

BOEING 
COMMERCIAL JET
OVERHAUL MANUAL

**INSTRUMENT MODULE ASSEMBLIES P1-3, P2-1,
P3-1, P3-3**

31-36-75

BOEING P/N 65-81643-4, -7, -8, -11, -20

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

| BOEING SERVICE BULLETIN | BOEING TEMPORARY REVISION | OTHER DIRECTIVES | DATE DIRECTIVE INCORPORATED INTO TEXT |
|-------------------------------|---------------------------------|---------------------|---|
| | | PRR 32064-8 | Mar 10/72 |

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| LIST OF EFFECTIVE PAGES | | | | | |
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| * Indicates pages revised, added or deleted in latest revision | | | | | |
| F Indicates foldout pages - print one side only | | | | | |
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| 710 | BLANK | | | | |
| * 711 | Jun 10/72 | | | | |
| 712 | BLANK | | | | |
| * 713 | Jun 10/72 | | | | |
| 714 | BLANK | | | | |
| * 1101 | Jun 10/72 | | | | |
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| * 1105 | Jun 10/72 | | | | |
| * 1106 | Jun 10/72 | | | | |
| * 1107 | Jun 10/72 | | | | |
| * 1108 | Jun 10/72 | | | | |
| * 1109 | Jun 10/72 | | | | |
| * 1110 | Jun 10/72 | | | | |
| * 1111 | Jun 10/72 | | | | |
| * 1112 | Jun 10/72 | | | | |
| 1113 | BLANK | | | | |
| * 1114 | Jun 10/72 | | | | |
| * 1115 | Jun 10/72 | | | | |
| * 1116 | Jun 10/72 | | | | |

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INSTRUMENT MODULE ASSEMBLIES (P1-3, P2-1, P3-1, P3-3)

Boeing Part Numbers: 65-81643-4, -7, -8, -11, -20

DESCRIPTION AND OPERATION

1. Description

- A. The instrument module assemblies consist of switches, indicator lights, photocells, instrument clamps, connectors, and wire bundles mounted on chassis assemblies that are secured to instrument panels by cam locking studs.

2. Operation

- A. The instruments and indicator lights provide captain and first officer with information concerning status of various aircraft systems. The switches provide control. The indicator lights are of the push-to-test type and some have provisions for dimming.

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REPAIR

1. Screws used with spacers or index pins are installed with Loctite sealant and may be difficult to remove.
2. If repair has required such a screw to be removed, apply Loctite primer, grade T, and nutlock compound 74 (Loctite Corporation, 705 North Mountain Road, Newington Connecticut) to threaded areas of screws per manufacturer's instructions before reinstalling.

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TESTING

1. Test Equipment

- A. DC Power Supply: 0 to 28 volts dc, 1 amp
- B. AC Power Supply: 28 volts, 400 Hz
- C. Multimeter: Simpson Model 260 (or equivalent)
- D. Mating Connectors with pigtail leads, as listed for assembly to be tested:
 - (1) 65-81643-4: BACC45FT18-31S (D425)
 - (2) 65-81643-7: BACC45FT22-19S (D4246), BACC45FT22-55S (D4256)
 - (3) 65-81643-8: BACC45FT16-24S (D475), BACC45FT12-12S (D645)
 - (4) 65-81643-11, -20: BACC45FT12-12S (D429), BACC45FT12-12S8 (D543)

2. Functional Test

- A. Assembly 65-81643-4 (Refer to Schematic Diagram, figure 703.)
 - (1) Place switch S210 in HIGH position and measure less than 1 ohm between D425 pins 6 and 7. Place S210 in LOW position and measure greater than 1 megohm between D425 pins 6 and 7.
 - (2) Apply 6.3 volts dc to D425 pins 9(+) and 5(-). Observe that clear lightcap is illuminated. Momentarily depress lightcap and verify that light goes out when depressed.
 - (3) Apply 6.3 volts dc to D425 pins 3(+) and 5(-). Observe that amber lightcap is illuminated. Momentarily depress lightcap and verify that light goes out when depressed.
 - (4) Apply 6.3 volts dc to D425 pins 10(+) and 5(-). Observe that blue lightcap is illuminated. Momentarily depress lightcap and verify that light goes out when depressed.
 - (5) Apply 6.3 volts dc to D425 pins 4(+) and 5(-). Observe that clear, amber, and blue lightcaps are not illuminated. Momentarily depress each lightcap and observe that it is illuminated when depressed. Remove test connections.
 - (6) Apply 28 volts dc to D425 pin 22 with power return connected to D425 pin 21. L338 shall be on. Remove test connections.

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- (7) Connect ohmmeter between D425 pins 23 and 24. Observe more than 1 megohm. Depress lightcap of L338 and observe less than 1 ohm. Remove test connections.
- (8) Apply 28 volts dc to D425 pin 17(+) and D425 pin 18(-). Observe that L470 is on.
- (9) Remove connection from pin 18 and connect to pin 19. Observe that L470 is off. Depress lightcap and observe that L470 is on. Remove test connections.
- (10) Measure resistance between D425 pins 13 and 14 and between D425 pins 15 and 16. With photocells M377 and M379 exposed to ambient room light, resistance shall be approximately 200 ohms.
- (11) By any expedient method, ensure that photocells are in total darkness. Remeasure resistance between pins 13 and 14 and between 15 and 16. Resistance shall be greater than 300k.
- (12) Apply 28 volts dc to D425 pin 17(+) and D425 pin 28(-). Both lamps of L734 shall be on.
- (13) Remove connection from pin 28 and connect to pin 26. Both lamps shall be on. Observe that lamps are off when L734 is depressed.
- (14) Remove connection from pin 26 and connect to pin 19. Observe that both lamps are off; then depress L734. Both lamps shall be on. Remove test connections.
- (15) Measure more than 500k between pins 26(+) and 17(-) and between pins 28(+) and 17(-).
- (16) Measure less than 1 ohm between center contact of power connector L337 and D425 pin 2 and between outside contact and D425 pin 1.

B. Assembly 65-81643-7 (Refer to Schematic Diagram, figure 704.)

- (1) Apply 28 volts, 400 Hz between D4246J pins 3 and 5. Measure transformer output between D4246J pins 4 and 5. As transformer control knob is rotated from fully clockwise position to fully counterclockwise position, the voltage out shall decrease with no interruption. In extreme clockwise position, voltage shall be 28 volts ac. In extreme counterclockwise position, voltage shall be less than 1 volt ac.
- (2) Verify continuity as specified in figure 701.

NOTE: "Con" means that continuity exists and that the resistance must be less than 1 ohm. "No Con" means that the circuit is open (infinite resistance).

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| Switch Positions | | Measure between Pins | Required Results |
|------------------|----------|--|------------------|
| Switch | Position | | |
| S257 | Released | D4256J -1 and D4256J -2 | No Con |
| | | D4256J -3 and D4256J -4 | Con |
| | | D4256J -5 and D4256J -14 | No Con |
| S257 | Pressed | D4256J -6 and D4256J -13 | No Con |
| | | D4256J -1 and D4256J -2 | Con |
| | | D4256J -3 and D4256J -4 | No Con |
| S270 | BRT | D4256J -5 and D4256J -14 | Con |
| | | D4256J -6 and D4256J -13 | Con |
| | | D4246J -9 and D4246J -8 | No Con |
| S270 | TEST | D4246J -9 and D4246J -10 | No Con |
| | | D4246J -9 and D4246J -11 | Con |
| | | D4246J -14 and D4246J -13 | Con |
| S270 | DIM | D4246J -14 and D4256J -34 | No Con |
| | | D4256J -36 and D4256J -35 | No Con |
| | | D4256J -36 and D4256J -37 | Con |
| S289 | Released | D4246J -9 and D4246J -8 | No Con |
| | | D4246J -9 and D4246J -10 | Con |
| | | D4246J -9 and D4246J -11 | No Con |
| S289 | Pressed | D4246J -14 and D4246J -13 | No Con |
| | | D4246J -14 and D4256J -34 | Con |
| | | D4256J -36 and D4256J -35 | No Con |
| S315 | Released | D4256J -36 and D4256J -37 | Con |
| | | D4246J -15 and D4246J -16 | No Con |
| | | D4246J -15 and D4246J -16 | Con |
| S315 | Pressed | D4246J -17 and D4256J -55 | No Con |
| | | D4246J -17 and D4256J -55 | Con |
| | | D4246J -16 and D4246J -17 | No Con |
| S316 | Released | D4256J -54 and D4256J -55 | No Con |
| | | D4246J -16 and D4246J -17 | Con |
| | | D4256J -54 and D4256J -55 | Con |
| S316 | Pressed | D4246J -6 and rim of L375 | Con |
| | | D4246J -7 and center conductor of L375 | Con |
| | | | |

