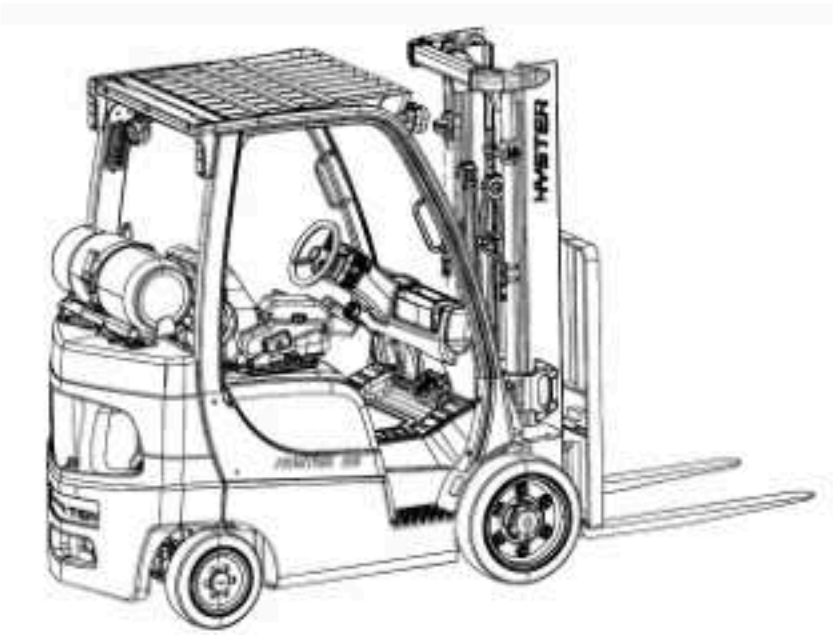
SERVICE MANUAL

F001 (H30-35FT, H40FTS)



FORM 1599956 Rev. 06/14

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This section is for the following models:

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Oxygen (O_2) Sensor Signal Troubleshooting

CODES

DTC 522735-5 - Pre-Cat Bank 1 Signal is Open Circuit
DTC 522736-5 - Pre-Cat Bank 2 Signal is Open Circuit

POSSIBLE CAUSE

A. SENSOR SIGNAL OPEN CIRCUIT

NOTE

Please refer to the end of this procedure for supporting diagrams.

COMPONENT OPERATIONAL CHECK

PROCEDURE OR ACTION:

NOTE: Due to poor accessibility of the O_2 sensor on some trucks it is suggested to use PC Service Tool for verification.

1. Turn power to **OFF** for no less than 30 seconds, and then to **ON** to clear displayed DTC.
   Does reported DTC reoccur?
   YES: Go to Step 2.
   NO: Problem not verified. Resume operation.
2. Conduct a quick visual inspection of all connectors/wiring associated with the displayed fault code. Make sure electrical connection is a good physical connection (i.e. sockets and pins are seated correctly; connector "clicks" indicating locking tab works correctly). See Harness Assembly Data.
   Are any of the connectors/wiring damaged?
   YES: Repair/replace connector or wiring associated with faults found. Refer to appropriate **Electrical System** manual, depending on lift truck model.
   NO: Go to Step 3.
3. Use PC Service Tool to verify the fault by checking sensor output and isolate suspect part.
   Was PC Service Tool successful in identifying and resolving DTC?
   YES: Problem resolved. Resume operation.
   NO: Go to Cause A.

CAUSE A - SENSOR SIGNAL OPEN CIRCUIT

PROCEDURE OR ACTION:

WARNING

Exhaust system components are hot to touch. Be sure exhaust system components are cool before starting disassembly, or personal injury may occur.

1. Ensure truck power is **OFF**.
2. Disconnect oxygen (O_2) sensor connector and indicated ECU connector. See Harness Assembly Data.
3. Change DMM scale to ohms. Verify DMM zero reading.
4. Measure the resistance of the sensor signal wire between the sensor connector pin and the ECU connector pin.
   Is resistance less than 0.5 ohms?
   YES: Go to Step 5.

