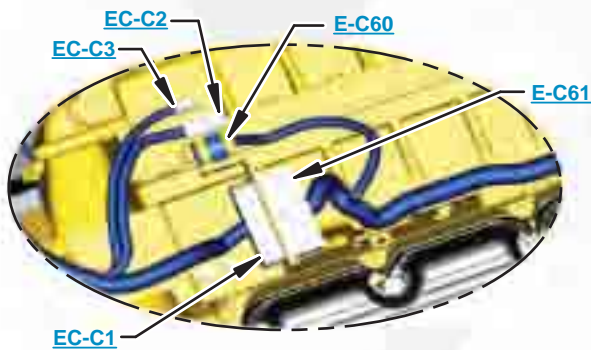




This document is best viewed at a screen resolution of 1024 X 768.

To set your screen resolution do the following:
RIGHT CLICK on the **DESKTOP**.
 Select **PROPERTIES**.
CLICK the **SETTINGS TAB**.
MOVE THE SLIDER under **SCREEN RESOLUTION** until it shows **1024 X 768**.
CLICK OK to apply the resolution.

The Bookmarks panel will allow you to quickly navigate to points of interest.



Click on any text that is BLUE and underlined. These are hyperlinks that can be used to navigate the schematic and machine views.

VIEW ALL CALLOUTS

When only one callout is showing on a machine view this button will make all of the callouts visible. This button is located in the top right corner of every machine view page.

| HOTKEYS (Keyboard Shortcuts) | | |
|------------------------------|-------------|------------------------|
| | FUNCTION | KEYS |
| | Zoom In | “CTRL” / “+” |
| | Zoom Out | “CTRL” / “-” |
| | Fit to Page | “CTRL” / “0” (zero) |
| | Hand Tool | “SPACEBAR” (hold down) |
| | Find | “CTRL” / “F” |



Schematic

D6R Series III Track-Type Tractor Hydraulic System

| | |
|---------|---------|
| GJB1-UP | DMK1-UP |
| WCB1-UP | LGP1-UP |
| HDC1-UP | JDL1-UP |
| RFC1-UP | DLM1-UP |
| TBC1-UP | LFM1-UP |
| JEK1-UP | EXL1-UP |
| HCD1-UP | DPS1-UP |
| HKE1-UP | EXW1-UP |
| WRG1-UP | GMT1-UP |
| MTJ1-UP | MRT1-UP |

Pilot Control and Accugrade Ready (HE)

COMPONENT LOCATION



| Description | Part Number | Machine Location | Schematic Location |
|--|-------------|--------------------|-------------------------|
| Pump - Implement and Steering | 227-0830 | 1 | E-2 |
| Steering Motor | 159-7156 | 2 | E-4 |
| Valve Gp - Counter Balance | 227-0832 | 3 | E-4 |
| Valve Gp - Steering, Dozer Lift/Tilte | 224-4936 | 4 | E-5 |
| Valve Gp - Steering, Dozer Lift/Tilte (Ripper) | 224-2937 | | |
| Valve Gp - Steering, Dozer Lift/Tilte (Winch) | 239-6076 | | |
| Manifold Gp - Inlet Manifold with Relief | 235-0401 | 5 | E-5 |
| Valve Gp - Steering Control | 235-0402 | 6 | E-5 |
| Valve Gp - Dozer Lift | 235-0403 | 7 | D-5 |
| Valve Gp - Dozer Tilt | 235-0404 | 8 | C-5 |
| Valve Gp - Ripper | 235-0405 | 9 | C-8 |
| Valve Gp - Winch | 239-6074 | | C-5 |
| Cover | 235-0399 | 10 | B-5,B-8 |
| Valve Gp - Ripper Pilot Valve | 167-1177 | 11 | B-8 |
| Valve Gp - Dozer Pilot Valve | 200-0189 | 12 | D-1 |
| Valve Gp - Shut Off | 201-0950 | 13 | D-8 |
| Accumulator | 200-0750 | 14 | D-8 |
| Valve Gp - Pressure Reducing Manifold and Check Valves | 226-4751 | 15 | D-8 |
| Valve Gp - Cooler Bypass | 9T-3004 | 16 | A-3 |
| Cooler | 169-3806 | 17 | D-2 |
| Valve Gp - Breather | 3G-4783 | 18 | A-3 |
| Element - Implement and Case Drain Return | 1R-0777 | 19 | A-3 |
| Valve Gp - Quick Drop | 227-0831 | 20 | F-1 |
| Cylinder Gp - Lift (STD) | 227-0844 | 21 | F-1 |
| Cylinder Gp - Lift (LGP) | 227-0843 | | |
| Cylinder Gp - Dual Tilt (Option) | 227-0841 | 22 | E-1 |
| Cylinder Gp - Tilt | 233-9134 | 23 | E-1 |
| Cylinder Gp - Ripper Lift | 227-0842 | 24 | E-8 |
| Tank Gp | 224-4946 | 25 | A-3 |
| Valve Gp - Winch Pilot Control | 160-0766 | 26 | A-8 |
| Winch Arrangement | 237-5912 | 27 | F-8 |
| Valve Gp - Counter Balance-Lift Circuit | 239-0681 | 28 | F-2 |
| Valve Gp - EH Solenoid Valves | 239-5317 | 29 | C-1 |
| Shuttle Valve | 233-6942 | 30 | C-1 |

