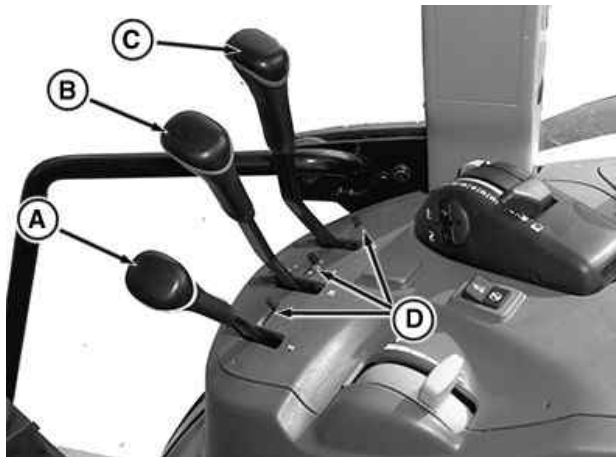


Selective Control Valve Operation

Rear SCV Controls and Components

Rear SCV Controls

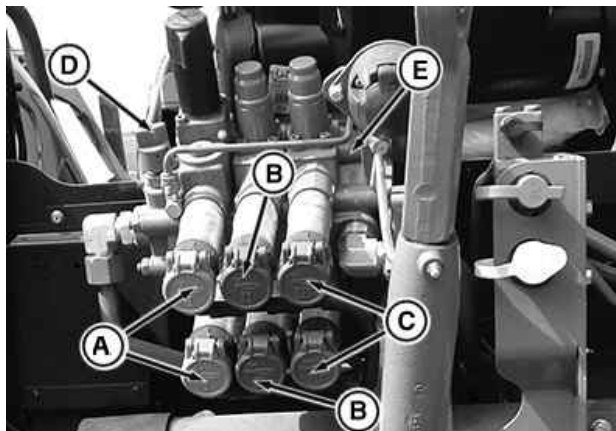


APY36920—UN—08JUN20

Cab Shown; OOS Similar

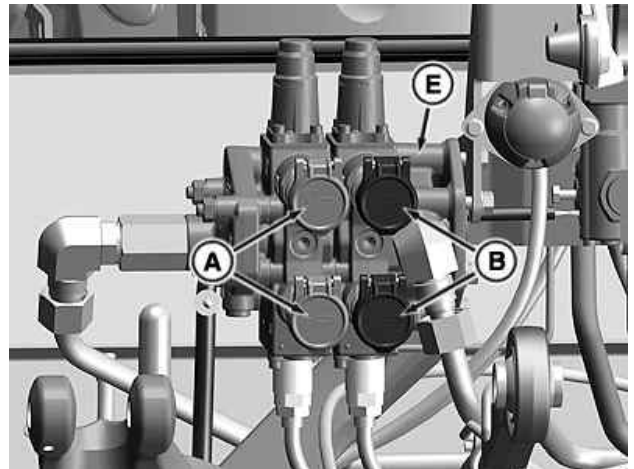
- A—SCV I Lever
- B—SCV II Lever
- C—SCV III Lever
- D—Transport Locks

Rear SCV Components



APY36939—UN—07AUG20

Deluxe Triple SCV



RXA0158457—UN—30MAR17

Dual SCV

- A—SCV I
- B—SCV II
- C—SCV III
- D—Inlet Plate with Adjustable Flow Control
- E—End Plate

Rear SCV Operation

SCV Levers



RXA0158459—UN—16MAY17

- A—Extend Position
- B—Float Position
- C—Retract Position
- D—Neutral Position

IMPORTANT: Use the transport lock to avoid unintentional rear SCV movement during transport or while operator is not using SCVs.

Rear SCV levers have four positions:

- Extend - pull and hold lever rearward as required.
- Retract - push and hold lever forward as required.

- Neutral - release lever unless in the float detent. If in float, lever must be pulled rearward to return to neutral.
- Float - push lever forward past retract position into the float detent.

Rear SCV Identification

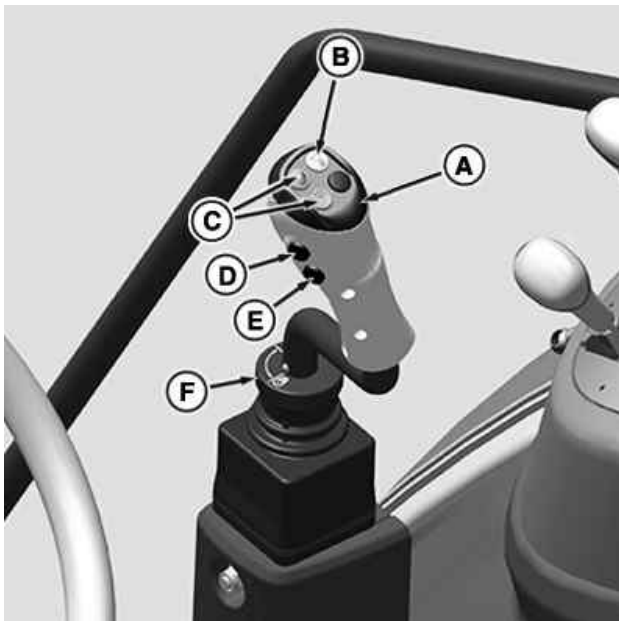
SCV levers and couplers are color coded for easier identification. The SCV control matches the corresponding cap on the SCV.

