

DESCRIPTION OF DRIVE

The Bobcat has two separate drive trains (located beside each other in the transmission case). Each drive train uses two clutches. Power is transmitted from the engine to the upper jackshaft by a belt. The upper jackshaft drives the outside clutches using a No. 40 roller chain (Fig. 28).

On either side of the machine, the clutch toward the rear controls the forward travel of the machine and the clutch toward the front controls the reverse travel of the machine.

The clutches are actuated by a large square thread screw mechanism on each clutch. One clutch on each side of the machine is controlled by a right hand thread nut, the other by a left hand thread nut. Moving the operating lever turns both the clutch actuating nuts in the same direction at the same time (Fig. 29). Because one is a right hand thread and the other is a left hand, they will cause only one clutch to engage at a time.

In Fig. 29, when the operating lever is moved forward, the front clutch (left hand thread nut) would disengage and the rear clutch (Right hand thread nut) would engage. When operating lever is straight up and down, it is in neutral position and neither clutch should engage.

The outside clutch plates always rotate in the same direction. The inside clutch plates will rotate in the same direction when either clutch is engaged, but because of the chain routing on their sprockets (under B and over A, Fig. 30) rotation of sprocket C will depend on which clutch is engaged.

The small sprocket on the lower jackshaft drives the axle sprockets. The direction of rotation of sprocket C and the lower jackshaft determines the direction the machine will move or turn.

CLUTCH ADJUSTMENT

When lever travel (from neutral) is more than three inches in either direction, the clutches need adjustment. This may occur shortly (about 50 hours) after a new machine is put into service. After the first adjustment, adjust whenever needed.

Adjust according to the following procedure:

