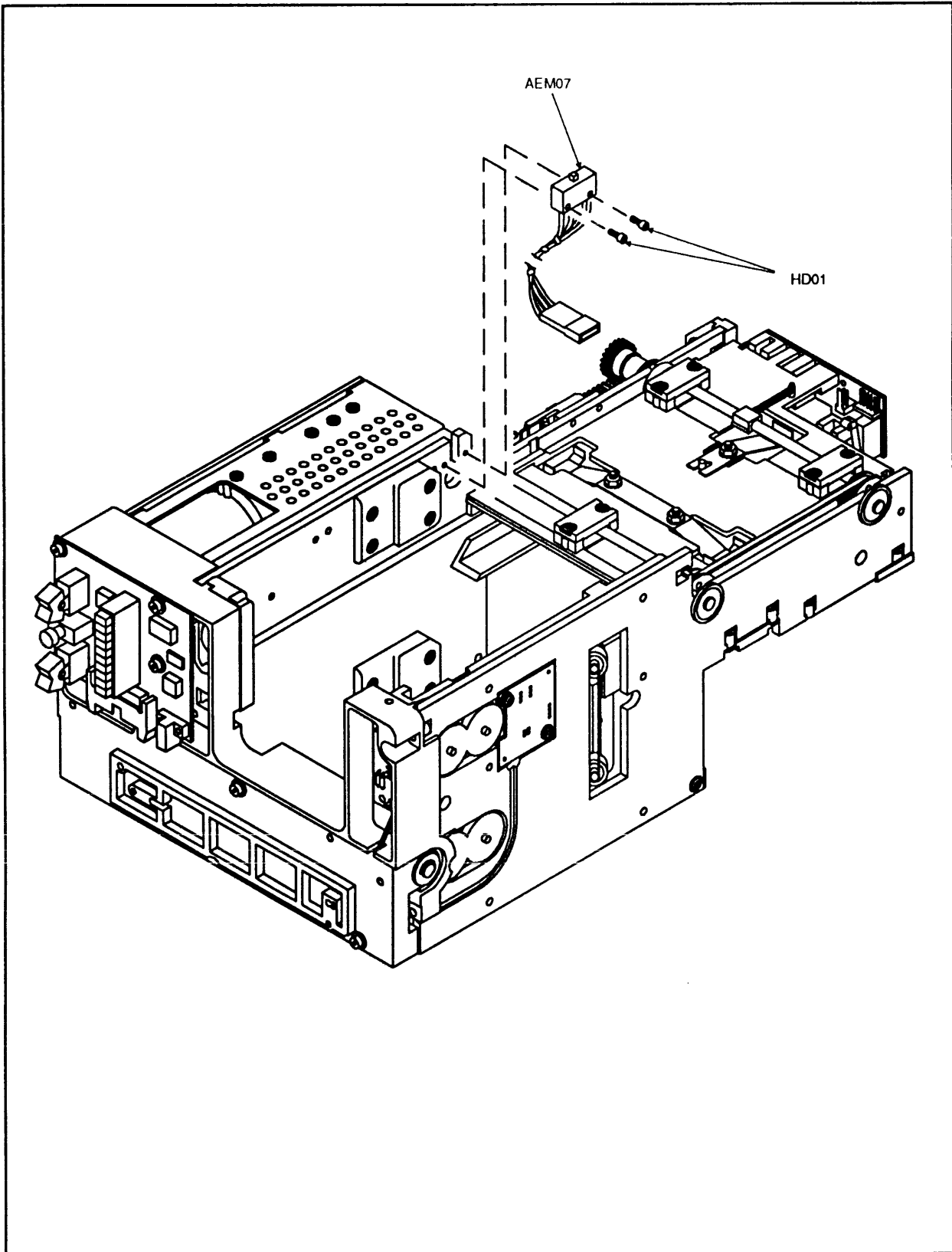


Figure 61. ACL Group
Motor Shut Off Switch

ACL Assembly

Electro-Mechanical, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|---|------------|
| AEM07 | 278906XX | MOTOR SHUT OFF SWITCH (comes with cable) | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-----------------------------|------------|
| HD01 | SCREW, SKT HD CAP, 2-56X3/8 | 2 |