TAP LOCATION

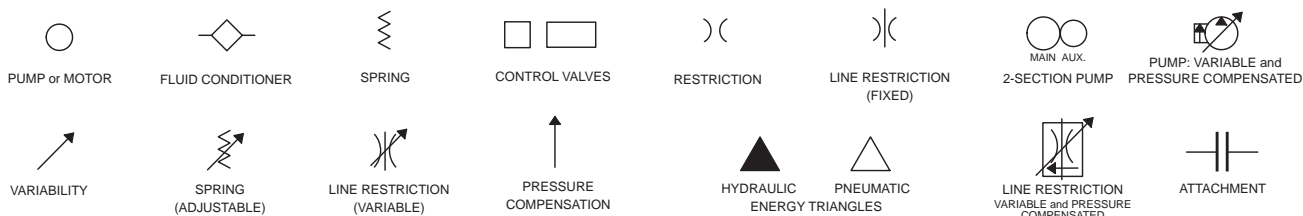


| Tap Number | Description | Schematic Location |
|---------------------|-----------------------------------|---------------------|
| HB | IMPLEMENT PUMP SIGNAL PRESSURE | F-3 |
| HA | IMPLEMENT PUMP DISCHARGE PRESSURE | E-8 |
| K | UPSTREAM FILTER PRESSURE | D-3 |
| CP | PILOT SUPPLY PRESSURE | D-8 |
| CPG | ACCUMULATOR | D-8 |
| MA | STEERING PORT PRESSURE (A) | F-4 |
| MB | STEERING PORT PRESSURE (B) | E-4 |
| C | COOLER BYPASS PRESSURE | D-2 |
| SOS | HYDRAULIC OIL SAMPLING | D-8 |

FLUID POWER SYMBOLS



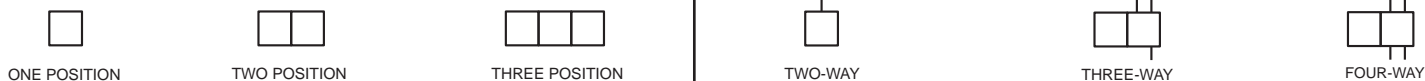
BASIC COMPONENT SYMBOLS



VALVE ENVELOPES

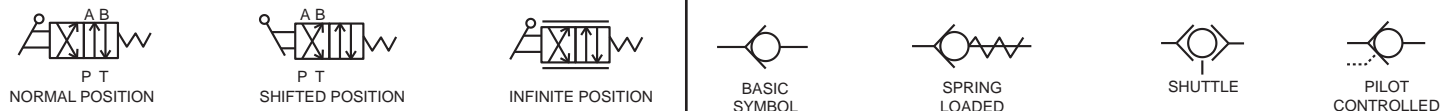
VALVES

VALVE PORTS



CONTROL VALVES

CHECK VALVES



FLUID STORAGE RESERVOIRS



MEASUREMENT

ROTATING SHAFTS



COMBINATION CONTROLS



MANUAL CONTROL SYMBOLS



RELEASED PRESSURE

PILOT CONTROL SYMBOLS

REMOTE SUPPLY PRESSURE



ACCUMULATORS

CROSSING AND JOINING LINES

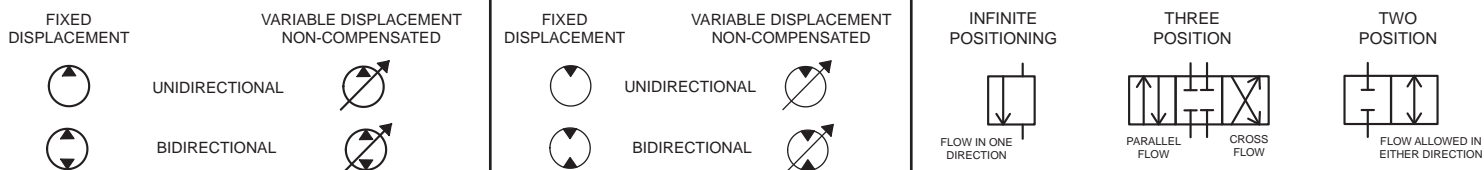
HYDRAULIC AND PNEUMATIC CYLINDERS



HYDRAULIC PUMPS

HYDRAULIC MOTORS

INTERNAL PASSAGEWAYS



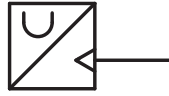
ELECTRICAL SYMBOLS



Hydraulic Symbols (Electrical)



Transducer
(Fluid)



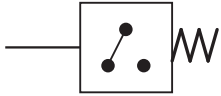
Transducer
(Gas / Air)



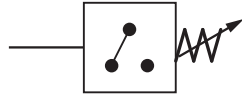
Generator



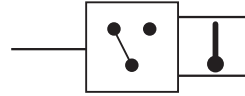
Electric Motor



Pressure Switch



Pressure Switch
(Adjustable)

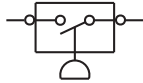


Temperature Switch

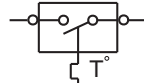


Electrical Wire

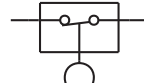
Electrical Symbols (Electrical)



