

312C/315C HYDRAULIC EXCAVATORS INTRODUCTION

Product: 2001 Caterpillar 312C/315C Hydraulic Excavators Introduction Workshop Manual
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SIMILARITIES WITH "B" SERIES

3064 ENGINE IN 312C

3046 ENGINE IN 315C

PILOT OPERATED HYDRAULIC CONTROLS

DIFFERENCES FROM "B" SERIES

CATERPILLAR SBS PUMPS

MAIN CONTROL VALVE GROUP

SIMPLIFIED MONITOR

AUTOMATIC PRIORITIES

INCREASED MAINTENANCE INTERVALS





WARNING

CHECK MACHINE CONTROL PATTERN FOR CONFORMANCE TO PATTERN ON CARD IN CAB IF NOT CHANGE CARD TO MATCH PATTERN BEFORE OPERATING MACHINE FAILURE TO DO SO COULD RESULT IN INJURY

NOTICE

KEY MUST BE IN RUN POSITION WITH ENGINE RUNNING TO MAINTAIN ELECTRICAL AND HYDRAULIC FUNCTIONS AND PREVENT SERIOUS MACHINE DAMAGE.

WARNING

KNOW THE MAXIMUM WEIGHT AND REACH OF YOUR MACHINE AND SERIOUS INJURY OR DEATH BY ELECTROCUTION CAN OCCUR IF MACHINE OR ATTACHMENTS ARE NOT KEPT A SAFE DISTANCE FROM ELECTRICAL POWER LINES. KEEP DISTANCE AT LEAST 10 M (33 FT). PLEASE ADDITIONAL 10 M (33 FT) A EACH FOR EACH 1000 VOLTS OVER 10 AND VOLTS.

WARNING

AUTOMATIC ENGINE SPEED CONTROL (ESC) WILL INCREASE ENGINE SPEEDS AUTOMATICALLY WHEN YOU OPERATE THE CONTROL LEVER, AND/OR TANKS, PEELS OFF THE SWITCH ON WHEN LOADING AND UNLOADING MACHINE FROM TRUCK OR WORKING IN CLOSE QUARTERS ALWAYS TURN OFF ESC SWITCH TO PREVENT ANY POSSIBLE SLIPS OF SUDDEN MOVEMENT OF MACHINE WHICH COULD RESULT IN SERIOUS INJURY OR DEATH.

WARNING

DO NOT TRAIL SWAY CONTROL SWITCH IN LOW POSITION BEFORE ENGAGING A SLIP OR CHANGE IN UNLOADING OR TRUCKS IF TRAIL SWAY CONTROL SWITCH IS IN HIGH POSITION DURING THIS OPERATIONS SLIPPER CHANGE OR SWAYING MOVES CAN OCCUR WITH AN UNEXPECTED SWAY IN MACHINE CONTROL, RESULTING IN SERIOUS INJURY.



WARNING

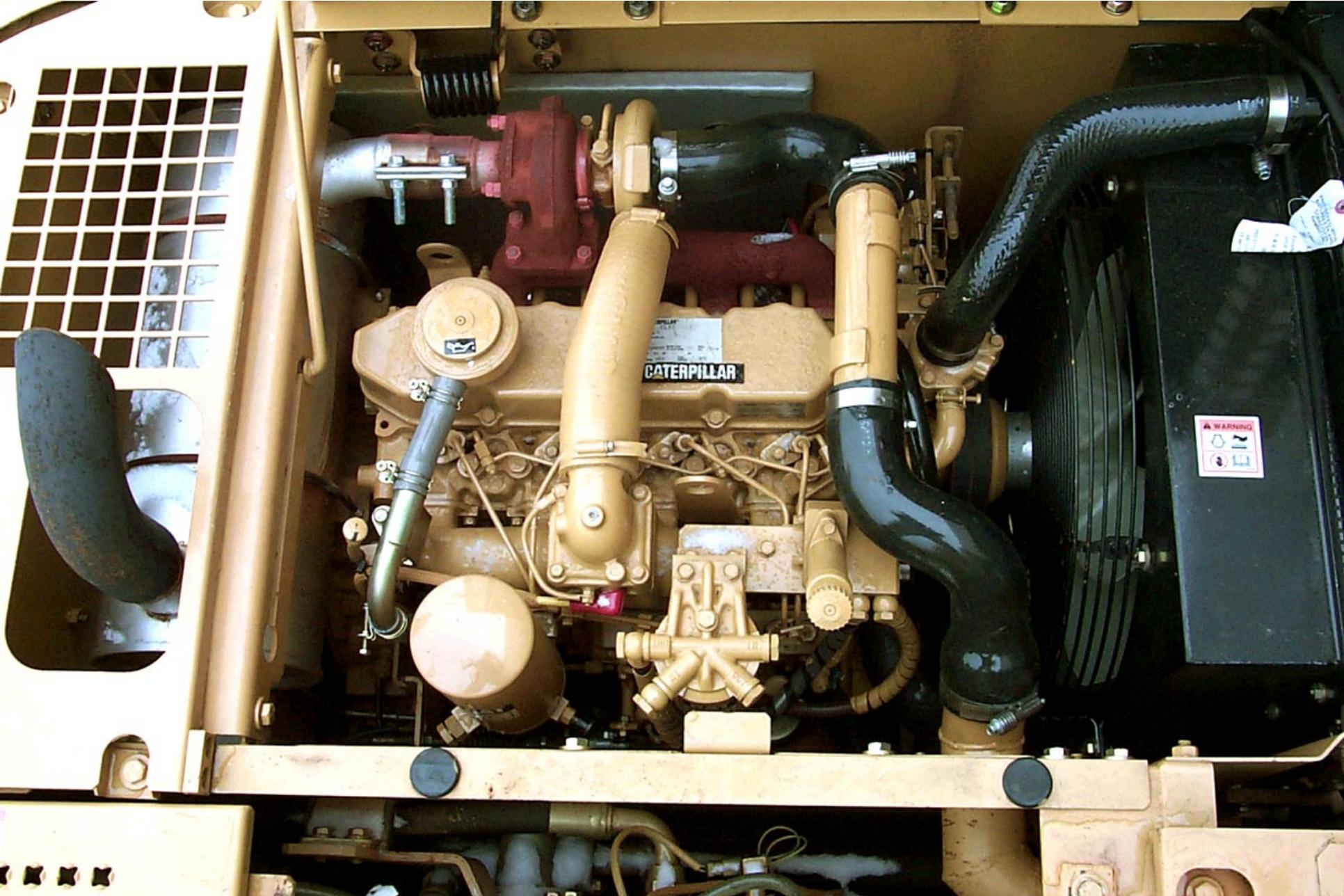
CHECK MACHINE CONTROL PATTERN FOR CONFORMANCE TO PATTERN ON CARD IN CAB. IF NOT, CHANGE CARD TO MATCH PATTERN BEFORE OPERATING MACHINE. FAILURE TO DO SO COULD RESULT IN INJURY.



WARNING

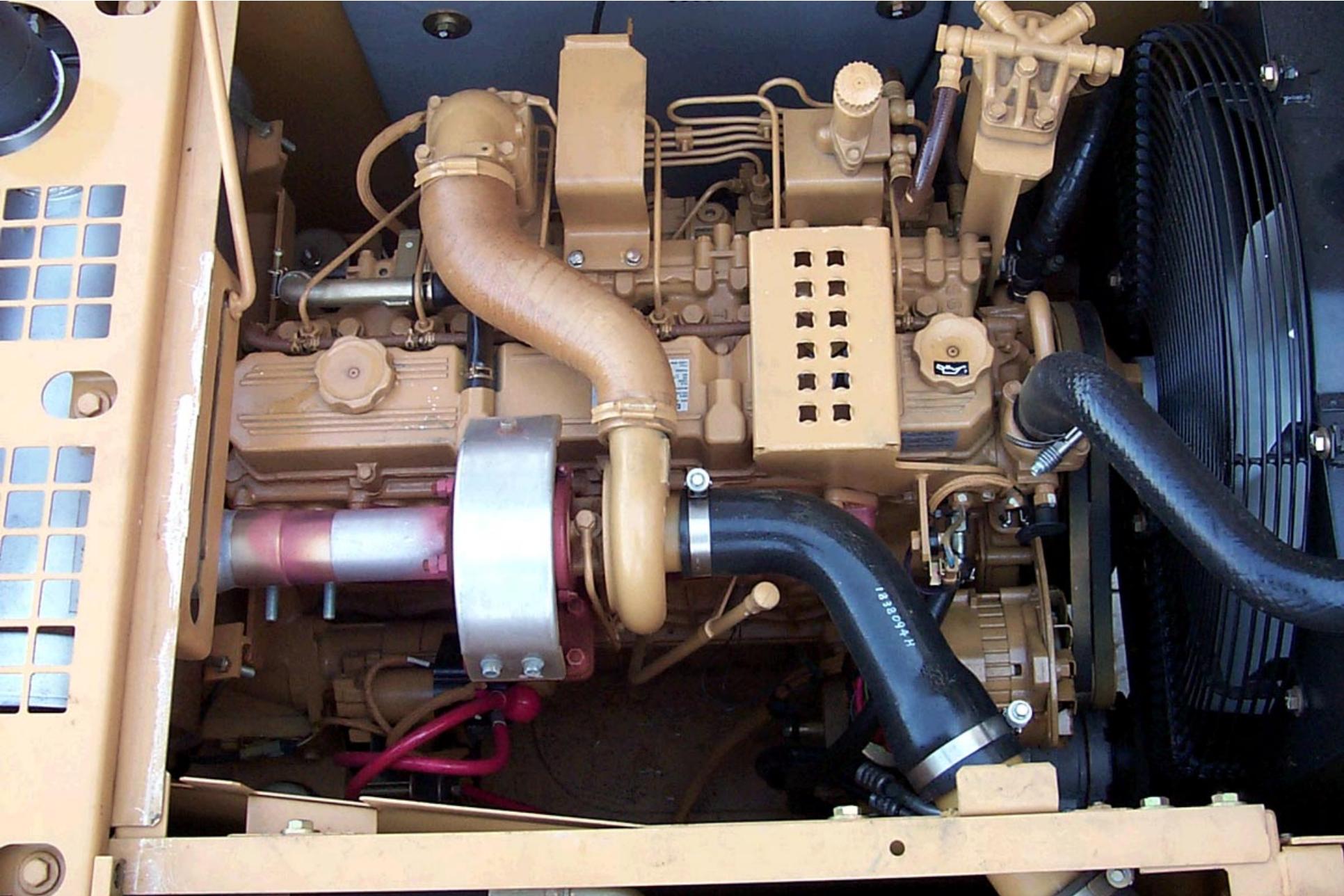
MAINTAIN THE MAXIMUM REAR END RISE BY SERVICING IN-LINE USE OF BOTH BY OWNERS/OPERATOR OF MACHINES. THE ASSOCIATED RISK OF MACHINES IS HIGH. ALWAYS WEAR A SEAT BELT AND HOLD ON TO THE SEAT. ALWAYS MAINTAIN A SAFE DISTANCE FROM ALL PARTS. ALWAYS MAINTAIN A SAFE DISTANCE FROM ALL PARTS. ALWAYS MAINTAIN A SAFE DISTANCE FROM ALL PARTS.



