

Schematic

420E and 430E Backhoe Loader Hydraulic System

420E:
HLS1-UP
KMW1-UP

430E:
NCE1-UP
DDT1-UP
EAT1-UP
MJT1-UP

Volume 1 of 2: Single Tilt

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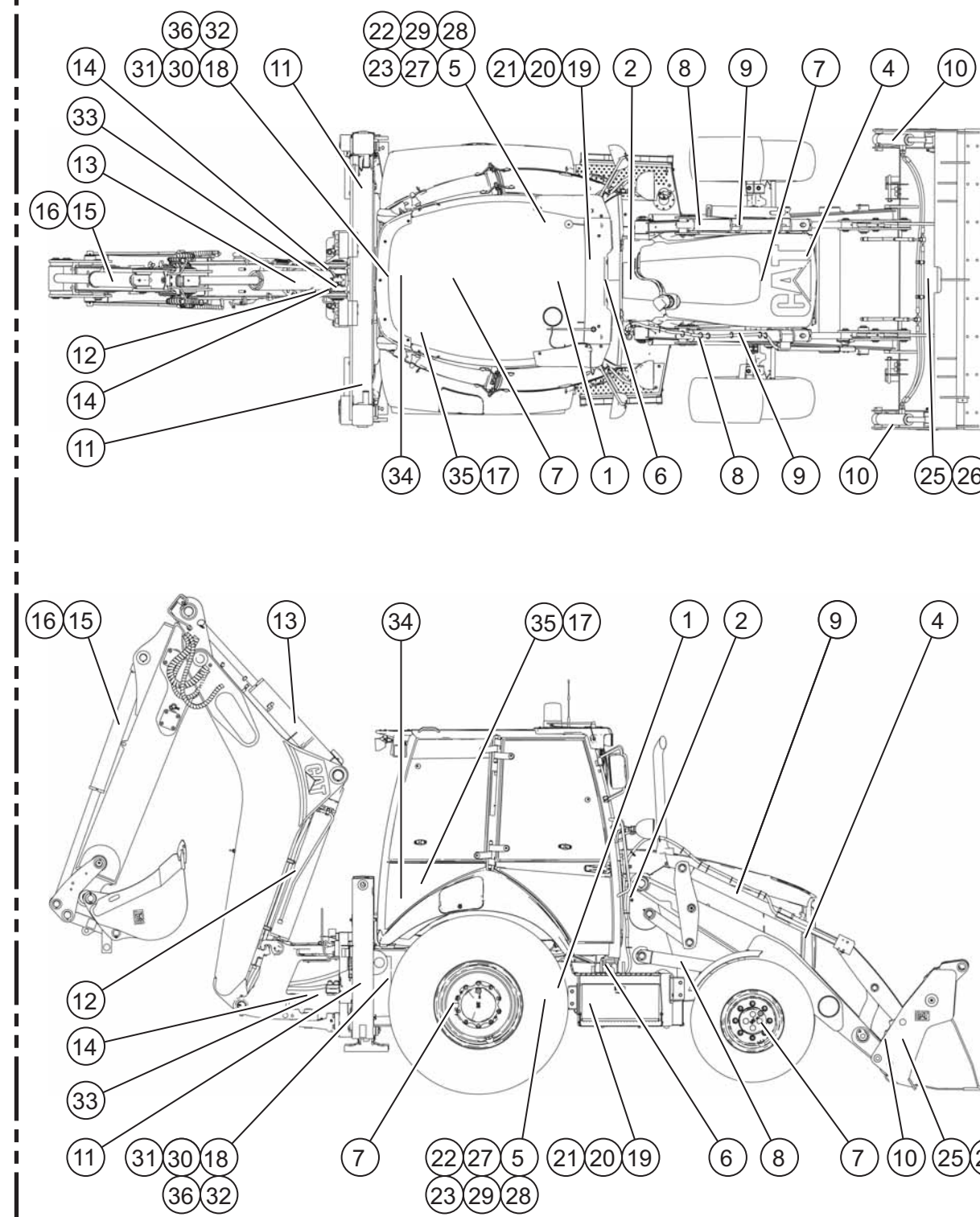
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FLUID POWER SYMBOLS			
BASIC COMPONENT SYMBOLS			
PUMP OR MOTOR	FLUID CONDITIONER	SPRING	CONTROL VALVES
RESTRICTION	LINE RESTRICTION (FIXED)	LINE RESTRICTION (ADJUSTABLE)	LINE RESTRICTION (PRESSURE COMPENSATED)
VARIABLE	SPRING (ADJUSTABLE)	LINE RESTRICTION (ADJUSTABLE)	LINE RESTRICTION (PRESSURE COMPENSATED)
VALVE ENVELOPES		VALVE PORTS	
ONE POSITION	TWO POSITION	THREE POSITION	TWO-WAY
THREE-WAY	FOUR-WAY		
CONTROL VALVES		CHECK VALVES	
NORMAL POSITION	SHIFTED POSITION	INFINITE POSITION	BASIC SYMBOL
SPRING LOADED	SHUTTLE	PILOT CONTROLLED	
FLUID STORAGE RESERVOIRS			
VENTED	PRESSURIZED	RETURN ABOVE FLUID LEVEL	RETURN BELOW FLUID LEVEL
MEASUREMENT		ROTATING SHAFTS	
PRESSURE	TEMPERATURE	FLOW	UNIDIRECTIONAL
			BIDIRECTIONAL
COMBINATION CONTROLS			
SOLENOID	SOLENOID OR MANUAL	SOLENOID & PILOT	SERVO
SOLENOID	SOLENOID & PILOT	SERVO	THERMAL
			DETENT
MANUAL CONTROL SYMBOLS			
PUSH-PAUL LEVER	MANUAL SHUT-OFF	GENERAL MANUAL	PUSH BUTTON
PEDAL	SPRING		
RELEASED PRESSURE		PILOT CONTROL SYMBOLS	
EXTERNAL RETURN	INTERNAL RETURN	SAMPLING	COMPLETE
			INTERNAL SUPPLY PRESSURE
ACCUMULATORS		CROSSING & JOINING LINES	
SPRING LOADED	GAS CHARGED	LINES CROSSING	LINES JOINING
HYDRAULIC PUMPS		HYDRAULIC MOTORS	
FREE DISPLACEMENT	VARIABLE DISPLACEMENT NON-COMPENSATED	FREE DISPLACEMENT	VARIABLE DISPLACEMENT NON-COMPENSATED
UNIDIRECTIONAL	BIDIRECTIONAL	UNIDIRECTIONAL	BIDIRECTIONAL
HYDRAULIC & PNEUMATIC CYLINDERS		INTERNAL PASSAGEWAYS	
SINGLE ACTING	DOUBLE ACTING	INFINITE POSITIONING	3 POSITION
		2 POSITION	
		FLOW IN ONE DIRECTION	PARALLEL FLOW
		CROSS FLOW	FLOW IN OTHER DIRECTION

ELECTRICAL SYMBOLS TABLE			
HYDRAULIC SYMBOLS (ELECTRICAL)			
TRANSUCER (FLUID)	TRANSUCER (GAS / AIR)	GENERATOR	ELECTRIC MOTOR
PRESSURE SWITCH	PRESSURE SWITCH (ADJUSTABLE)	TEMPERATURE SWITCH	ELECTRICAL WIRE
ELECTRICAL SYMBOLS (ELECTRICAL)			
PRESSURE SWITCH	TEMPERATURE SWITCH	LEVEL SWITCH	FLOW SWITCH
WIRE NUMBER IDENTIFICATION CODES			
ELECTRICAL SCHEMATIC EXAMPLE CURRENT STANDARD		HYDRAULIC SCHEMATIC EXAMPLE CURRENT STANDARD	
HARNES IDENTIFICATION CODE THIS EXAMPLE INDICATES WIRE 135 IN HARNES "A0"		CIRCUIT NUMBER IDENTIFICATION WIRE COLOR	
CIRCUIT NUMBER IDENTIFICATION	WIRE COLOR	WIRE GAUGE	325-PK
PREVIOUS STANDARD		(EXAMPLE VALVE)	
WIRE	WIRE COLOR	WIRE GAUGE	
CIRCUIT NUMBER IDENTIFICATION			

COMPONENT LIST			
ITEM	NAME	420E	430E
1	PUMP GP	267-2755	
2	HYDRAULIC TANK	246-5286	
3	TANK GROUP	245-8777	
4	COOLER	HYDRAULIC COOLER	
5	FILTER	226-8747	
6	HMJ	210-6240	
STEER CYLINDERS			
7A	FRONT	N/A	
7B	REAR	N/A	
LIFT CYLINDERS			
8A	ST	229-3509	
8B	PL/T	228-3505	
TILT CYLINDERS			
9A	ST	200-7128	
9B	PL/T	190-3884	
10	MP BUCKET CYL(OPT)	N/A	
STABILIZER CYLINDERS			
11A	LH	262-7049	
11B	RH	262-7050	
12	BOOM CYLINDER	268-9049(S) 210-7076	268-9051(S) 246-8884
13	STICK CYL.	210-7081(S)	210-7091
14	SWING CYL.	278-1971	
15	BUCKET CYL.	210-7087(S)	210-7095(S)
16	E-STICK CYL. (OPT)	210-7097(S)	
VALVE PILOT 2-BANK			
17A	VALVE PILOT-BODY	223-4713	
17B	LEVER W/ SWITCHES	223-4714	
17C	LEVER W/INT & SWITCH (OPT)	223-4715	
18	ACCUMULATOR	228-0420	
19	RIDE CNTRL VALVE (OPT)	245-8780	
20	RIDE CNTRL ACCUMTR (OPT)	162-3960	
21	RIDE CNTRL PRES. SWITCH(OPT)	131-9203	
22	TEMP. SENSOR (OPT)	TEMP. SENSOR	
23	DIFF. PRES. SWITCH (OPT)	134-0404	
25	COUPLER VALVE (See Volume 2)	231-2615	
26	COUPLER CYLINDER (See Volume 2)	190-3085	
LOADER VALVE (ST)			
27	2 BANK	266-2552	
27A	INLET SECTION	269-1080	
27B	LIFT SECTION	269-1081	
27C	TILT SECTION	269-1082	
27D	AUX SECTION	269-1083	
27E	OUTLET MANIFOLD	269-1079	
LOADER VALVE (PL/T)			
28	2 BANK	N/A	
28B	LIFT SECTION	269-1081	
28C	TILT SECTION	269-1082	
28D	AUX SECTION	N/A	
BACKHOE VALVE (CP)			
30	6 BANK	266-2556	
30G	BOOM SECTION	269-1062	
30H	STICK SECTION	269-1063	
30J	E-STICK SECTION	269-1068	
30K	OUTLET MANIFOLD	269-1059	
BACKHOE VALVES (COMMON)			
32A	INLET MANIFOLD	269-1060	
32B	STABILIZER SECTION	269-1061	
32C	SWING SECTION	269-1064	
32D	BUCKET SECTION	269-1065	
32E	AUX SECTION	269-1067	
32F	PATTERN SWITCHING VALVE	257-7724	
33	VALVE GP - CUSHION RELIEF	206-3685 (STD)	
34	VALVE GP - PILOT (BACKHOE)	267-2758	
35	VALVE GP - PILOT (LOADER)	267-2760	
36	MANIFOLD - PILOT	266-0094	

TAP LOCATIONS	
Tap	Description
T1	Pump Discharge
T2	Load Sense
T3	Pilot Pressure
SOS	Oil Sampling



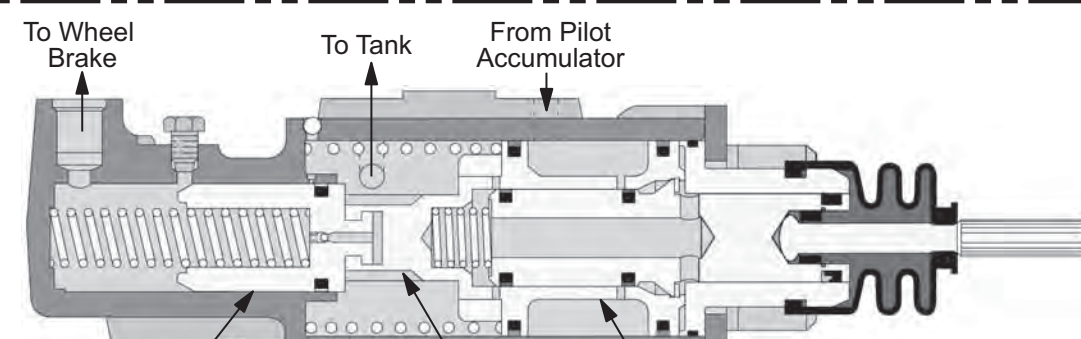
COMPONENT LOCATIONS



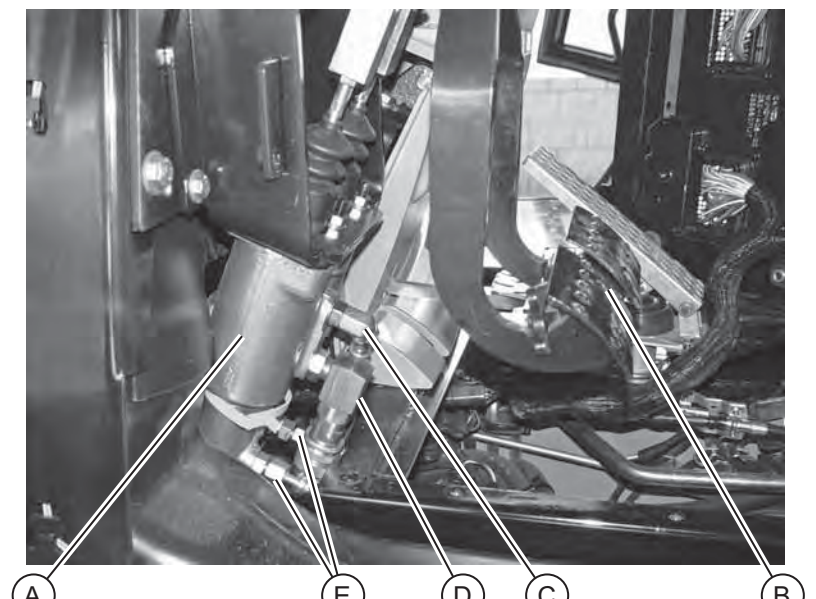
Sideshift machines feature a boom (A) that can be shifted to different positions along a frame (B). Lock pistons (D) are used to lock the boom to the frame rails. Lock piston solenoids, located on the backhoe valve outlet manifold, actuate the lock pistons.