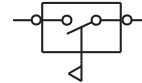
Pressure
Symbol



Temperature
Symbol



Level
Symbol

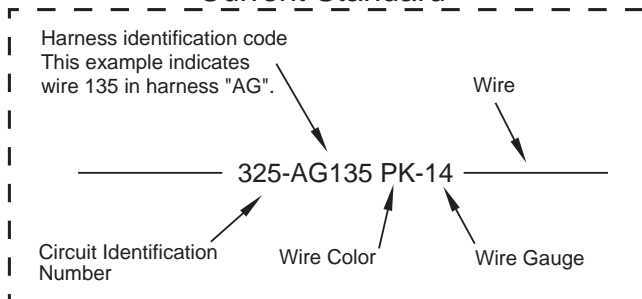


Flow
Symbol

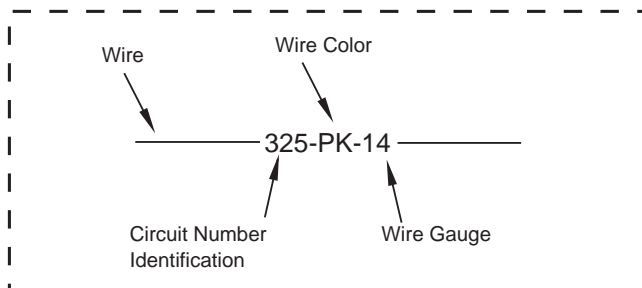
Wire Number Identification Codes

Electrical Schematic Example

Current Standard

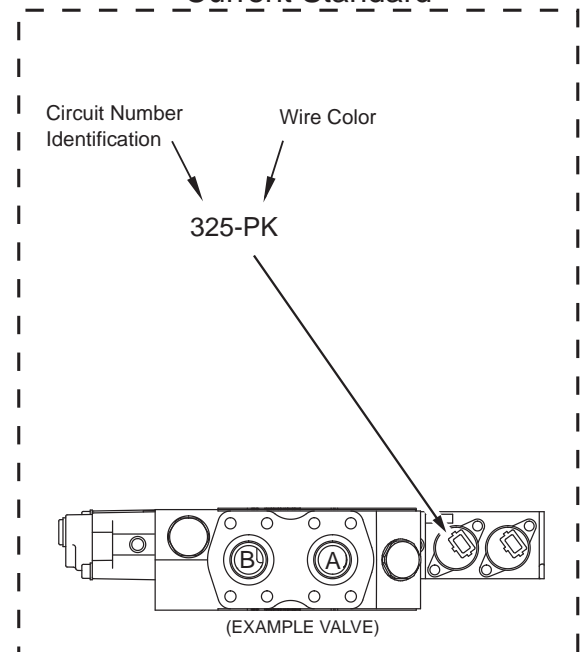


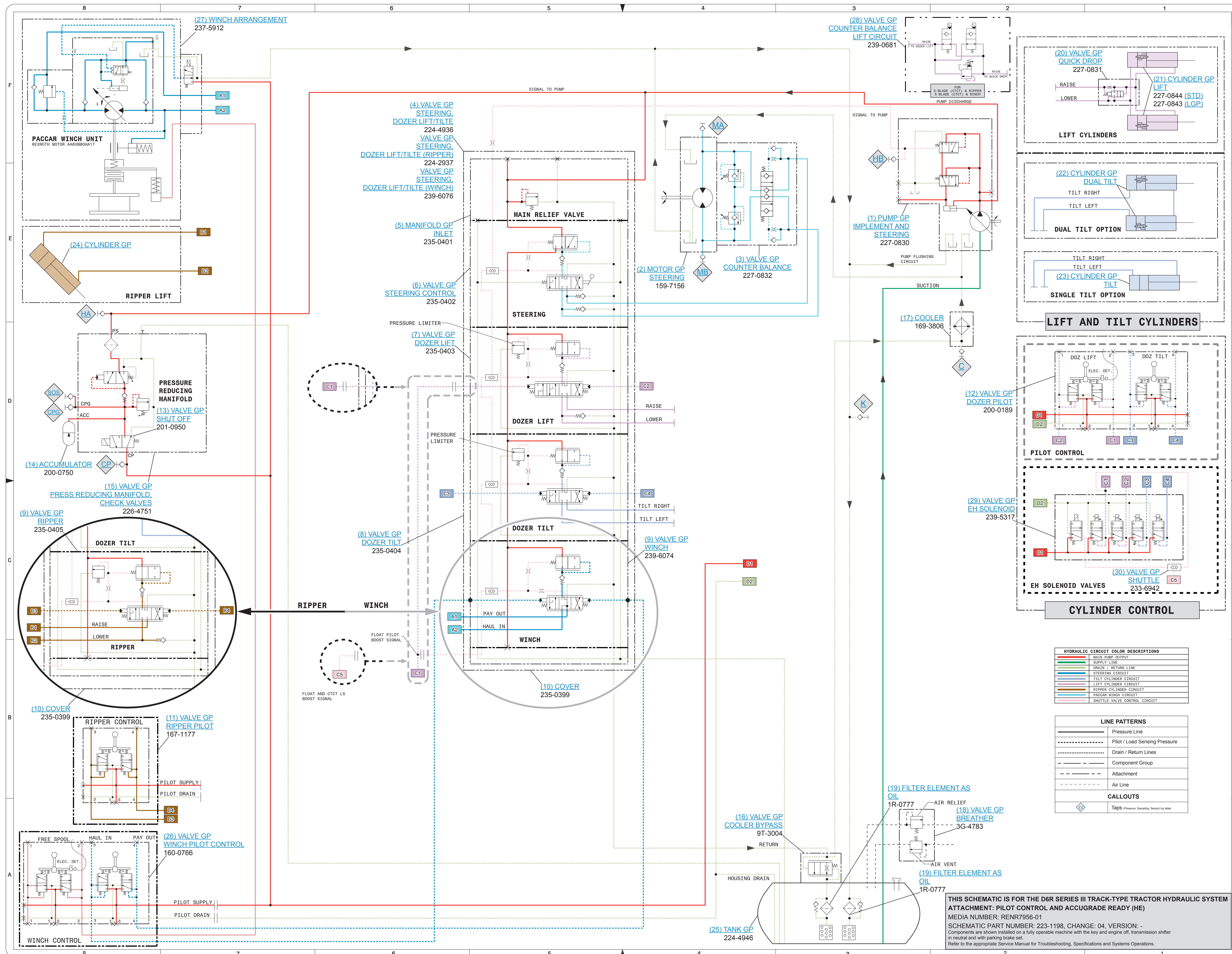
Previous Standard



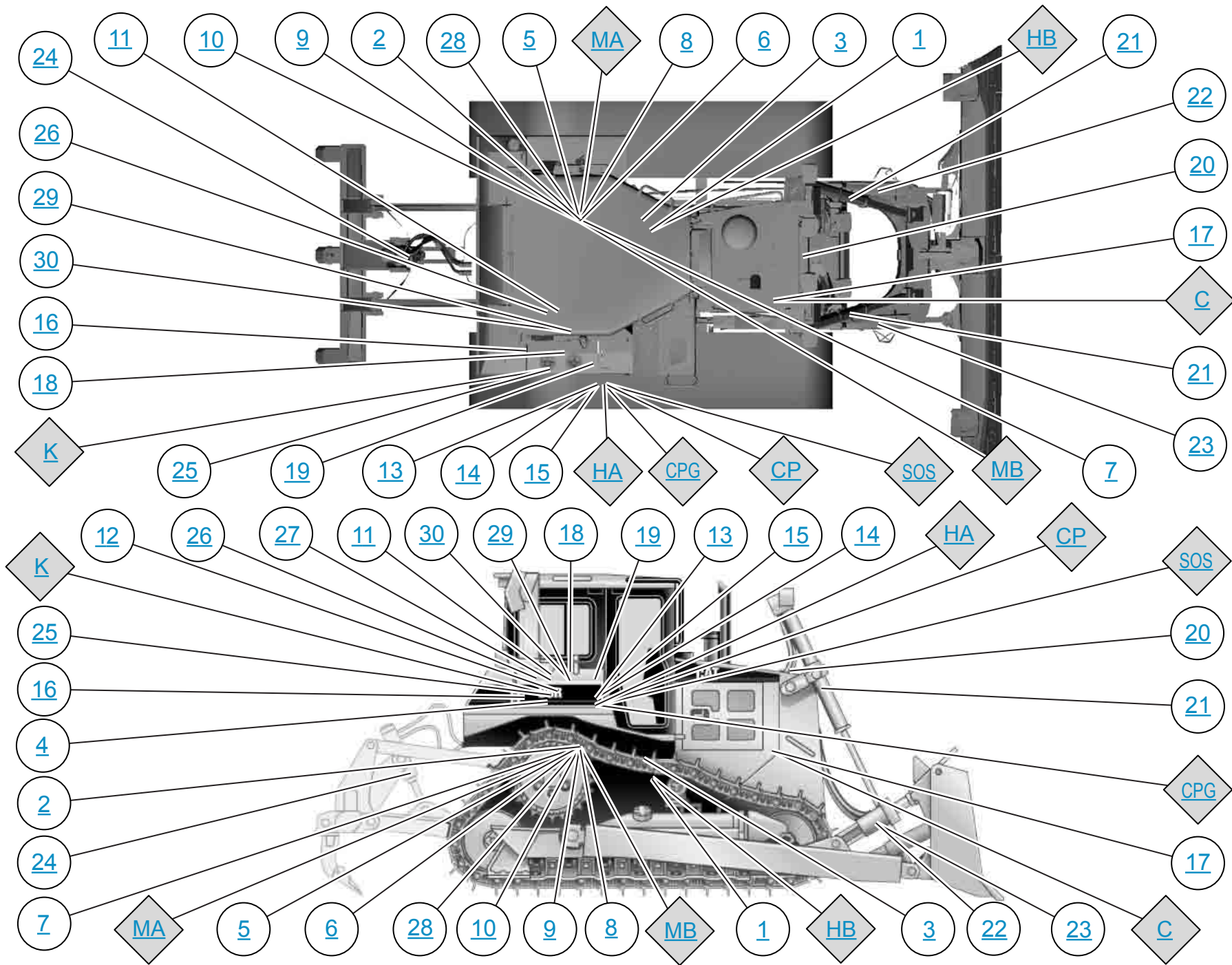
Hydraulic Schematic Example

Current Standard





MACHINE COMPONENT LOCATIONS



EH PILOT MANIFOLDS



D6R SERIES III BLADE ANGLE EH PILOT MANIFOLD

The machine will have an EH pilot manifold installed for blade angle control (29) if the machine is equipped with a VPAT blade. The EH pilot manifold for blade angle control is located in the forward compartment on the right fender, directly below the pressure reducing manifold. The ANGLE RIGHT solenoid controlled pilot valve and the ANGLE LEFT solenoid controlled pilot valve are identified in the picture below.