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INSTALL LPG BRACKET FOR LIFT TRUCK MODELS S30FT, S35FT, S40FTS (E010), H1.6FT, H1.8FT, H2.0FTS (H30FT, H35FT, H40FTS) (F001), S2.0-3.5FT (S40-70FT, S55FTS) (F187), AND H2.0-3.5FT (H40-70FT) (L177)

1. **Lift trucks equipped with 2007 Mazda emission compliant engines only** - Place the LPG bracket onto the counterweight. Be sure to align the holes on the counterweight with the holes on the bracket. Insert hose assembly to LPG fuel filter through hole in counterweight. See Figure 4 and Figure 7.

2. **Lift trucks built after January, 2010 equipped with Mazda engines** - Place the LPG bracket onto the counterweight. Be sure to align the holes on the counterweight with the hole on the bracket. Insert hose assembly to LPG fuel filter through the hole in counterweight. See Figure 5 and Figure 7.

3. **Lift trucks built after November, 2012 equipped with Mazda engines** - Place the LPG bracket onto the counterweight. Be sure to align the holes on the counterweight with the hole on the bracket. Insert hose assembly to LPG fuel filter through the hole in counterweight. See Figure 6 and Figure 7.

4. Install three capscrews (2, Figure 7) and LPG bracket onto counterweight. Tighten capscrews to 38 N•m (28 lbf ft).

5. Push bracket release pin (button) and pull bracket handle to swing the bracket out to the side of the lift truck. Install capscrew (1, Figure 7) onto bracket. Tighten capscrew to 38 N•m (28 lbf ft).

6. Install LPG tank. See section Install LPG Tank for Lift Truck Models S30FT, S35FT, S40FTS (E010), H1.6FT, H1.8FT, H2.0FTS (H30FT, H35FT, H40FTS) (F001), S2.0-3.5FT (S40-70FT, S55FTS) (F187), and H2.0-3.5FT (H40-70FT) (L177) .

REMOVE LPG TANK BRACKET ALIGNMENT PIN, LIFT TRUCK MODELS S30FT, S35FT, S40FTS (E010), H1.6FT, H1.8FT, H2.0FTS (H30FT, H35FT, H40FTS) (F001), S2.0-3.5FT (S40-70FT, S55FTS) (F187), AND H2.0-3.5FT (H40-70FT) (L177)

The LPG tank alignment pin can be replaced if it becomes damaged or worn. There are two types of alignment pins used. If the LPG tank has fabric straps, the alignment pin will have a weldment offset plate. If the LPG tank has a steel strap, the alignment pin will not have a weldment offset plate. See Figure 8.

1. Remove the LPG tank from LPG tank bracket. See Remove LPG Tank for Lift Truck Models S30FT, S35FT, S40FTS (E010), H1.6FT, H1.8FT, H2.0FTS (H30FT, H35FT, H40FTS) (F001), S2.0-3.5FT (S40-70FT, S55FTS) (F187), and H2.0-3.5FT (H40-70FT) (L177) for procedures.

2. Remove the LPG tank bracket from lift truck. See Remove LPG Bracket for Lift Truck Models S30FT, S35FT, S40FTS (E010), H1.6FT, H1.8FT, H2.0FTS (H30FT, H35FT, H40FTS) (F001), S2.0-3.5FT (S40-70FT, S55FTS) (F187), and H2.0-3.5FT (H40-70FT) (L177) for procedures.

3. Remove alignment pin from LPG tank bracket.

   a. If LPG tank is equipped with a fabric strap, remove flange button head capscrew, hardened washer, curved washer, spacer (if equipped), hardened washer, and two pins from alignment pin and weldment offset plate. Remove alignment pin and weldment offset plate from LPG tank bracket. See Figure 9.

   b. If LPG tank is equipped with a steel strap, remove flange button head capscrew, hardened washer, curved washer, spacer (if equipped), and hardened washer from alignment pin. Remove alignment pin from LPG tank bracket. See Figure 9.