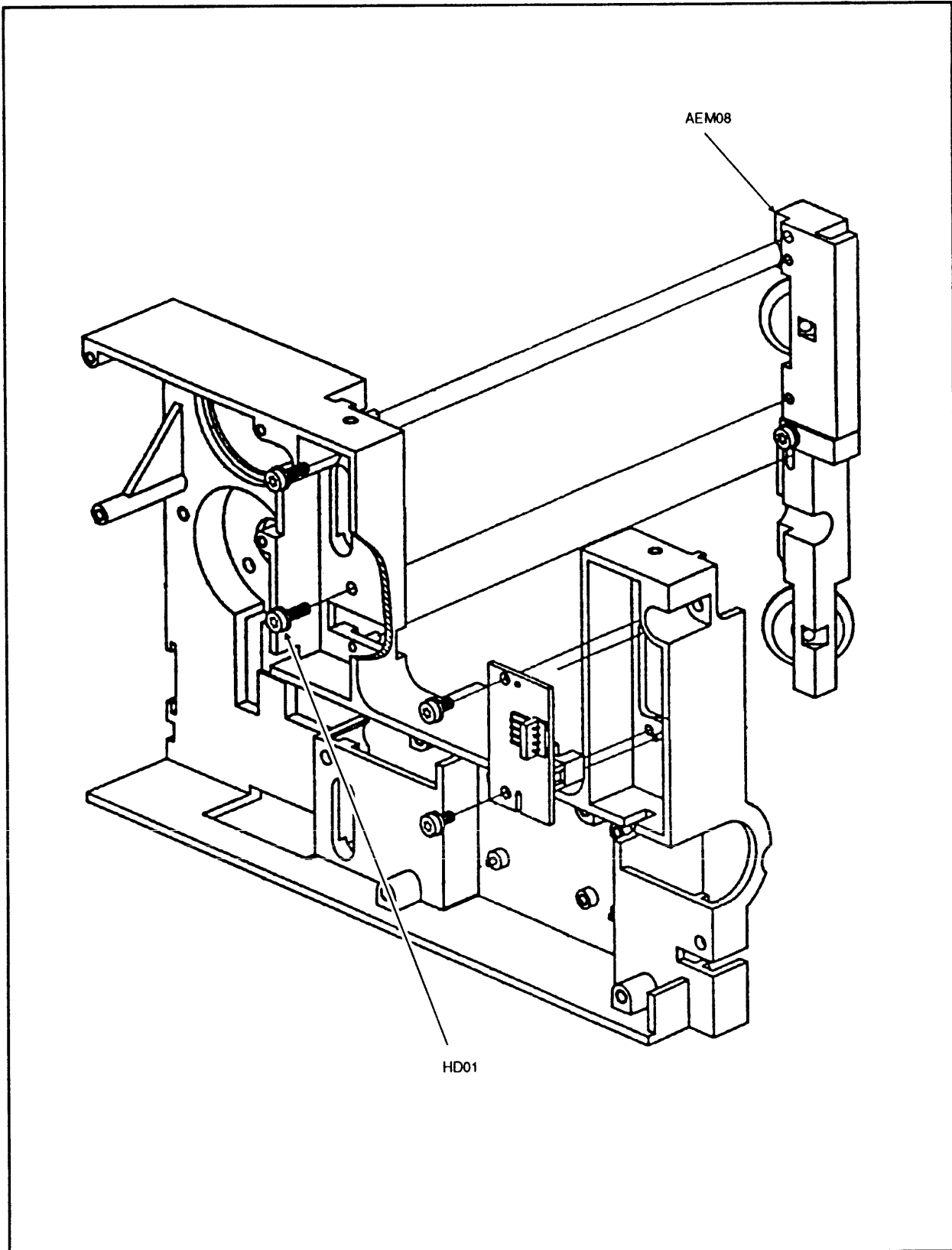


Figure 62. ACL Group
Roller Guide Block Assembly

ACL Assembly

Electro-Mechanical, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|-------------------------|------------|
| AEM08 | 277907XX | ROLLER GUIDE BLOCK ASSY | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 4-40X3/8, Z | 2 |

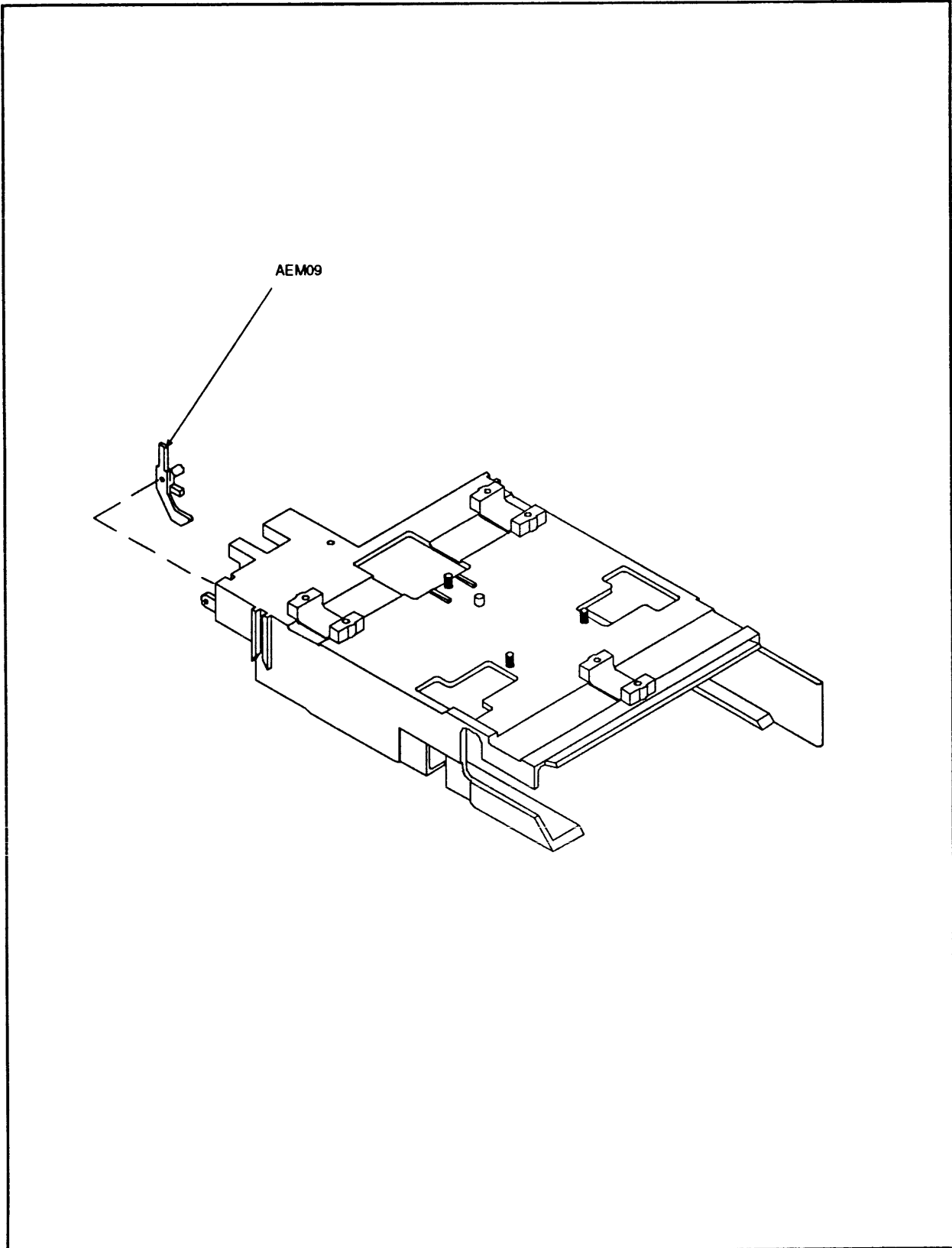


Figure 63. ACL Group
Cleaning Cart Sensor/Flag

ACL Assembly

Electro-Mechanical, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|---------------------------|------------|
| AEM09 | 276950XX | CLEANING CART SENSOR/FLAG | 1 |

