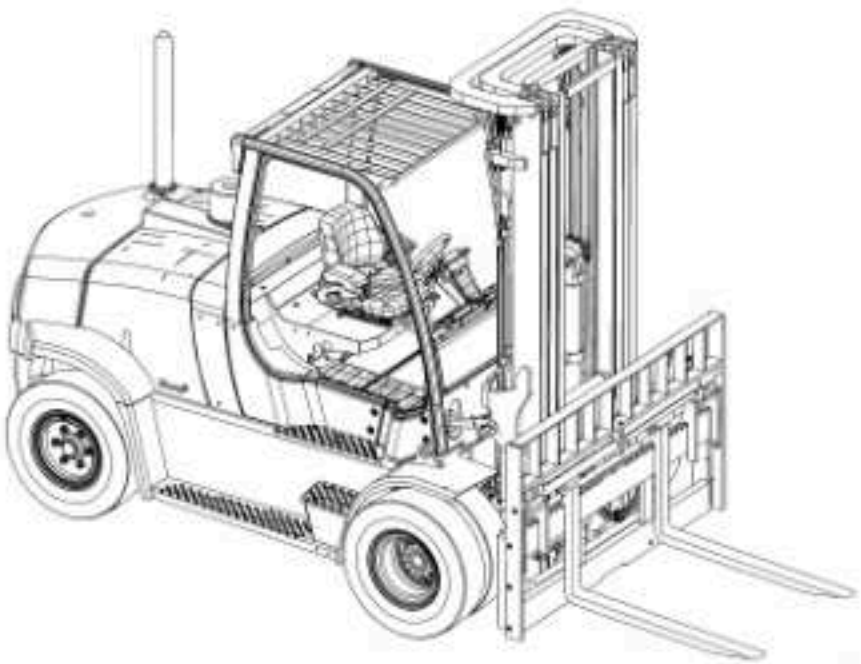
SERVICE MANUAL

B299 (H170FT, H175FT36, H190FT)



Rev. 07/14

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TABLE OF CONTENTS

General 1
Threaded Fasteners 1
Nomenclature, Threads 1
Strength Identification 2
Cotter (Split) Pins 2
Fastener Torque Tables 7
Conversion Table 9

This section is for the following models:

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Lift/Lower Continues To Move For Awhile After Joystick or MLM Is Released (E-Valve)

POSSIBLE CAUSE

A. RAMP RATE NOT SET CORRECTLY.
B. ELECTRO-HYDRAULIC POPPET VALVE (EHPV) POPPET VALVE STICKING.
C. EHPV PILOT PIN ASSEMBLY STICKING.

CAUSE A - RAMP RATE NOT SET CORRECTLY.

PROCEDURE OR ACTION:

WARNING

Unexpected movement of hydraulic function can cause injury or death. Do not operate the lift truck until problem has been repaired.

1. Adjust setting using DSC until operation is acceptable to operator. If symptom is still present, go to Cause B.

CAUSE B - ELECTRO-HYDRAULIC POPPET VALVE (EHPV) POPPET VALVE STICKING.

PROCEDURE OR ACTION:

1. Remove and inspect poppet valve. See **Main Control Valve** 2000SRM1137.
   Is the poppet undamaged and moves freely in bore?
   YES: Go to Cause C.
   NO: Replace poppet valve. See **Main Control Valve** 2000SRM1137.

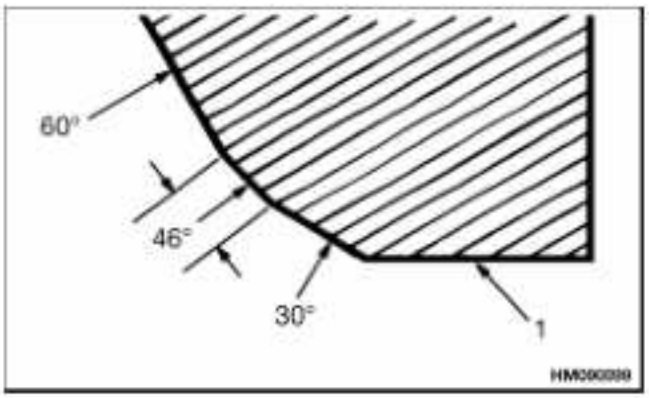
CAUSE C - EHPV PILOT PIN ASSEMBLY STICKING.