EH PILOT MANIFOLD

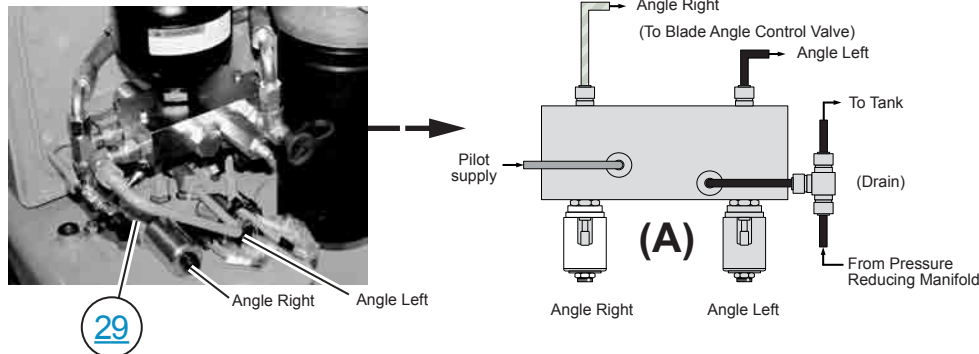


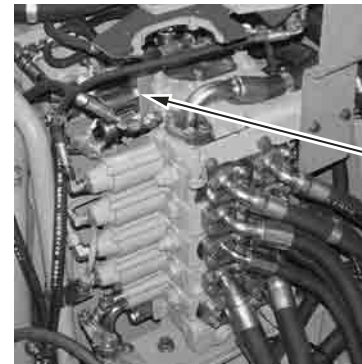
Illustration (A) shows the EH pilot manifold when the operator has moved the thumb rocker switch to the BLADE ANGLE RIGHT position. The Machine ECM receives the signal from the thumb rocker switch and sends a corresponding signal to the ANGLE RIGHT solenoid controlled pilot valve and the solenoid is ENERGIZED. Pilot supply oil is then directed to the appropriate end of the blade angle control valve.

D6R SERIES III BLADE TILT AND LIFT EH PILOT MANIFOLD

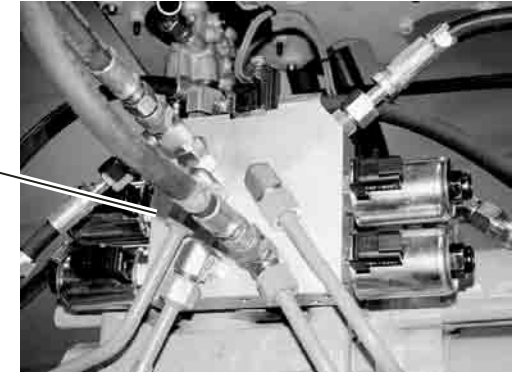
The EH pilot manifold (28) for blade lift and tilt functions is mounted to the outboard side of the valve stack bracket, if the machine is equipped with AccuGrade.

Components of the AccuGrade EH pilot manifold identified above are the blade raise solenoid, the blade tilt right solenoid, the AccuGrade Boost solenoid, the blade tilt left solenoid, and the blade lower solenoid.

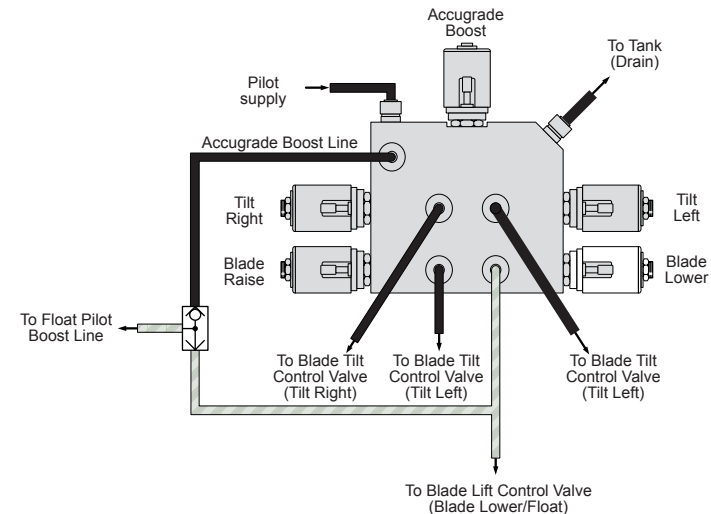
The EH pilot manifold receives pilot supply oil from the pressure reducing manifold. The EH pilot manifold contains four (proportional) solenoid controlled pilot valves that receive PWM signals from the Machine ECM for operation of the blade lift and the blade tilt functions. When ENERGIZED, the solenoid controlled pilot valve directs pilot supply oil to the end of the corresponding implement control valve, in direct proportion to the movement of the dozer control lever (or as automatically commanded by the AccuGrade system). The EH pilot manifold also contains the AccuGrade Boost solenoid valve, which uses an ON/OFF solenoid. The AccuGrade Boost strategy was discussed earlier in the Implement Hydraulics section of this presentation.