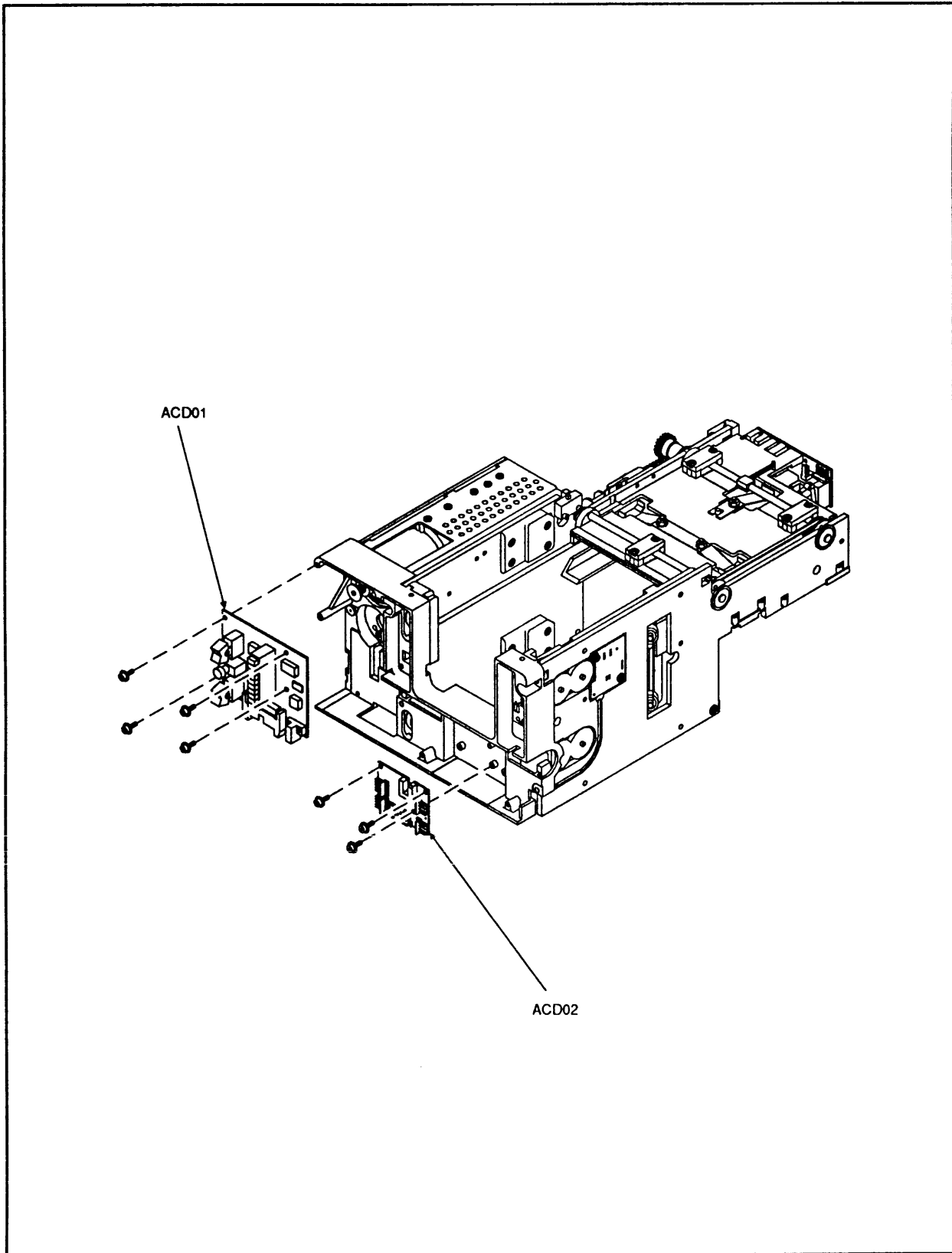


Figure 64. ACL Group
AS and RS Cards

ACL Assembly

Card Group

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|----------------------|------------|
| ACD01 | 28097XXX | CKT CD AS ASSY D/BUS | 1 |
| ACD02 | 28112XXX | CKT CD RS ASSY. | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, 4-40X3/8, Z | 4 |
| HD02 | SCREW, PHT, SEMS, 4-40X1/4, Z | 3 |