Rear SCV Numbers and Corresponding Colors	
SCV Number	Color
SCV I	Green
SCV II	Blue
SCV III	Brown

HK75640,000102D-19-14SEP20

Mid-SCV Controls and Components

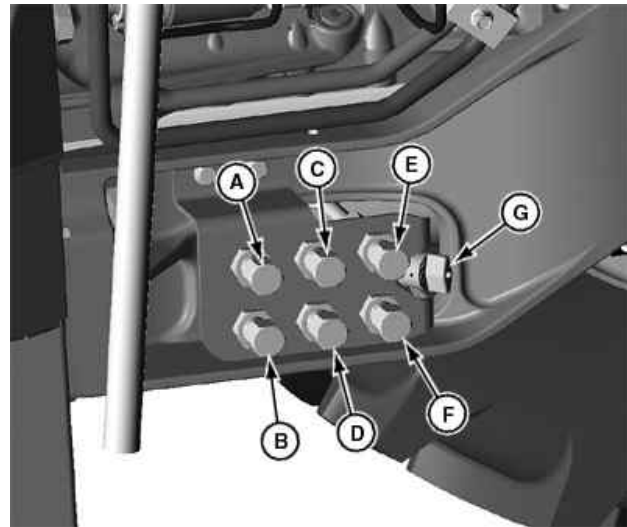
Mid-SCV Controls



RXA0162109—UN—16FEB18

- A—Multi-Function/Mid-SCV Lever
- B—Activate Front Loader Dampening
- C—HI/LO Gear Shift Buttons
- D—Diverter 1 Button
- E—Diverter 2 Button
- F—Loader Lock

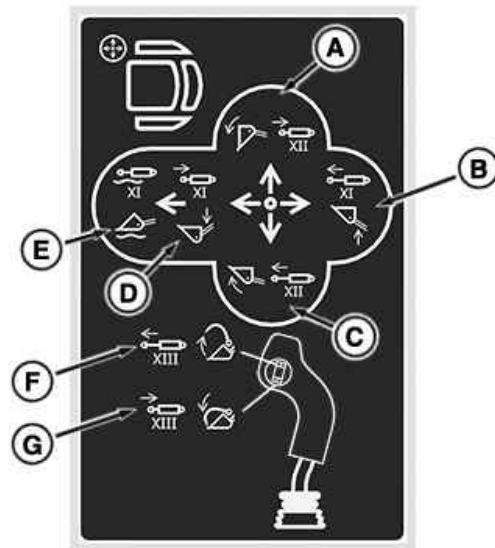
Mid-SCV Components



LV22040—UN—29JUL14

- A—SCV XI—Retract
- B—SCV XI—Extend
- C—SCV XII—Retract
- D—SCV XII—Extend
- E—SCV XIII—Retract
- F—SCV XIII—Extend
- G—Adjustable Flow Control

Mid-SCV Operation



RXA0158461—UN—30MAR17

Mid-SCV Functions

CAUTION: The multi-function lever must be locked when the loader is not in use, transporting, or when operator dismounts the machine. Turn locking ring to locked position. Check that the loader does not respond after locking. Otherwise, the front loader may be actuated unintentionally, which could lead to serious accidents.

Position	Direction	Loader Function	SCV Function
A	Right	Bucket Tilt (Dump)	SCV XII Retract
B	Rearward	Boom Raise	SCV XI Extend
C	Left	Bucket Rollback (Curl)	SCV XII Extend
D	Forward	Boom Lower	SCV XI Retract
E	Forward Detent	Boom Float	SCV XI Float
F	Top Button	Grapple Open	SCV XIII Extend
G	Bottom Button	Grapple Close	SCV XIII Retract

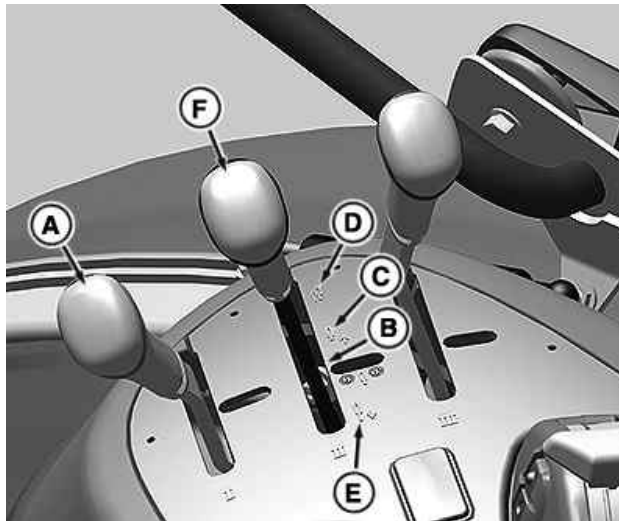
Mid-SCV Identification

Mid-SCV Numbers and Corresponding Colors	
SCV Number	Color
SCV XI	Green
SCV XII	Blue
SCV XIII	Brown

SCV Color Codes

LGCKF7U,0000BEE-19-10MAY21

Front Hitch and SCV



RXA0158647—UN—02MAY17

- A—SCV I Lever
- B—Front Hitch Neutral Position
- C—Front Hitch Lower Position
- D—Front Hitch Float Position
- E—Front Hitch Raise Position
- F—SCV II Lever

To use the front hitch or the front SCV couplers, the operator must shift the diverter valve. (See Hitch and Drawbar Operation section.)