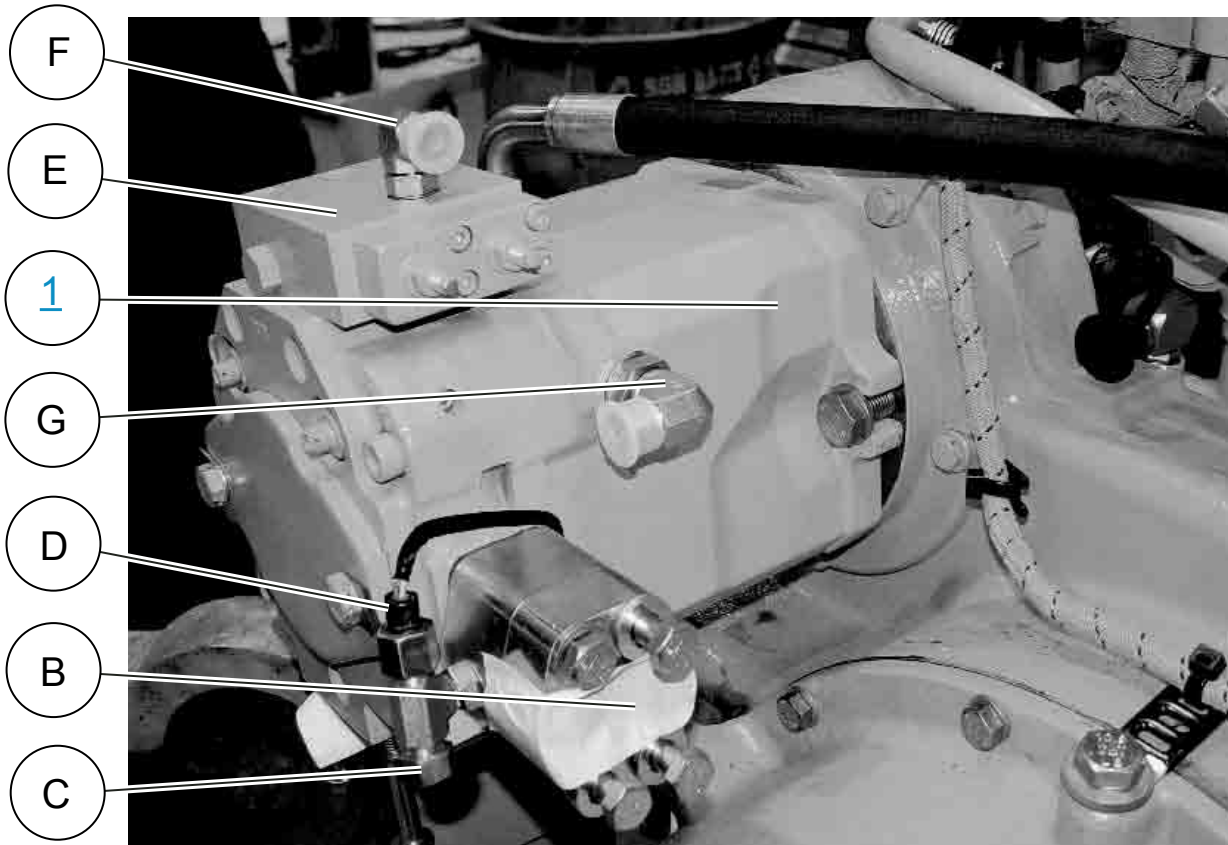
IMPLEMENT VALVE STACK



EH PILOT MANIFOLD



The AccuGrade Boost solenoid valve directs pilot supply oil to an external resolver. The blade lower solenoid controlled pilot valve also directs pilot supply oil to this same external resolver, in addition to the pilot supply oil that is directed to the LOWER end of the blade lift control valve. Pilot supply oil is directed (through the resolver) to the Float Pilot Boost line when either solenoid is ENERGIZED. The Float Pilot Boost signal line enters the signal resolver network through the end cover of the valve stack. In either situation, the pump's flow compensator valve senses the pilot supply oil as a signal and the implement pump will up stroke to maintain margin pressure above LOW PRESSURE STANDBY pressure. (If the steering valve or another implement valve sends a higher signal into the resolver network, the highest pressure is sensed by the compensator valve.) This EH pilot manifold is only present on ARO machines.



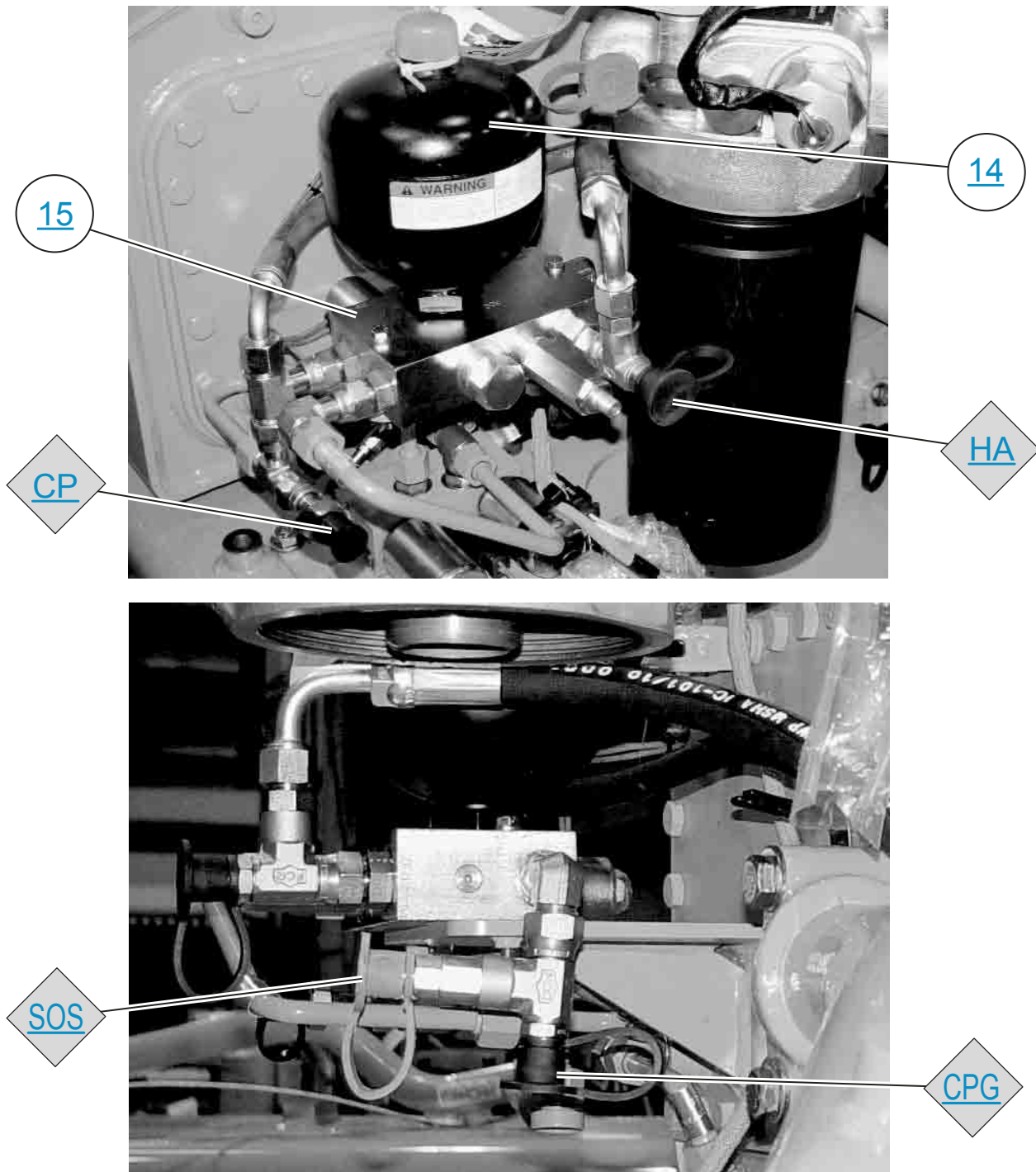
The implement hydraulic pump (1) is mounted to the rear of the flywheel housing, at the upper left corner. High pressure supply oil to the implement valve stack is directed through a hose that connects to the pump discharge port (B). High pressure supply oil to the pressure reducing manifold is directed through a hose that connects to the lower fitting (C) from the pump discharge port.