The stabilizers (C) are used to raise and lower the machine. Sideshift and center pivot machines use the same type of control valves to operate the stabilizers.

SIDESHIFT SLIDE LOCKS



This illustration shows a sectional view of the boosted brake valve group. When the brake pedal is depressed, the boost brake valve moves to the left and inlet oil from the pilot manifold is directed to the master cylinder.

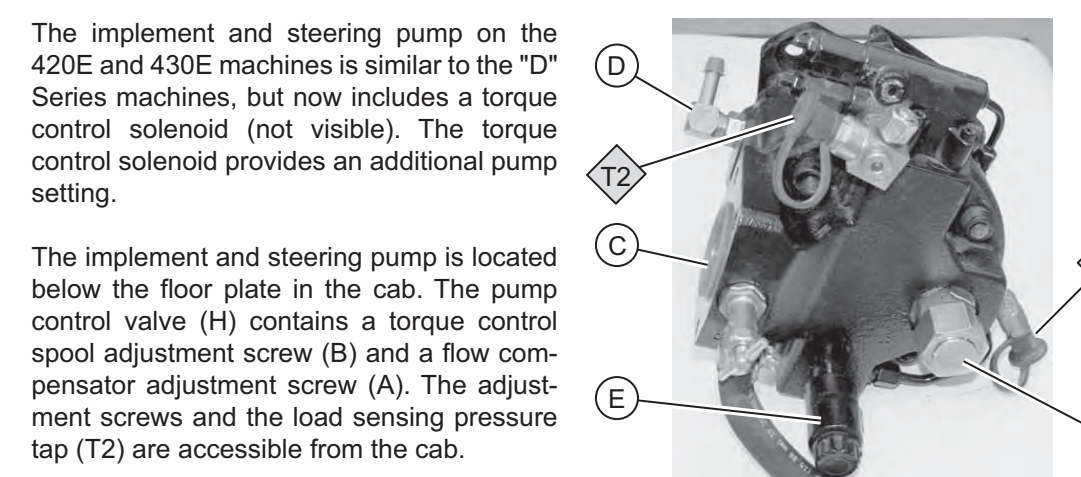
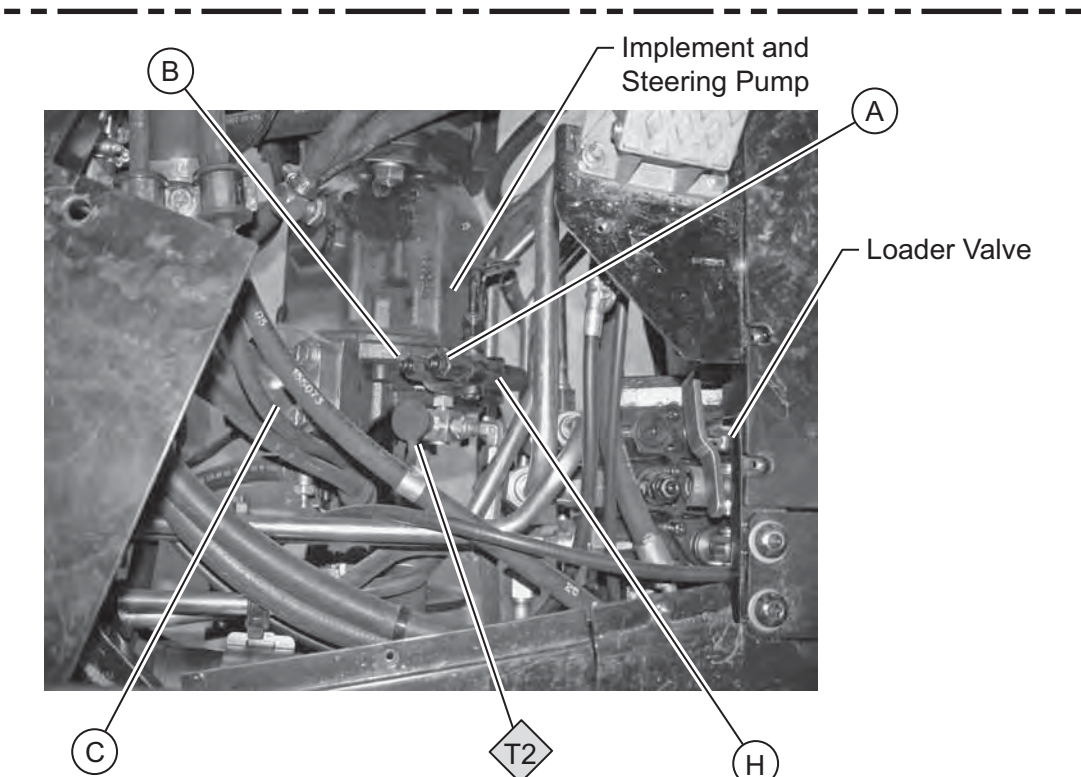


The 420E/430E machines are equipped with hydraulically assisted master cylinders, which decreases the amount of pedal effort when braking. This illustration shows the boosted brakes valve group, which uses oil from the pilot accumulator to add boost to the master cylinder. The hydraulic force multiplies the pedal effort so the operator can get more braking force with less effort.

The brake boost valves are connected to the master cylinder (A) at each brake pedal (B). Oil enters the master cylinder through the supply hose (C) and exits the master cylinder through the return hose (D). The oil flows to the service brakes through the hoses (E) at the bottom of the master cylinder.

The master cylinders can be removed from the machine from inside the operator's compartment.

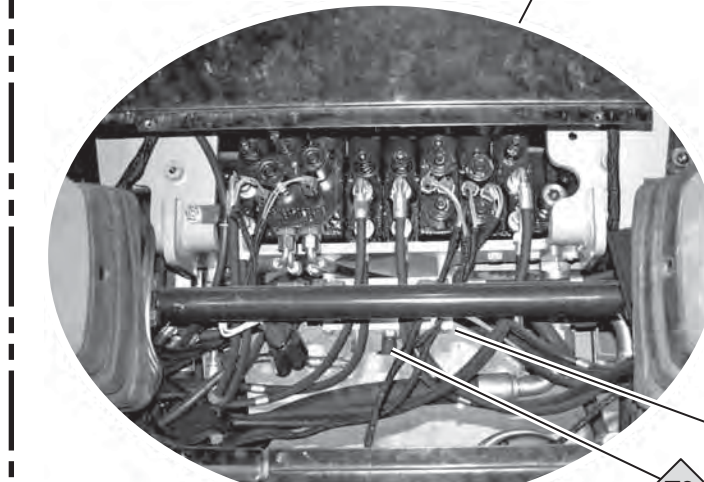
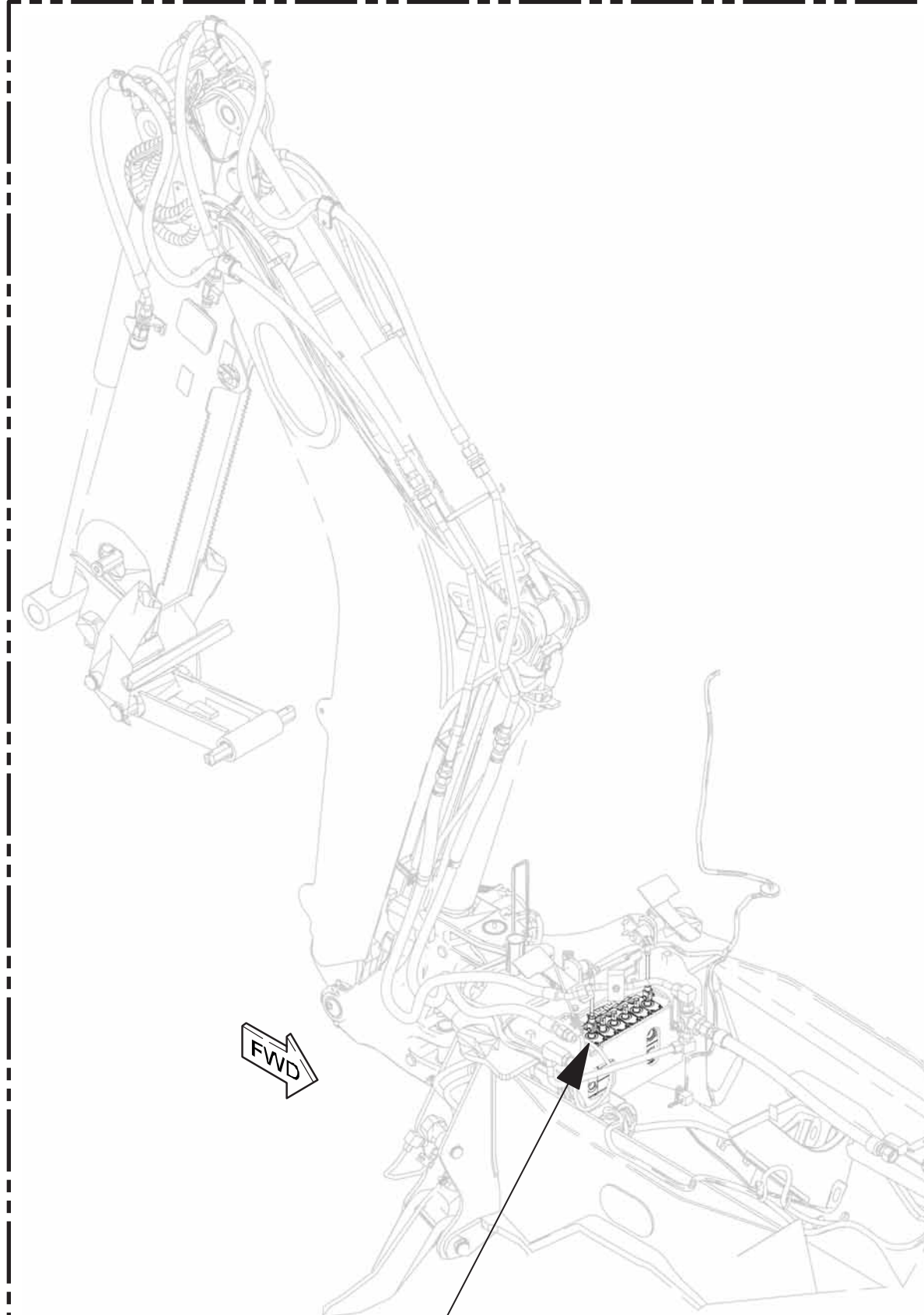
BOOSTED BRAKES