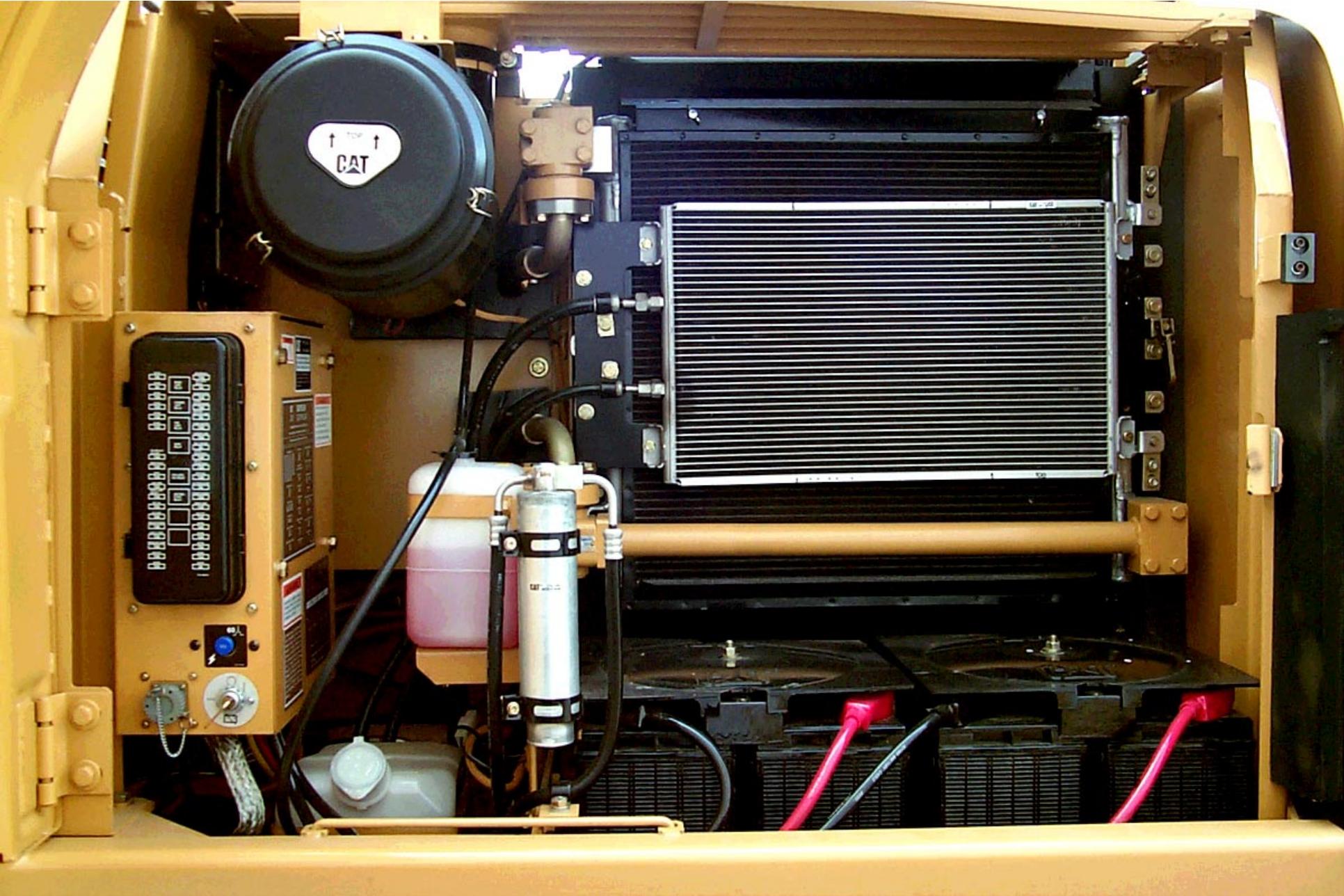


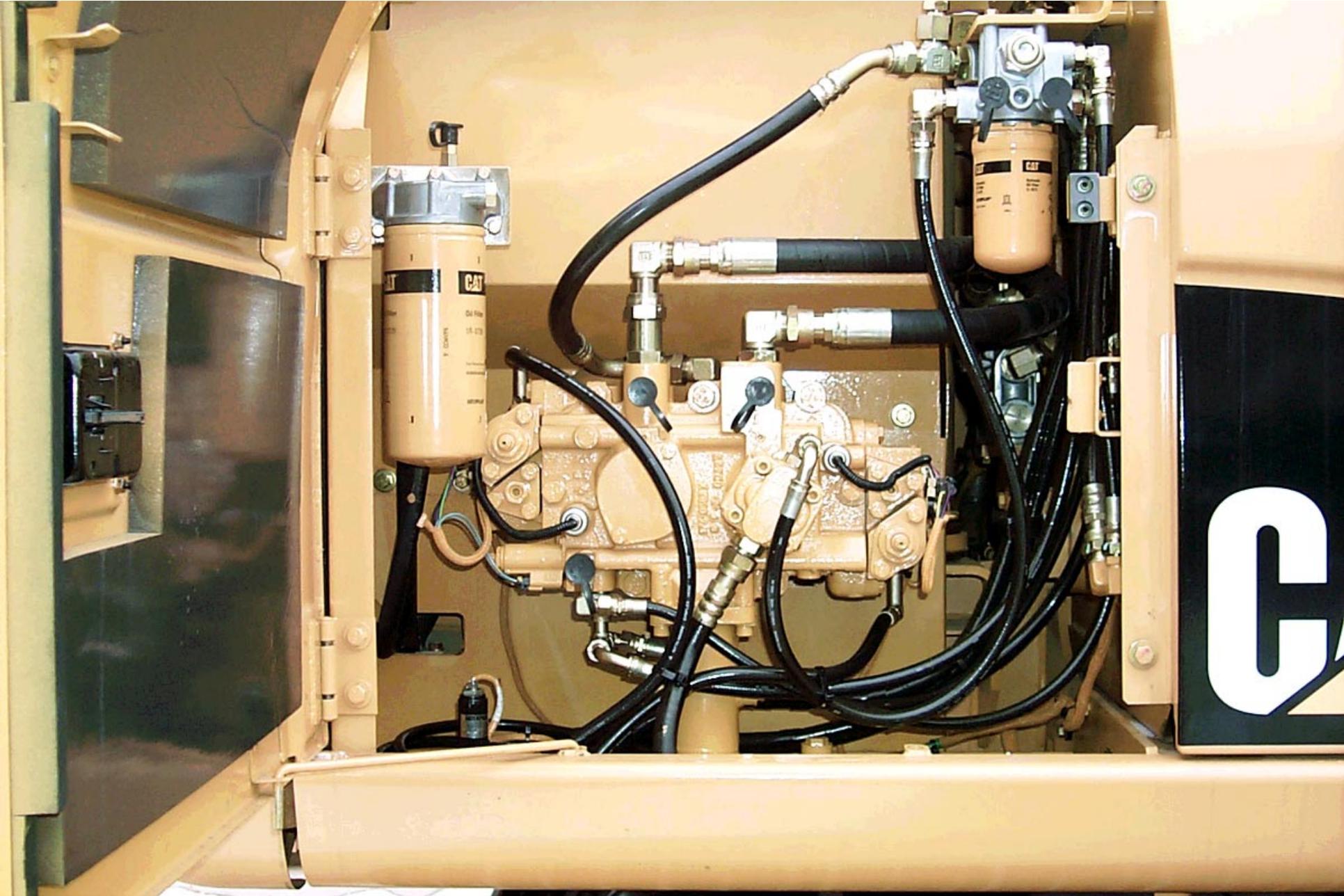
CATERPILLAR

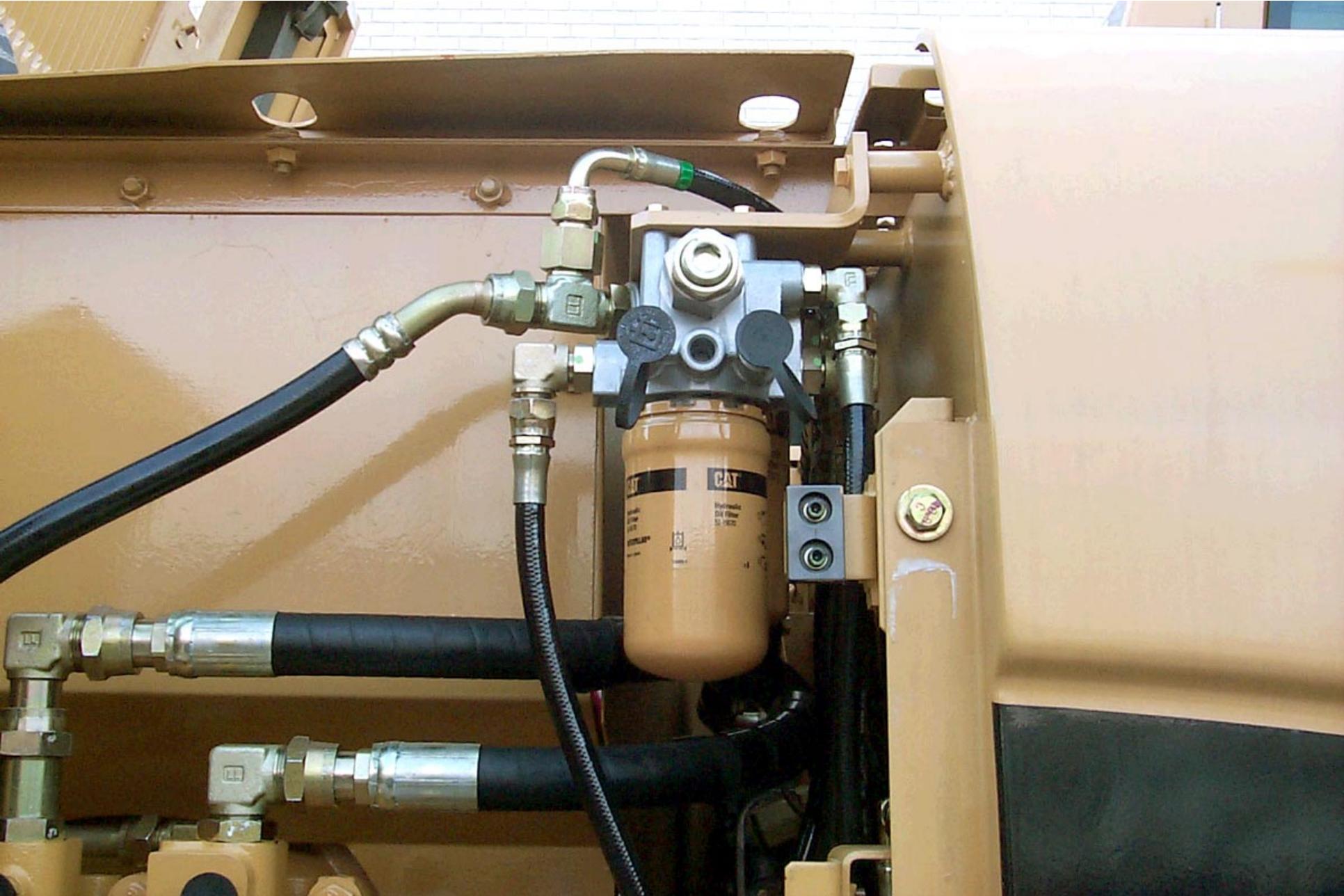
WARNING







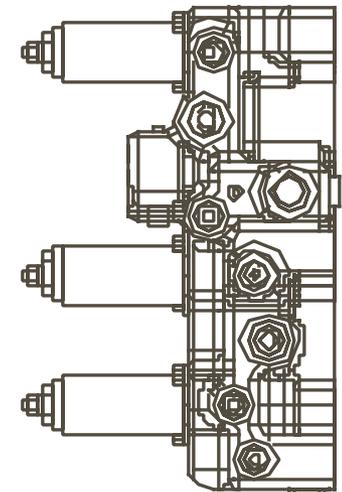
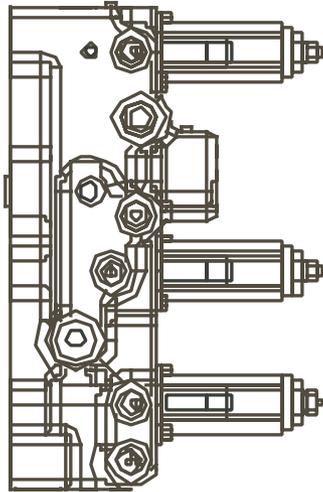




PILOT MANIFOLD

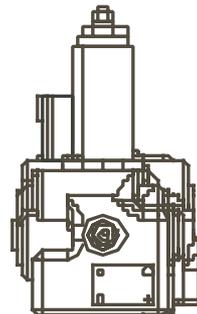
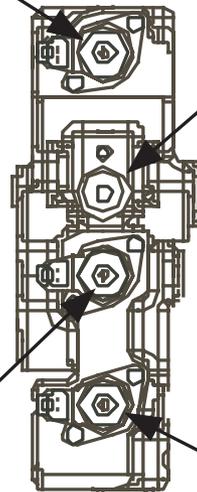
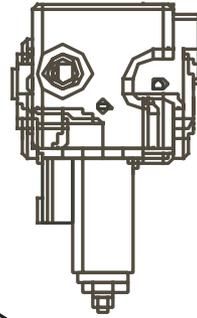
PILOT LOCK SOLENOID