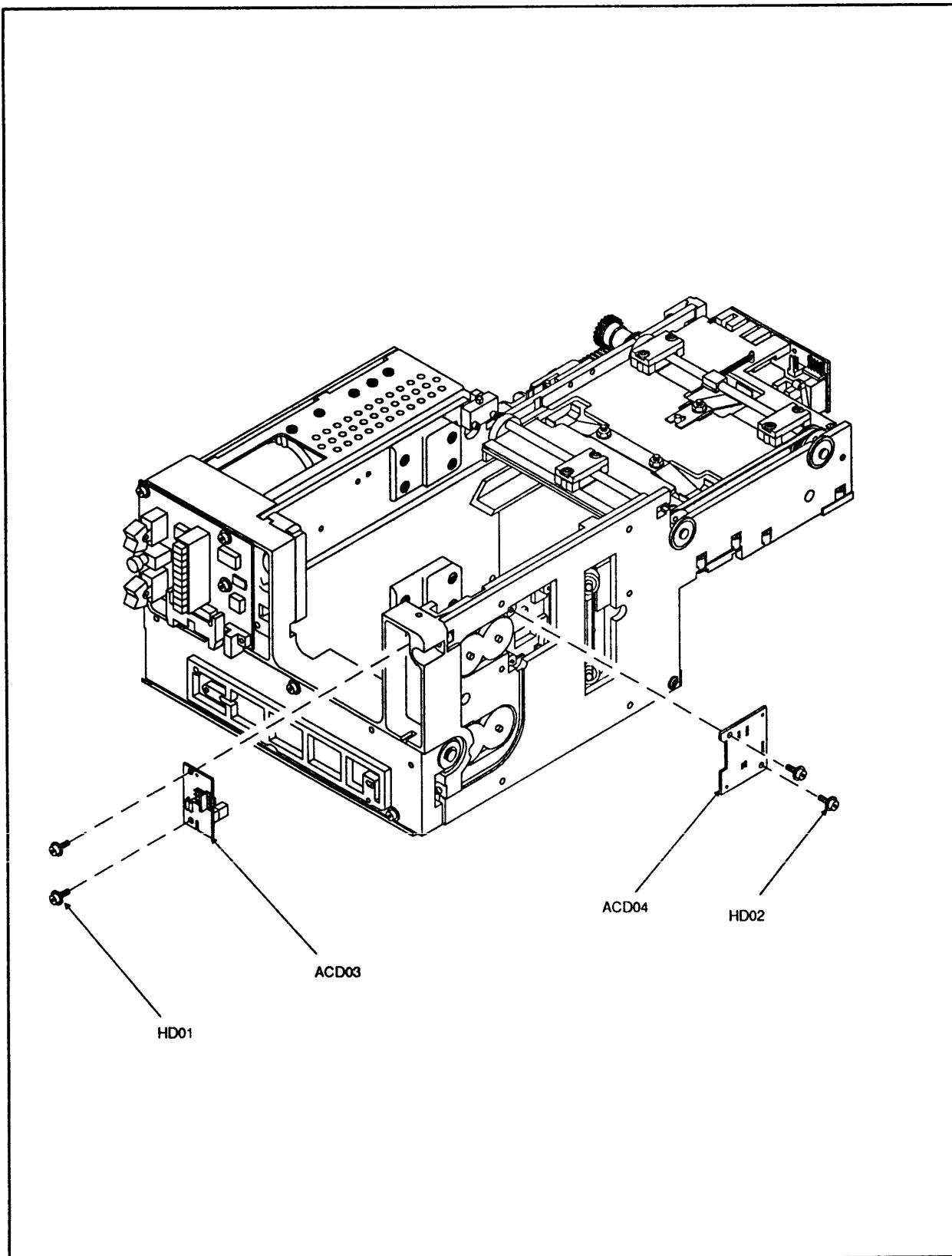


Figure 65. ACL Group
SS and CS Card

ACL Assembly

Card Group, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| ACD03 | 28106XXX | CKT CD SS ASSY. | 1 |
| ACD04 | 28109XXX | CKT CD CS ASSY. | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|---------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 4-40X1/4, Z | 2 |
| HD02 | SCREW, THR FM, PHT, 4-20X1/4, S | 2 |

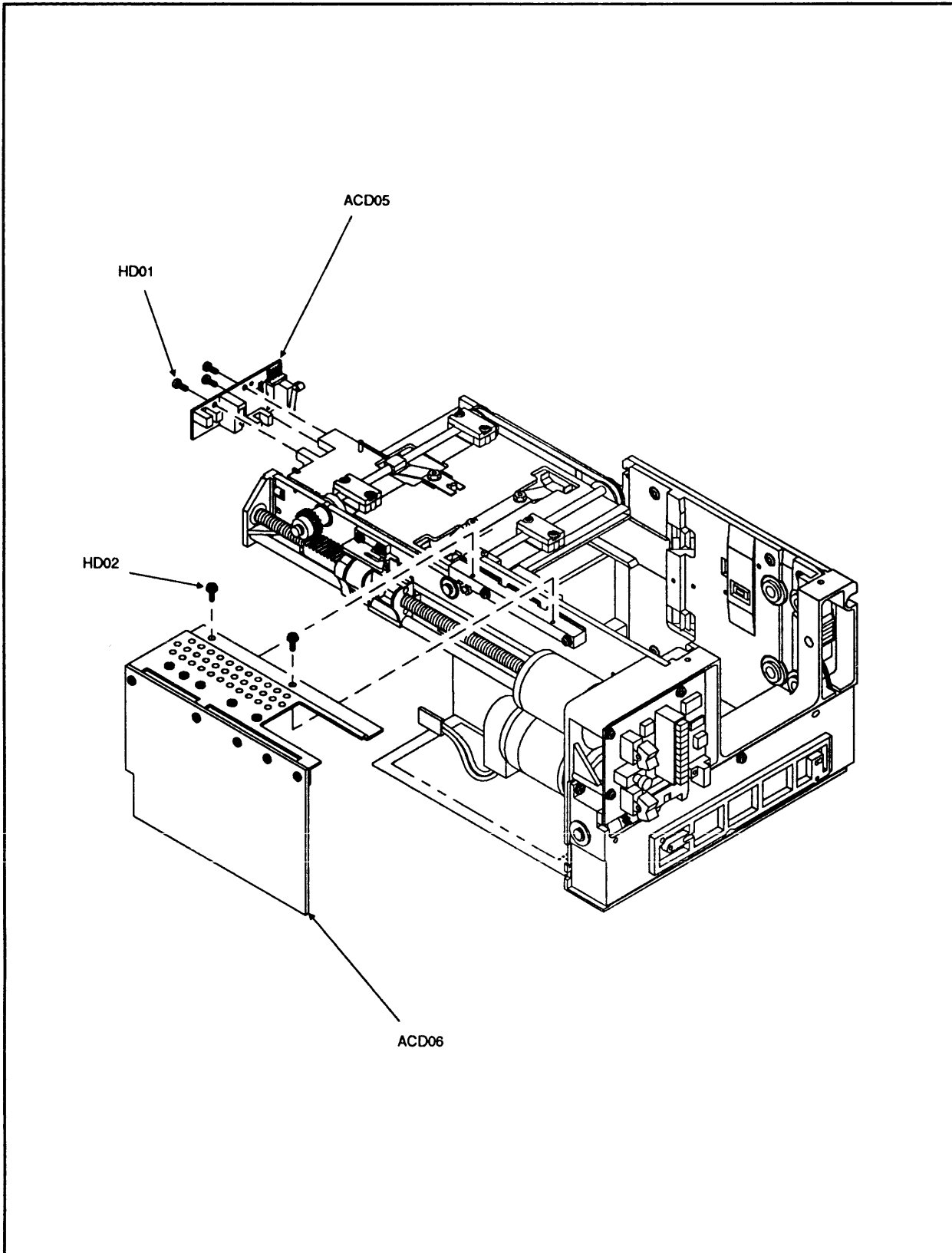


Figure 66. ACL Group
AC and FS Cards

ACL Assembly

Card Group, cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|-------------------------|------------|
| ACD05 | 28103XXX | CKT CD FS ASSY. | 1 |
| ACD06 | 28091XXX | CKT CD AC ASSY. (D/BUS) | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|---------------------------|------------|
| HD01 | SCREW, PLASTITE, 4-40X3/8 | 3 |
| HD02 | SCREW, SEMS, 6-32X3/8 | 2 |