A pump discharge pressure sensor (D) is installed on the opposite side of the "tee" fitting from the pressure reducing manifold supply line. This pressure sensor is only present on machines that are equipped with AccuGrade. It is a necessary component for the calibration of the four proportional solenoids on the EH pilot manifold that are used for blade control. Machines that are not equipped with AccuGrade will have an "L" fitting at this location, connecting the pump supply line to the pressure reducing manifold.

Other components identified above are:

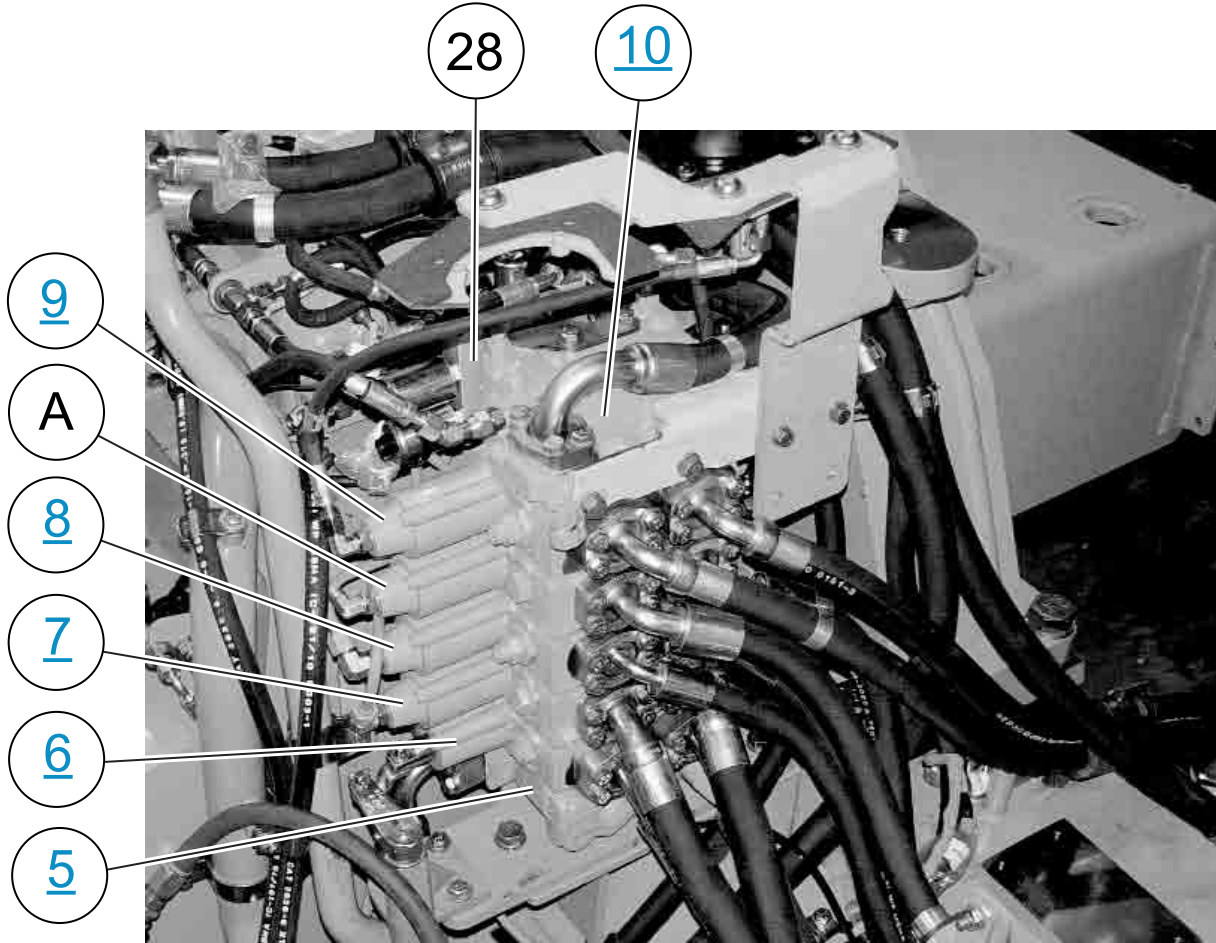
- E. pump pressure and flow compensator valve
- F. fitting for the load sensing signal line (from the signal resolver network)
- G. fitting for the case drain line

This implement pump is identical to the implement pump used in the D6R Series II machines with differential steering.