Continuity Test
Figure 701

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(3) Test indicator light assemblies per figure 702.

| Component | Apply 28 v dc to D4256J pin: | Ground to D4256J pin: | Indicator Position | Indicator | |
|-----------|------------------------------|-----------------------|--------------------|-------------|--------------|
| | | | | Illuminated | Extinguished |
| L334 | 8 | 9 | | X | |
| | 9 | 8 | | | X |
| | 7 | 9 | Pressed | X | |
| | 9 | 7 | Pressed | | X |
| L441 | 19 | 9 | Released | X | |
| | 15 | 12 | | X | |
| | 12 | 15 | | | X |
| | 15 | 27 | Released | X | |
| L442 | 27 | 15 | Released | | X |
| | 15 | 11 | Pressed | X | |
| | 15 | 17 | | X | |
| | 17 | 15 | | | X |
| | 15 | 27 | Released | X | |
| | 27 | 15 | Released | | X |
| | 15 | 16 | Pressed | X | |

Indicator Light Assembly Tests
Figure 702

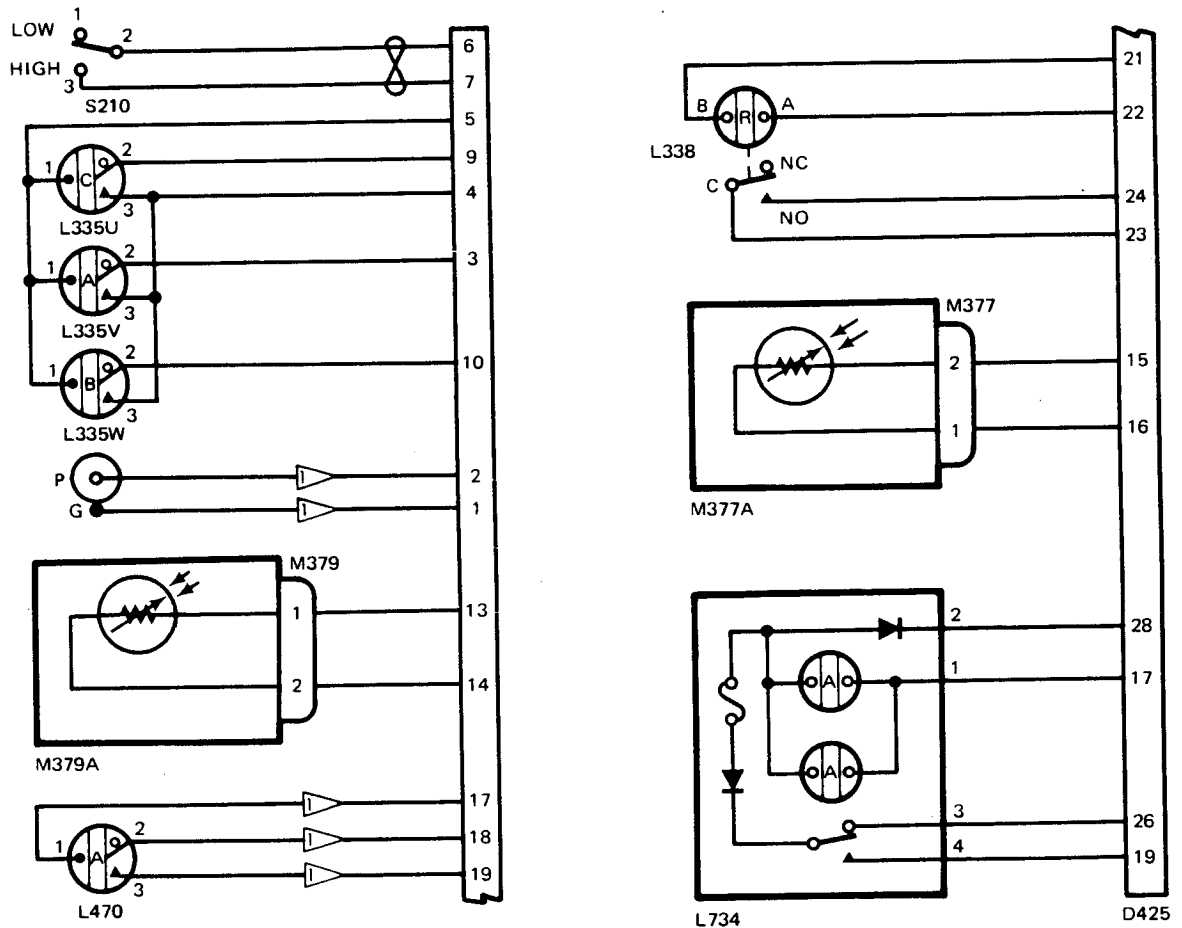
C. Assembly 65-81643-8 (Refer to Schematic Diagram, figure 705.)

- (1) Measure less than 1 ohm between center conductor of power connector L377 and D645 pin 2 and between outer conductor of L377 and D645 pin 1.
- (2) Measure resistance between D645 pins 9 and 10 and between D645 pins 11 and 12. With photocells M378 and M380 exposed to ambient room light, resistance shall be approximately 200 ohms.
- (3) By any expedient method, ensure that photocells are in total darkness. Remeasure resistance between D645 pins 9 and 10 and between D645 pins 11 and 12. Resistance shall be greater than 300k.
- (4) Apply 28 volts dc to D475 pins 3(+) and 4(-). Lamps of L376 shall be on. Remove ground connection from D475 pin 4 and connect to D475 pin 5. Lamps of L376 shall be on.
- (5) Remove ground connection from pin 5 and connect to D475 pin 6. When L376 is depressed, lamps of L376 shall be on. Remove test connections.


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- (6) Measure resistance between D475 pins 4(+) and 3(-) and between D475 pins 5(+) and 3(-). Resistance shall be greater than 1 megohm.
- D. Assemblies 65-81643-11, -20 (Refer to Schematic Diagram, figure 706.)
- (1) Apply 6.3 volts dc to D429 pins 9(+) and 5(-). Observe that clear lightcap is illuminated. Momentarily depress lightcap and verify that light goes out when depressed.
 - (2) Apply 6.3 volts dc to D429 pins 3(+) and 5(-). Observe that amber lightcap is illuminated. Momentarily depress lightcap and verify that light goes out when depressed.
 - (3) Apply 6.3 volts dc to D429 pins 10(+) and 5(-). Observe that blue lightcap is illuminated. Momentarily depress lightcap and verify that light goes out when depressed.
 - (4) Apply 6.3 volts dc to D429 pins 4(+) and 5(-). Observe that clear, amber and blue lightcaps are not illuminated. Momentarily depress each lightcap and observe that it is illuminated when depressed. Remove test connections.
 - (5) Apply 28 volts dc to D543 pins 8(+) and 7(-). Observe L339 on. Remove connection from pin 8.
 - (6) Connect D543 pin 8 to D543 pin 12. Apply 28 volts dc to D543 pins 6(+) and 7(-). Observe L339 on when lightcap is depressed and off when cap is released. Remove test connections.
 - (7) Apply 28 volts dc to D543 pins 1(+) and 2(-). Observe L471 on.
 - (8) Change power supply negative connection from D543 pin 2 to D543 pin 3. Observe L471 on when lightcap is depressed and off when cap is released.
 - (9) Apply 28 volts dc to D543 pins 1(+) and 5(-). Observe L735 on.
 - (10) Change the power supply negative connection from D543 pin 5 to D543 pin 10. Observe L735 on.
 - (11) Change power supply negative from D543 pin 10 to D543 pin 3. Observe L735 on when lightcap is depressed and off when cap is released. Remove test connections.
 - (12) Measure resistance between D543 pin 5(+) and 1(-) and between D543 pins 10(+) and 1(-). Resistance shall be greater than 1 megohm.