PROCEDURE OR ACTION:

1. Remove and inspect pilot pin assembly for excessive debris or bent pin. See **Main Control Valve** 2000SRM1137.
   Is pilot pin assembly dirty or is pin bent?
   YES: Clean or replace pilot pin assembly.
   NO: See Observed Symptoms-Gear Pump, Lift Function Will Not Move With Joystick or MLM Movement (E-Valve), Page 9050-33-37.

END SYMPTOM

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NOTE: SEAT WIDTH DIMENSION APPLIES TO THE 46° FACE ONLY.

1. CYLINDER HEAD

Figure 13. Valve Seat Specifications for Inlet and Exhaust Valves

Replace a valve if any of the following conditions are present:

- Valve stem is worn below specifications.
- Valve stem is bent.
- Valve face is warped.
- Any part of the valve is cracked.
- Any wear or damage to the valve face that cannot be removed by resurfacing and still meet the specifications shown in Figure 14.

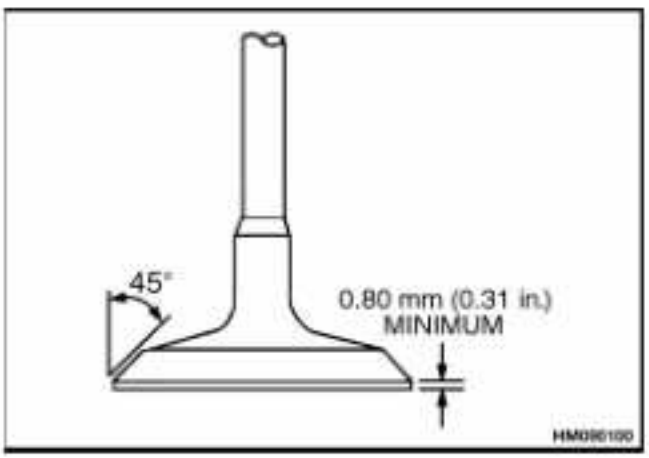


Figure 14. Valve Head Measurements

Valve Seats Repair

NOTE: Before any work is done on the valve faces and seats, make sure the clearance of the valve stems in their valve guides is within specifications.

Damaged valve seats can be resurfaced with a tool that is designed to repair valve seats. There are many different types of equipment for repairing valve seats. Follow the instructions of the manufacturer of the equipment that you are using.

The valve seats are ground at three different angles: 30°, 46°, and 60°. This method makes a valve seat that is the proper width and produces the correct contact line between the valve and valve seat. The specifications for the valve seats are shown in the Engine Specifications section and in Figure 13.

- If the contact line is too high, it can be made lower by using a 30° stone.
- If the contact line is too low, it can be raised using the 46° stone.
- If the seat is too narrow, it can be made wider using a 46° stone.
- If the seat is too wide, it can be made narrower using a 60° stone.

The correct dimensions for the valve seat widths and valve/valve seat overlap are shown in Figure 15. The valve seat widths are the dimensions of the 46° face only. The valve/valve seat overlap is the distance from the edge of the seat to the outside edge of the valve.

Valve Springs

Measure the length of the valve springs. The correct length is 51.3 mm (2.02 in.).

WARNING

Be careful when testing the valve springs. These springs can come loose with enough force to cause an injury. Always use equipment that was designed to test springs. Always wear eye and face protection while testing valve springs.

Use a special tool to check the tension of the valve springs. Compress the spring to the correct height and check the tension. For the correct specifications, see Figure 16. Replace valve springs that are not within specifications.