SCV I lever (A) controls the front hitch functions.

- Neutral - front hitch does not move.
- Lower - front hitch is powered down and has down-pressure.

- Float - front hitch lowers and follows the ground contour.
- Raise - front hitch lifts.

SCV II lever (F) controls the couplers on the front hitch. The function of the front couplers are the same as rear SCV II.

HK75640,000102F-19-14SEP20

Connect Hydraulic Hoses



APY48087—UN—11JUN21

A—Coupler Dust Cover

IMPORTANT: Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

NOTE: Selective control valve (SCV) couplers accept a standard hose tip as recommended by ISO¹ and SAE². Adapters are available to update older hose tips to the ISO couplers on this machine.

NOTE: When making connections, it is helpful to relieve hydraulic pressure from the couplers. For mechanical SCVs, turn the key switch off and cycle the SCV levers to the float position.

Installing hydraulic hoses in SCVs:

1. Clean the area around connection and the end of implement hydraulic hoses to prevent hydraulic system contamination.
2. Open SCV coupler dust covers (A) as required.
3. Determine extend and retract hoses.
4. Firmly push hoses into couplers. Lightly tug on the hoses to ensure that connection is made. If connections are difficult, relieve pressure at couplers.

¹ International Standards Organization (ISO) 7241-1

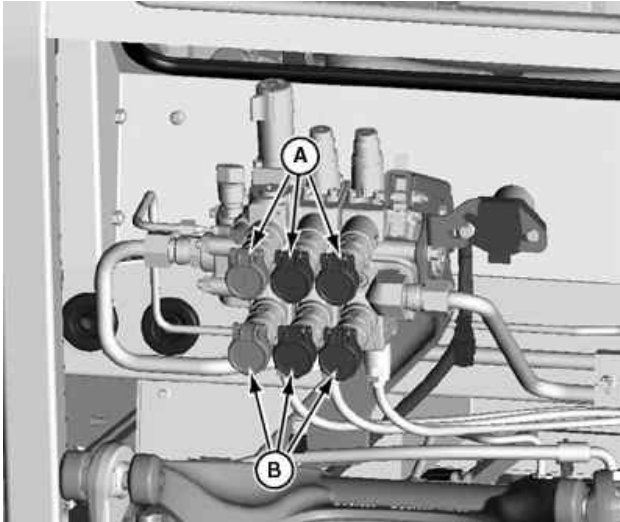
² Society of Automotive Engineers

Removing hydraulic hoses from SCVs:

1. Lower implement to ground before disconnecting hydraulic hoses. If possible, retract remote cylinders as much as possible during storage to protect the rod from damage.
2. Shut off engine.
3. Relieve pressure at the couplers.
4. Lock out SCV controls.
 - Engage transport locks for rear SCVs.
 - Engage lock on multi-function lever for mid-SCVs.
5. Pull hoses straight out from couplers.
6. Close SCV coupler dust cover.

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Connect to Rear SCVs



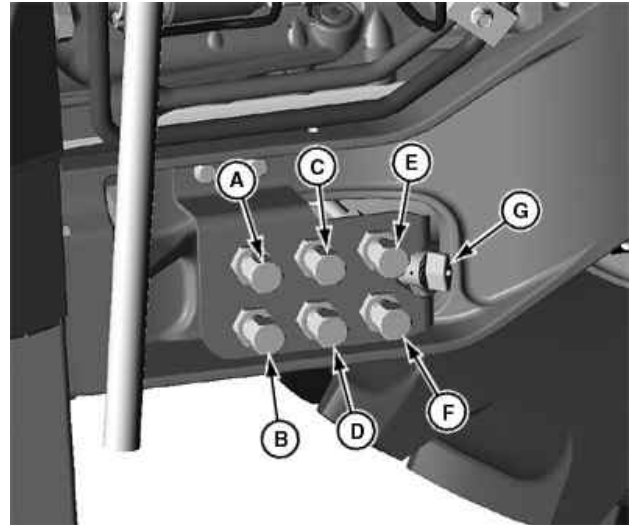
LV22082—UN—12JUN14

A—Retract Couplers
B—Extend Couplers

1. Identify extend and retract hoses.
2. Remove dust caps from hose end.
3. Open coupler covers.
4. Making sure that hose end and coupler are clean, push hose tip firmly into SCV coupler. Pull on hose, making sure that positive connection is made.
5. Connect retract hoses to top couplers (A) and extend hoses to bottom couplers (B).

HK75640,0001031-19-14SEP20

Connect to Mid-SCVs



LV22040—UN—29JUL14

A—Boom Cylinder—Retract
B—Boom Cylinder—Extend
C—Bucket Cylinder—Retract
D—Bucket Cylinder—Extend
E—Third-Function Cylinder—Retract
F—Third-Function Cylinder—Extend
G—Adjustable Flow Control

IMPORTANT: Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

NOTE: Connections are capped and require couplers to be installed if using hose with ISO ends. Direct connection to the fittings can be made for permanent applications.