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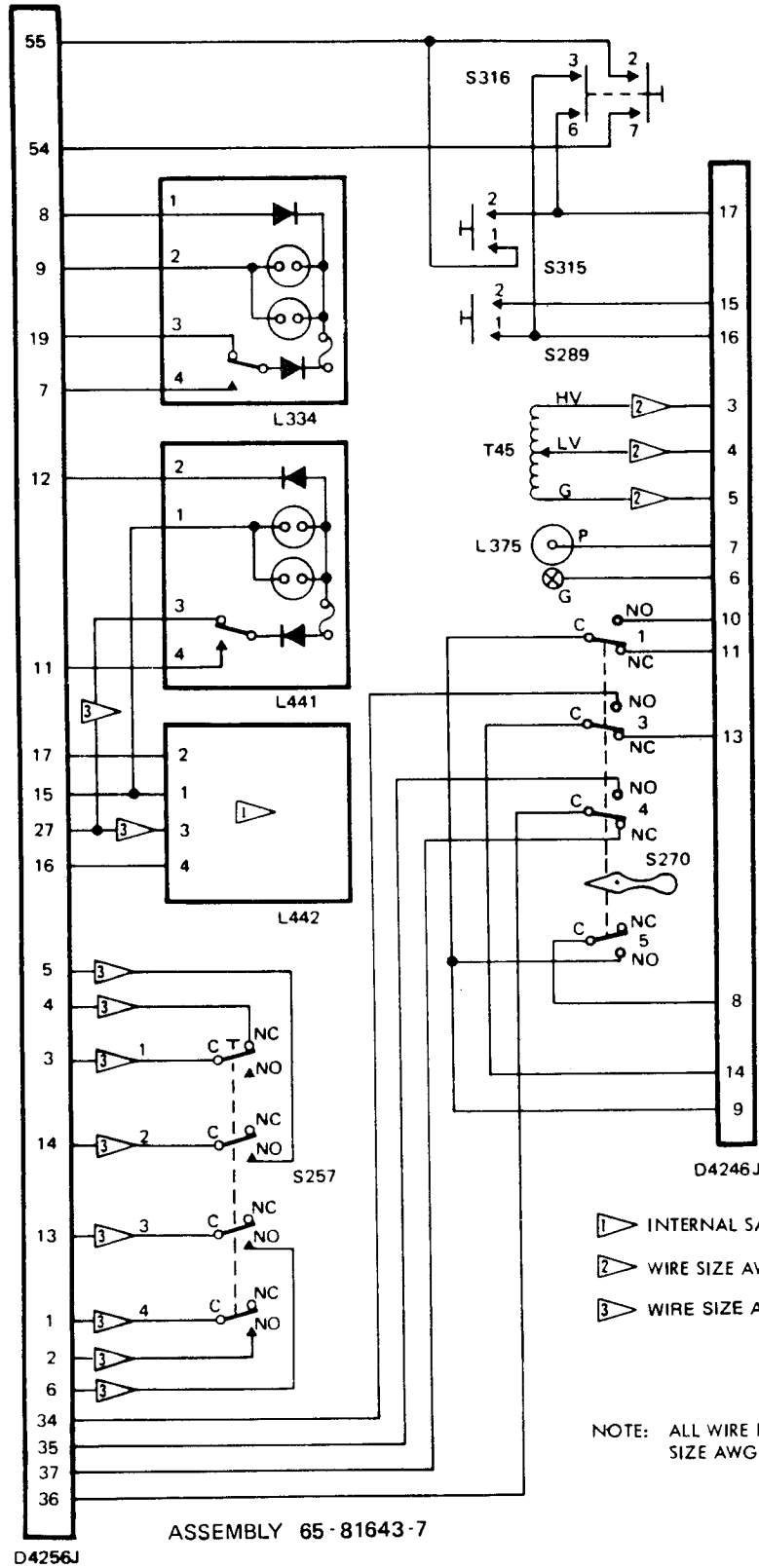
NOTE: ALL WIRES ARE BMS 13-16, TYPE 1, CLASS 1, AWG 22 UNLESS OTHERWISE NOTED