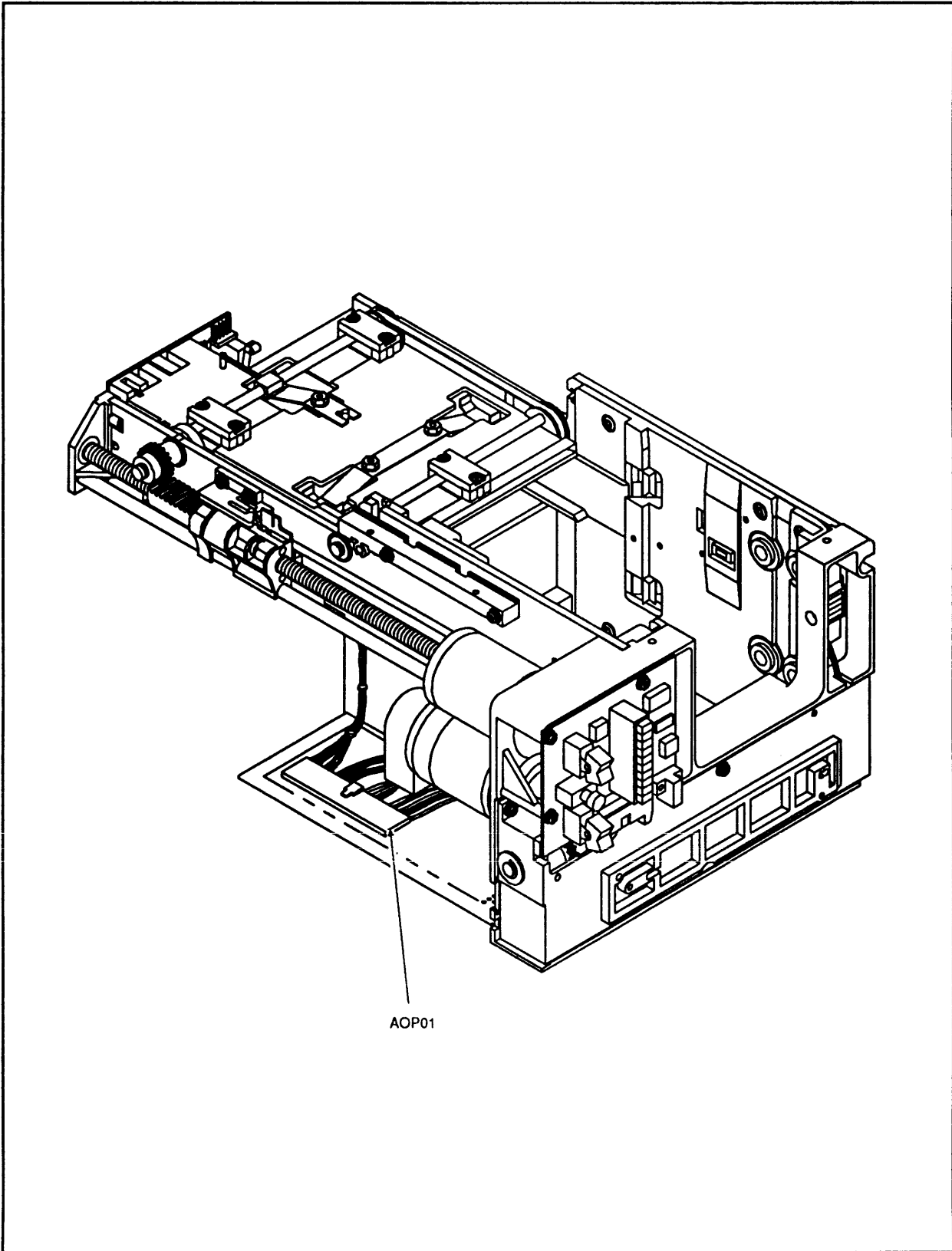


Figure 67. ACL Orderable Parts
AL Interconnect Cable

ACL Assembly

Orderable Parts

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|----------------------|------------|
| AOP01 | 278902XX | CBL, AL INTERCONNECT | 1 |