1. Match hoses to corresponding couplers.
2. Remove dust caps from hose ends.
3. Remove cap assembly from the selective control valve (SCV) couplers.
4. Ensure that hose end and couplers are clean, slide sleeve back, push hose tip firmly into coupler and release sleeve.
5. Make sure that positive connection was made by pulling on hose.

Always use SCV extend ports for lift functions for best performance. Deluxe SCV sections (with flow control and selectable detents) perform better than standard SCV sections.

HK75640,0001032-19-14SEP20

Correct Reversed Cylinder Response

⚠ CAUTION: If cylinder response is opposite of the SCV lever, extending when it should retract, reverse hose connections at couplers.

HK75640,0001033-19-14SEP20

3. Add oil if necessary.
4. Lower implement to return oil to reservoir.
5. Recheck oil level when implement is removed.
6. Drain excess oil if necessary.

HK75640,0001035-19-14SEP20

Single-Acting Cylinders



APY48088—UN—11JUN21

A—Extend Couplers

IMPORTANT: Volume of oil required to extend a cylinder lowers the transmission/hydraulic oil level. With cylinder fully extended, check oil level and fill to the proper level. (See Check Transmission/Hydraulic System Oil Level in the Hydraulics Maintenance section.)

Only connect single-acting cylinders to SCV extend coupler (A).

Pull SCV lever back to pressurize and extend a single-acting cylinder.

Push SCV lever fully forward to float position and retract the cylinder.

LGCKF7U,0000DE9-19-11JUN21

Implements Requiring Large Volumes of Oil

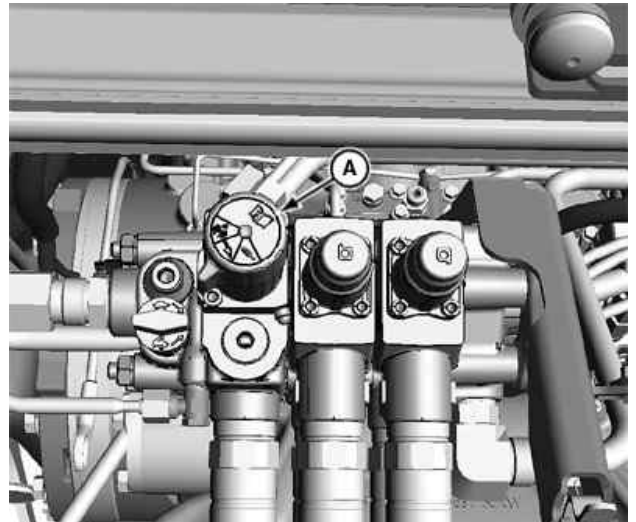
IMPORTANT: Removing too much oil can result in malfunction when raising hitch or using extend function of SCVs.

Do not add oil to hydraulic system with engine running.

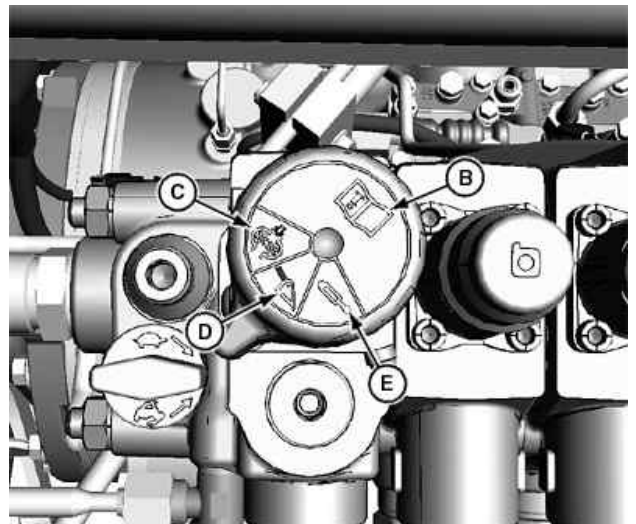
To determine if sufficient oil is available for implement being used:

1. Cycle all implement cylinders after starting machine.
2. Check transmission/hydraulic oil level.

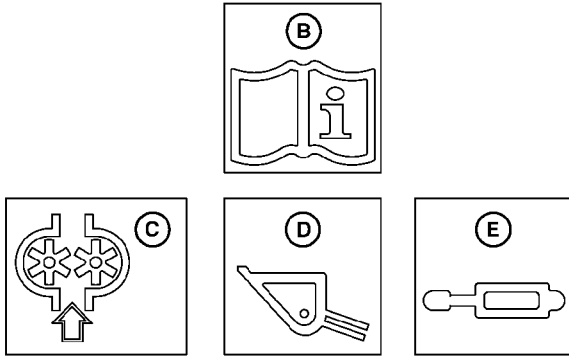
Set SCV Detents



LV22089—UN—12JUN14



LV22090—UN—12JUN14



LV22102—UN—12JUN14

- A—SCV Knob
B—Read Operator Manual
C—Continuous Detent (motor)
D—No Detent (loader)
E—Automatic Detent (cylinder)

IMPORTANT: To avoid overheating hydraulic oil and damage to machine, use SCV I when long duration “continuous” (motor) operation is required. Section I of deluxe SCV has a flow control valve. When properly adjusted, valve provides flow to operate an implement at required speed while maintaining oil temperature within normal operating range.