1. Shut off the engine before adjusting the clutches.

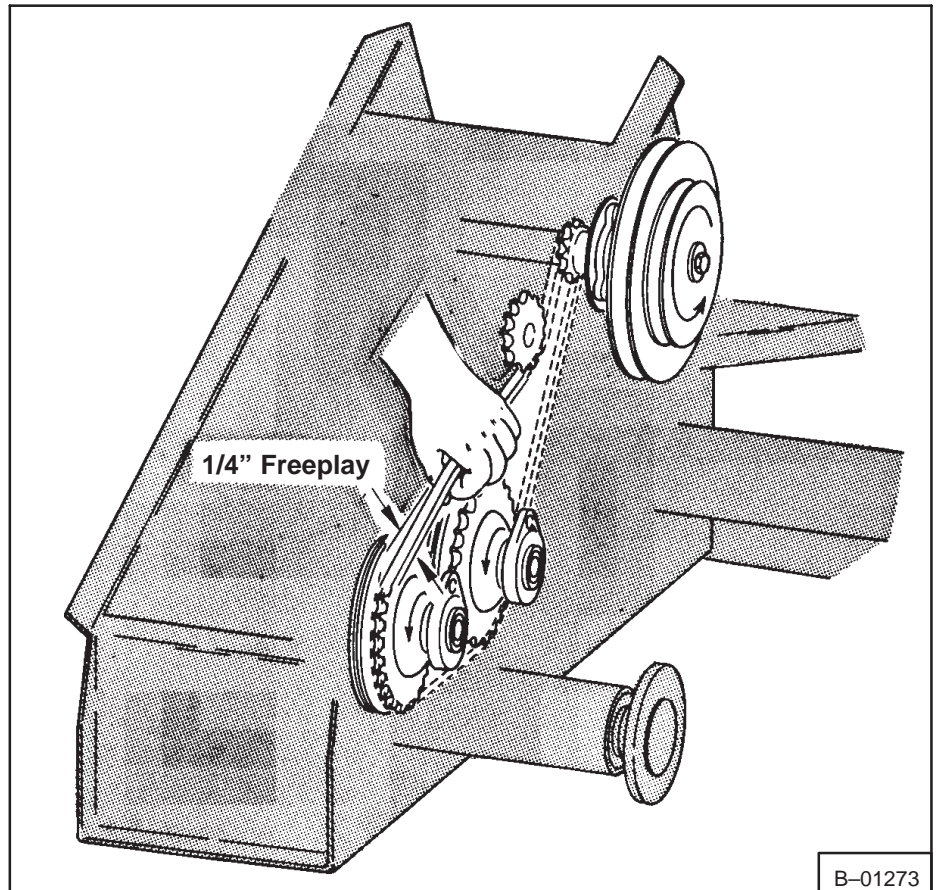


Fig. 28 Outside Clutches & Chain

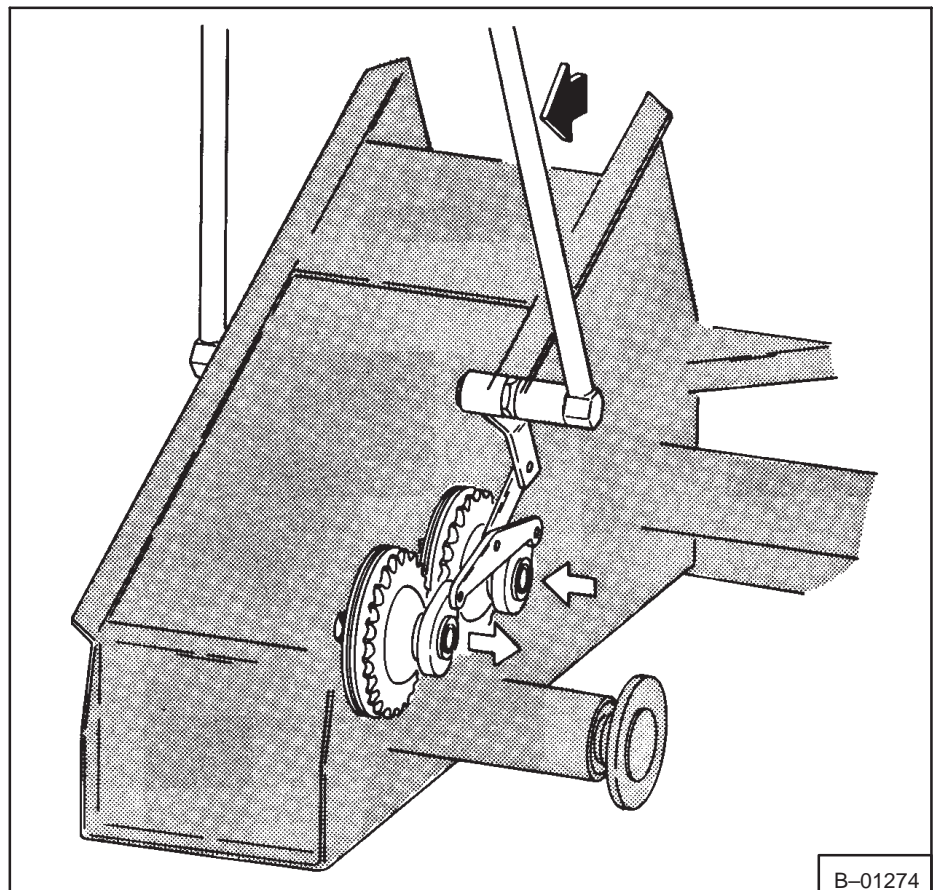


Fig. 29 Drive & Steering Principle

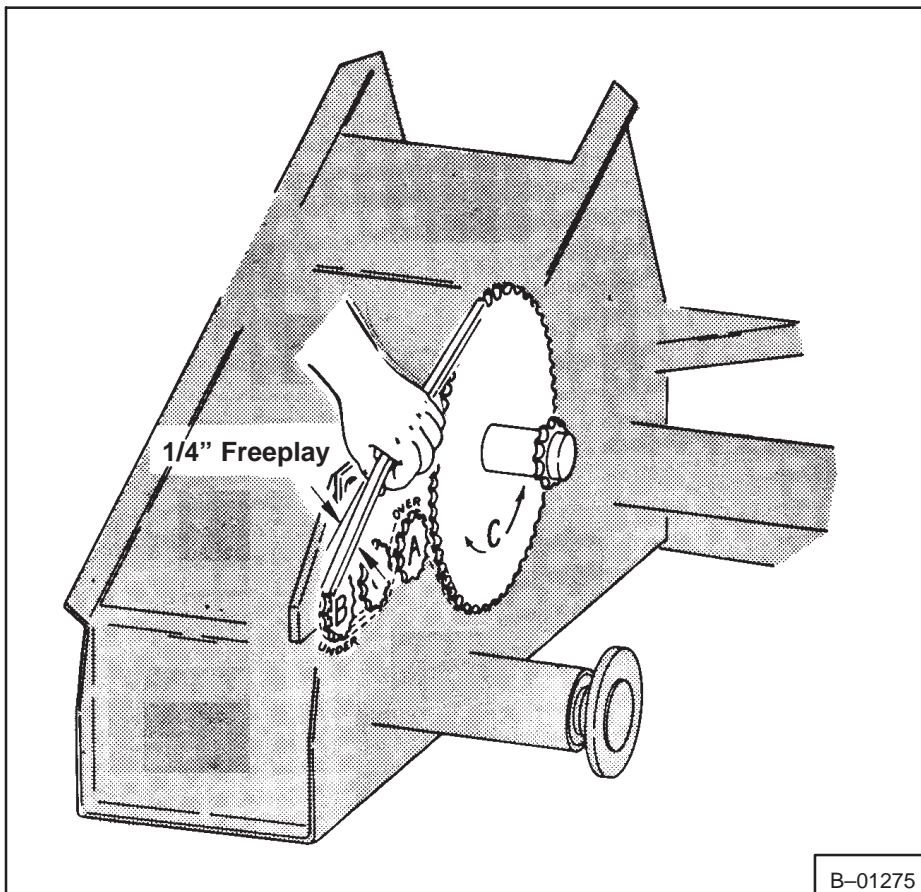


Fig. 30 Inside Clutch Chain & Sprockets

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2. Move the lever forward to check the adjustment. If the hand grip is more than 3" or less than 2" forward of neutral loosen the 3/8" locking nut (Fig. 32) at the rear clutch pin.
3. Loosen the 5/8" nut one turn, hold the nut on other end to prevent the shaft from turning.
4. Put a mark by the adjustment nut for reference (Fig. 32). Turn the adjustment nut 1/8" or as necessary to increase or decrease the lever travel.
5. Tighten the 3/8" locking nut. Tighten the 5/8" locking nut to 60 ft.-lbs. torque.
6. Move the lever back as far as it will go. If the front clutch needs adjustment, follow the same procedure as you used on the rear clutch.

Check the travel of the other operating lever and adjust the clutches on the other side of the machine, if necessary.

DRIVE CHAIN ADJUSTMENT

All the chains have idler sprockets for adjusting chain tension. To check for loose chains, raise the Bobcat so all four wheels are off the ground. Block it up securely. Stop the engine and set both steering levers in neutral.

Try to turn the wheels by hand. There should be a slight freeplay (1/8" at the tread). Do this on both sides of the machine.

If any chains are too loose, or too taut, adjust according to the following procedure:

1. Disconnect the foot pedal linkages from the hydraulic control valve.
2. Remove the transmission case cover to expose the drive system. Do this in a clean area.
3. Check the tension of the final drive chains. They should have about 1/4" of freeplay with slight finger pressure (Fig. 31). Final drive idler sprockets are adjusted from outside of the machine (Fig. 33, Item 1). To adjust, loosen the 15/16" and 3/4" bracket holding nuts and turn the adjusting nuts until desired tension is set. After the chain tension has been set it is necessary to align the sprocket while tightening the holding nuts. With the holding nuts loose the sprocket may be "cocked" at a slight angle.