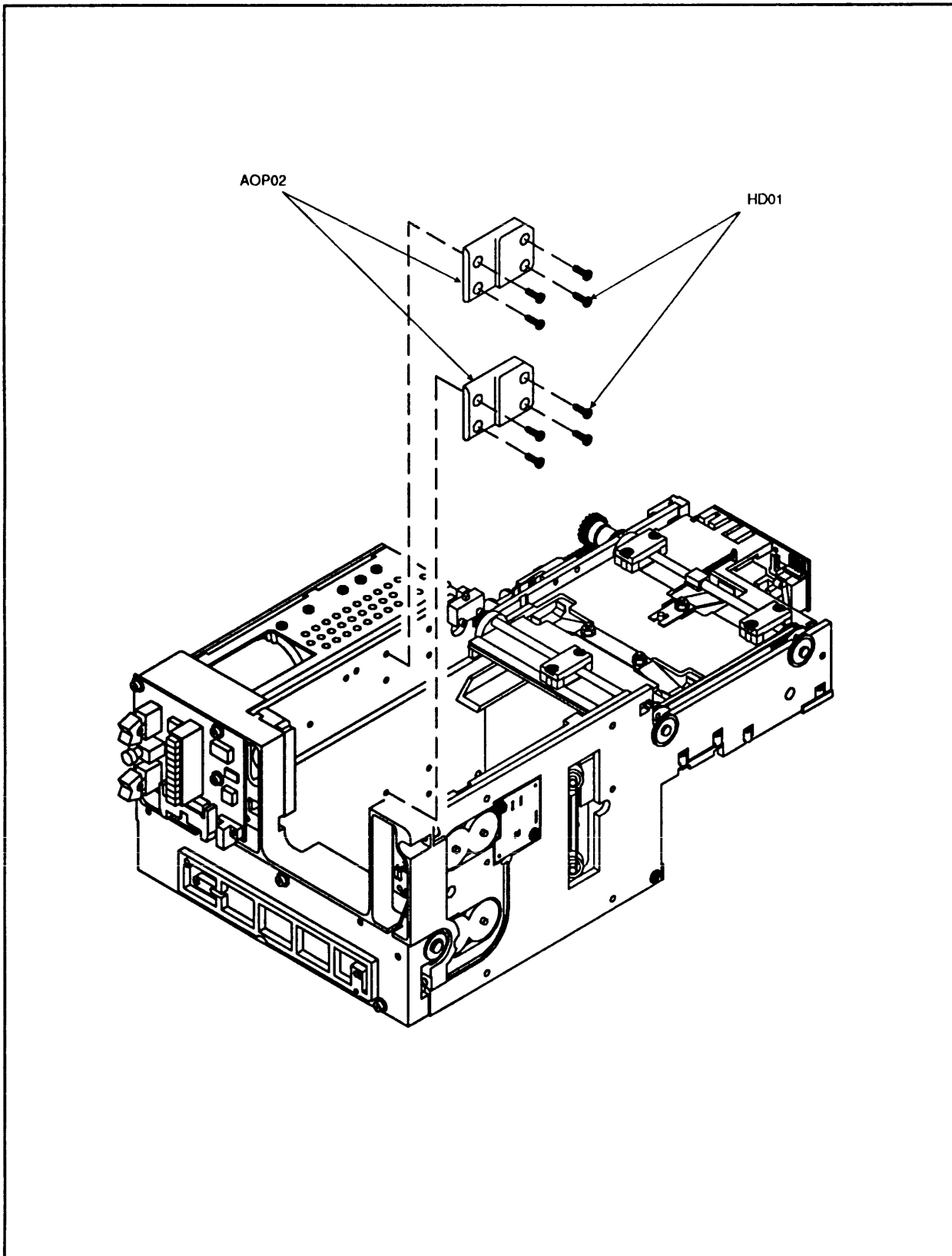


Figure 68. ACL Orderable Parts
Magazine Skid Plate

ACL Assembly

Orderable Parts

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| AOP02 | 276959XX | MAG. SKID PLATE | 2 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------|------------|
| HD01 | SCREW, PHT, 6-32X1/4, Z | 8 |

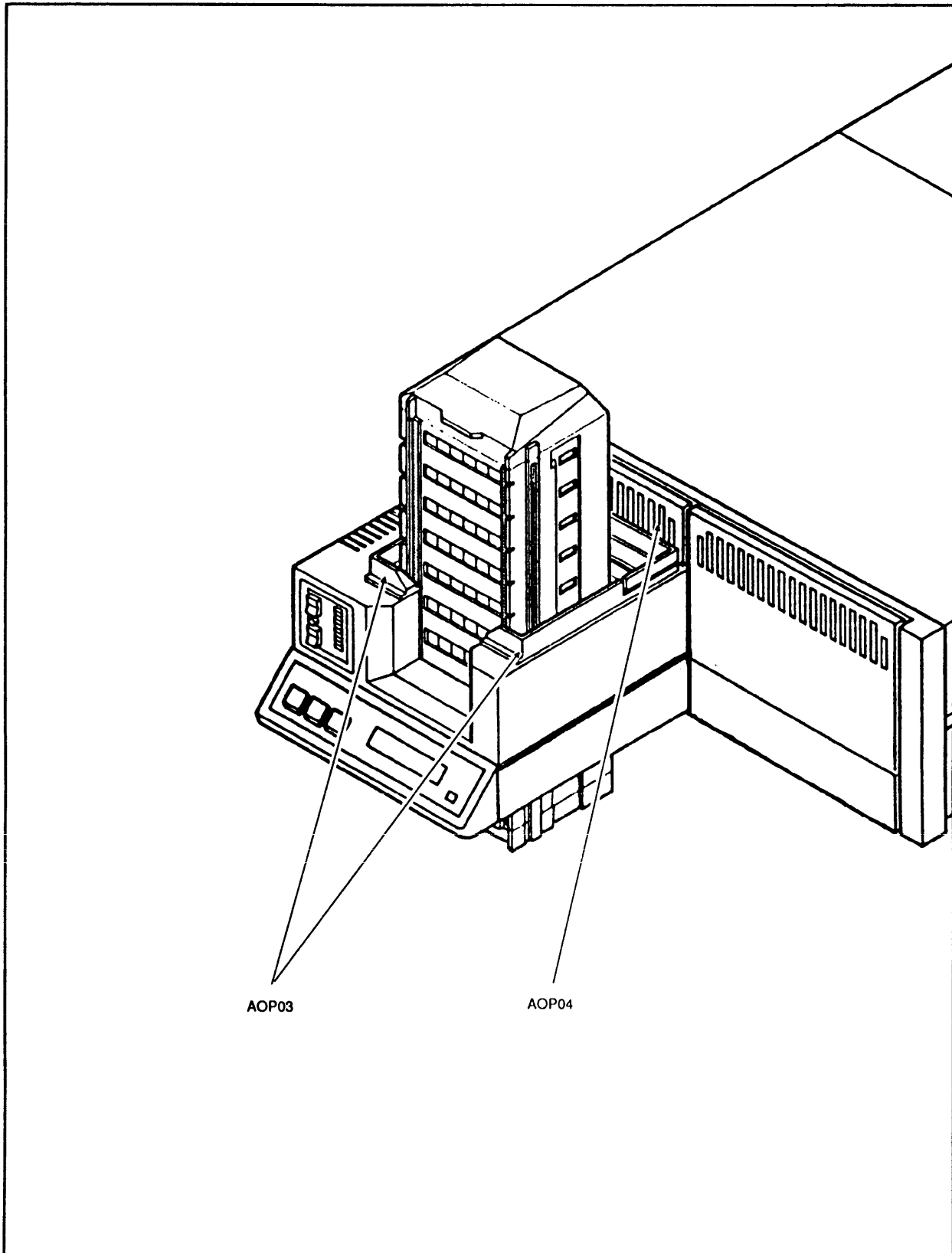


Figure 69. ACL Orderable Parts
Magazine Guide Ring and Bezel Fill Plate

ACL Assembly

Orderable Parts,cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|---------------------|------------|
| AOP03 | 277915XX | MAGAZINE GUIDE RING | 1 |
| AOP04 | 287631XX | BEZEL, FILL PLATE | 1 |