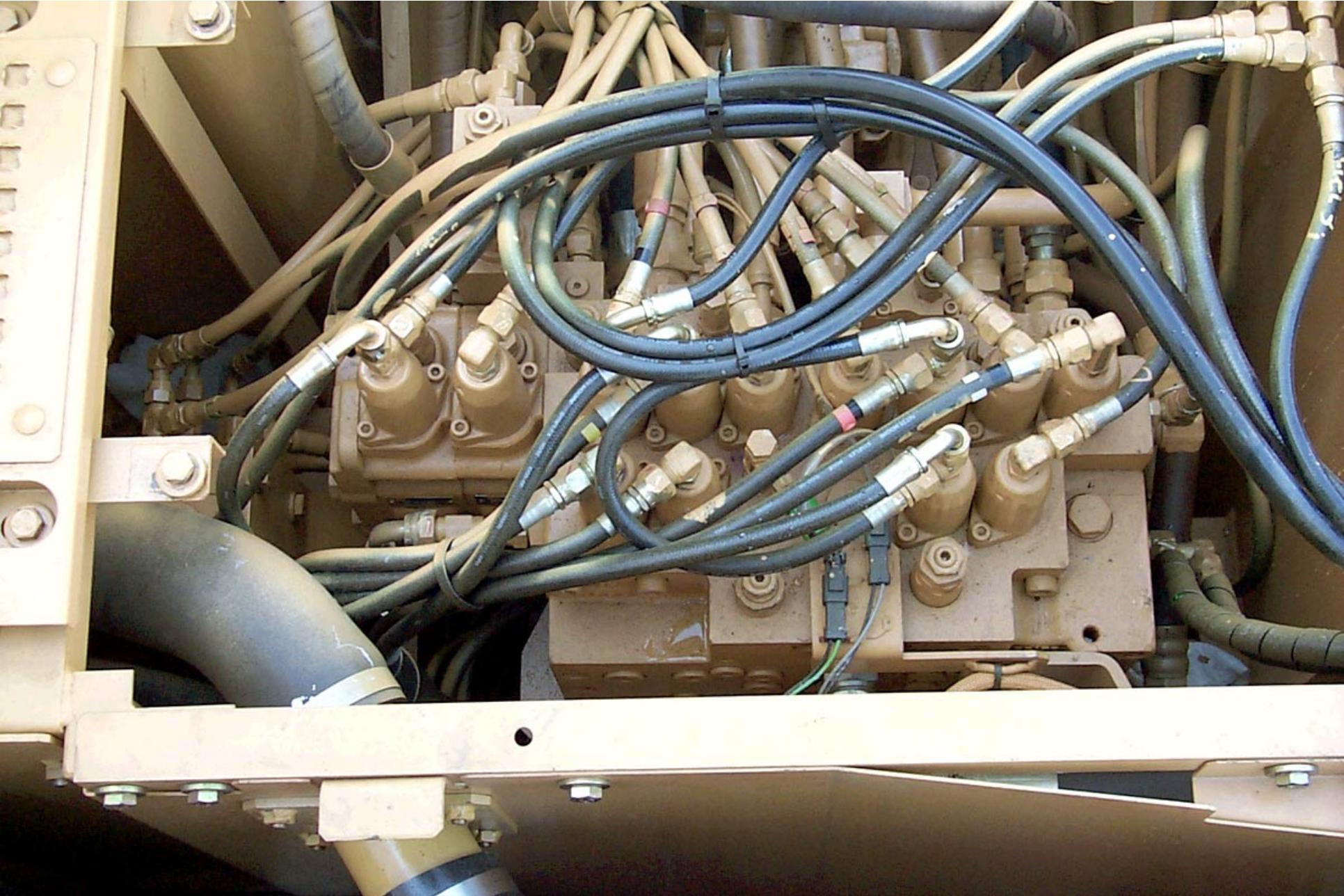
PILOT LOCK VALVE



SWING PARKING BRAKE
SOLENOID

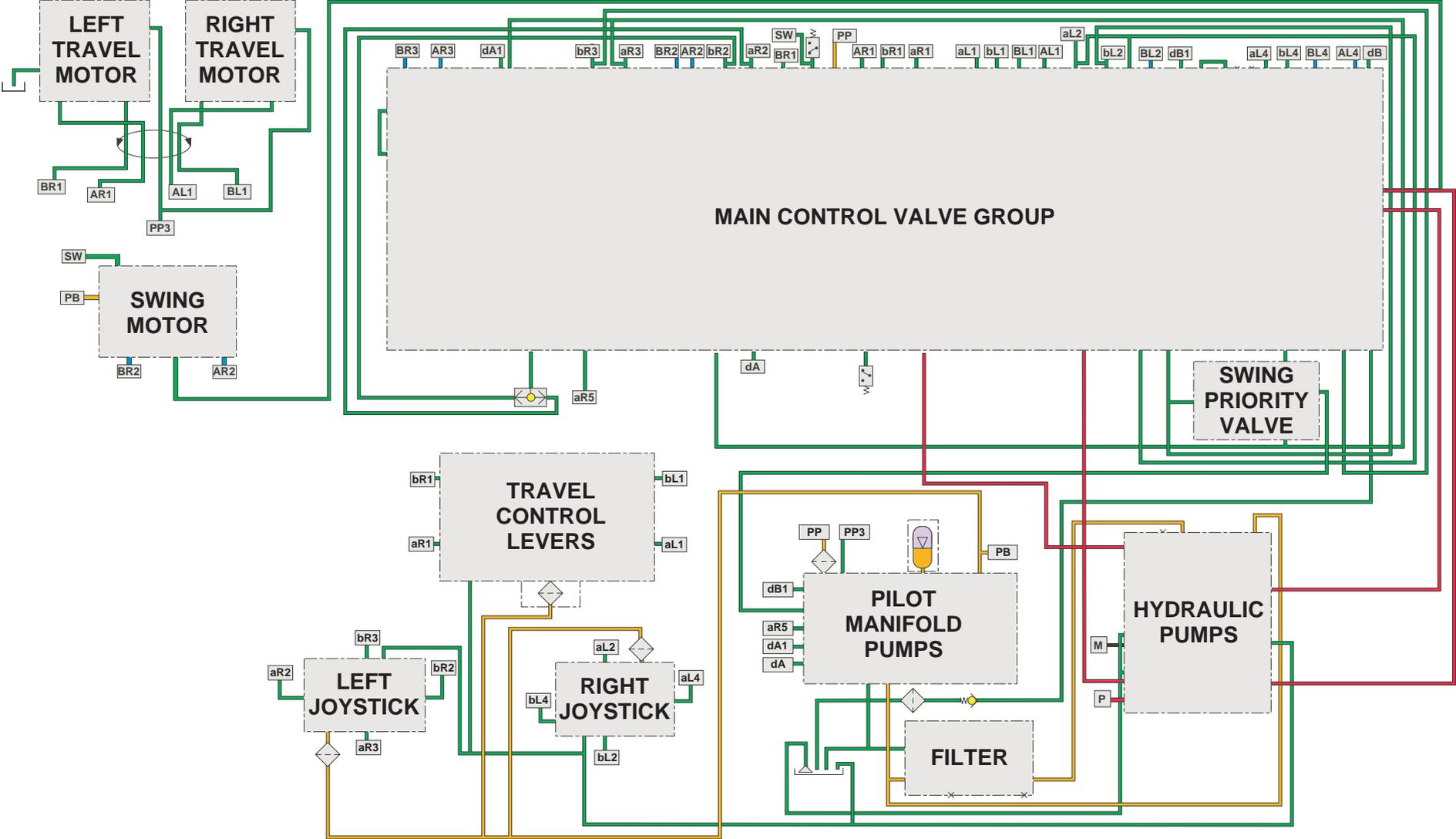
TWO SPEED
TRAVEL SOLENOID



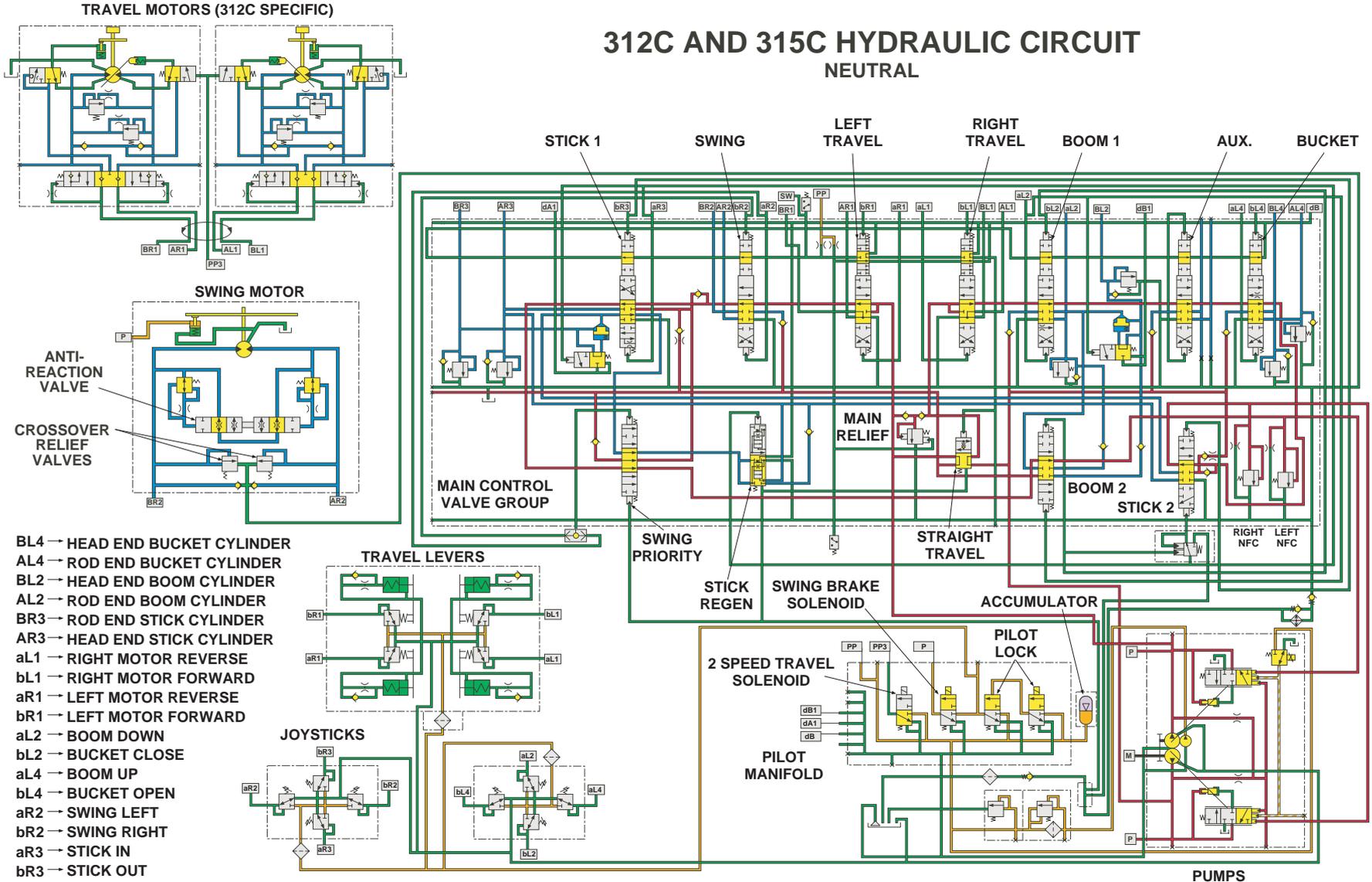


312C AND 315C HYDRAULIC CIRCUIT LAYOUT

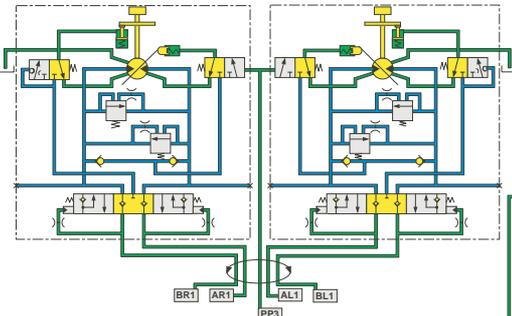
NEUTRAL



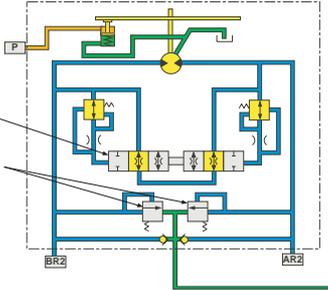
312C AND 315C HYDRAULIC CIRCUIT NEUTRAL



TRAVEL MOTORS (312C SPECIFIC)



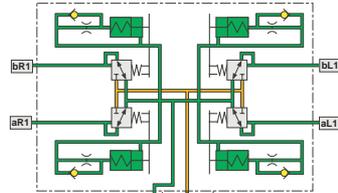
SWING MOTOR



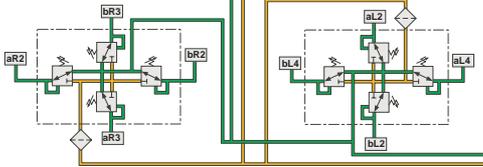
ANTI-REACTION VALVE
CROSSOVER RELIEF VALVES

- BL4 → HEAD END BUCKET CYLINDER
- AL4 → ROD END BUCKET CYLINDER
- BL2 → HEAD END BOOM CYLINDER
- AL2 → ROD END BOOM CYLINDER
- BR3 → ROD END STICK CYLINDER
- AR3 → HEAD END STICK CYLINDER
- aL1 → RIGHT MOTOR REVERSE
- bL1 → RIGHT MOTOR FORWARD
- aR1 → LEFT MOTOR REVERSE
- bR1 → LEFT MOTOR FORWARD
- aL2 → BOOM DOWN
- bL2 → BUCKET CLOSE
- aL4 → BOOM UP
- bL4 → BUCKET OPEN
- aR2 → SWING LEFT
- bR2 → SWING RIGHT
- aR3 → STICK IN
- bR3 → STICK OUT