 BMS 13-16, TYPE 1, CLASS 1, SIZE AWG 20

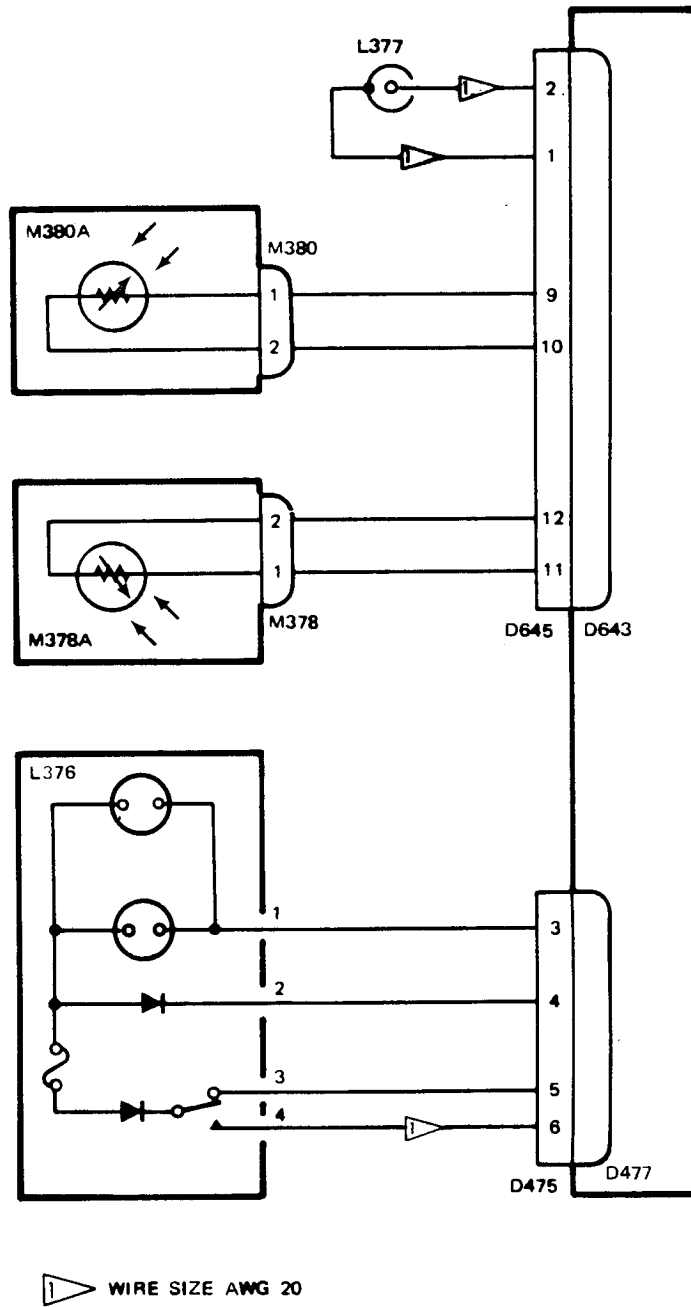
ASSEMBLY 65-81643-4

Schematic Diagram
 Figure 703

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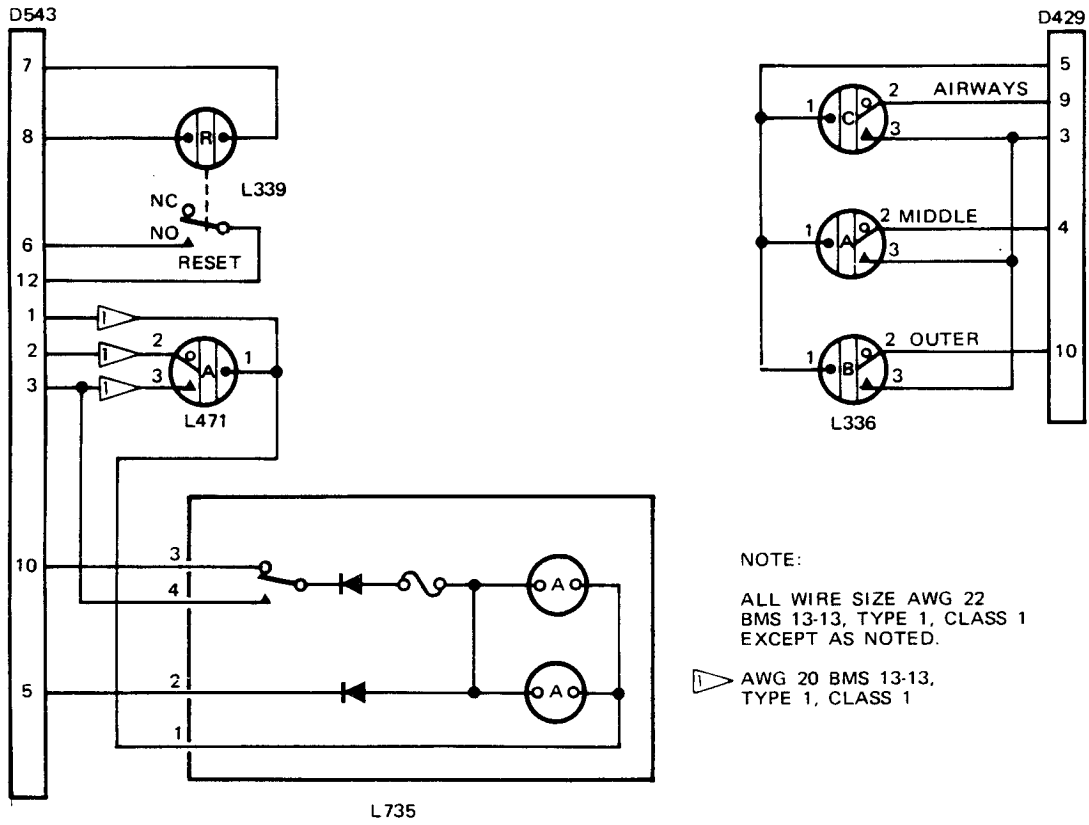
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ASSEMBLY 65-81643-8

Schematic Diagram
 Figure 705

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ASSEMBLY 65-81643-11, -20

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ILLUSTRATED PARTS LIST

VENDORS

V18178 Vachec Inc., 2423 Northline Industrial Blvd., Maryland Heights,
Missouri 63045

V24455 General Electric Co., Lamp Div., Consumer Products Group,
21800 Tungsten Road, Cleveland, Ohio 44117

V26742 Methode Electronics Inc., 7447 W. Wilson Ave., Chicago, Illinois
60656

V71286 Camloc Fastner Corp., 22 Spring Valley Road, Paramus, New Jersey
07652

V72914 Grimes Manufacturing Co., 514 N. Russell, Urbana, Ohio 43078

V81590 Korry Manufacturing Co., 223 - 8th Ave. N., Seattle, Washington
98109

V81640 Controls Co. of America, Control Switch Division, 1420 Delmar Drive,
Folcroft, Pennsylvania 19032

V82219 Sylvania Electronic Products Inc., Electronic Tube Division,
Receiving Tube Operations, Emporium, Pennsylvania

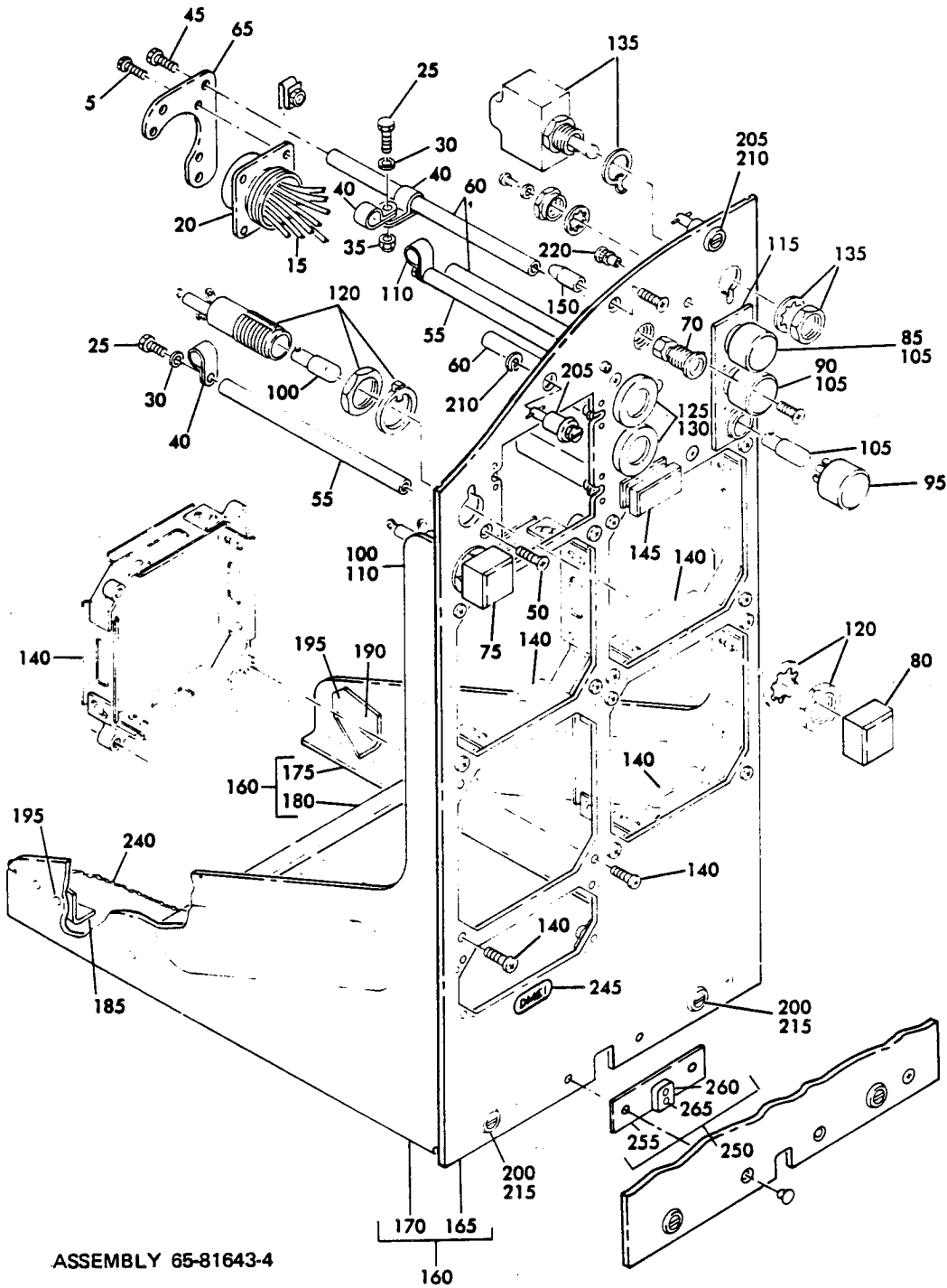
V91893 Marion Screw Products Co., 200 West Sherman St., P.O. Box 1056,
Marion, Indiana 46957

V91929 Honeywell Inc., Micro Switch Division, Freeport, Illinois

V95266 OECO Corp. 712 S.E. Hawthorne Blvd., Portland, Oregon 97214

V98625 Aeroquip Corporation, Marman Division, 11214 Exposition Blvd.,
Los Angeles, California 90064