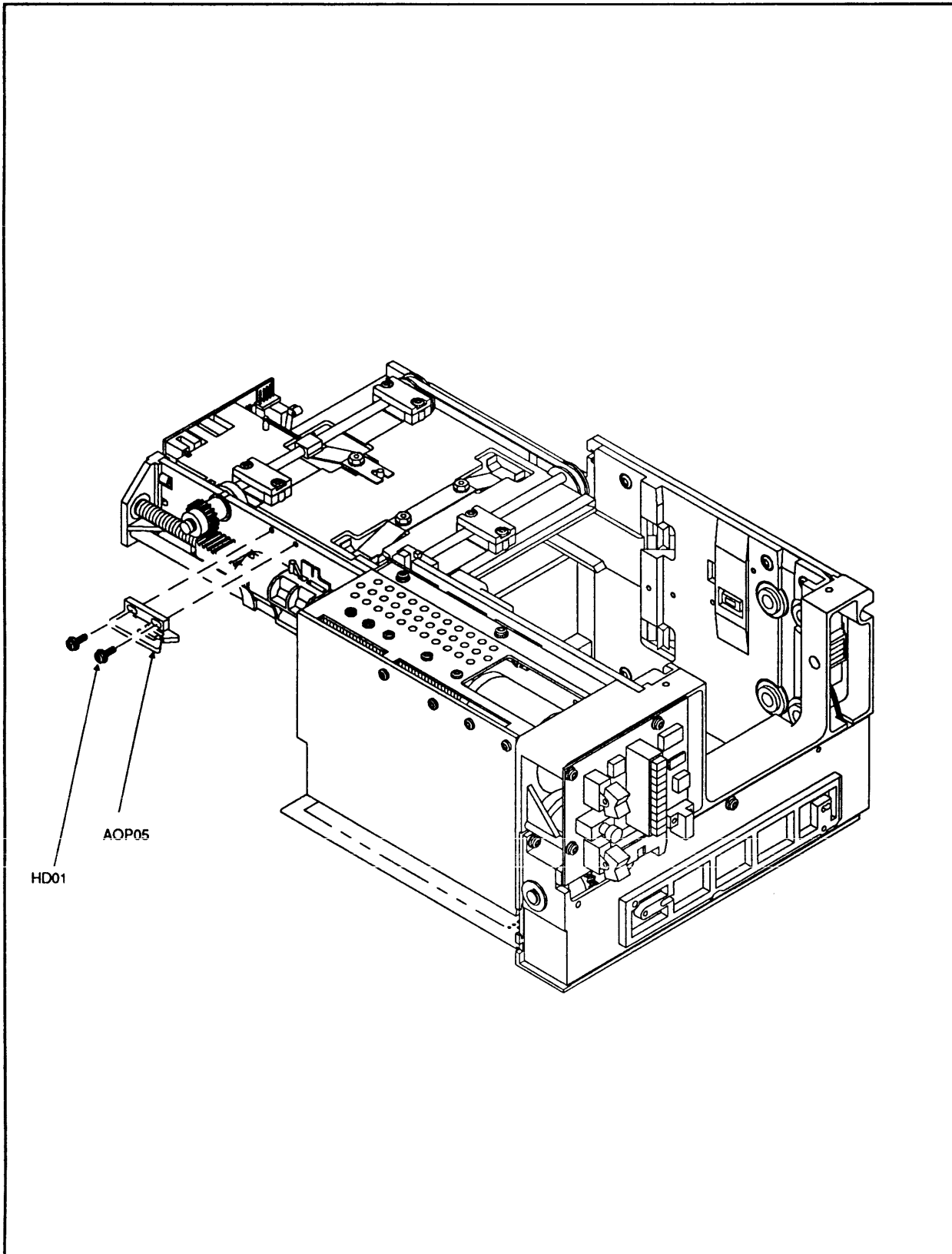


Figure 70. ACL Orderable Parts
Caliper Retainer

ACL Assembly

Orderable Parts,cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| AOP05 | 276986XX | CALIPER RETAINER | 1 |

Attaching Hardware

| <u>Fig Number</u> | <u>Description</u> | <u>Qty</u> |
|-------------------|-------------------------------|------------|
| HD01 | SCREW, PHT, SEMS, 4-40X3/8. Z | 2 |