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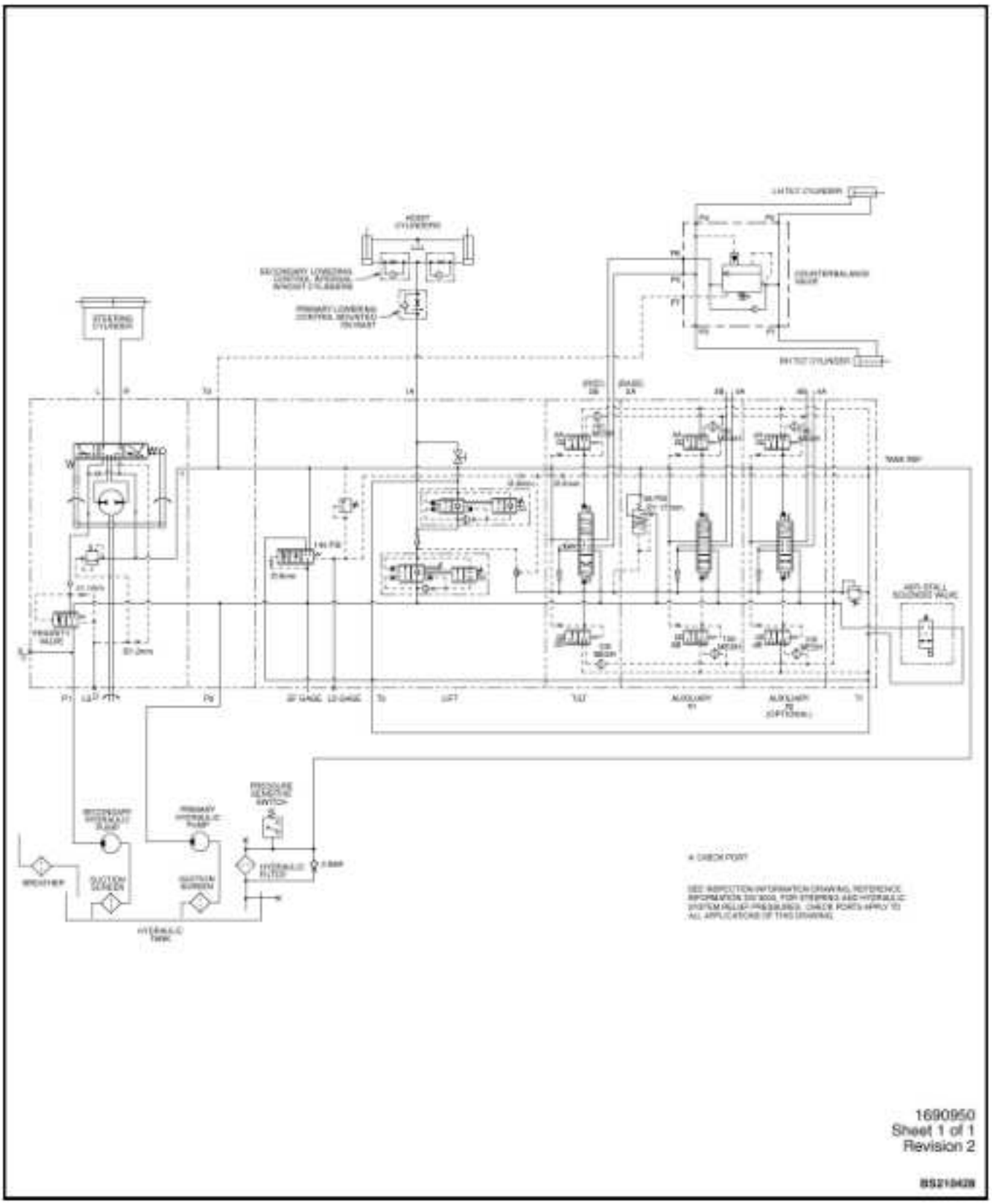
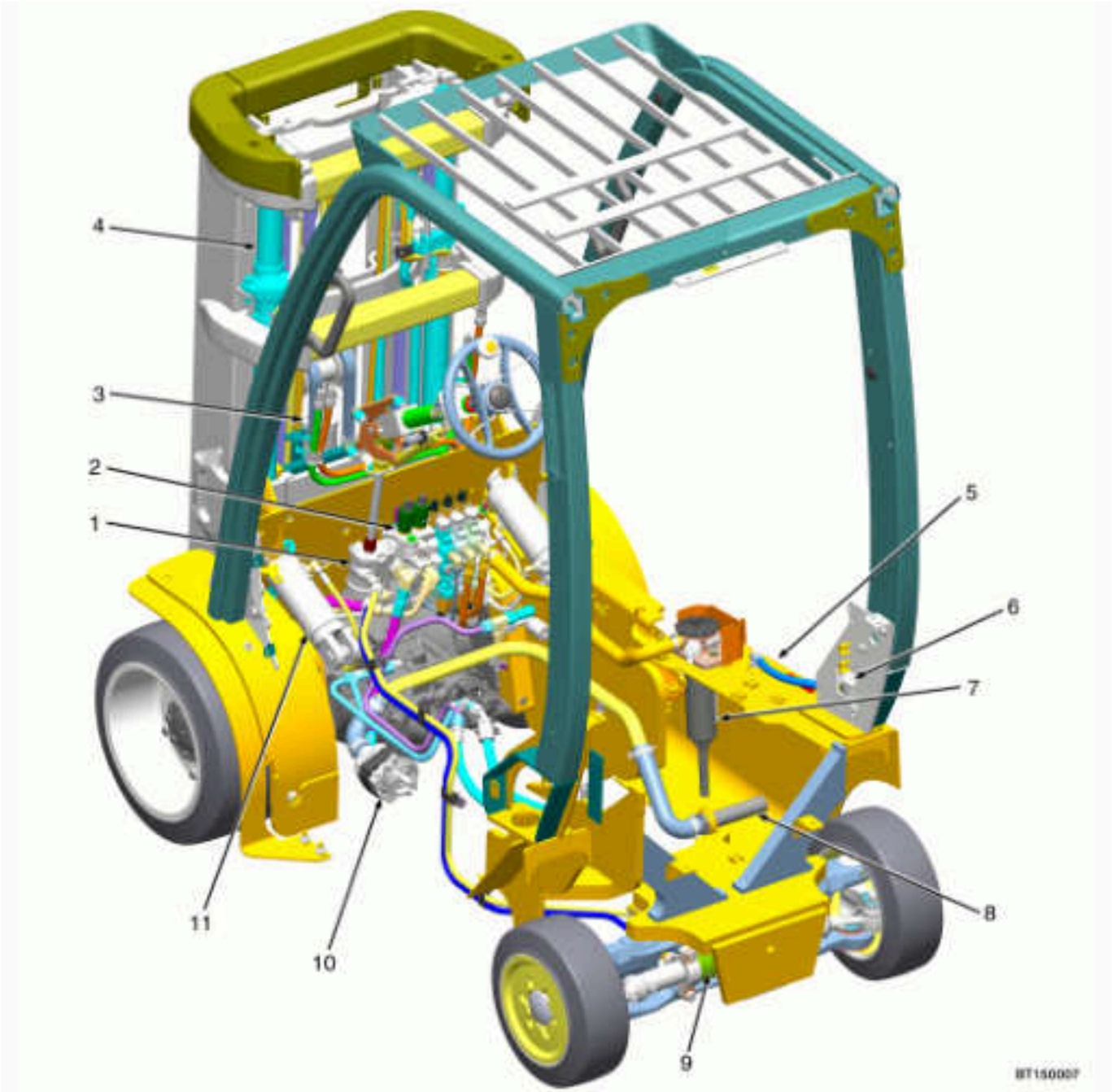