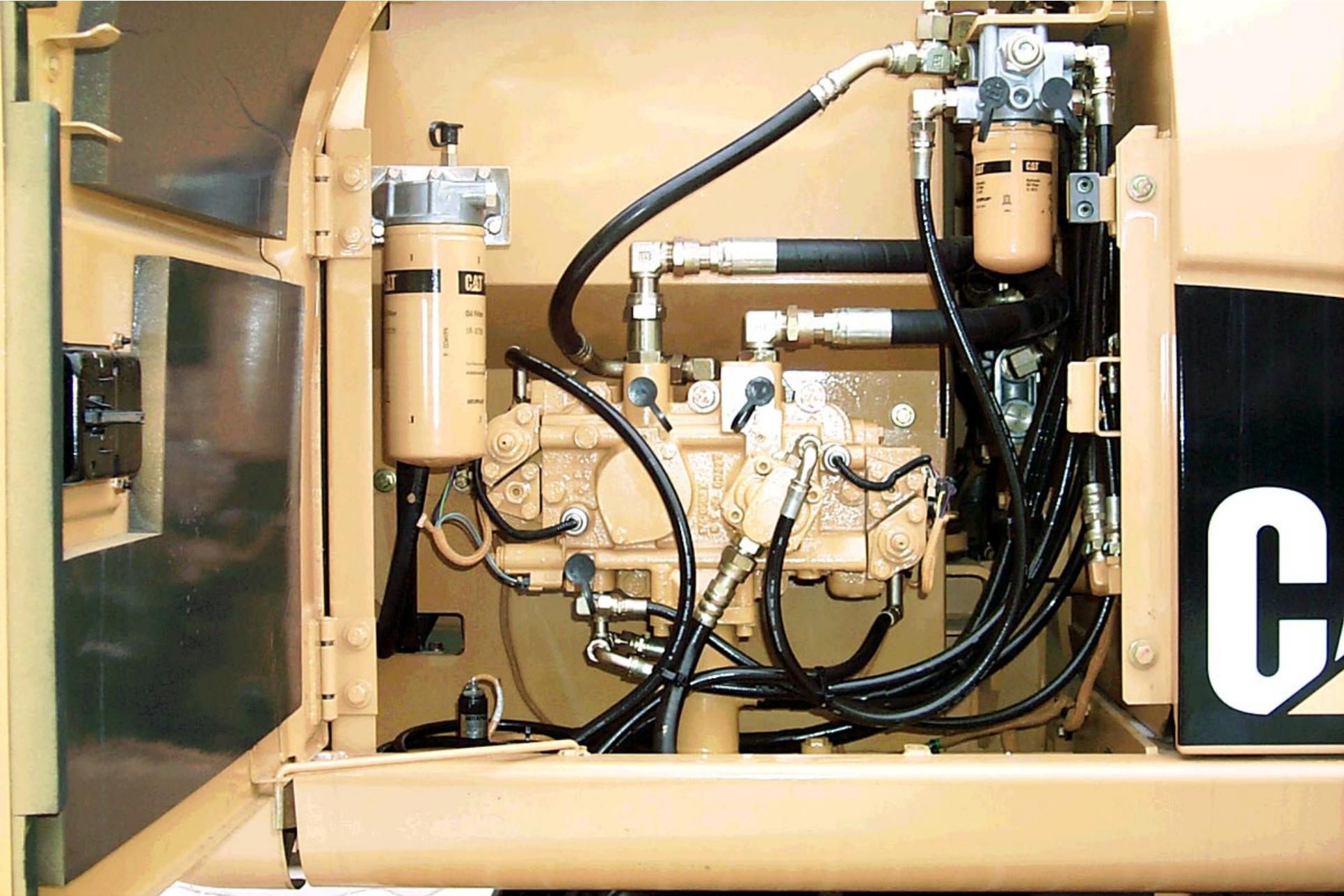
TRAVEL LEVERS



JOYSTICKS

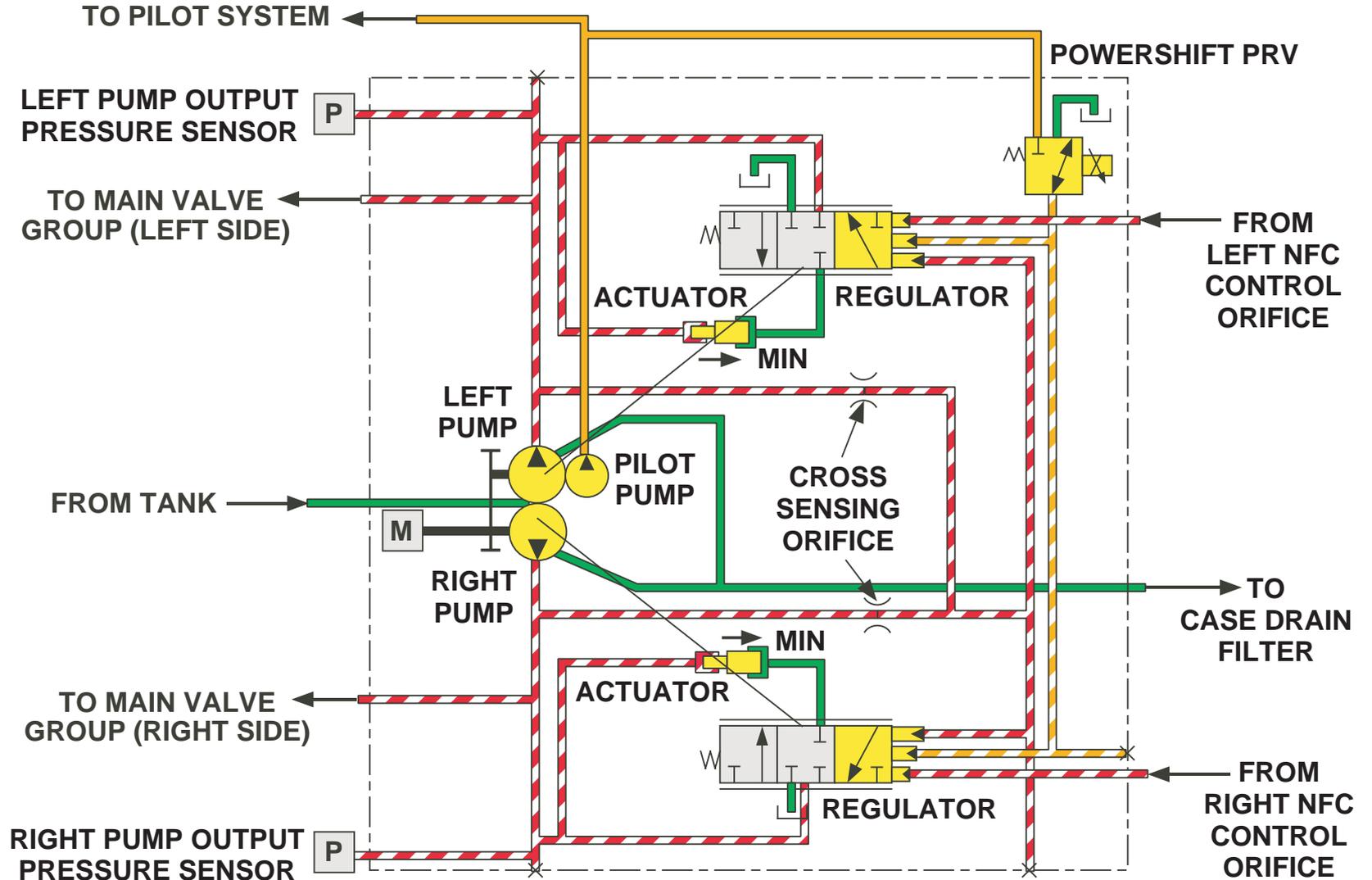


PUMPS

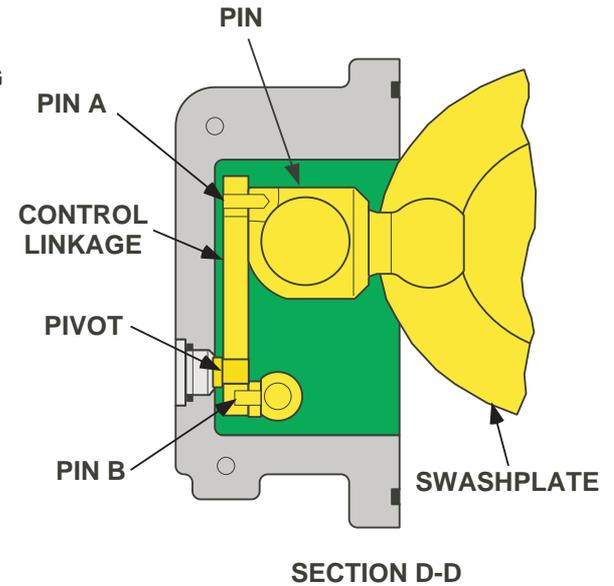
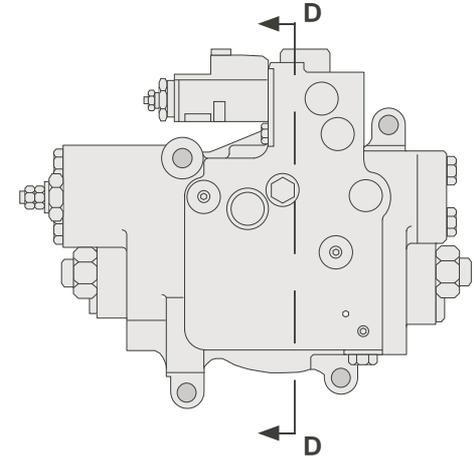