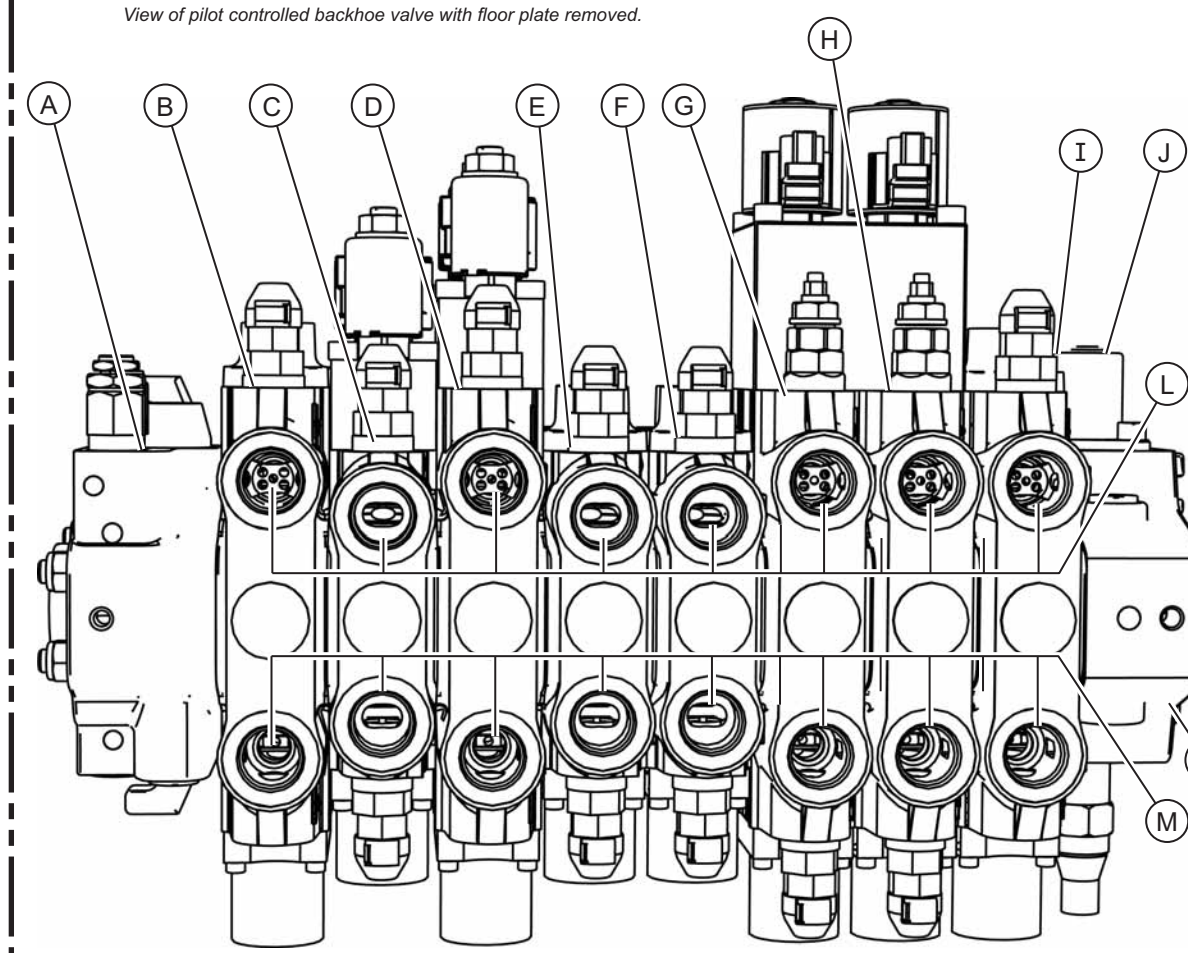
The implement and steering pump on the 420E and 430E machines is similar to the "D" Series machines, but now includes a torque control solenoid (not visible). The torque control solenoid provides an additional pump setting.

The implement and steering pump is located below the floor plate in the cab. The pump control valve (H) contains a torque control spool adjustment screw (E) and a flow compensator adjustment screw (A). The adjustment screws and the load sensing pressure tap (T2) are accessible from the cab.

IMPLEMENT / STEERING PUMP 1



The pilot manifold can also be accessed with the floor plate removed. The pilot pressure tap (T3) is located on the pilot manifold. The pilot manifold routes pilot oil to and from the loader and backhoe pilot control valves.



EIGHT BANK VALVE (PILOT OPERATED)

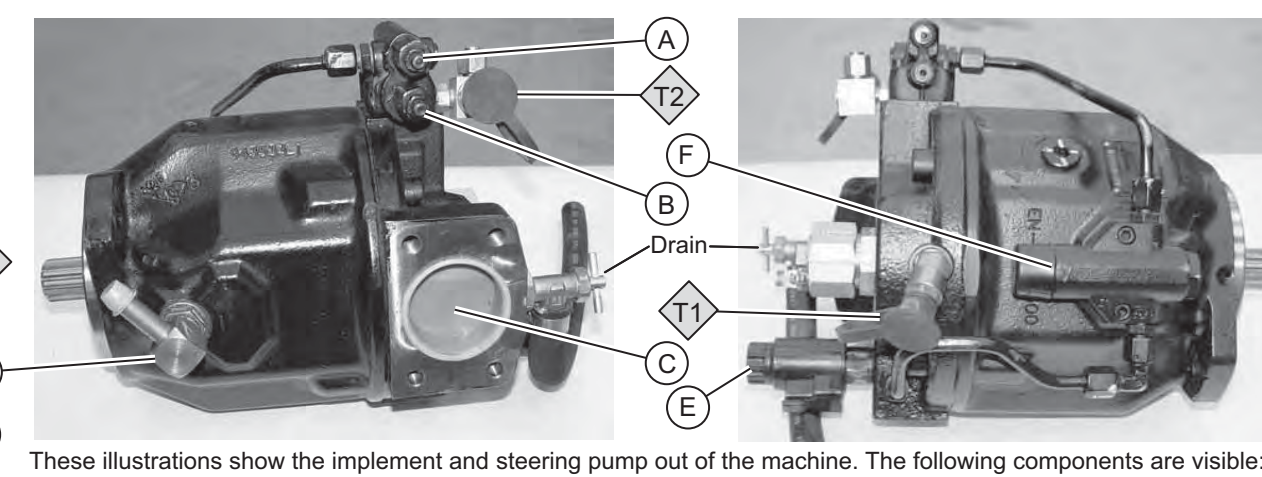
The 420E/430E machines are equipped with a pilot controlled backhoe valve that is visible with the floor plate at the rear of the cab removed.

This illustration shows an eight bank backhoe valve in a 420E Backhoe Loader. The components in the backhoe valve are:

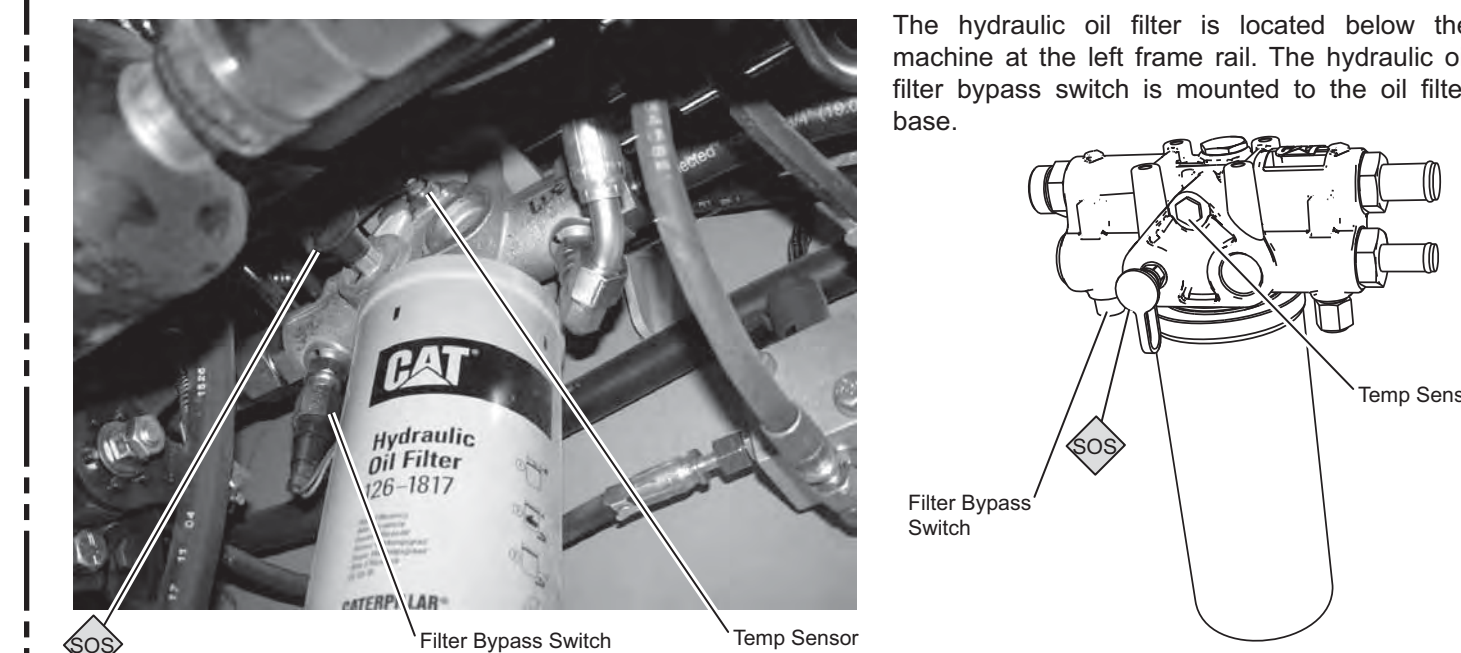
- (A) Outlet Manifold
- (B) Left Stabilizer Control Valve
- (C) Auxiliary Control Valve
- (D) Extendable Stick Control Valve
- (E) Bucket Control Valve
- (F) Swing Control Valve
- (G) Stick Control Valve
- (H) Boom Control Valve
- (I) Right Stabilizer Control Valve
- (J) Pilot On/Off Solenoid Valve
- (K) Inlet Manifold
- (L) A Ports
- (M) B Ports

For other bank valve configurations see REN6487 (Specifications Manual).

BACKHOE VALVE 30/32

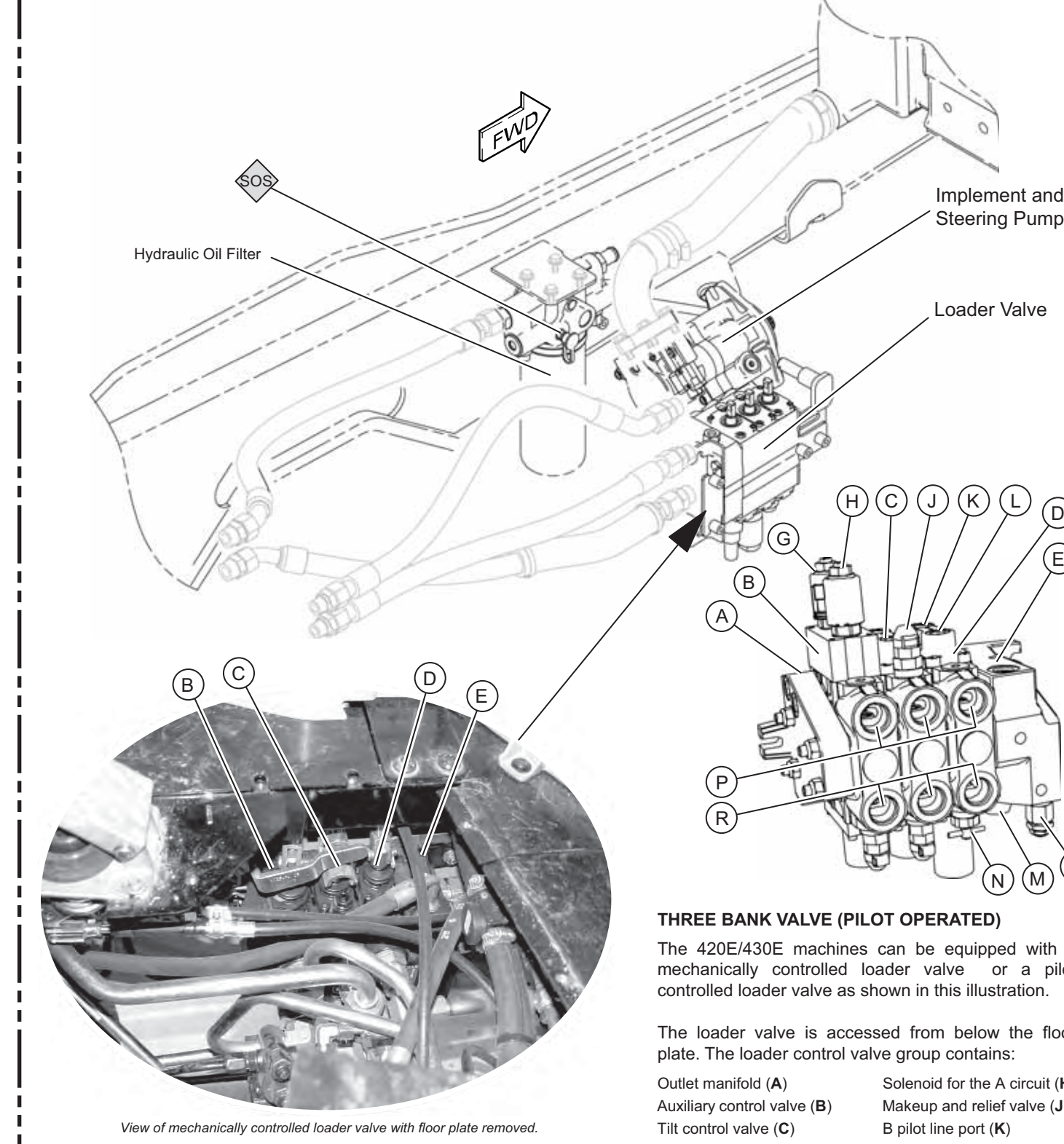


These illustrations show the implement and steering pump out of the machine. The following components are visible: Torque control adjustment (A), Flow compensator adjustment (B), Load sensing pressure tap (T2), Inlet port (C), Case drain port (D), Torque control solenoid (E), Discharge pressure tap (T1), Torque limiter (F), Outlet port (G).