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ASSEMBLY 65-81643-4

Captain's Flight Instrument Module Assembly (Pl-3)
Figure 1101

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| FIG. & ITEM NO. | PART NO. | AIRLINE PART NUMBER | N O M E N C L A T U R E | | | | | | | USE CODE | QTY PER ASSY |
|--------------------------|----------------------|---------------------------|---|---|---|---|---|---|---|-------------|--------------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 1101 | 65-81643-4 | | CAPTAIN'S FLIGHT INSTRUMENT MODULE ASSY (Pl-3) | | | | | | | | |
| 5 | BACSL2CB04-6 | | . SCREW | | | | | | | | 3 |
| 10 | BACN10NW1 | | . NUT, Clip | | | | | | | | 3 |
| 15 | 61-30037-017 | | . WIRE BUNDLE ASSY | | | | | | | | 1 |
| 20 | BACC45FN18- 31P | | . . CONNECTOR | | | | | | | | 1 |
| 25 | BACSL2CB3-() | | . SCREW | | | | | | | | AR |
| 30 | AN960D() | | . WASHER | | | | | | | | AR |
| 35 | BACN10JC3 | | . NUT | | | | | | | | AR |
| 40 | BACC10DK() | | . CLAMP | | | | | | | | AR |
| 45 | BACSL2CB06-5 | | . SCREW | | | | | | | | 3 |
| 50 | NAS514P632-6 | | . SCREW | | | | | | | | 5 |
| 55 | 66-13524-3 | | . SPACER | | | | | | | | 2 |
| 60 | 66-13524-4 | | . SPACER | | | | | | | | 3 |
| 65 | 69-49743-10 | | . PLATE | | | | | | | | 1 |
| 70 | SCN001 | | . CONNECTOR, Power, V26742 | | | | | | | | 1 |
| 75 | 515-1010-003 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 80 | 515-1031-003 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 85 | 539-1012-002 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 90 | 539-1012-003 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 95 | 539-1012-004 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 100 | 1864 | | . BULB, V24455 | | | | | | | | 2 |
| 105 | MS15571-2 | | . LAMP | | | | | | | | 3 |
| 110 | 054-1010-003 | | . BASE ASSY, Indicator light, V81590 | | | | | | | | 1 |
| 115 | 074-1012-002 | | . BASE ASSY, Indicator light, V81590 | | | | | | | | 1 |
| 120 | 088-1031-003 | | . BASE ASSY, Indicator light, V81590 | | | | | | | | 1 |
| 125 | 8346-1CODE1- | | . PHOTOCELL, V82219 (preferred) | | | | | | | | 2 |
| 125 | 21K187 | | . PHOTOCELL, V18178 (optional) | | | | | | | | 2 |
| 130 | 346-1001-001 | | . RECEPTACLE, Photocell, V81590 | | | | | | | | 2 |
| 135 | MS24523-23 | | . SWITCH, Toggle | | | | | | | | 1 |
| 140 | 9963 | | . CLAMP, Instrument, V91893 (preferred) | | | | | | | | 4 |
| 140 | 54621 | | . CLAMP, Instrument, V98625 (optional) | | | | | | | | 4 |
| 145 | 318-630-1001- 137 | | . LIGHT, Indicator, V81590 (Boeing 10-61803-176) | | | | | | | | 1 |
| 150 | 69-42739-1 | | . INDEX PIN | | | | | | | | 2 |
| 155 | NAS514P832-6 | | . SCREW | | | | | | | | 2 |
| 160 | 69-37302-55 | | . BASEPLATE ASSY | | | | | | | | 1 |

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| FIG. & ITEM NO. | PART NO. | AIRLINE PART NUMBER | N O M E N C L A T U R E | | | | | | | USE CODE | QTY PER ASSY |
|-----------------|---------------|---------------------|-------------------------|---|---|---|---|---|---|----------|--------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 1101 | | | | | | | | | | | |
| 165 | 69-37302-56 | | . | . | | | | | | | 1 |
| 170 | 69-41277-3 | | . | . | | | | | | | 1 |
| 175 | 69-41277-6 | | . | . | | | | | | | 1 |
| 180 | 69-42851-3 | | . | . | | | | | | | 1 |
| 185 | 69-43831-1 | | . | | | | | | | | 1 |
| 190 | 69-43831-2 | | . | | | | | | | | 1 |
| 195 | BACRL5BA4D | | . | | | | | | | | 4 |
| 200 | 26S55-5AB | | . | | | | | | | | 2 |
| 205 | BACS21Y6RB | | . | | | | | | | | 2 |
| 210 | BACW1OX2 | | . | | | | | | | | 2 |
| 215 | BACW1OX4 | | . | | | | | | | | 2 |
| 220 | BACNLOPA06-12 | | . | | | | | | | | 2 |
| 225 | BACNLOJPO6A | | . | | | | | | | | 4 |
| 230 | BACNLOJPO4C | | . | | | | | | | | 4 |
| 235 | BACRL5BA3D | | . | | | | | | | | AR |
| 240 | MS20995NC32 | | . | | | | | | | | 1 |
| 245 | BACML0L12BTP | | . | | | | | | | | 1 |
| 250 | 69-55940-1 | | . | | | | | | | | 1 |
| 255 | 69-55940-2 | | . | . | | | | | | | 1 |
| 260 | 69-55940-3 | | . | . | | | | | | | 1 |
| 265 | BACRL5BA3D | | . | . | | | | | | | 2 |
| 270 | BACRL5BA7D | | . | | | | | | | | 2 |

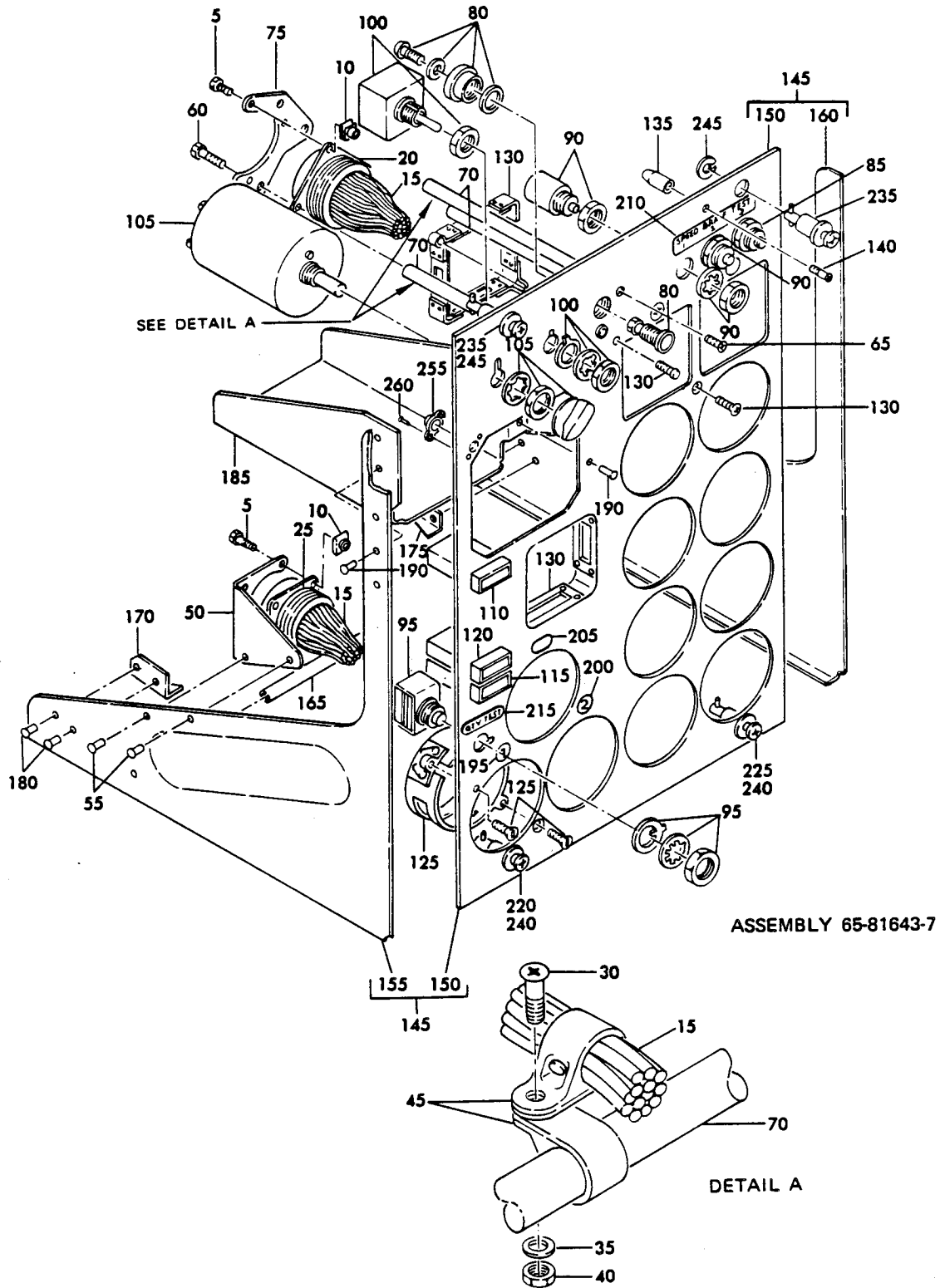
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| Reference Designation Index (See Schematic Diagram) | | |
|---|------------------|----------|
| Reference Designation | Part Number | Item No. |
| D425 | BACC45FN18-31P | 20 |
| L335 | 074-1012-002 | 115 |
| L337 | SCN001 | 70 |
| L338 | 088-1031-003 | 120 |
| L470 | 054-1010-003 | 110 |
| L734 | 318-630-1001-137 | 145 |
| M377, M379 | 346-1001-001 | 130 |
| M377A, M379A | *8346-1CODE1-131 | 125 |
| M377A, M379A | 21K187 | 125 |
| S210 | MS24523-23 | 135 |