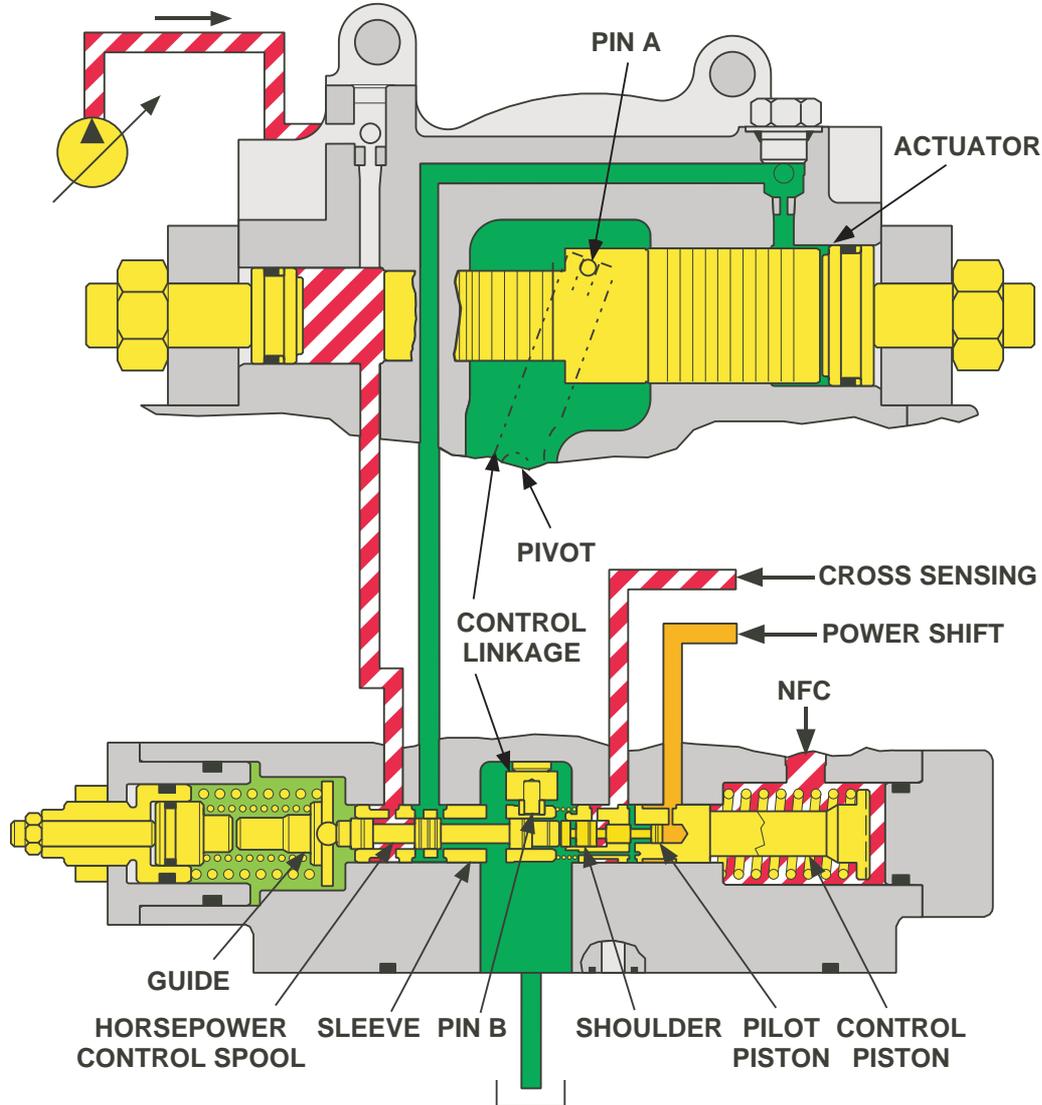


PUMP SCHEMATIC

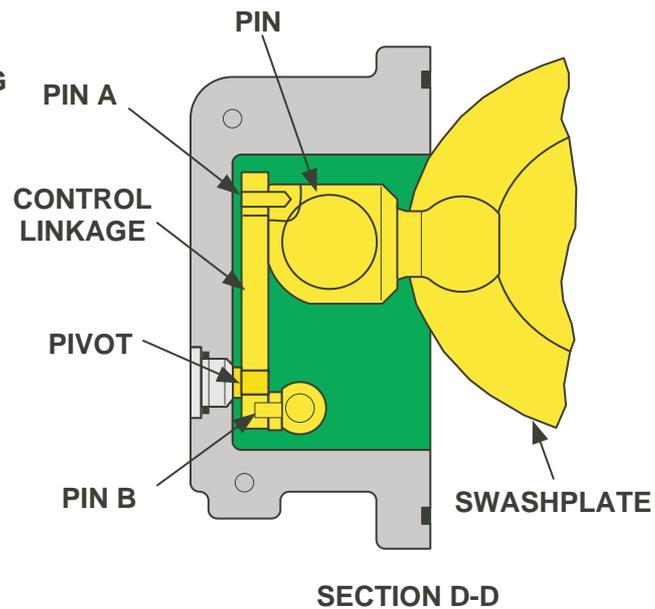
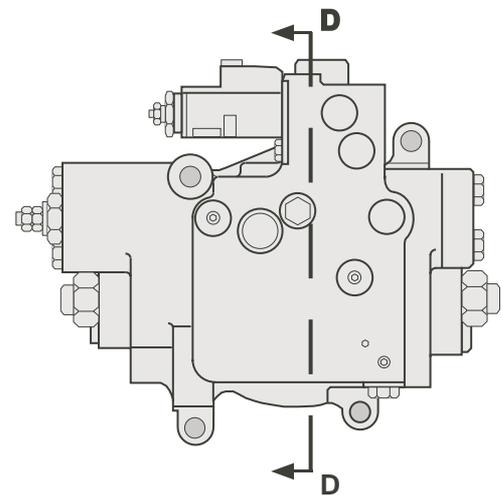
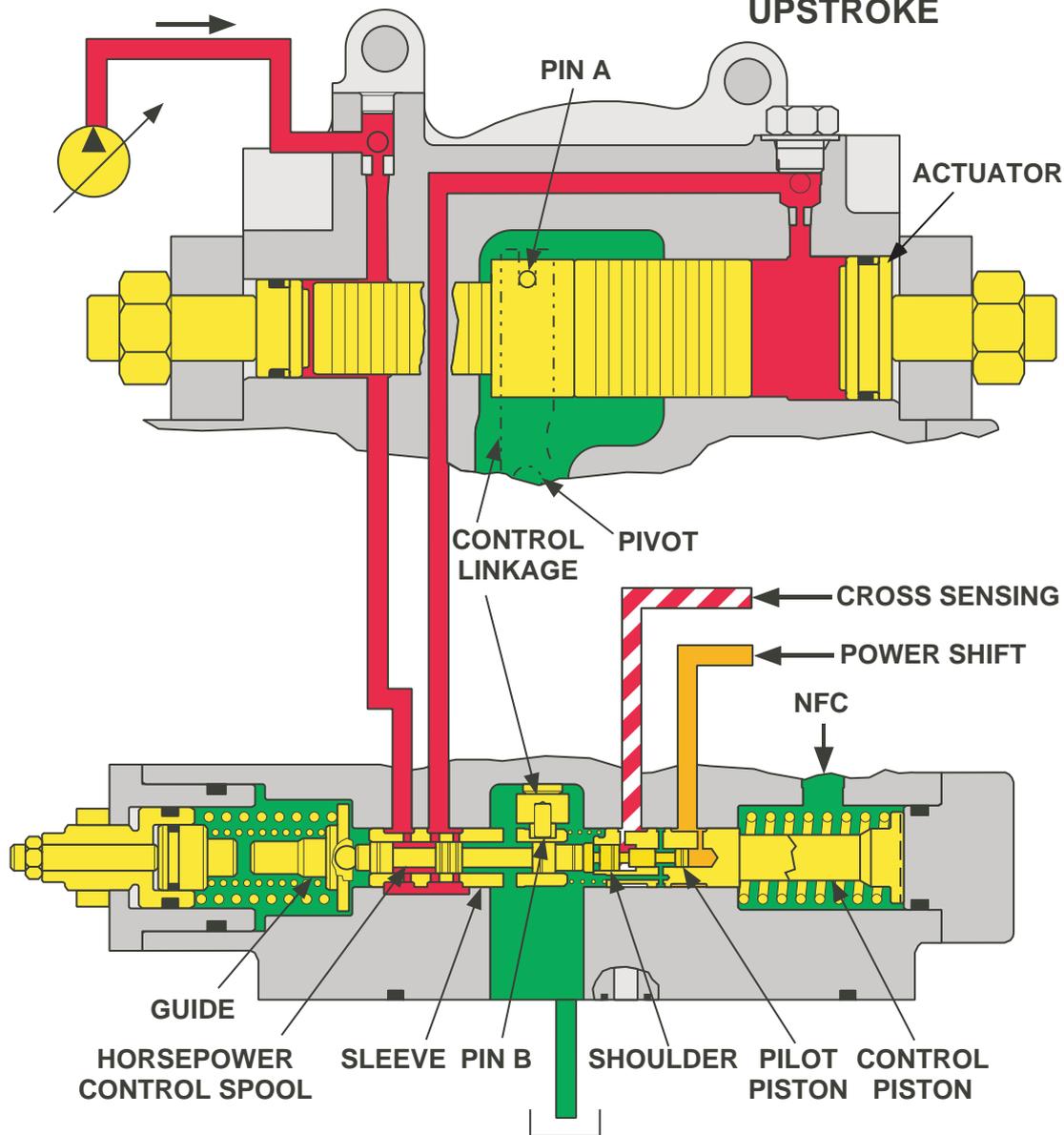
STANDBY