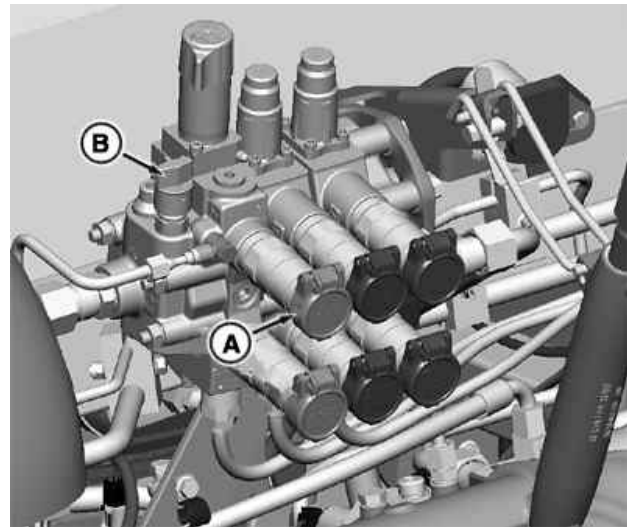
Section 1 of the deluxe SCV has selectable detents, used to change multi-function lever operations to meet operating requirements of different implements. Detent settings affect only extend and retract lever positions, not float position.

NOTE: Read Operator’s Manual symbol (B) is for reference only and is not a selectable setting.

SCV Knob Position	SCV Lever Detent
Continuous Detent (Motor) (C) for motor operation	Holds lever in operating position until manually returned to neutral.
No Detent (Loader) (D) for loader operation	Lever returns to neutral when released.
Automatic Detent (Cylinder) (E) for cylinder operation	Lever automatically returns to neutral when a cylinder reaches the end of stroke.

LGCKF7U,0000BF1-19-10MAY21

Operate Hydraulic Motor with Rear SCV



RXA0149443—UN—22JUL15

- A—SCV I Retract Coupler
B—Adjustable Flow Control Valve

IMPORTANT: Avoid damage to hydraulic motors. Use only SCVs equipped with flow control or power beyond to operate hydraulic motors.

NOTE: To understand motor requirements, refer to implement Operator’s Manual.

Use SCV I retract coupler (A) with adjustable flow control for most hydraulic motor operations.

To regulate oil flow when operating a hydraulic motor with any standard valve without adjustable flow control, use an external flow control valve.

IMPORTANT: Never regulate oil flow from an SCV with a flow control valve using an external flow control valve. Having two flow control valves in the same hydraulic circuit overheats oil, causing component malfunctions and damage.

Do not use deluxe rear SCV for any low-flow, high-pressure applications such as the SeedStar™ variable rate drive planter motor or active downforce circuits. PTO driven hydraulic motor is recommended for low-flow, high-pressure applications.

Recommendations to Avoid Hydraulic Motor Damage

Use hydraulic motor return coupler for implements having:

- Single directional hydraulic motor.
- Hydraulic motor with a low-pressure shaft seal.
- Hydraulic motor with an internal case drain.

Use hydraulic motor case drain connection for

implements having motor with a case drain line. (See Case Drain in this section.)

IMPORTANT: If implement motor is not equipped with return coupler, use float position to stop hydraulic motor.

Hydraulic Motor Hose Connections and SCV Lever Operations

IMPORTANT: Use only SCVs with adjustable flow control for “continuous” (motor) applications.

1. Shut off engine.
2. Move SCV lever to be connected to motor full forward, into “float” detent.
3. Connect hydraulic motor supply hose to the SCV retract coupler and return hose to the SCV extend, or case drain as required by application.
4. Set SCV lever detent for continuous “motor” operation.
5. Start engine.
6. Do not return hydraulic motor directly to sump via the port on the differential case unless zero back pressure is absolutely necessary since the return filtration will be bypassed through this port.

To activate hydraulic motor, move SCV lever to “retract” position.

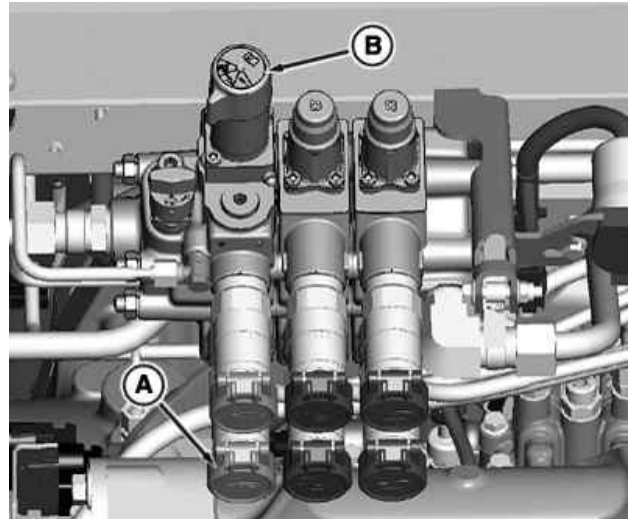
7. To stop hydraulic motor, move SCV lever fully forward into “float” detent.

IMPORTANT: To stop hydraulic motor, do not use neutral lever position.