The hydraulic oil filter is located below the machine at the left frame rail. The hydraulic oil filter bypass switch is mounted to the oil filter base.

HYDRAULIC OIL FILTER 5

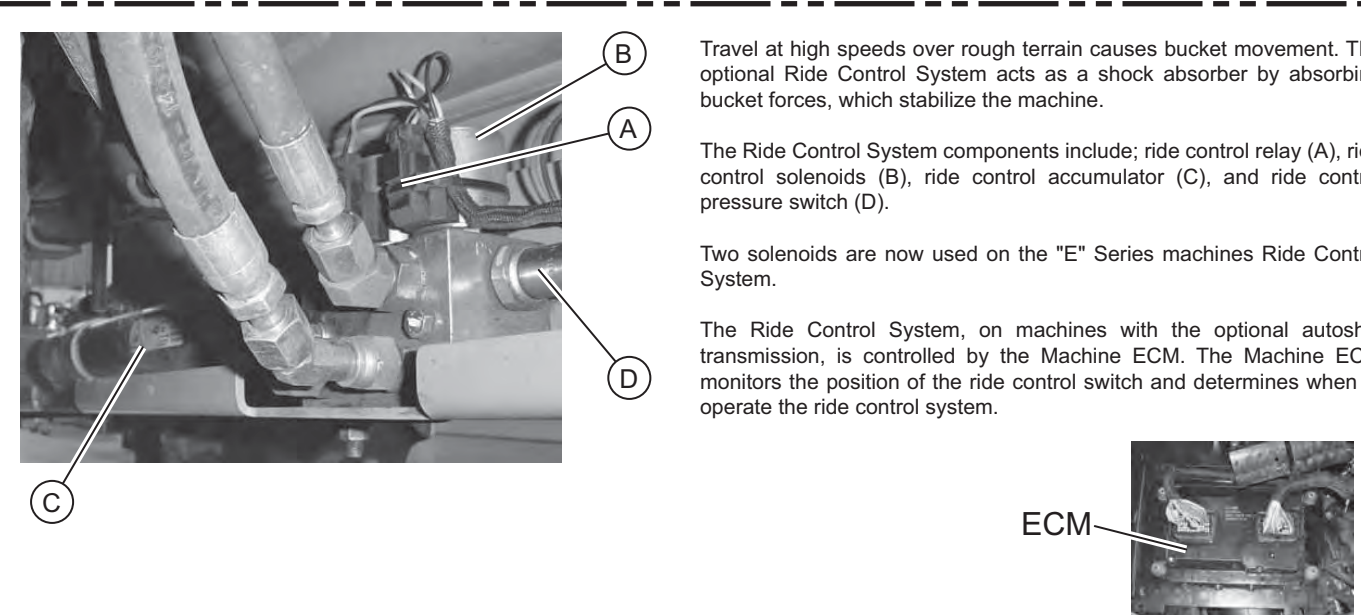


The 420E/430E machines can be equipped with a mechanically controlled loader valve as shown in this illustration.

The loader valve is accessed from below the floor plate. The loader control valve group contains:

- Outlet manifold (A)
- Auxiliary control valve (B)
- Tilt control valve (C)
- Lift control valve (D)
- Inlet manifold (E)
- Load sensing relief valve (F)
- Solenoid for the B circuit (G)
- Solenoid for the A circuit (H)
- Makeup and relief valve (J)
- B pilot line port (K)
- A pilot line port (L)
- Priority Valve (M)
- Dead engine lower valve (N)
- A ports (P)
- B ports (R)

LOADER VALVE 27/28



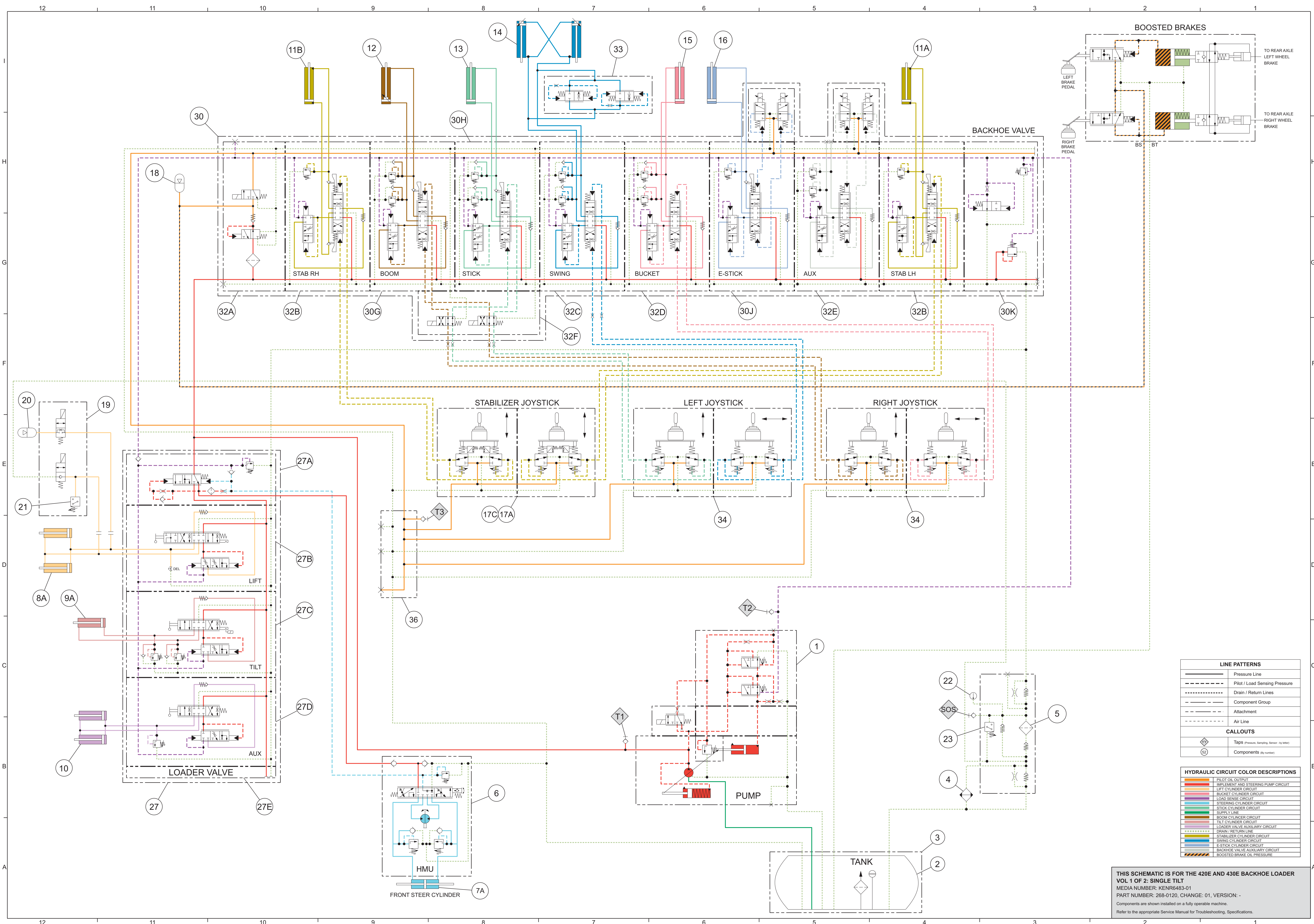
Travel at high speeds over rough terrain causes bucket movement. The optional Ride Control System acts as a shock absorber by absorbing bucket forces, which stabilize the machine.

The Ride Control System components include: ride control relay (A), ride control solenoids (B), ride control accumulator (C), and ride control pressure switch (D).

Two solenoids are now used on the "E" Series machines Ride Control System.

The Ride Control System, on machines with the optional auto shift transmission, is controlled by the Machine ECM. The Machine ECM monitors the position of the ride control switch and determines when to operate the ride control system.

RIDE CONTROL 16/17/18



LINE PATTERNS	
	Pressure Line
	Pilot / Load Sensing Pressure
	Drain / Return Lines
	Component Group
	Attachment
	Air Line

CALLOUTS	
	Taps (Pressure, Sampling, Sensor - by label)
	Components (by number)

HYDRAULIC CIRCUIT COLOR DESCRIPTIONS	
	PILOT OIL OUTPUT
	IMPLEMENT AND STEERING PUMP CIRCUIT
	LIFT CYLINDER CIRCUIT
	BUCKET CYLINDER CIRCUIT
	LOAD SENSE CIRCUIT
	STEERING CYLINDER CIRCUIT
	STICK CYLINDER CIRCUIT
	SUPPLY LINE
	BOOM CYLINDER CIRCUIT
	TILT CYLINDER CIRCUIT
	LOADER VALVE AUXILIARY CIRCUIT
	DRAIN / RETURN LINE
	STABILIZER CYLINDER CIRCUIT
	SWING CYLINDER CIRCUIT
	E-STICK CYLINDER CIRCUIT
	BACKHOE VALVE AUXILIARY CIRCUIT
	BOOSTED BRAKE OIL PRESSURE

THIS SCHEMATIC IS FOR THE 420E AND 430E BACKHOE LOADER
 VOL 1 OF 2: SINGLE TILT
 MEDIA NUMBER: KENR6483-01
 PART NUMBER: 268-0120, CHANGE: 01, VERSION: -
 Components are shown installed on a fully operable machine.
 Refer to the appropriate Service Manual for Troubleshooting, Specifications.