* Preferred part

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Cap Center Instrument Module Assembly (P2-1)
 Figure 1102

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| FIG. & ITEM NO. | PART NO. | AIRLINE PART NUMBER | N O M E N C L A T U R E | | | | | | | USE CODE | QTY PER ASSY |
|--------------------------|------------------|---------------------------|--|---|---|---|---|---|---|-------------|--------------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 1102 | | | CENTER INSTRUMENT MODULE ASSY, P2-1 | | | | | | | | |
| 5 | 65-81643-7 | | . SCREW | | | | | | | | 6 |
| 10 | BACSL2CB04-6 | | . NUT | | | | | | | | 6 |
| 15 | BACN10NW1 | | . WIRE BUNDLE | | | | | | | | 1 |
| 20 | 61-30064-004 | | . . CONNECTOR | | | | | | | | 1 |
| 25 | BACC45FN22-19P | | . . CONNECTOR | | | | | | | | 1 |
| 30 | BACC45FN22-55P | | . . CONNECTOR | | | | | | | | 1 |
| 35 | BACSL2CB3-() | | . SCREW | | | | | | | | AR |
| 40 | AN960D() | | . WASHER | | | | | | | | AR |
| 45 | BACN10JC3 | | . NUT | | | | | | | | AR |
| 50 | BACC10DK-() | | . CLAMP | | | | | | | | AR |
| 55 | 69-43873-9 | | . PLATE | | | | | | | | 1 |
| 60 | MS20426D5 | | . RIVET | | | | | | | | 2 |
| 65 | BACSL2BO6-5 | | . SCREW | | | | | | | | 3 |
| 70 | NAS514P632-6 | | . SCREW | | | | | | | | 3 |
| 75 | 66-13524-12 | | . SPACER | | | | | | | | 3 |
| 80 | 69-49743-2 | | . PLATE | | | | | | | | 1 |
| 85 | SCN001 | | . CONNECTOR, Power, V26742 | | | | | | | | 1 |
| 90 | W20163-03 | | . SWITCH, V81640 | | | | | | | | 1 |
| 95 | W20161-01 | | . SWITCH, V81640 | | | | | | | | 2 |
| 100 | 4PBL1T2 | | . SWITCH, V91929 | | | | | | | | 1 |
| 105 | 68AT11-1 | | . SWITCH, V91929 | | | | | | | | 1 |
| 110 | 6430A | | . TRANSFORMER, V95266 | | | | | | | | 1 |
| 115 | 318-630-1002-005 | | . INDICATOR LIGHT ASSY, V81590 (Boeing 10-61803-19) | | | | | | | | 1 |
| 120 | 318-630-1001-066 | | . INDICATOR LIGHT ASSY, V81590 (Boeing 10-61803-89) | | | | | | | | 1 |
| 125 | 318-630-1001-067 | | . INDICATOR LIGHT ASSY, V81590 (Boeing 10-61803-90) | | | | | | | | 1 |
| 130 | BACC10EL3 | | . CLAMP, Instrument | | | | | | | | 11 |
| 135 | 19748 | | . CLAMP, Instrument, V98625 | | | | | | | | 3 |
| 140 | 69-42739-1 | | . PIN, Index | | | | | | | | 2 |
| 145 | NAS514P832-6 | | . SCREW | | | | | | | | 2 |
| 150 | 69-37304-75 | | . BASEPLATE ASSY | | | | | | | | 1 |
| 155 | 69-37304-76 | | . . BASEPLATE | | | | | | | | 1 |
| 160 | 69-41277-3 | | . . SUPPORT BRACKET | | | | | | | | 1 |
| 165 | 69-41277-4 | | . . SUPPORT BRACKET | | | | | | | | 1 |
| 170 | 69-42851-4 | | . . ROD | | | | | | | | 1 |
| | 69-43831-1 | | . MODULE STOP | | | | | | | | 1 |

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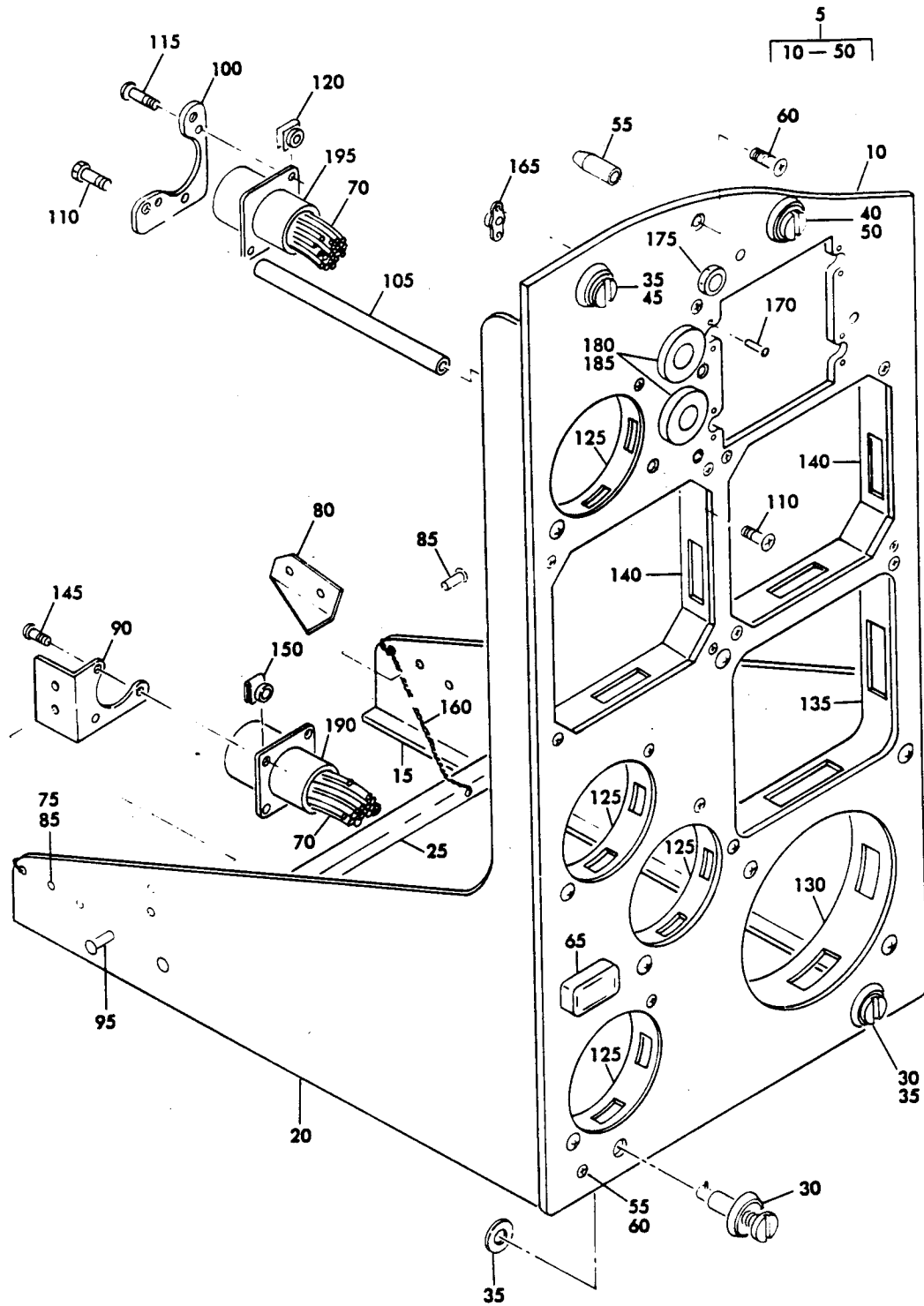
| FIG. & ITEM NO. | PART NO. | AIRLINE PART NUMBER | N O M E N C L A T U R E | | | | | | | USE CODE | QTY PER ASSY |
|--------------------------|---------------|---------------------------|-------------------------|---|---|---|---|---|---|-------------|--------------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 1102 | | | | | | | | | | | |
| 175 | 69-43831-2 | | | | | | | | | | 1 |
| 180 | MS20426D4 | | | | | | | | | | 4 |
| 185 | 69-43992-1 | | | | | | | | | | 1 |
| 190 | MS20426D5 | | | | | | | | | | 5 |
| 195 | BACM10N00-2S | | | | | | | | | | 2 |
| 200 | BACM10N00-2T | | | | | | | | | | 2 |
| 205 | BAC27DCC16 | | | | | | | | | | 1 |
| 210 | BAC27DCC268 | | | | | | | | | | 1 |
| 215 | BAC27DCC65 | | | | | | | | | | 1 |
| 220 | BACS21Y5RB | | | | | | | | | | 1 |
| 225 | 26S55-5AB | | | | | | | | | | 1 |
| 230 | BACS21Y6RB | | | | | | | | | | 1 |
| 235 | 26S55-6AB | | | | | | | | | | 1 |
| 240 | BACW10X2 | | | | | | | | | | 1 |
| 245 | BACW10X4 | | | | | | | | | | 2 |
| 250 | BACN10PA06-12 | | | | | | | | | | 2 |
| 255 | BACN10JP06A | | | | | | | | | | 2 |
| 260 | MS20426D3 | | | | | | | | | | 3 |
| | | | | | | | | | | | 6 |