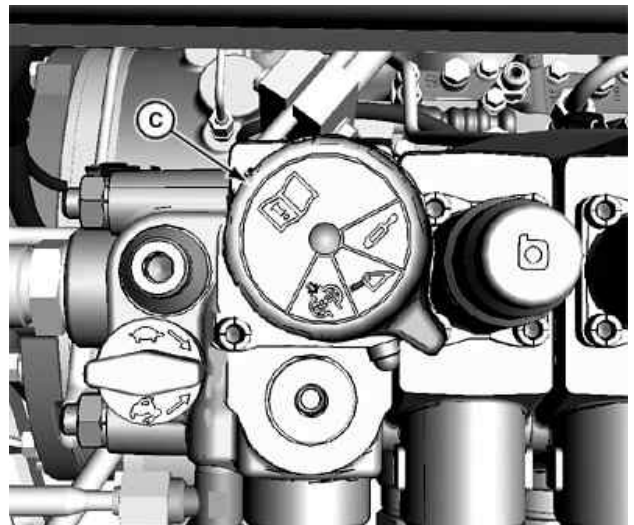
8. Shut off engine and disconnect hoses from couplers.

LGCKF7U,0000BF2-19-10MAY21

Operate Power Beyond with Rear SCV



RXA0149424—UN—22JUL15



LV22103—UN—17JUN14

A—Rear SCV
B—SCV I Detent
C—Continuous Detent Position

IMPORTANT: Motor return connections must be used when operating any external hydraulic orbital motor with this machine. Failure to comply with power beyond connections overheats and possibly damages the hydraulic system.

NOTE: Oil can be supplied to power beyond equipment using SCV I on the deluxe SCV (in continuous mode) or by using a power beyond kit with the standard dual rear SCV.

1. Shut off engine.
2. Connect power beyond hose to SCV I extend coupler (A).

3. Set rear SCV I detents (B) to continuous detent position (C).
4. Start engine.
5. Move SCV I lever into extend.
6. Oil is now supplied to power beyond device.
7. To stop, deactivate the power beyond device, then return SCV I lever to neutral.
8. Shut off engine and disconnect hoses.

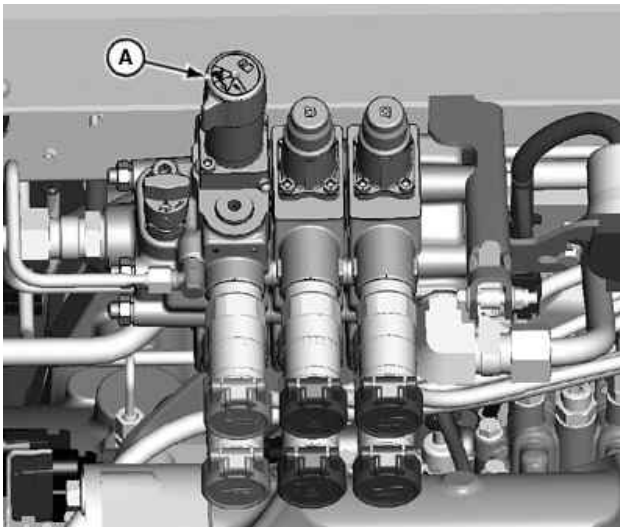
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⚠ CAUTION: Avoid injury or death caused by falling loads. When using selective control valve (SCV) to operate loader, detent must be set to no detent (loader) setting (B), for loader movement to stop when SCV lever is released. Moving SCV lever to any other position would cause the loader to perform unexpectedly and potentially cause injury.

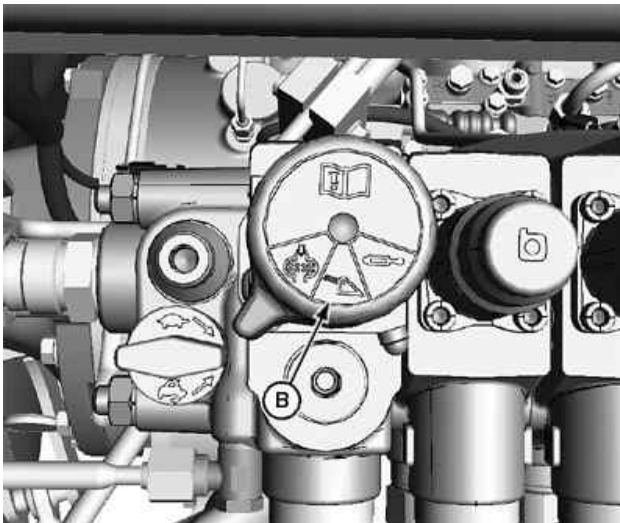
When using loader with rear SCVs, **ALWAYS** put the SCV detent selector knob (A) in the no detent (loader) position (B) to prevent unexpected movement.

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Operate Loader with Rear SCV