Figure 58. Electronic Control Valve Hydraulic Schematic for Lift Truck Models S6.0FT, S7.0FT (S135FT, S155FT) (F024, G024) and H6.0FT, H7.0FT (H135FT, H155FT) (K006)

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1. STEERING CONTROL UNIT (SCU)
2. MAIN HYDRAULIC CONTROL VALVE
3. FREE LIFT CYLINDER (CENTER)
4. LIFT CYLINDERS (2 USED)
5. HYDRAULIC TANK
6. BREATHER
7. RETURN FILTER
8. SUCTION SCREEN
9. STEERING CYLINDER
10. GEAR PUMP
11. TILT CYLINDERS (2 USED)

Figure 9050-10-1. Hydraulic Component Locator (1.0-5.5 Ton Shown)

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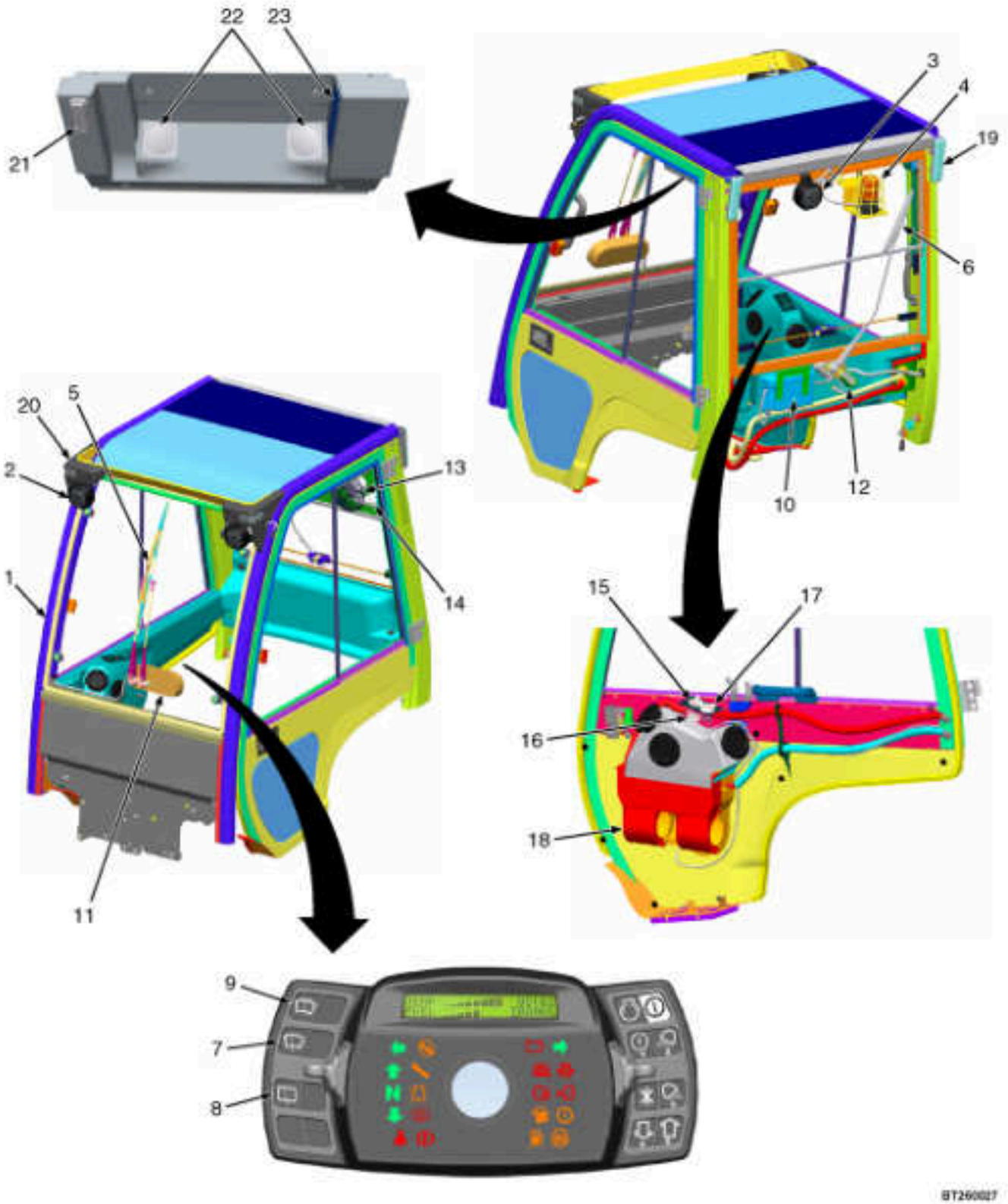


Figure 9060-10-25. Cab Component Locations

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