Schematic

420E and 430E Backhoe Loader Hydraulic System

420E:
HLS1-UP
KMW1-UP

430E:
NCE1-UP
DDT1-UP
EAT1-UP
MJT1-UP

Volume 2 of 2: Parallel Lift / Integrated Tool Carrier

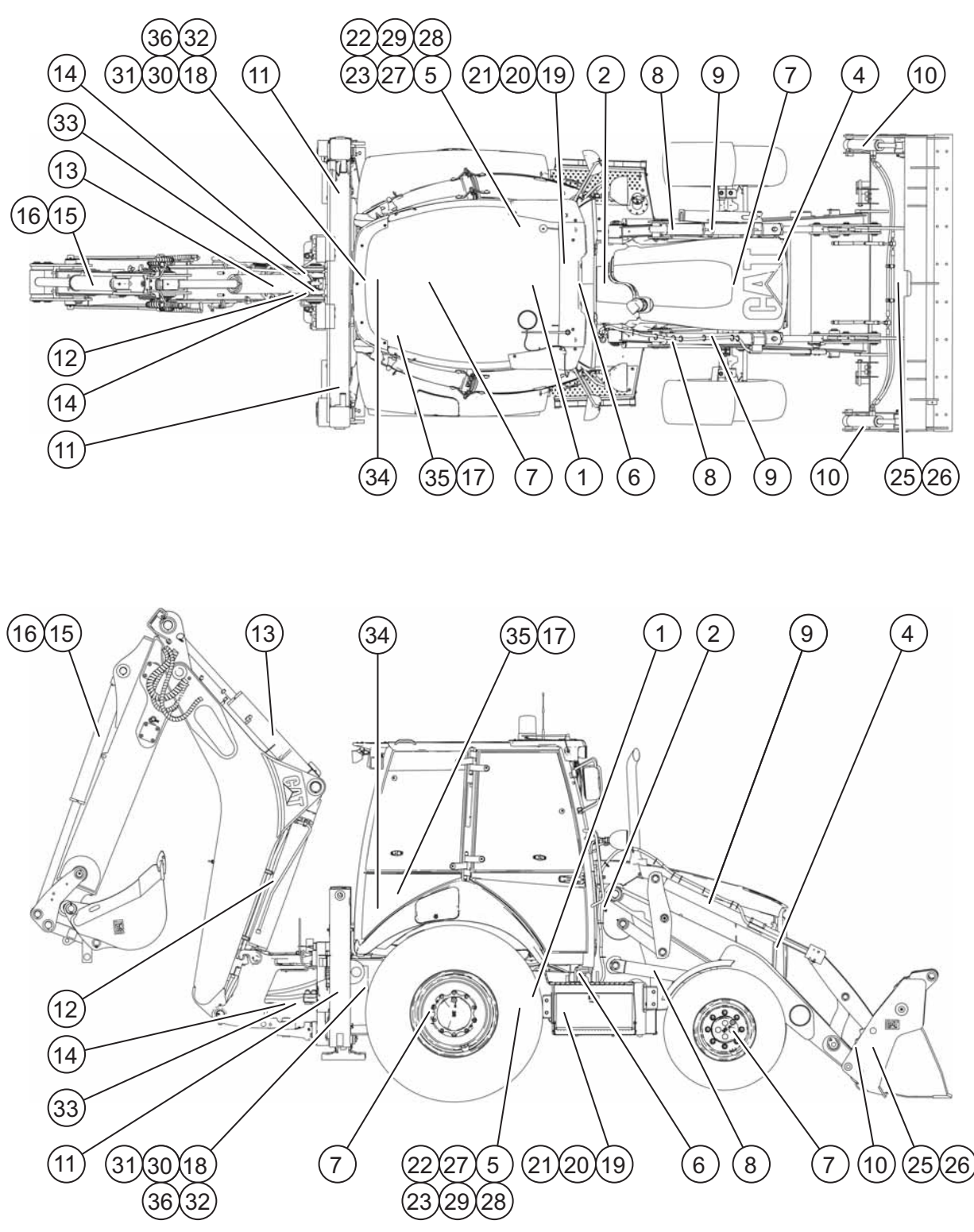
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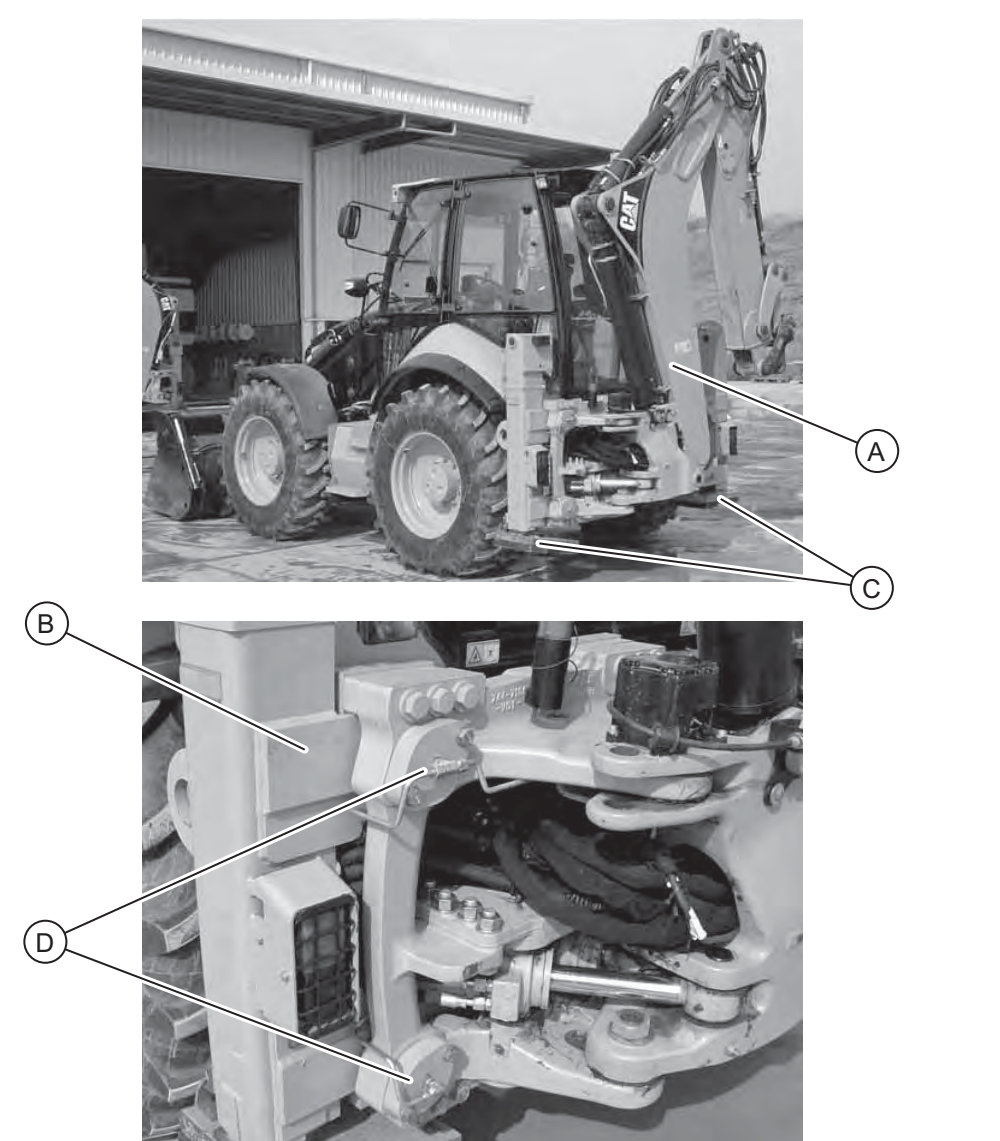
FLUID POWER SYMBOLS			
BASIC COMPONENT SYMBOLS			
PUMP OR MOTOR	FLUID CONDITIONER	SPRING	CONTROL VALVES
RESTRICTION	LINE RESTRICTION (FIXED)	LINE RESTRICTION (ADJUSTABLE)	PLUMBING SYMBOLS (VALVE & PRESSURE COMPENSATED)
VARIABLE	SPRING (ADJUSTABLE)	LINE RESTRICTION (HYDRULIC)	PRESSURE COMPENSATION
HYDRULIC ENERGY TRANSFER	HYDRULIC ENERGY TRANSFER	HYDRULIC ENERGY TRANSFER	HYDRULIC ENERGY TRANSFER
VALVE ENVELOPES		VALVE PORTS	
ONE POSITION	TWO POSITION	THREE POSITION	TWO-WAY
THREE-WAY	FOUR-WAY		
CONTROL VALVES		CHECK VALVES	
NORMAL POSITION	SHIFTED POSITION	INFINITE POSITION	BASIC SYMBOL
SPRING LOADED	SHUTTLE	PILOT CONTROLLED	
FLUID STORAGE RESERVOIRS			
VENTED	PRESSURIZED	RETURN ABOVE FLUID LEVEL	RETURN BELOW FLUID LEVEL
MEASUREMENT		ROTATING SHAFTS	
PRESSURE	TEMPERATURE	FLOW	UNIDIRECTIONAL
			BIDIRECTIONAL
COMBINATION CONTROLS			
SOLENOID	SOLENOID OR MANUAL	SOLENOID & PILOT	SERVO
SOLENOID	SOLENOID & PILOT	SERVO	THERMAL
			DETENT
MANUAL CONTROL SYMBOLS			
PUSH-PAUL LEVER	MANUAL SHUT-OFF	GENERAL MANUAL	PUSH-BUTTON
PEDAL	SPRING		
RELEASED PRESSURE		PILOT CONTROL SYMBOLS	
EXTERNAL RETURN	INTERNAL RETURN	SAMPLING	COMPLETE
			INTERNAL SUPPLY PRESSURE
ACCUMULATORS		CROSSING & JOINING LINES	
SPRING LOADED	GAS CHARGED	LINE CROSSING	LINE JOINING
HYDRULIC PUMPS		HYDRULIC MOTORS	
FREE DISPLACEMENT	VARIABLE DISPLACEMENT NON-COMPENSATED	FREE DISPLACEMENT	VARIABLE DISPLACEMENT NON-COMPENSATED
UNIDIRECTIONAL	BIDIRECTIONAL	UNIDIRECTIONAL	BIDIRECTIONAL
HYDRULIC & PNEUMATIC CYLINDERS		INTERNAL PASSAGEWAYS	
SINGLE ACTING	DOUBLE ACTING	INFINITE POSITIONING	3 POSITION
		2 POSITION	
		FLOW IN ONE DIRECTION	PARALLEL FLOW
		CROSS FLOW	FLOW IN OTHER DIRECTION

COMPONENT LIST				
ITEM	NAME	420E	430E	
1	PUMP GR.	267-2755		
2	HYDRAULIC TANK	245-5286		
3	TANK GROUP	245-8777		
4	COOLER	HYDRAULIC COOLER		
5	FILTER	228-9747		
6	HMU	210-6240		
STEER CYLINDERS				
7	7A FRONT	N/A		
	7B REAR	N/A		
LIFT CYLINDERS				
8	8A ST	228-3509		
	8B PLUIT	228-3505		
TILT CYLINDERS				
9	9A ST	203-7128		
	9B PLUIT	192-3884		
10	MP BUCKET CYL.(OPT)	N/A		
STABILIZER CYLINDERS				
11	11A LH	262-7048		
	11B RH	262-7050		
12	BOOM CYLINDER	268-9049(S)	268-9051(S)	
13	STICK CYL.	210-7076	245-8884	
14	SWING CYL.	278-1971		
15	BUCKET CYL.	210-7087(S)	210-7095(S)	
16	E-STICK CYL.(OPT)	210-7097(S)		
VALVE PILOT 2-BANK				
17	17A VALVE PILOT BODY	223-4713		
	17B LEVER W/DRIFTS	223-4714		
	17C LEVER W/DINT & SWITCH (OPT)	223-4715		
18	ACCUMULATOR	226-0420		
19	RIDE CNTRL VALVE (OPT)	245-8780		
20	RIDE CNTRL ACCUMLTR.(OPT)	162-3960		
21	RIDE CNTRL PRES. SWITCH(OPT)	131-0023		
22	TEMP. SENSOR (OPT)	TEMP. SENSOR		
23	DIFF. PRES. SWITCH (OPT)	134-0404		
25	COUPLER VALVE (See Volume 2)	231-2615		
26	COUPLER CYLINDER (See Volume 2)	190-3085		
LOADER VALVE (BT)				
27	2 BANK	266-2522		
	3 BANK	266-2523		
27A	INLET SECTION	269-1080		
27B	LIFT SECTION	269-1091		
27C	TILT SECTION	269-1092		
27D	AUX SECTION	269-1093		
27E	OUTLET MANIFOLD	269-1079		
LOADER VALVE (PLUIT)				
28	2 BANK	N/A		
	3 BANK	266-2523		
28B	LIFT SECTION	269-1091		
28C	TILT SECTION	269-1092		
28D	AUX SECTION	N/A		
BACKHOE VALVE (CP)				
30	6 BANK	266-2556		
	7 BANK	266-2557		
	8 BANK	266-2558		
30G	BOOM SECTION	269-1092		
30H	STICK SECTION	269-1093		
30J	E-STICK SECTION	269-1096		
30K	OUTLET MANIFOLD	269-1059		
BACKHOE VALVES (COMMON)				
32	32A INLET MANIFOLD	269-1060		
	32B STABILIZER SECTION	269-1061		
	32C SWING SECTION	269-1064		
	32D BUCKET SECTION	269-1065		
	32E AUX SECTION	269-1067		
	32F PATTERN SWITCHING VALVE	257-7724		
	33 VALVE GP - CUSHION RELIEF	206-3655 (STD)		
	34 VALVE GP - PILOT (BACKHOE)	267-2755		
	35 VALVE GP - PILOT (LOADER)	267-2760		
	36 MANIFOLD - PILOT	268-0094		

TAP LOCATIONS	
Tap	Description
T1	Pump Discharge
T2	Load Sense
T3	Pilot Pressure
SOS	Oil Sampling



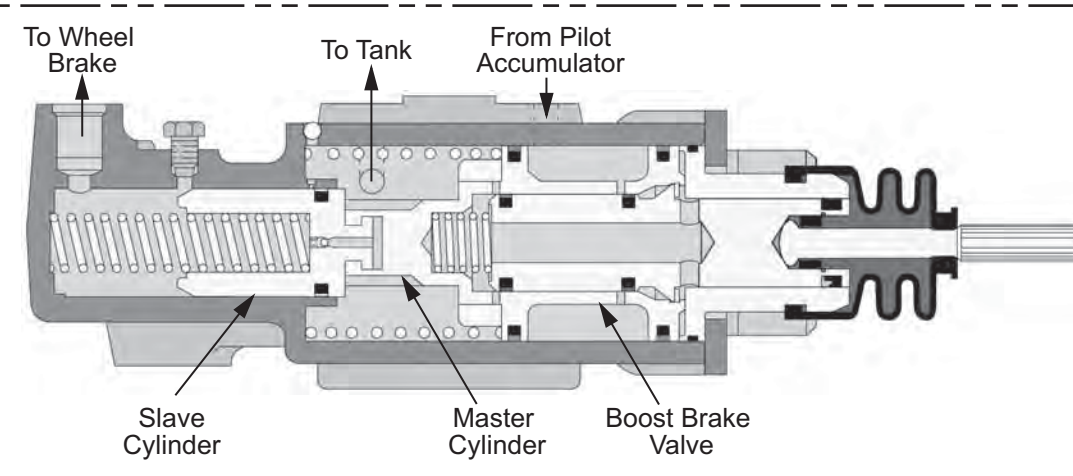
COMPONENT LOCATIONS



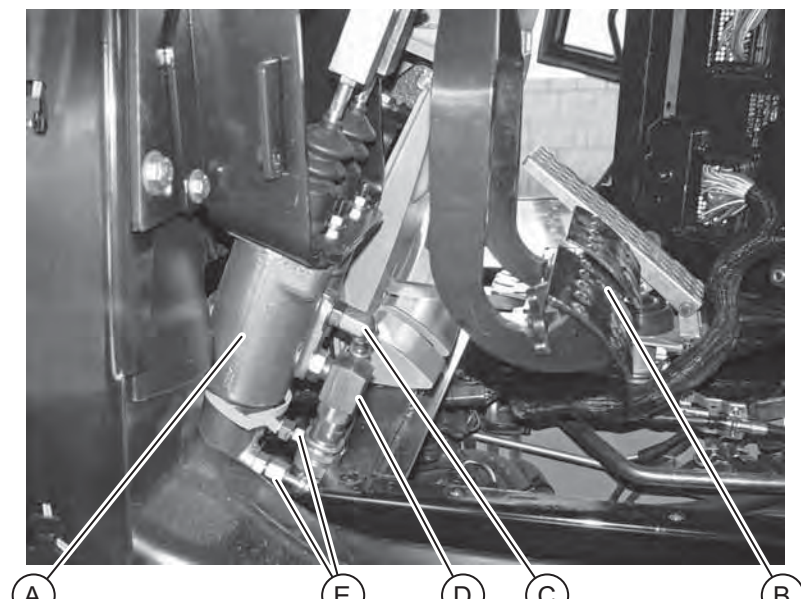
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The stabilizers (C) are used to raise and lower the machine. Sideshift and center pivot machines use the same type of control valves to operate the stabilizers.