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| Reference Designation Index (See Schematic Diagram) | | |
|---|------------------|----------|
| Reference Designation | Part Number | Item No. |
| D4246J | BACC45FN22-19P | 20 |
| D4256J | BACC45FN22-55P | 25 |
| L334 | 318-630-1002-005 | 110 |
| L375 | SCN001 | 80 |
| L441 | 318-630-1001-066 | 115 |
| L442 | 318-630-1001-067 | 120 |
| S257 | 4PBL1T2 | 95 |
| S270 | 68AT11-1 | 100 |
| S289, S315 | W20161-01 | 90 |
| S300, S316 | W20163-03 | 85 |
| T45 | 6430A | 105 |

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ASSEMBLY 65-81643-8

First Officer's Flight Instrument Module Assembly (P3-1)
 Figure 1103

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| FIG. & ITEM NO. | PART NO. | AIRLINE PART NUMBER | N O M E N C L A T U R E | | | | | | | USE CODE | QTY PER ASSY |
|-----------------|------------------|---------------------|--|---|---|---|---|---|---|----------|--------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 1103 | 65-81643-8 | | FIRST OFFICER'S FLIGHT INSTRUMENT MODULE ASSY (P3-1) | | | | | | | | |
| 5 | 69-37308-46 | | . BASEPLATE ASSY | | | | | | | | 1 |
| 10 | 69-37308-47 | | . . BASEPLATE (used on 69-37308-46) | | | | | | | | 1 |
| 15 | 69-41277-4 | | . . BRACKET | | | | | | | | 1 |
| 20 | 69-41277-5 | | . . BRACKET | | | | | | | | 1 |
| 25 | 69-42851-3 | | . . ROD | | | | | | | | 1 |
| 30 | 26S55-5AB | | . . STUD, V71286 | | | | | | | | 2 |
| 35 | BACW1OX4 | | . . WASHER | | | | | | | | 3 |
| 40 | BACS21Y6RB | | . . STUD (used on 69-37308-46) | | | | | | | | 1 |
| 45 | 26S55-6AB | | . . STUD, V71286 | | | | | | | | 1 |
| 50 | BACW1OX2 | | . . WASHER | | | | | | | | 1 |
| 55 | 69-42739-1 | | . INDEX PIN | | | | | | | | 2 |
| 60 | NAS514P832-6 | | . SCREW | | | | | | | | 2 |
| 65 | 318-630-1001-006 | | . INDICATOR LIGHT, V81590 (Boeing 10-61803-10) | | | | | | | | 1 |
| 70 | 61-30039-011 | | . WIRE BUNDLE | | | | | | | | 1 |
| 75 | 69-43831-1 | | . STOP | | | | | | | | 1 |
| 80 | 69-43831-2 | | . STOP | | | | | | | | 1 |
| 85 | MS20426D4 | | . RIVET | | | | | | | | 4 |
| 90 | 69-43873-5 | | . ANGLE | | | | | | | | 1 |
| 95 | MS20426D5 | | . RIVET | | | | | | | | 2 |
| 100 | 69-49743-4 | | . PLATE | | | | | | | | 1 |
| 105 | 66-13524-4 | | . SPACER | | | | | | | | 3 |
| 110 | BACSL2B06-5 | | . SCREW | | | | | | | | 3 |
| 115 | BACSL2CB04-6 | | . SCREW | | | | | | | | 3 |
| 120 | BACN1ONW1 | | . NUT | | | | | | | | 3 |
| 125 | BACC1OEL3 | | . CLAMP | | | | | | | | 4 |
| 130 | BACC1OEL4 | | . CLAMP | | | | | | | | 1 |
| 135 | 52321 | | . CLAMP, V98625 | | | | | | | | 1 |
| 140 | 9963 | | . CLAMP, V91893 (preferred) | | | | | | | | 2 |
| 140 | 54621 | | . CLAMP, V98625 (optional) | | | | | | | | 2 |
| 145 | BACSL2CB04-6 | | . SCREW | | | | | | | | 3 |
| 150 | BACN1ONW1 | | . NUT | | | | | | | | 3 |
| 155 | BACN1OPA06-12 | | . PRESS NUT | | | | | | | | 1 |
| 160 | MS20995NC32 | | . LOCKWIRE | | | | | | | | 1 |
| 165 | NAS680C04 | | . NUTPLATE | | | | | | | | 4 |
| 170 | MS20426D3 | | . RIVET | | | | | | | | 8 |
| 175 | SCN001 | | . CONNECTOR, V26742 | | | | | | | | 1 |
| 180 | 346-1001-001 | | . RECEPTACLE, V81590 | | | | | | | | 2 |
| 185 | 8346-1CODE1- | | . PHOTOCELL, V82219 (preferred) | | | | | | | | 2 |
| 185 | 21K187 | | . PHOTOCELL, V18178 (optional) | | | | | | | | 2 |
| 190 | BACC45FN16-24P | | . CONNECTOR | | | | | | | | 1 |
| 195 | BACC45FN12-12P | | . CONNECTOR | | | | | | | | 1 |