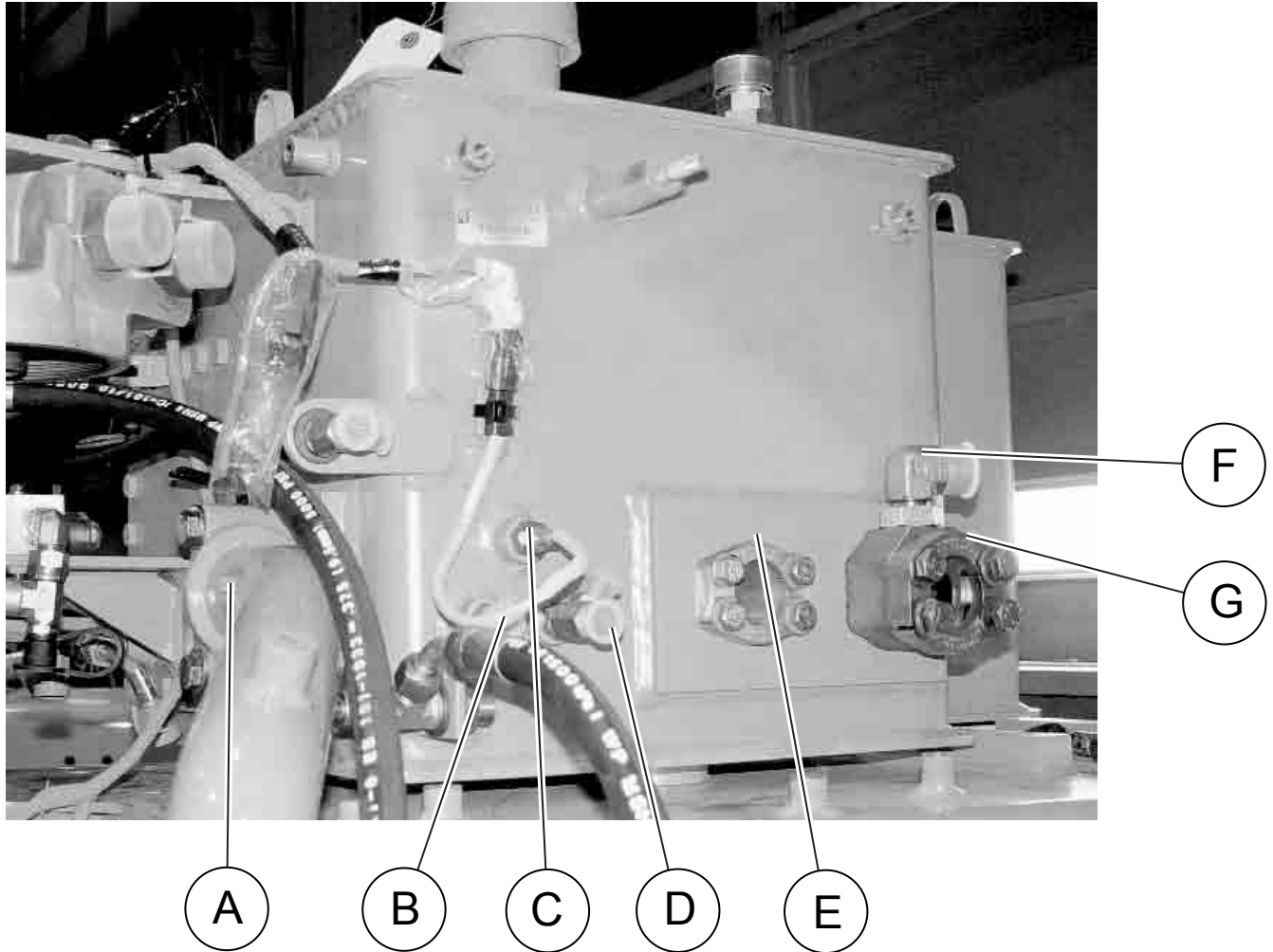


The pressure reducing manifold (15) is located inside the forward compartment on the right fender and is situated outboard from the power train oil filter. Service points identified above are:

- (HA) Implement pump discharge pressure test port.
- (14) Accumulator.
- (CP) Pilot supply pressure test port.
- (S•O•S) Hydraulic oil sampling port.
- (CPG) Accumulator pressure test port.



The steering and implement control valve stack is mounted to a bracket inside the right fender, below the right console in the operator compartment. The implement valve stack consists of the inlet manifold (5), the steering valve (6), the blade lift control valve (7), the blade tilt control valve (8), the optional blade angle control valve (A), the ripper (or winch) control valve (9), and the end cover (10), EH pilot manifold for tilt and lift. The blade angle control valve and the ripper/winch control



Service points on the back of the hydraulic oil tank that are identified above are:

- A. Steering implement pump suction port.
- B. Valve stack end cover drain port.
- C. Hydraulic oil temperature sensor.
- D. Pilot valve drain port.
- E. Case drain return port (to internal filter).
- F. Fitting for hose to hydraulic oil cooler (via bypass valve).
- G. Implement return oil port (to internal filter).