SIDESHIFT SLIDE LOCKS



This illustration shows a sectional view of the boosted brake valve group. When the brake pedal is depressed, the boost brake valve moves to the left and inlet oil from the pilot manifold is directed to the master cylinder.

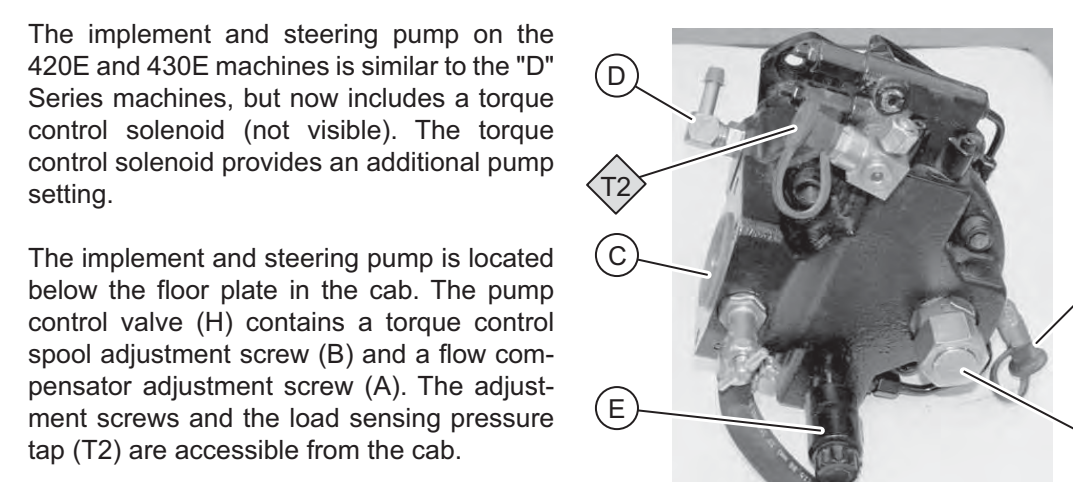
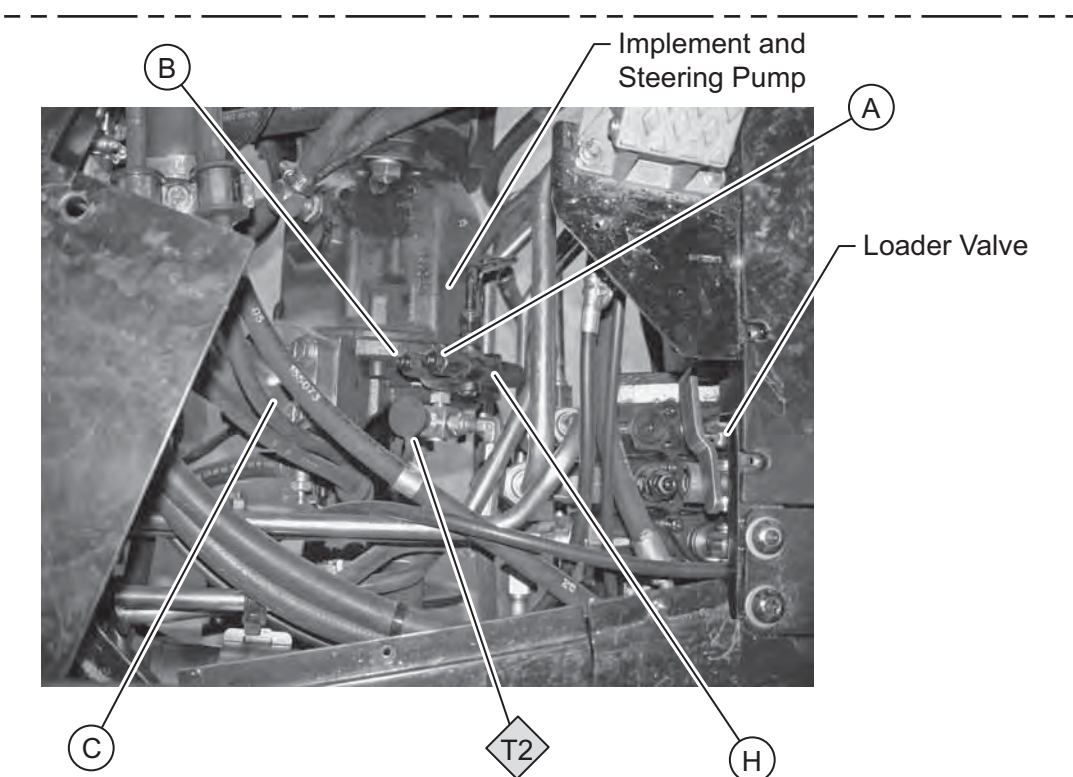


The 420E/430E machines are equipped with hydraulically assisted master cylinders, which decrease the amount of pedal effort when braking. This illustration shows the boosted brakes valve group, which uses oil from the pilot accumulator to add boost to the master cylinder. The hydraulic force multiplies the pedal effort so the operator can get more braking force with less effort.

The brake boost valves are connected to the master cylinder (A) at each brake pedal (B). Oil enters the master cylinder through the supply hose (C) and exits the master cylinder through the return hose (D). The oil flows to the service brakes through the hoses (E) at the bottom of the master cylinder.

The master cylinders can be removed from the machine from inside the operator's compartment.

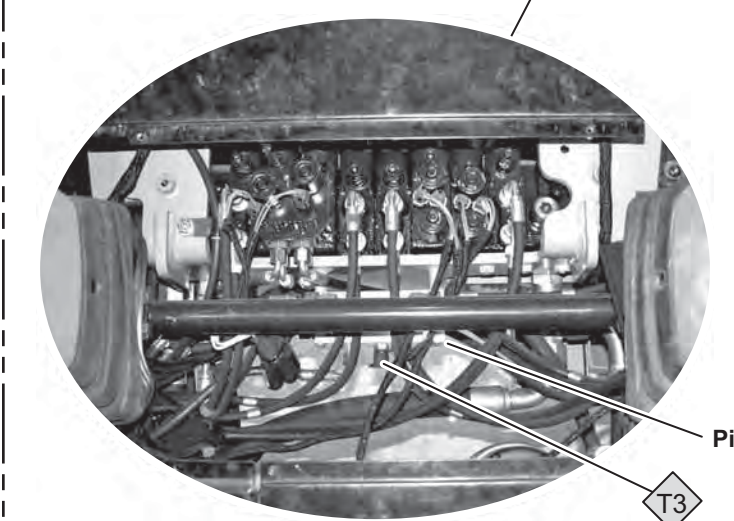
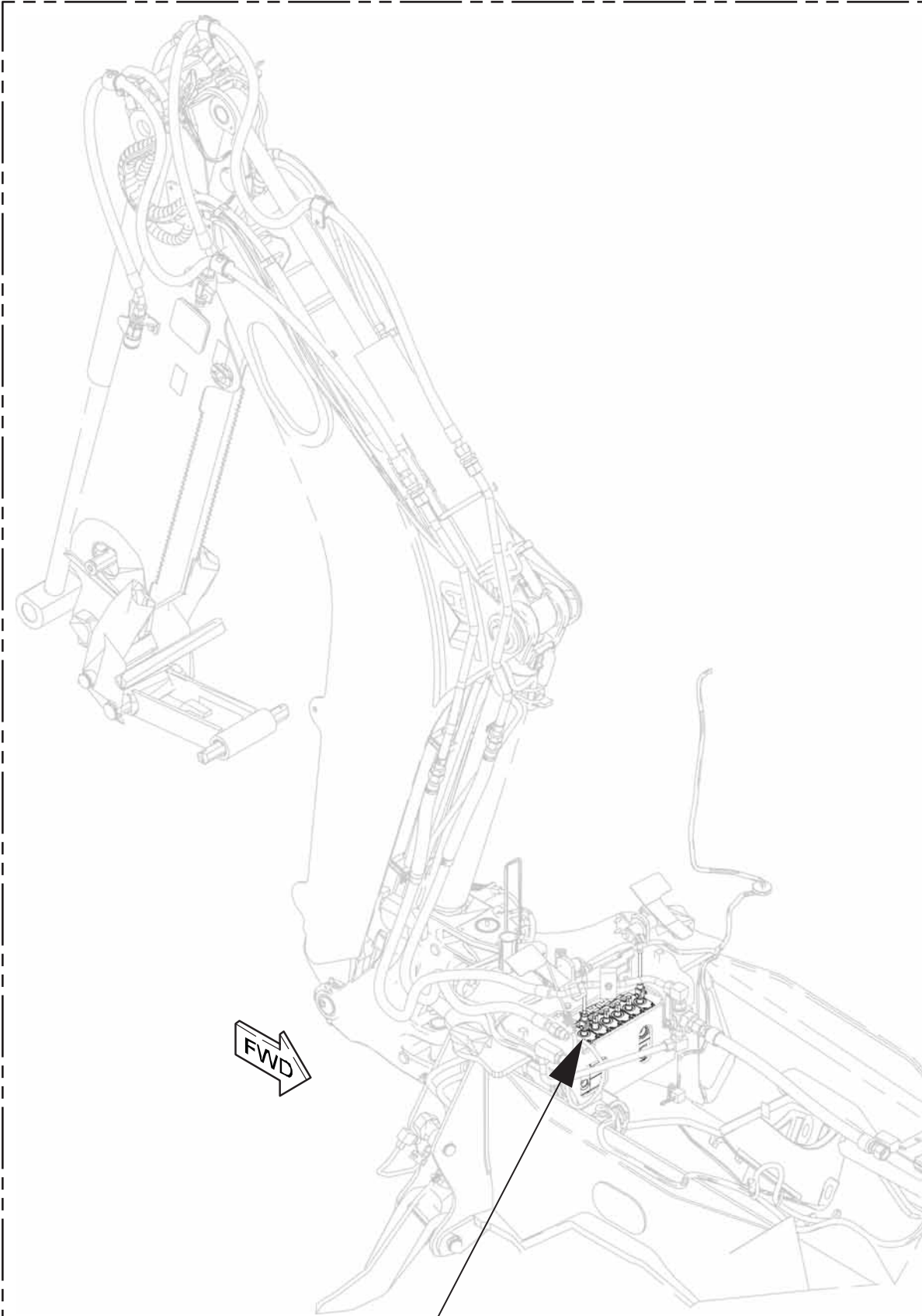
BOOSTED BRAKES