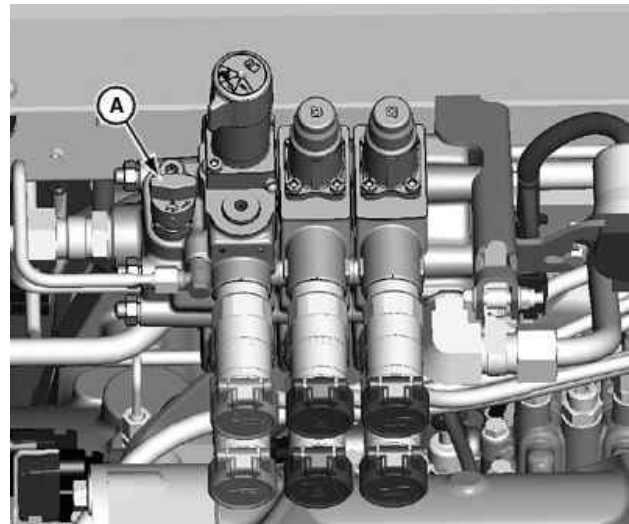
LV22106—UN—17JUN14



LV22107—UN—17JUN14

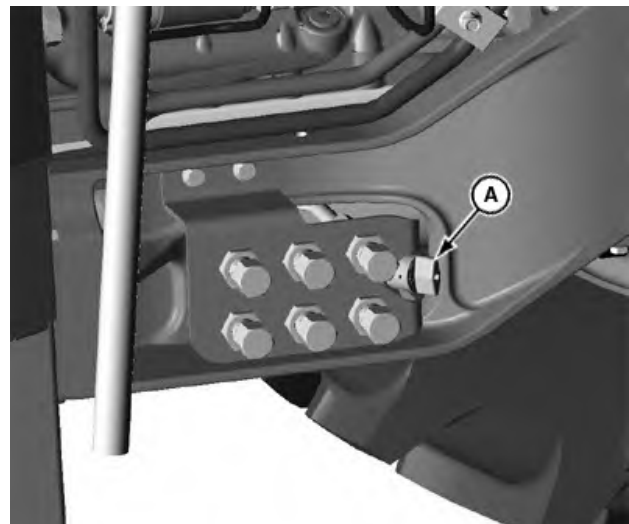
A—SCV Detent Selector Knob
B—No Detent (Loader) Position

Adjust Flow Control



LV22108—UN—17JUN14

Rear SCV



LV22123—UN—17JUN14

Mid-SCV

A—Flow Control Adjustment

CAUTION: Excessive operating speed may cause injury or machine damage.

Decrease flow rate if hydraulic oil overheats, remote cylinder moves too quickly, or if hydraulic motor turns too fast.

Flow control adjustment (A) only affects rear SCV I and the electrohydraulic (grapple) section of the three-function mid-SCV. This adjustment does not affect other valve sections.

NOTE: Maximum flow possible on electrohydraulic section of three-function mid-SCV is 45 L/min (11.9 gal/min).

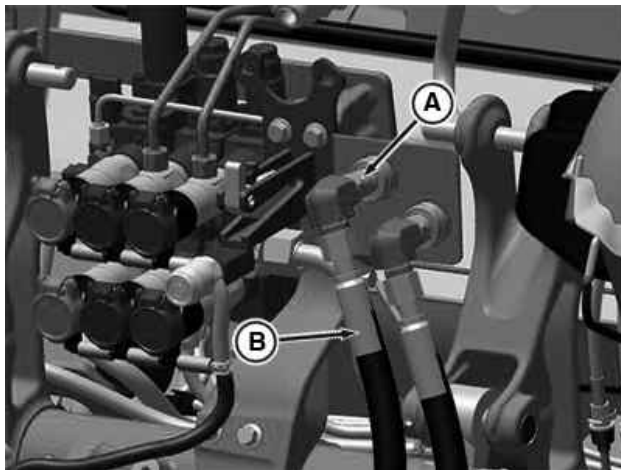
To increase flow, rotate flow control adjustment (A) left (counterclockwise).

To decrease flow, rotate flow control adjustment (A) right (clockwise).

NOTE: Rear SCV: If detent kicks out before end of cycle, use SCV I and adjust flow control.

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Power Beyond



PY42083—UN—18MAY17

A—Hose Coupler
B—Power Beyond Hose

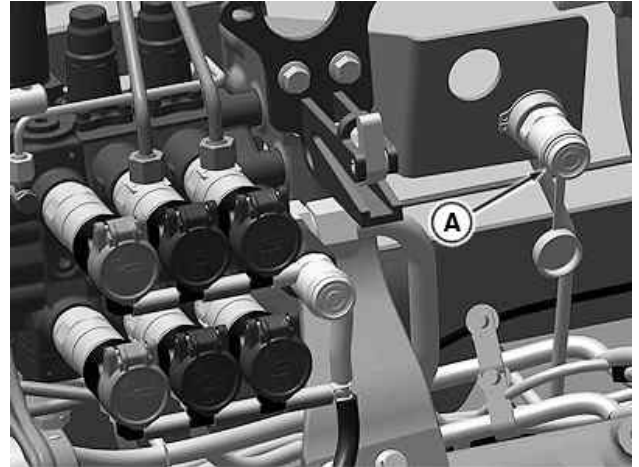
Power beyond is designed for applications where continuous high volume hydraulic oil flow is needed.

1. To use power beyond feature, remove power beyond hose (B) from hose coupler (A) and attach to implement "return" port.
2. To complete the hydraulic circuit, attach implement "pressure" hose to open hose coupler (A).
3. When not in use, plug hose end into coupler for storage (as shown).

Parts for this attachment are available from your John Deere dealer.