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Diagrams and Schematics

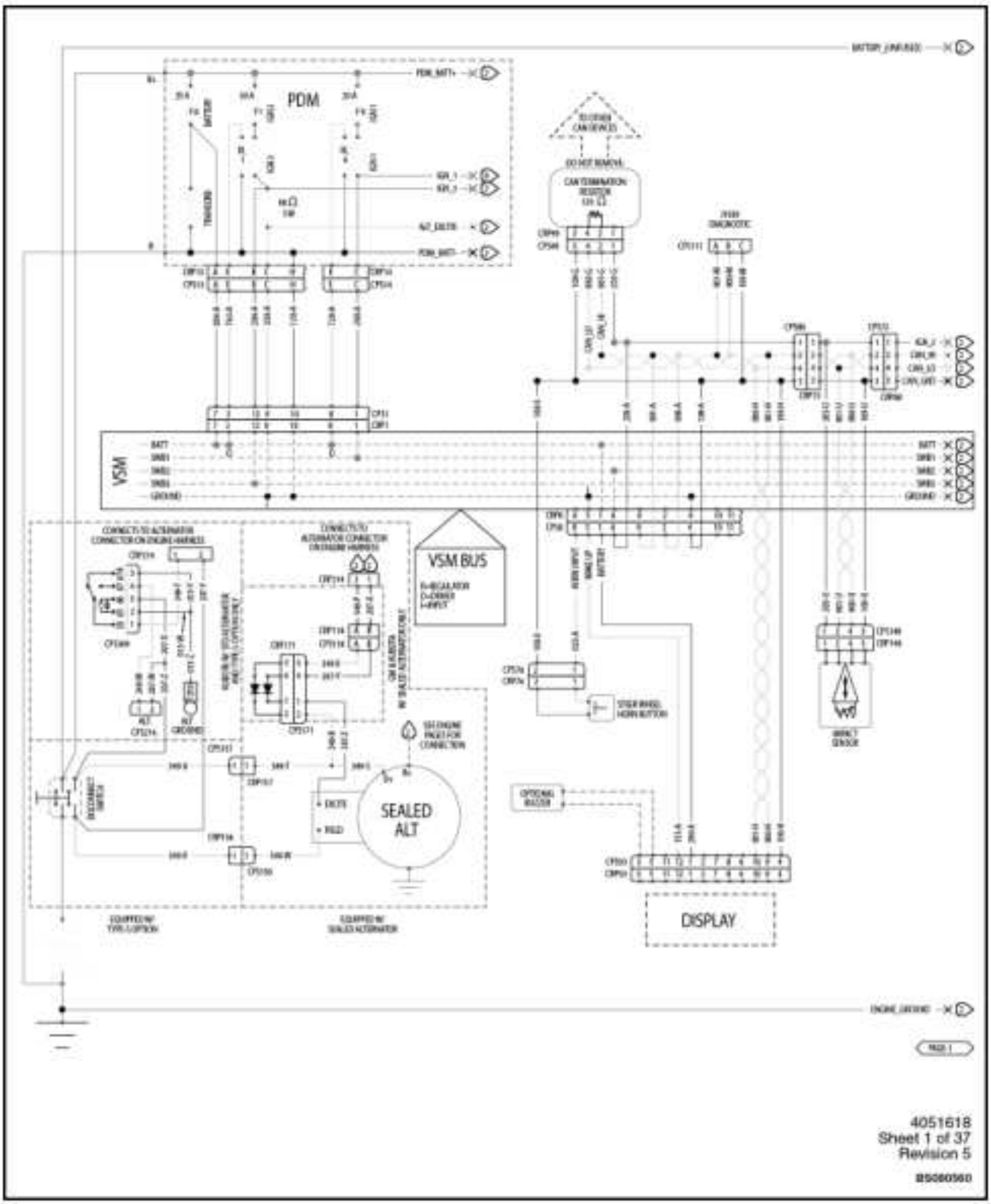
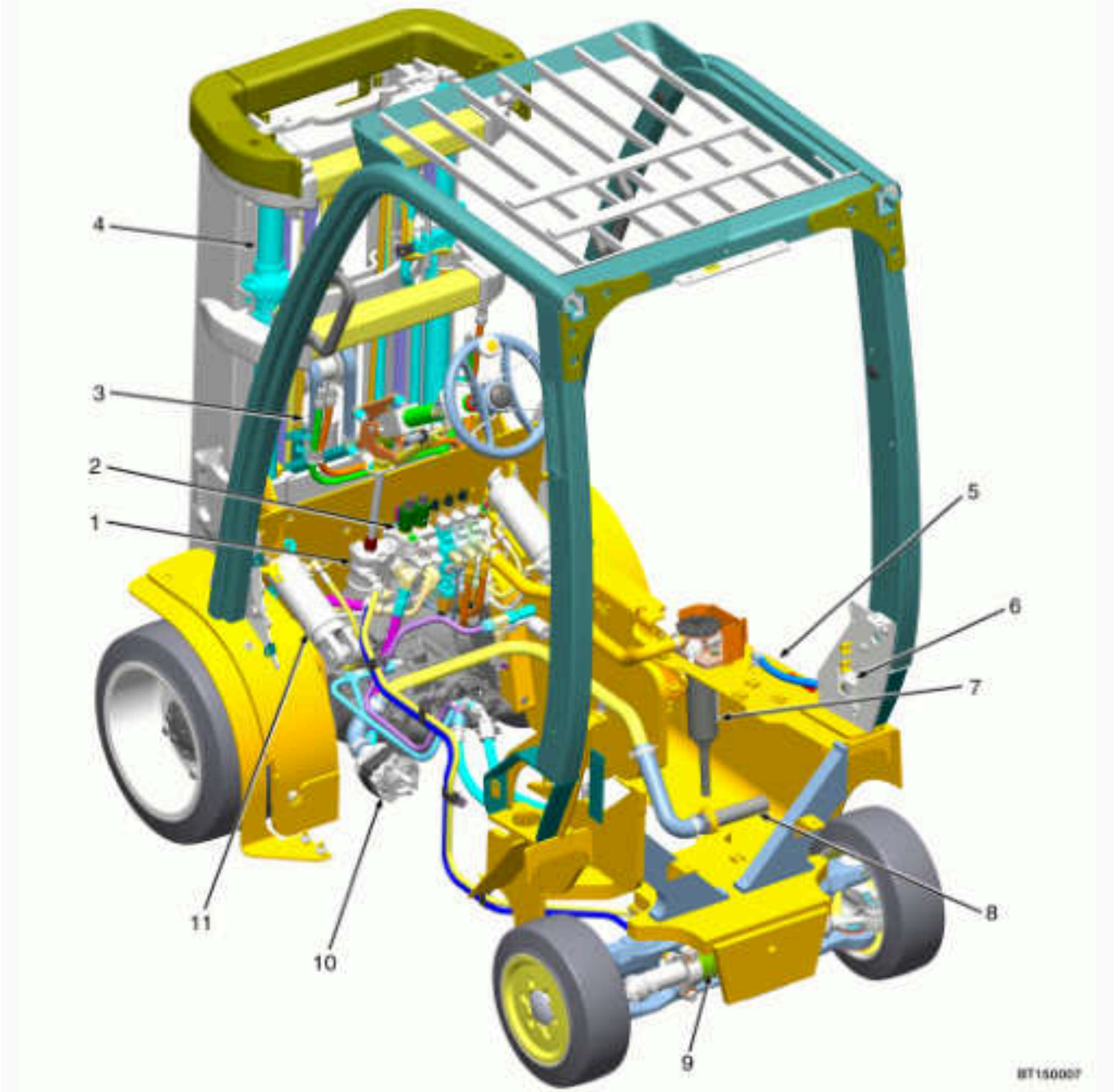