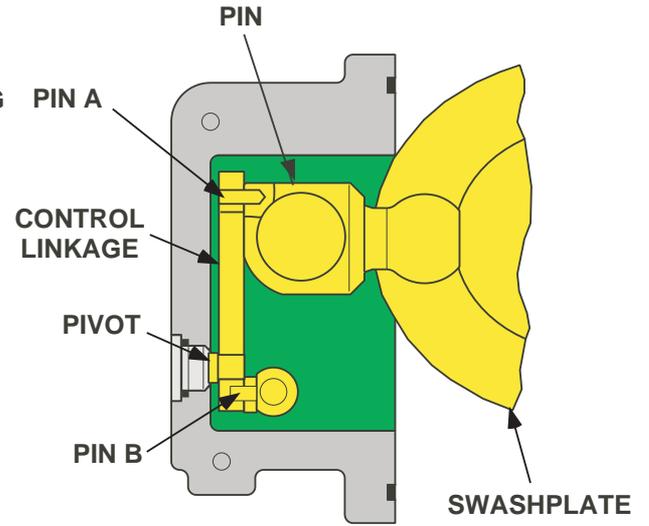
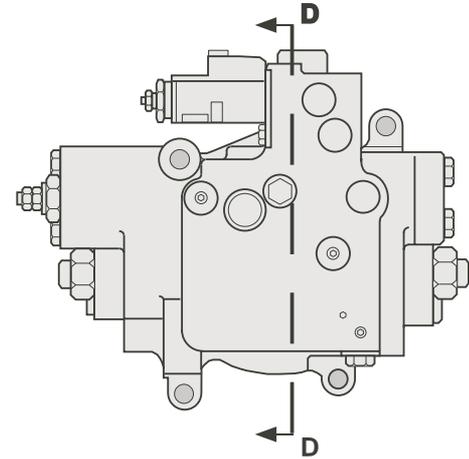
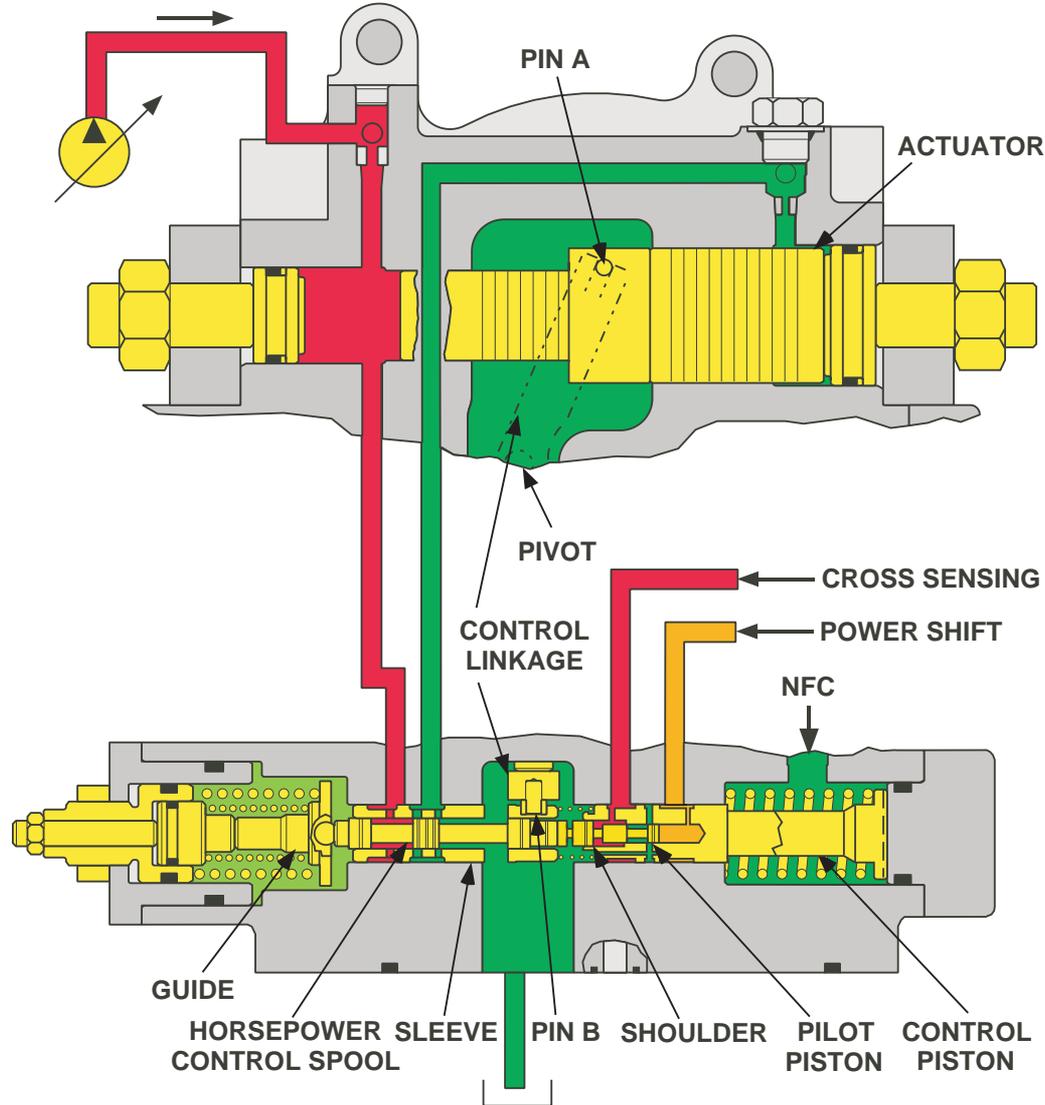
MAIN PUMP REGULATOR STANDBY



MAIN PUMP REGULATOR UPSTROKE

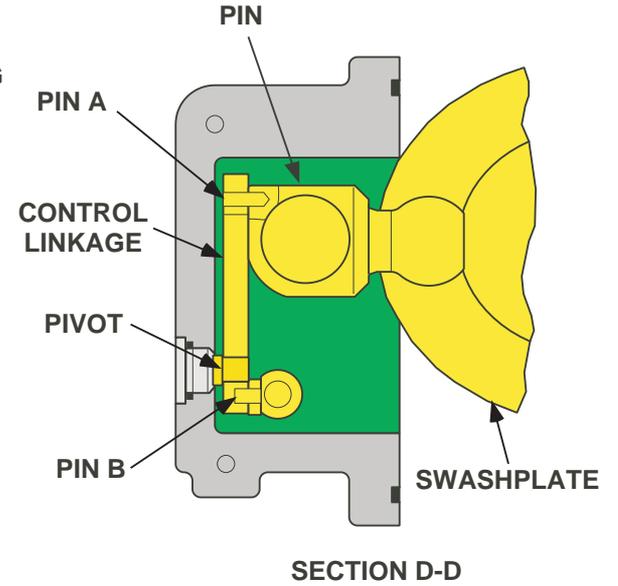
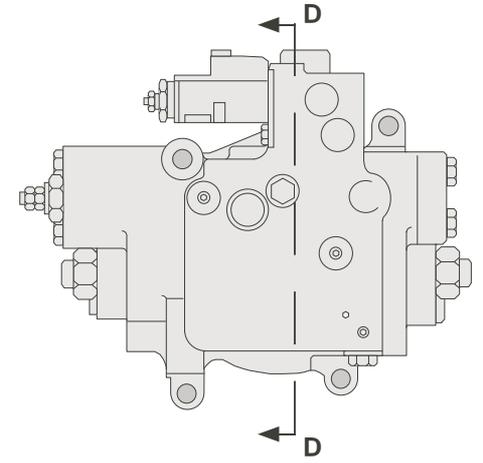
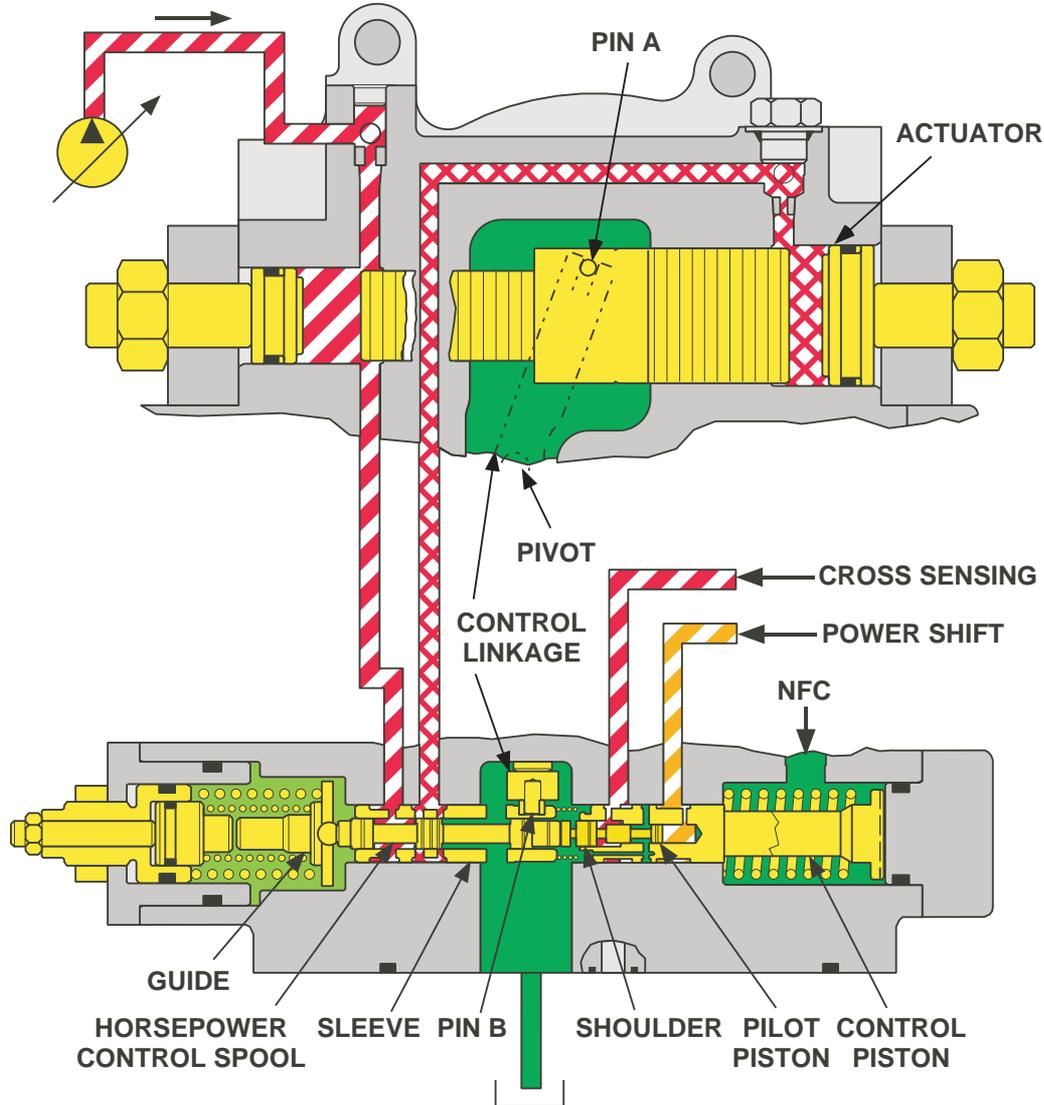