HK75640,000103B-19-14SEP20

Case Drain



PY42082—UN—18MAY17

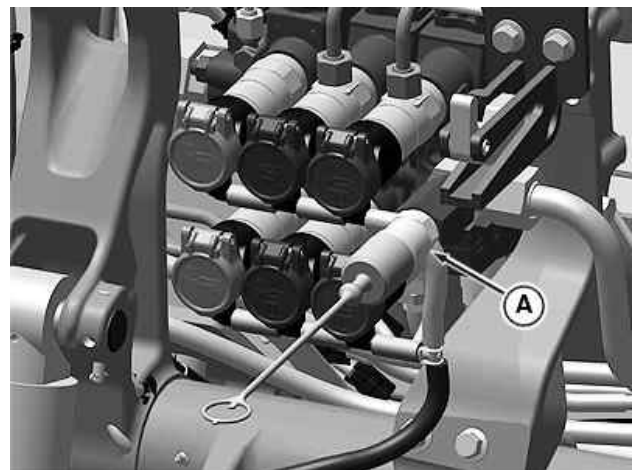
A—Flat-Faced Drain Connector

If implement motor is equipped with a case drain hose, attach it to the flat-faced drain connector (A). Make sure that the hose coupler and drain connector are clean before attaching. Install protective dust cap when connector is not in use.

Parts for this attachment are available from your John Deere dealer.

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Motor Return



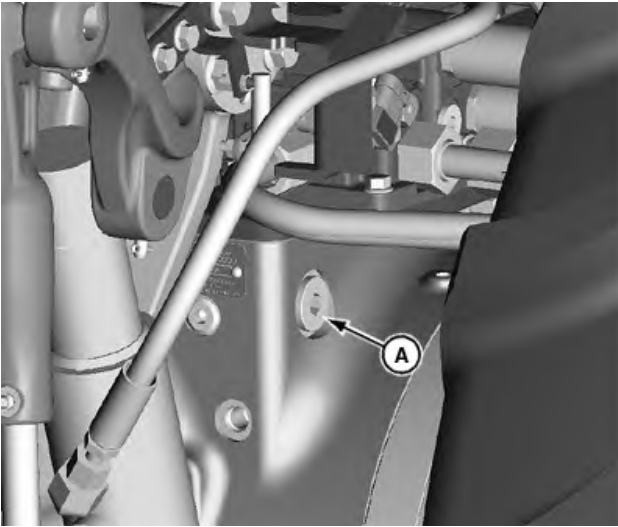
PY42080—UN—18MAY17

A—Motor Return Coupler

Connect motor return hose to the motor return coupler (A) to provide a low pressure return path.

HK75640,000103D-19-14SEP20

Fast Return-to-Sump



LV22143—UN—18JUN14

A—Plug

IMPORTANT: Use fast return-to-sump connection only for intermittent high-flow applications. Do not use for other applications.

Some implements, such as a post pounder, require use of a high-flow or fast return-to-sump connection.

If a high-flow return connection is needed, remove plug (A) from the transmission housing and install connector.

NOTE: Connector is available from your John Deere dealer.

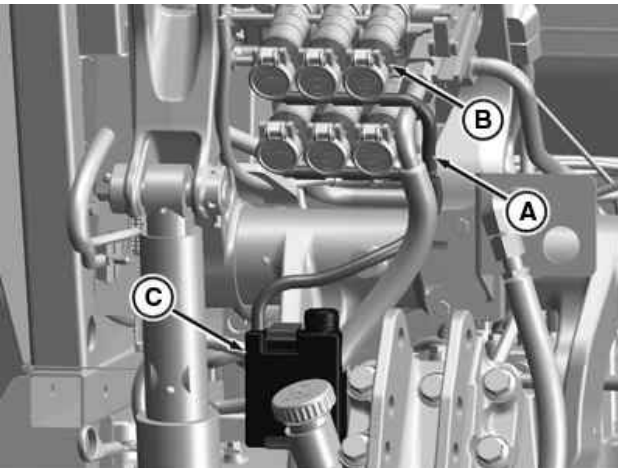
HK75640,000103E-19-14SEP20

control valve (SCV). Collars installed onto SCV couplers (B) capture oil and hoses (A) transfer oil to a removable oil collection bottle (C).

Parts for this attachment are available from your John Deere dealer.

HK75640,000103F-19-14SEP20

Rear SCV Oil Collection



PY39985—UN—04MAY17

- A—Hose
- B—SCV Coupler
- C—Oil Collection Bottle

Oil can leak during hose uncoupling with rear selective

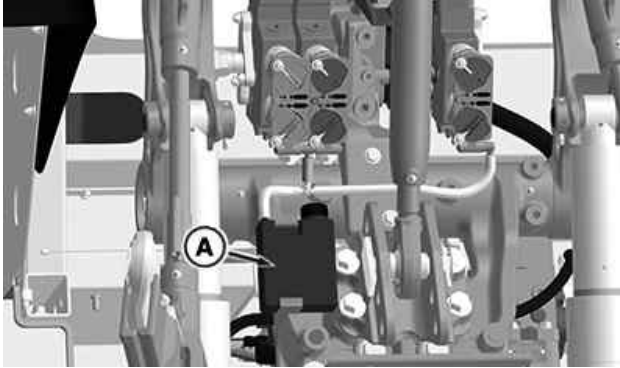
Selective Control Valve Maintenance

Adjust Mechanical SCV Cables

See your John Deere dealer for adjusting mechanical mid-mount SCV and rear SCV cables.

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Empty Rear SCV Oil Collection Bottle



RXA0154423—UN—11NOV16

A—Oil Collection Bottle

Check oil collection bottle (A) and empty as required.
Dispose of waste properly.

HK75640,00010C1-19-14SEP20