Figure 1. Type S Option Electrical Schematic

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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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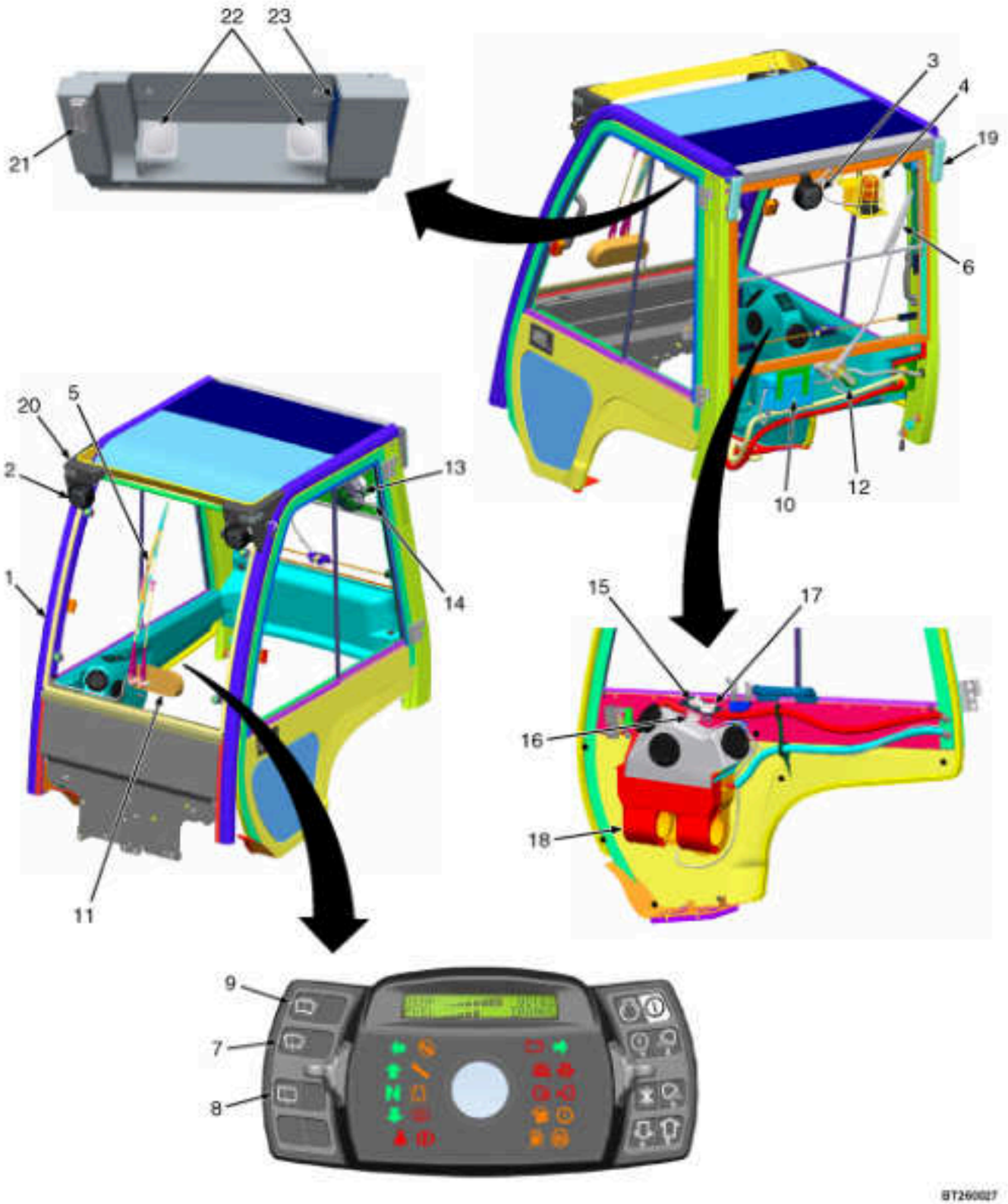


Figure 9060-10-25. Cab Component Locations

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