MAIN PUMP REGULATOR DESTROKE



SECTION D-D

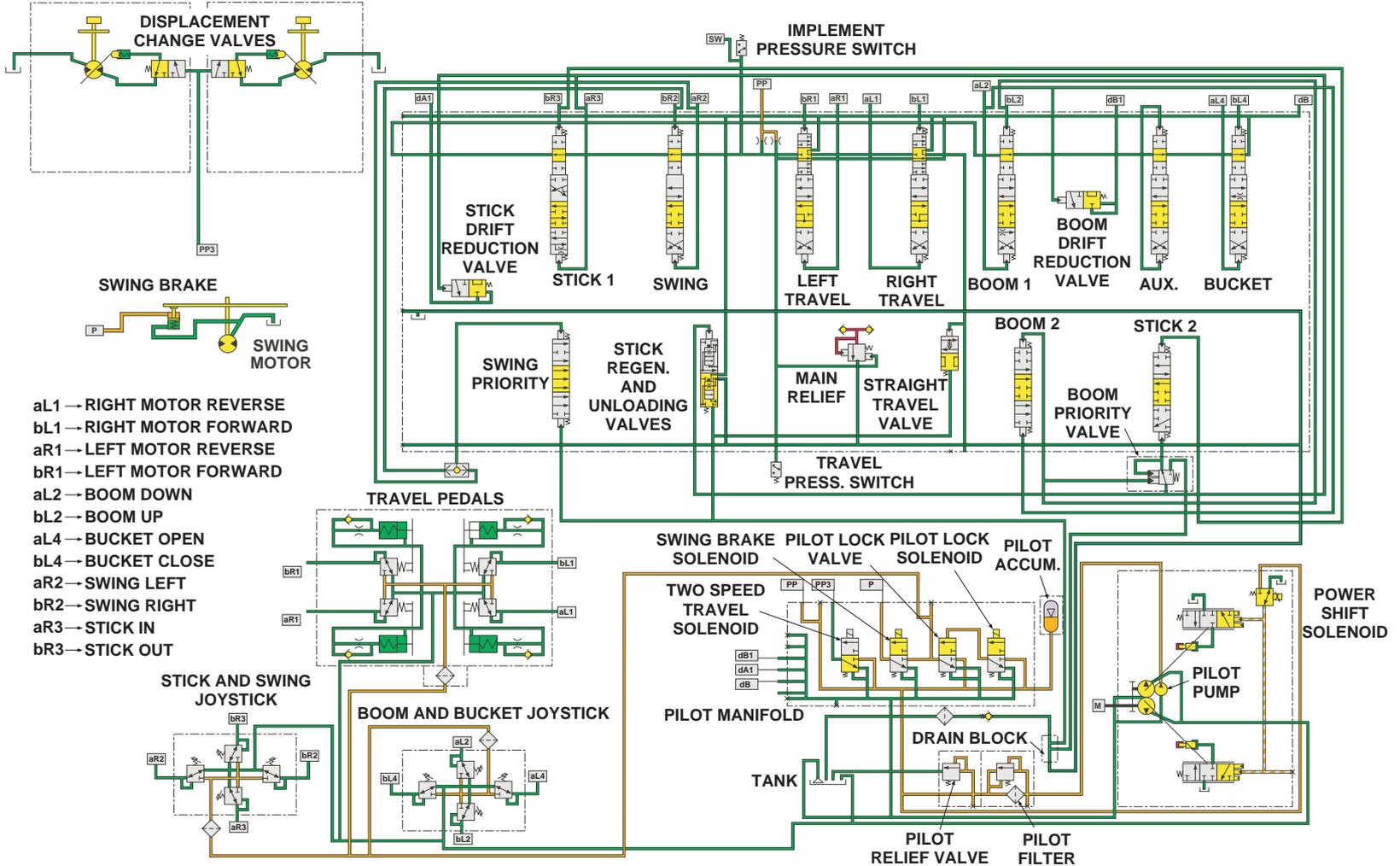
MAIN PUMP REGULATOR CONSTANT FLOW



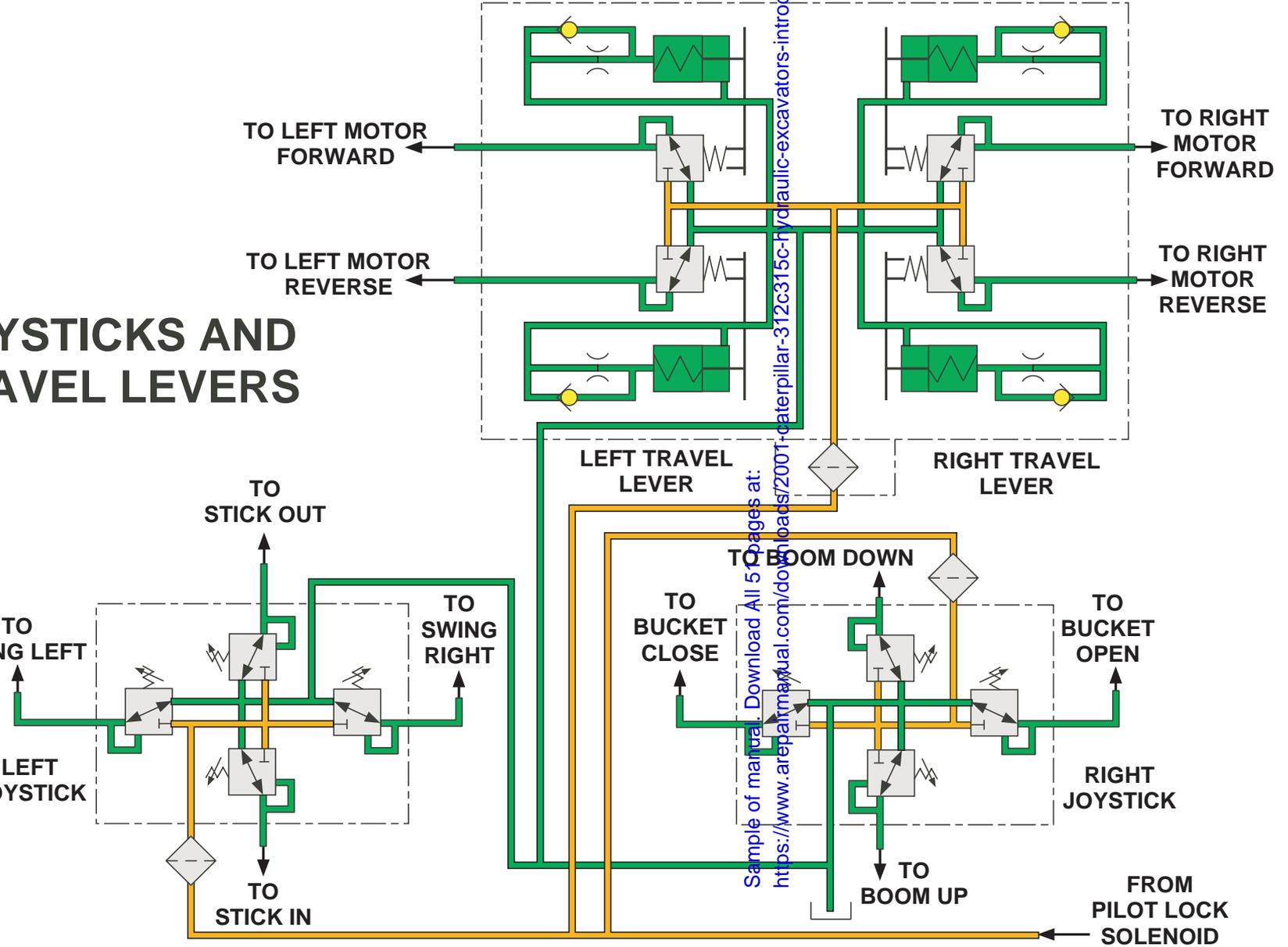
312C AND 315C PILOT HYDRAULIC CIRCUIT

TRAVEL MOTOR SCHEMATICS (312C SPECIFIC)

NEUTRAL



JOYSTICKS AND TRAVEL LEVERS



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