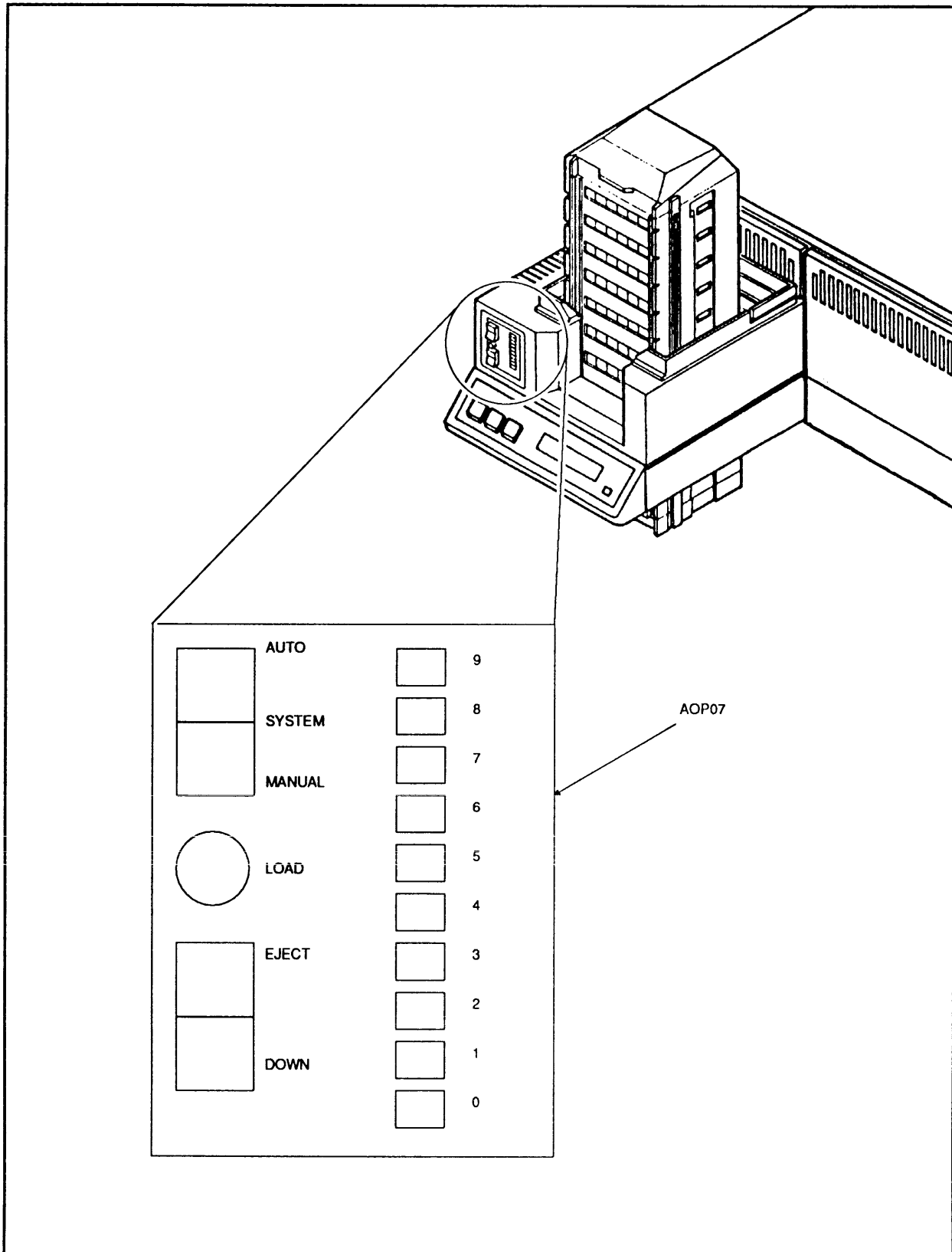


Figure 71. ACL Orderable Part
Overlay Autoloader (ACL)

ACL Assembly

2110 Orderable Parts,cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|--------------------|------------|
| AOP07 | 276961XX | OVERLAY AUTOLOADER | 1 |

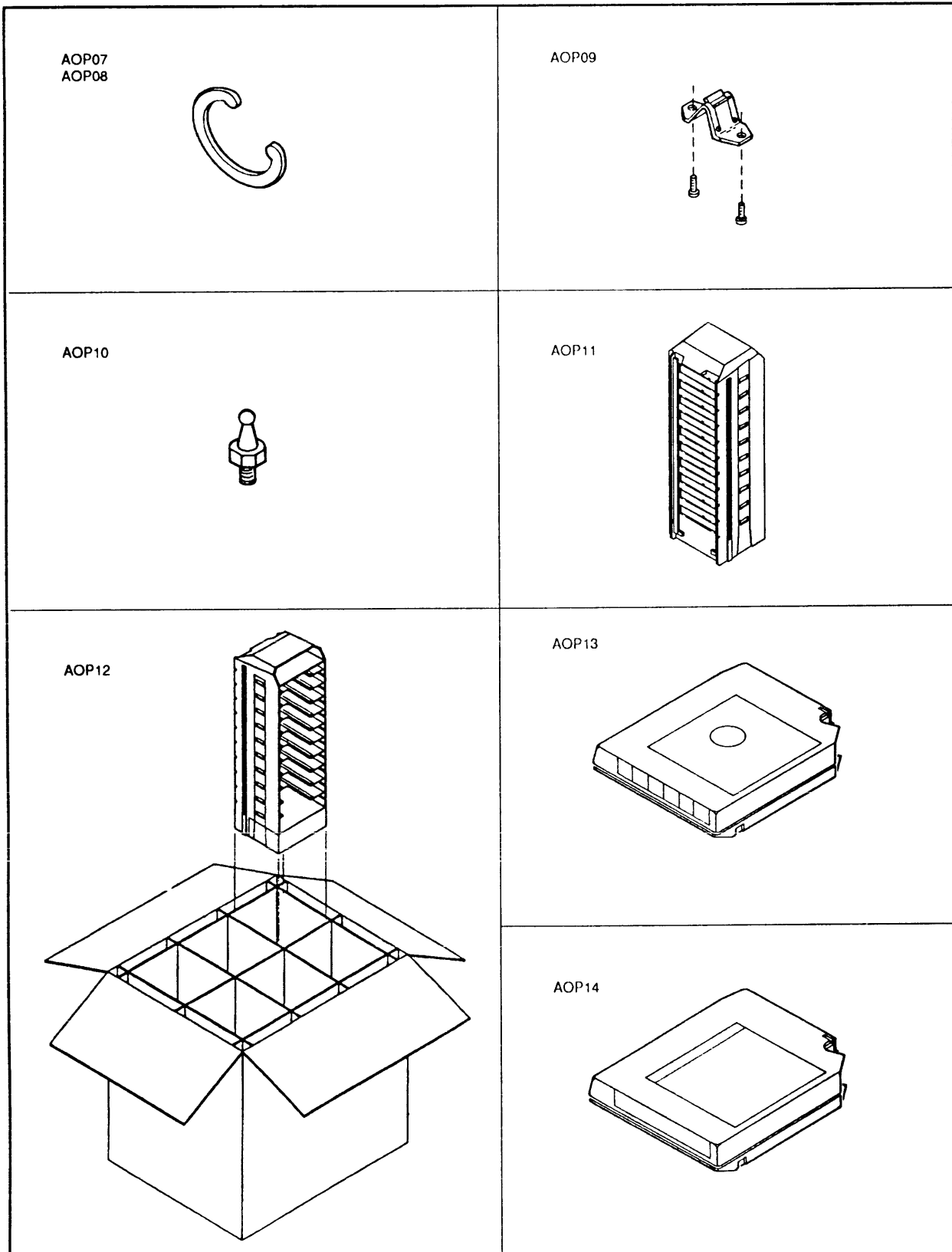


Figure 72. ACL Orderable Parts
Other Orderables

ACL Assembly

Orderable Parts,cont.

| <u>Fig. Number</u> | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|--------------------|--------------------|------------------------------|------------|
| AOP07 | 24020104 | RING, RETAINER P/O-EXT. .188 | 1 |
| AOP08 | 24020101 | RING, RETAINER P/O-EXT. .250 | 1 |
| AOP09 | 24018012 | FASTENER, .125 x .012T | 1 |
| AOP10 | 24022051 | BALL STUD, .473 x .312 | 1 |
| AOP11 | 277939XX | ACL MAGAZINE ASSY | 1 |
| AOP12 | 277928XX | ACL MAGAZINE (PACK OF 6) | 1 |
| AOP13 | 24024253 | BLANK TAPE, MRX | 1 |
| AOP14 | 24024254 | CLEANING TAPE, MRX | 1 |

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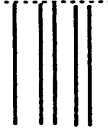
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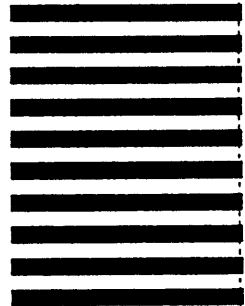
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