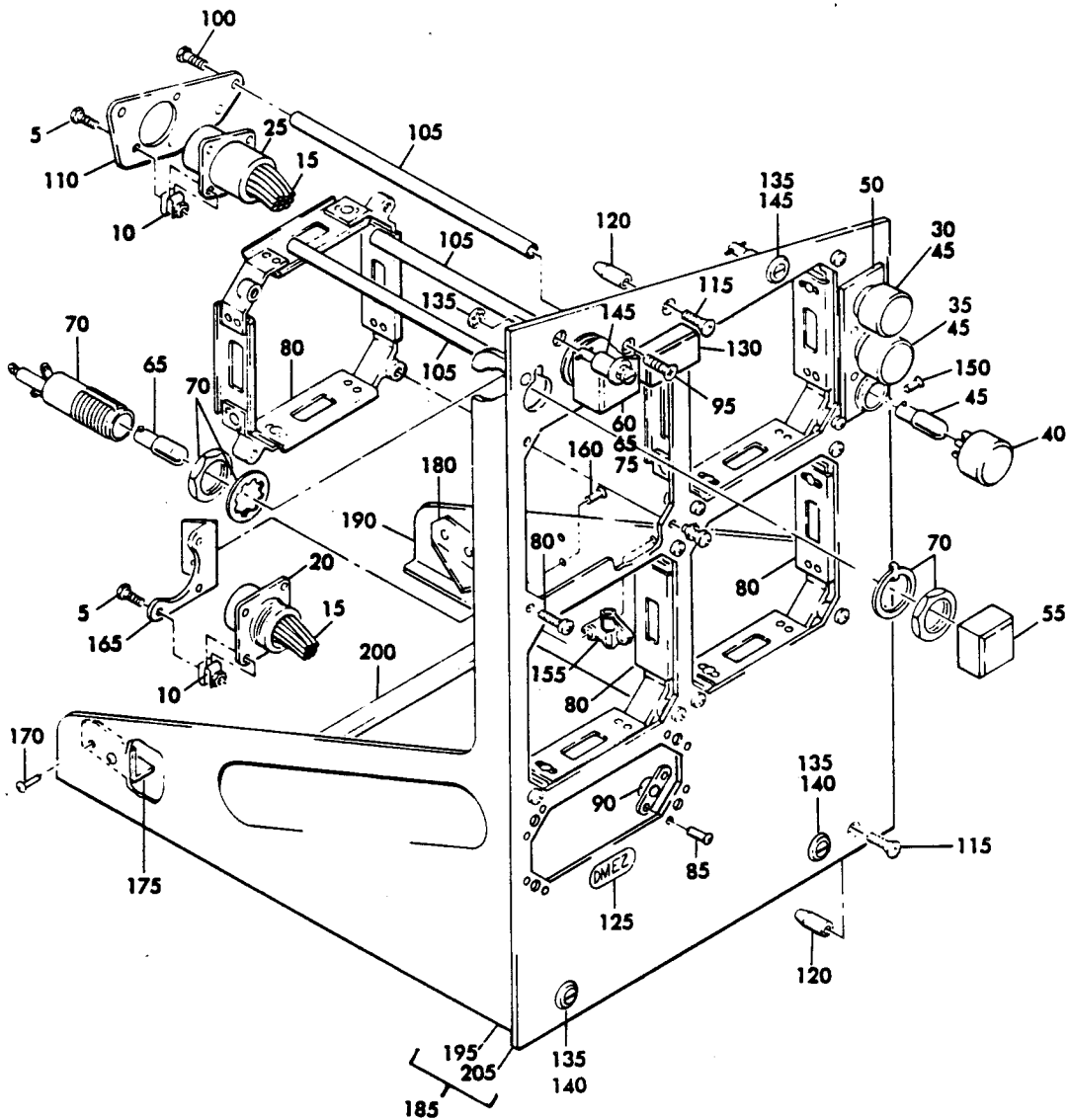
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| Reference Designation Index (See Schematic Diagram) | | |
|---|------------------|----------|
| Reference Designation | Part Number | Item No. |
| D475 | BACC45FN16-24P | 190 |
| D645 | BACC45FN12-12P | 195 |
| L376 | 318-630-1001-006 | 65 |
| L377 | SCN001 | 175 |
| M378, M380 | 346-1001-001 | 180 |
| M378A, M380A | *8346-1CODE1-131 | 185 |
| M378A, M380A | 21K187 | 185 |

* Preferred part

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ASSEMBLY 65-81643-11, -20

First Officer's Flight Instrument Module Assembly
 Figure 1104

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| FIG. & ITEM NO. | PART NO. | AIRLINE PART NUMBER | N O M E N C L A T U R E | | | | | | | USE CODE | QTY PER ASSY |
|--------------------------|----------------------|---------------------------|---|---|---|---|---|---|---|-------------|--------------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 1104 | 65-81643-11 | | FIRST OFFICER'S FLIGHT INSTRUMENT MODULE ASSY (P3-3) | | | | | | | A | |
| | 65-81643-20 | | FIRST OFFICER'S FLIGHT INSTRUMENT MODULE ASSY (P3-3) | | | | | | | B | |
| 5 | BACSL2CB04-6 | | . SCREW | | | | | | | | 6 |
| 10 | BACNLONW1 | | . NUT, Clip | | | | | | | | 6 |
| 15 | 61-30045-016 | | . WIRE BUNLDE ASSY | | | | | | | | 1 |
| 20 | BACC45FN12- 12P | | . . CONNECTOR | | | | | | | | 1 |
| 25 | BACC45FN12- 12P8 | | . . CONNECTOR | | | | | | | | 1 |
| 30 | 539-1012-002 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 35 | 539-1012-003 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 40 | 539-1012-004 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 45 | MS15571-2 | | . BULB | | | | | | | | 3 |
| 50 | 074-1012-002 | | . BASE ASSY, Indicator light, V81590 | | | | | | | | 1 |
| 55 | 515-1010-003 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 60 | 515-1031-003 | | . CAP, Indicator light, V81590 | | | | | | | | 1 |
| 65 | 1864 | | . BULB, V24455 | | | | | | | | 2 |
| 70 | 054-1010-003 | | . BASE ASSY, Indicator light, V81590 | | | | | | | | 1 |
| 75 | 088-1031-003 | | . BASE ASSY, Indicator light, V81590 | | | | | | | | 1 |
| 80 | 9963 | | . CLAMP, Instrument, V91893 (preferred) | | | | | | | | 4 |
| 80 | 54621 | | . CLAMP, Instrument, V98625 (optional) | | | | | | | | 4 |
| 85 | BACR15BA3D | | . RIVET | | | | | | | | 8 |
| 90 | BACNLOJPO6A | | . NUTPLATE | | | | | | | | 4 |
| 95 | NAS514P632-6 | | . SCREW | | | | | | | | 3 |
| 100 | BACSL2CB06-6 | | . SCREW | | | | | | | | 3 |
| 105 | 66-13524-7 | | . SPACER | | | | | | | | 3 |
| 110 | 69-49743-1 | | . PLATE, Receptacle support | | | | | | | | 1 |
| 115 | NAS514P832-6 | | . SCREW | | | | | | | | 2 |
| 120 | 69-42739-1 | | . PIN, Index | | | | | | | | 2 |
| 125 | BACML0L12BTR | | . MARKER | | | | | | | A | 1 |
| 130 | 318-630-1001- 137 | | . INDICATOR LIGHT, V81590 (Boeing 10-61803-176) | | | | | | | | 1 |
| 135 | BACW1OX4 | | . WASHER, Toothed | | | | | | | | 4 |
| 140 | 26S55-5AB | | . STUD ASSY, V71286 | | | | | | | | 2 |
| 145 | 26S55-6AB | | . STUD ASSY, V71286 | | | | | | | | 2 |
| 150 | BACR15BA3D | | . RIVET | | | | | | | | 2 |

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| FIG. & ITEM NO. | PART NO. | AIRLINE PART NUMBER | N O M E N C L A T U R E | | | | | | | USE CODE | QTY PER ASSY |
|-----------------|--------------|---------------------|-------------------------|---|---|---|---|---|---|----------|--------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 1104 | | | | | | | | | | | |
| 155 | BACN10MK3-45 | | | | | | | | | | 1 |
| 160 | BACR15BA5D | | | | | | | | | | 2 |
| 165 | 69-43873-6 | | | | | | | | | | 1 |
| 170 | BACR15BA4D | | | | | | | | | | 4 |
| 175 | 69-43831-1 | | | | | | | | | | 1 |
| 180 | 69-43831-2 | | | | | | | | | | 1 |
| 185 | 69-37310-50 | | | | | | | | A | | 1 |
| 185 | 69-37310-61 | | | | | | | | B | | 1 |
| 190 | 69-41277-2 | | | | | | | | | | 1 |
| 195 | 69-41277-3 | | | | | | | | | | 1 |
| 200 | 69-42851-1 | | | | | | | | | | 1 |
| 205 | 69-37310-51 | | | | | | | | A | | 1 |
| 205 | 69-37310-62 | | | | | | | | B | | 1 |

Reference Designation Index (See Schematic Diagram)

| Reference Designation | Part Number | Item No. |
|-----------------------|------------------|----------|
| D429 | BACC45FN12-12P | 20 |
| D543 | BACC45FN12-12P8 | 25 |
| L336 | 074-1012-002 | 50 |
| L339 | 088-1031-003 | 75 |
| L471 | 054-1010-003 | 70 |
| L735 | 318-630-1001-137 | 130 |