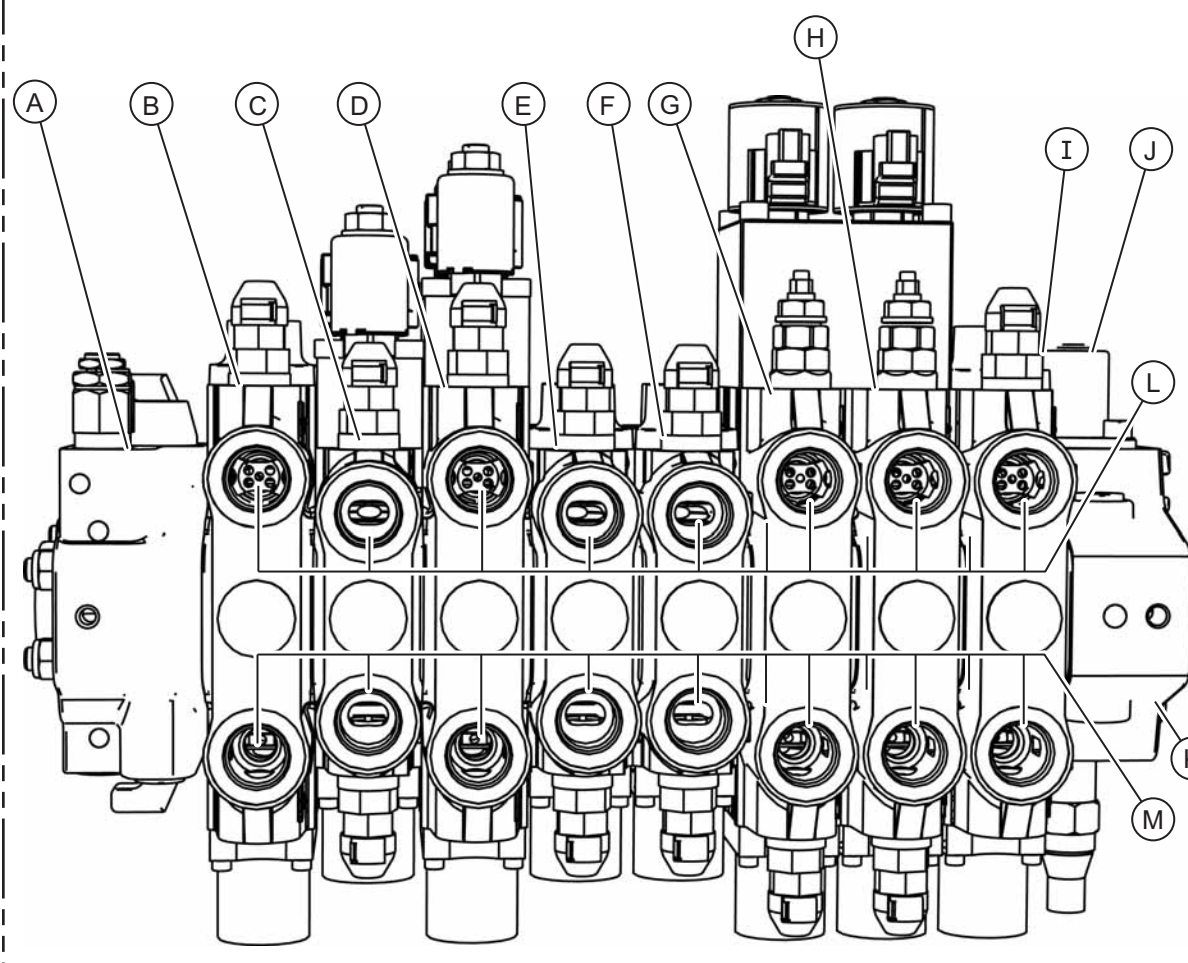
The implement and steering pump is located below the floor plate in the cab. The pump control valve (H) contains a torque control spool adjustment screw (B) and a flow compensator adjustment screw (A). The adjustment screws and the load sensing pressure tap (T2) are accessible from the cab.

These illustrations show the implement and steering pump out of the machine. The following components are visible: Torque control adjustment (A), Flow compensator adjustment (B), Load sensing pressure tap (T2), Inlet port (C), Case drain port (D), Torque control solenoid (E), Discharge pressure tap (T1), Torque limiter (F), Outlet port (G).

IMPLEMENT / STEERING PUMP 1



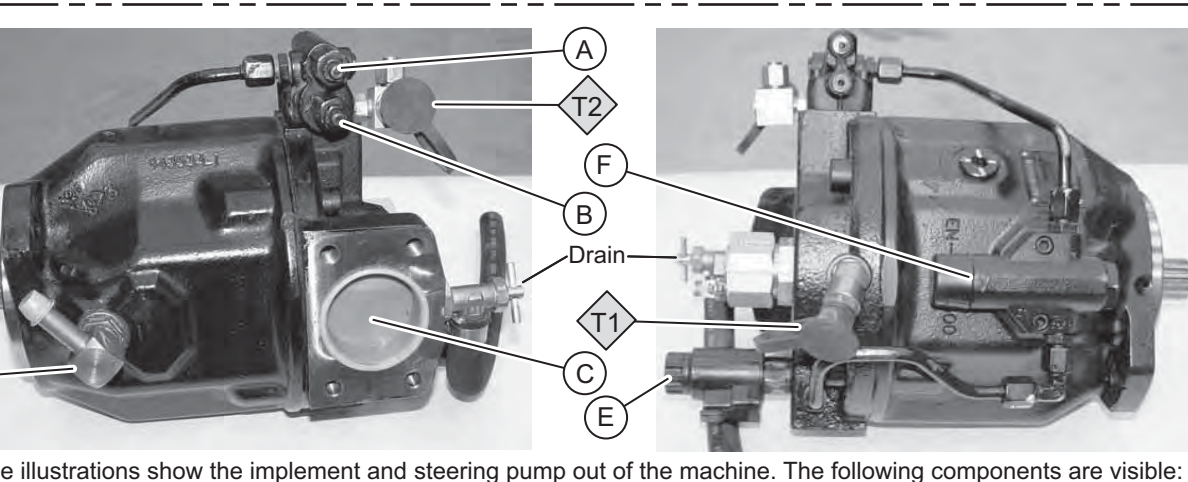
The pilot manifold can also be accessed with the floor plate removed. The pilot pressure tap (T3) is located on the pilot manifold. The pilot manifold routes pilot oil to and from the loader and backhoe pilot control valves.



The 420E/430E machines are equipped with a pilot controlled backhoe valve that is visible with the floor plate at the rear of the cab removed. This illustration shows an eight bank backhoe valve in a 420E Backhoe Loader. The components in the backhoe valve are:

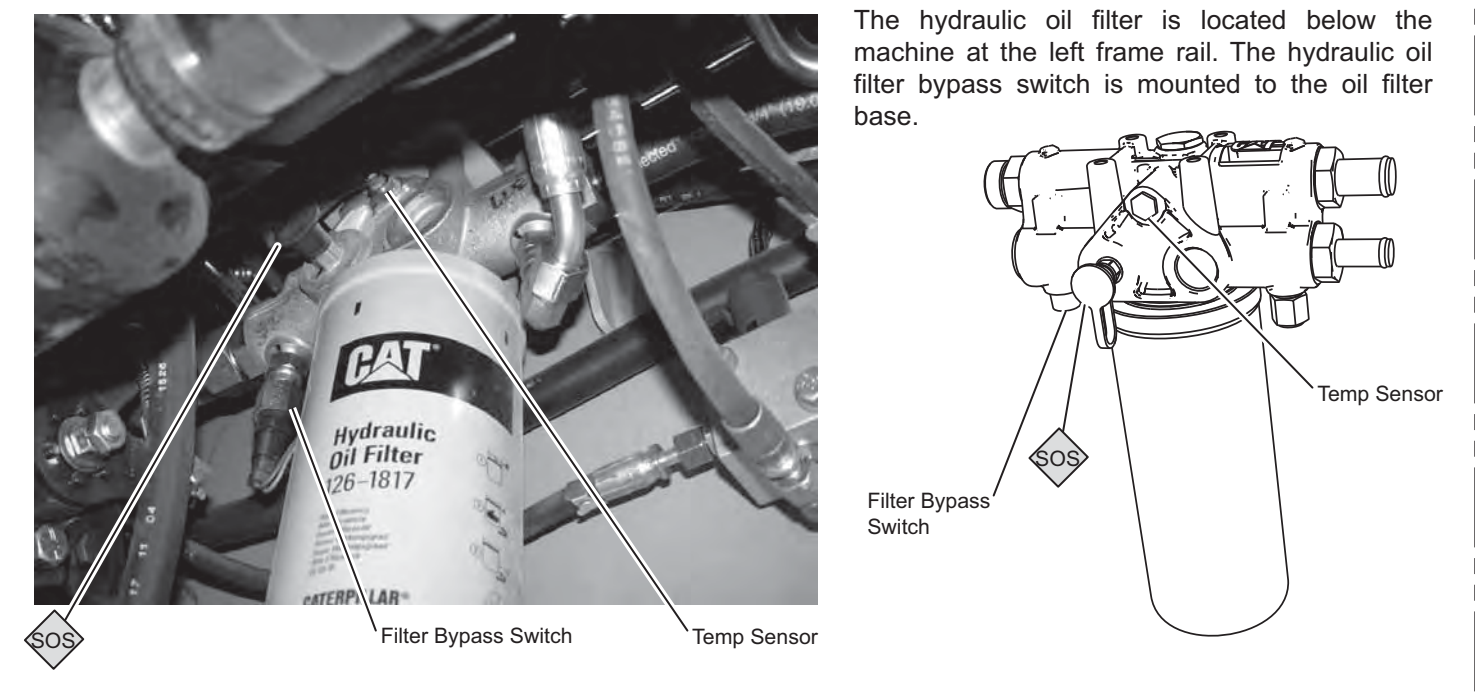
- (A) Outlet Manifold
- (B) Left Stabilizer Control Valve
- (C) Auxiliary Control Valve
- (D) Extendable Stick Control Valve
- (E) Bucket Control Valve
- (F) Swing Control Valve
- (G) Stick Control Valve
- (H) Boom Control Valve
- (I) Right Stabilizer Control Valve
- (J) Pilot On/Off Solenoid Valve
- (K) Inlet Manifold
- (L) A Ports
- (M) B Ports

BACKHOE VALVE 30 32

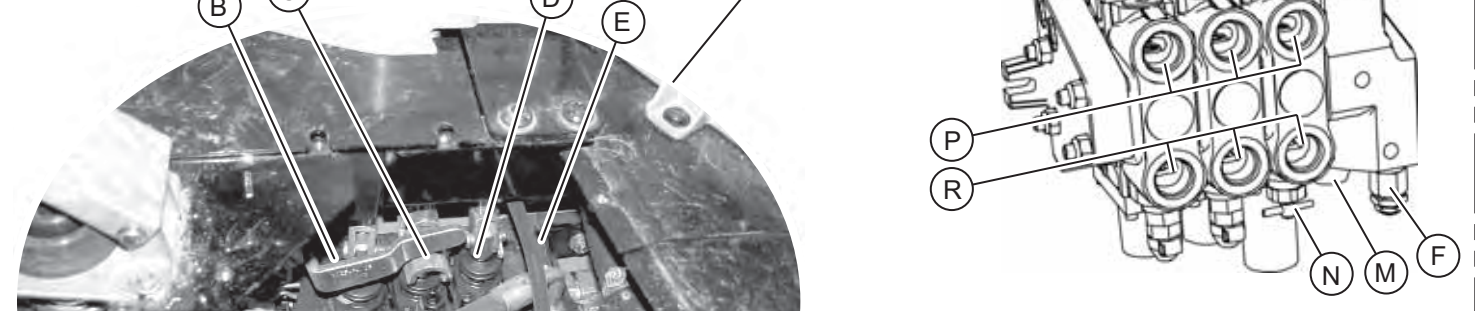
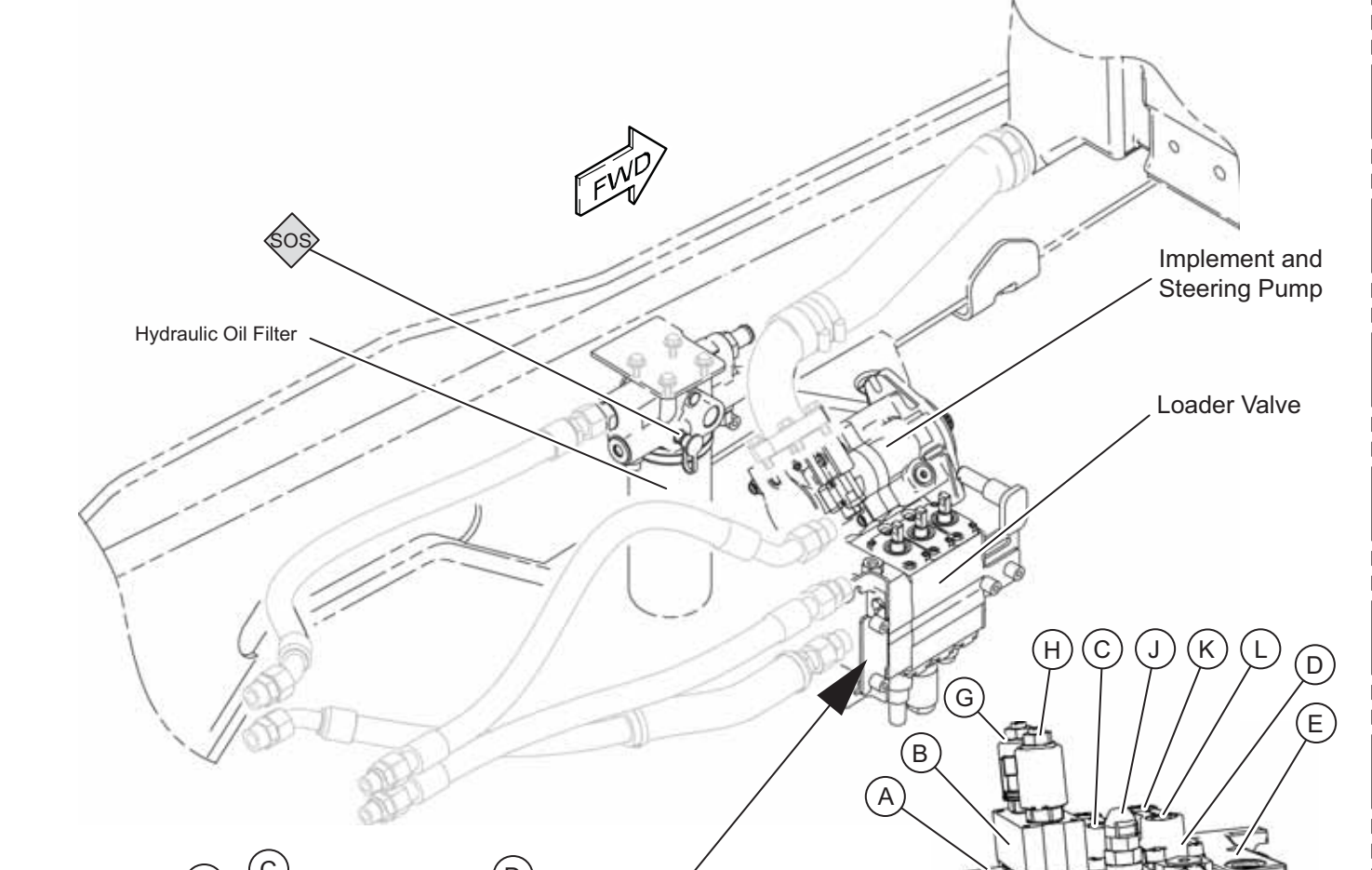


These illustrations show the implement and steering pump out of the machine. The following components are visible: Torque control adjustment (A), Flow compensator adjustment (B), Load sensing pressure tap (T2), Inlet port (C), Case drain port (D), Torque control solenoid (E), Discharge pressure tap (T1), Torque limiter (F), Outlet port (G).

NOTE: 420E/430E machines with a mechanically controlled loader valve or a pilot controlled loader valve use the same inlet manifold.



HYDRULIC OIL FILTER 5



The 420E/430E machines are equipped with a mechanically controlled loader valve or a pilot controlled loader valve as shown in this illustration. The loader valve is accessed from below the floor plate. The loader control valve group contains:

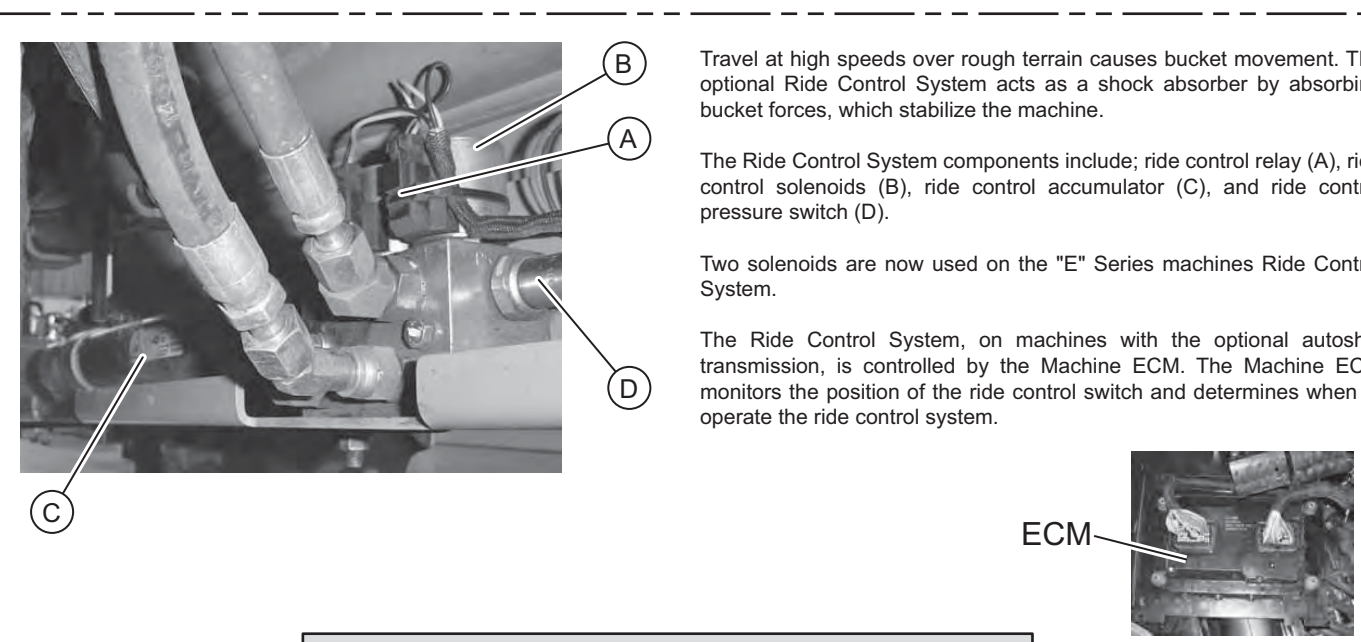
- Outlet manifold (A)
- Auxiliary control valve (B)
- Tilt control valve (C)
- Lift control valve (D)
- Inlet manifold (E)
- Load sensing relief valve (F)
- Solenoid for the B circuit (G)
- Solenoid for the A circuit (H)
- Makeup and relief valve (J)
- B pilot line port (K)
- A pilot line port (L)
- Priority Valve (M)
- Dead engine lower valve (N)
- A ports (P)
- B ports (R)

LOADER VALVE 27 28

ELECTRICAL SYMBOLS TABLE

HYDRULIC SYMBOLS (ELECTRICAL)			
TRANSUCER (FLUID)	TRANSUCER (GAS / AIR)	GENERATOR	ELECTRIC MOTOR
PRESSURE SWITCH	PRESSURE SWITCH (ADJUSTABLE)	TEMPERATURE SWITCH	ELECTRICAL WIRE
PRESSURE SWITCH	TEMPERATURE SWITCH	LEVEL SWITCH	FLOW SWITCH

ELECTRICAL SCHEMATIC EXAMPLE		HYDRULIC SCHEMATIC EXAMPLE	
CURRENT STANDARD		CURRENT STANDARD	
HARNES IDENTIFICATION CODE THIS EXAMPLE INDICATES WIRE 135 IN HARNES 'AG'	WIRE	CIRCUIT NUMBER IDENTIFICATION	WIRE COLOR
325-AG135-PK-14	WIRE GAUGE	325-PK	(EXAMPLE VALVE)
PREVIOUS STANDARD			
WIRE	WIRE COLOR		
325-PK-14	WIRE GAUGE		



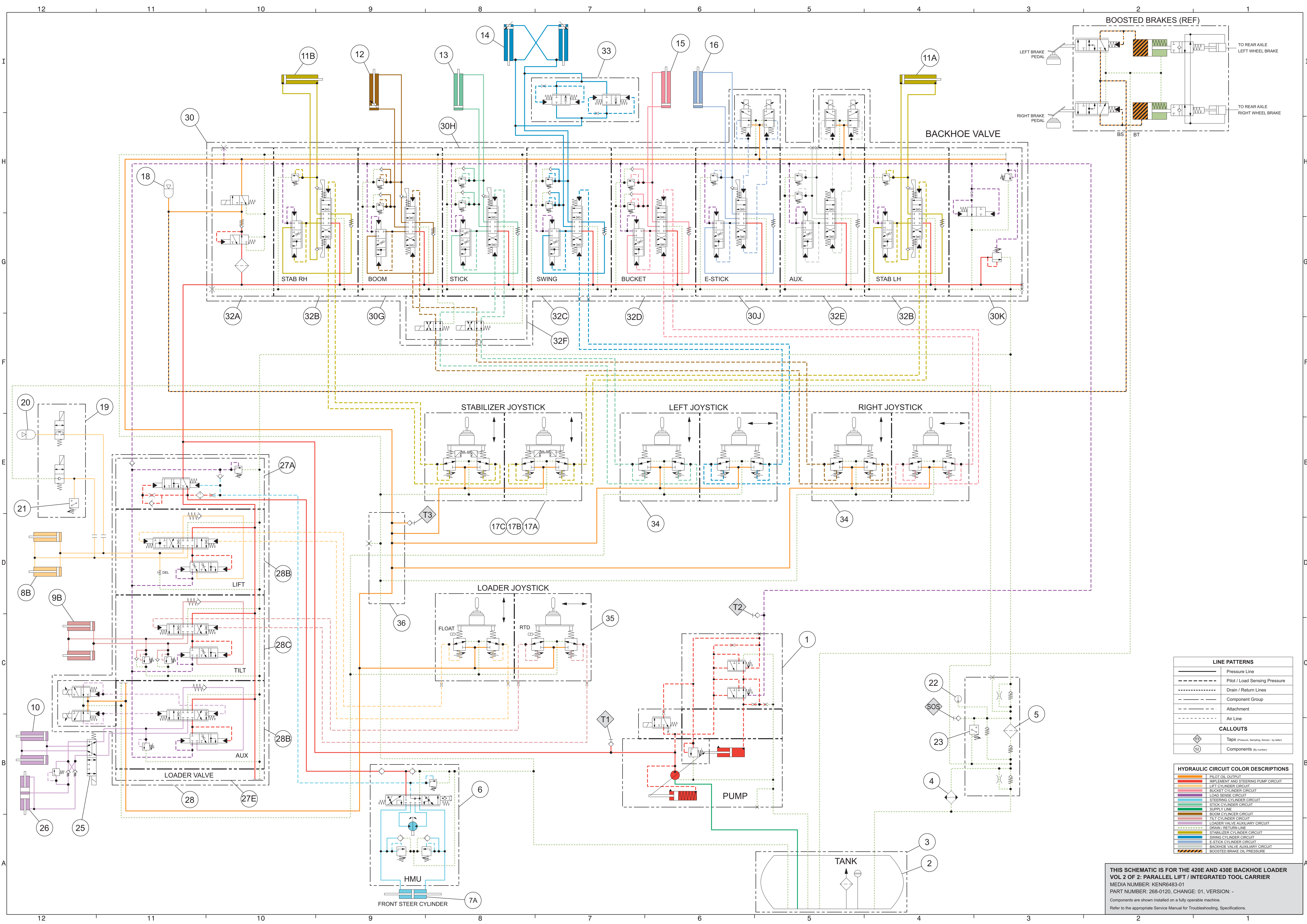
RIDE CONTROL 16 17 18

Travel at high speeds over rough terrain causes bucket movement. The optional Ride Control System acts as a shock absorber by absorbing bucket forces, which stabilize the machine.

The Ride Control System components include: ride control relay (A), ride control solenoids (B), ride control accumulator (C), and ride control pressure switch (D).

Two solenoids are now used on the "E" Series machines Ride Control System.

The Ride Control System, on machines with the optional auto shift transmission, is controlled by the Machine ECM. The Machine ECM monitors the position of the ride control switch and determines when to operate the ride control system.



LINE PATTERNS	
	Pressure Line
	Pilot / Load Sensing Pressure
	Drain / Return Lines
	Component Group
	Attachment
	Air Line

CALLOUTS	
	TapPS (Pressure Sensing, below - to letter)
	Component (by number)

HYDRAULIC CIRCUIT COLOR DESCRIPTIONS	
	PILOT OIL OUTLET
	IMPLEMENT AND STEERING PUMP CIRCUIT
	LIFT CYLINDER CIRCUIT
	BUCKET CYLINDER CIRCUIT
	LOAD SENSE CIRCUIT
	STEERING CYLINDER CIRCUIT
	STICK CYLINDER CIRCUIT
	SUPPLY LINE
	BUCKET CYLINDER CIRCUIT
	TILT CYLINDER CIRCUIT
	LOADER VALVE AUXILIARY CIRCUIT
	DRAIN / RETURN LINE
	STABILIZER CYLINDER CIRCUIT
	SWING CYLINDER CIRCUIT
	E-STICK CYLINDER CIRCUIT
	BACKHOE VALVE AUXILIARY CIRCUIT
	BOOSTED BRAKE OIL PRESSURE

THIS SCHEMATIC IS FOR THE 420E AND 430E BACKHOE LOADER
 VOL 2 OF 2: PARALLEL LIFT / INTEGRATED TOOL CARRIER
 MEDIA NUMBER: KENR6483-01
 PART NUMBER: 268-0120, CHANGE: 01, VERSION: -
 Components are shown installed on a fully operable machine.
 Refer to the appropriate Service Manual for Troubleshooting, Specifications.