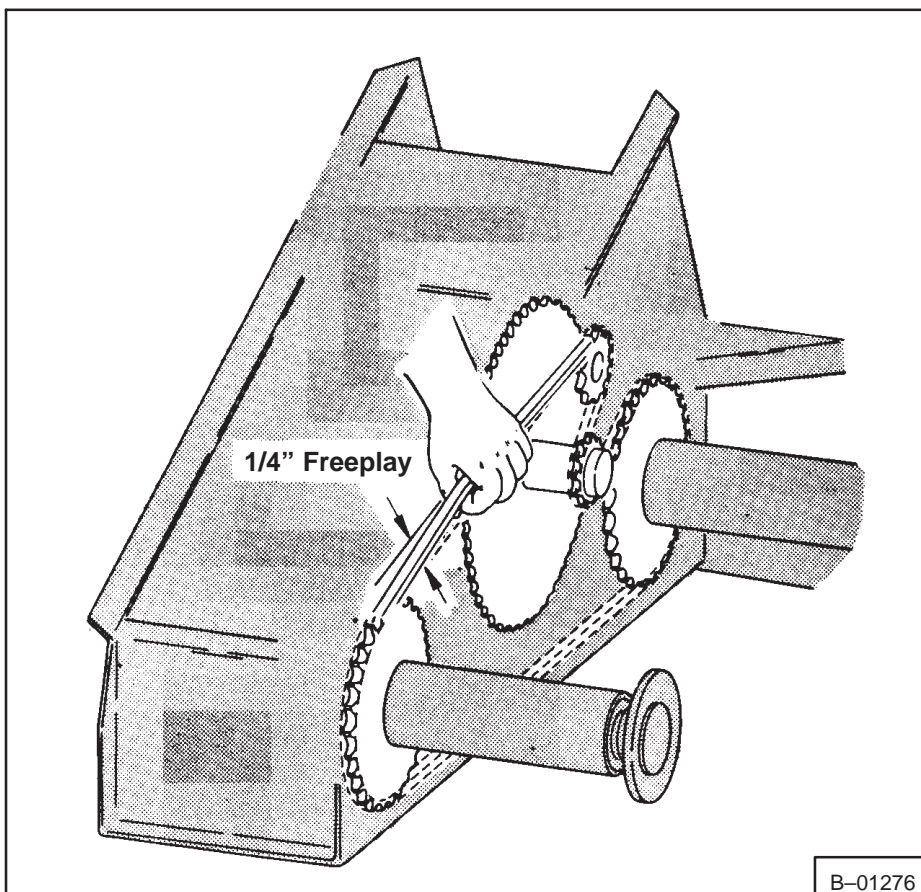


Fig. 31 Final Drive Chain & Sprocket

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This must be corrected during tightening of the holding nuts or chain scuffing, sprocket wear or bearing failure will result. Tighten the lower 15/16" holding nut first. This will tend to draw the idler up squarely. Further prying with a bar against the innermost edge of the bracket while tightening the 3/4" nut should assure correct alignment. Torque the 15/16" nut to 120 ft.-lbs. and 3/4" nut to 80 ft.-lbs. Tighten the adjusting nuts securely.

4. Check the tension of the outside clutch chains (Fig. 28). They should have a minimum of 1/4" freeplay at the high spot on the sprocket with slight finger pressure. The outside clutch chain idler sprockets are adjusted from outside of the machine (Fig. 33, Item 2). To adjust, loosen the 5/8" nut and move the idler until desired tension is set. Tighten the nut to 60 ft.-lbs. torque.
5. Check the tension of the inside clutch chains (Fig. 30). They should have about 1/4" freeplay with slight finger pressure. The inside clutch chain idler sprockets are located on the divider plate, between the left and right hand drive systems (Fig. 33, Item 3). To adjust, loosen the mounting bolts and slide the idlers until desired tension is set. Tighten the holding nuts to 40 ft.-lbs. torque.

After all chains have been correctly set, rotate the drive for at least three complete revolutions of the chains, checking each chain at various points of rotation for correct tension. Radial high spots on the sprockets may occur which could cause over-tension of a chain. Readjust chains as necessary to assure that freeplay is not less than 1/4" at any point during rotation.

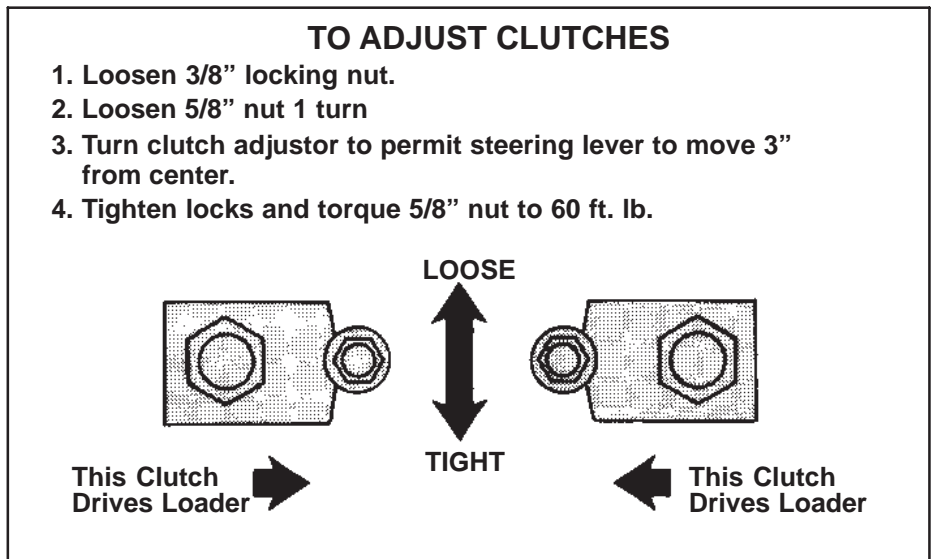


Fig. 32 Clutch Adjusting Procedures

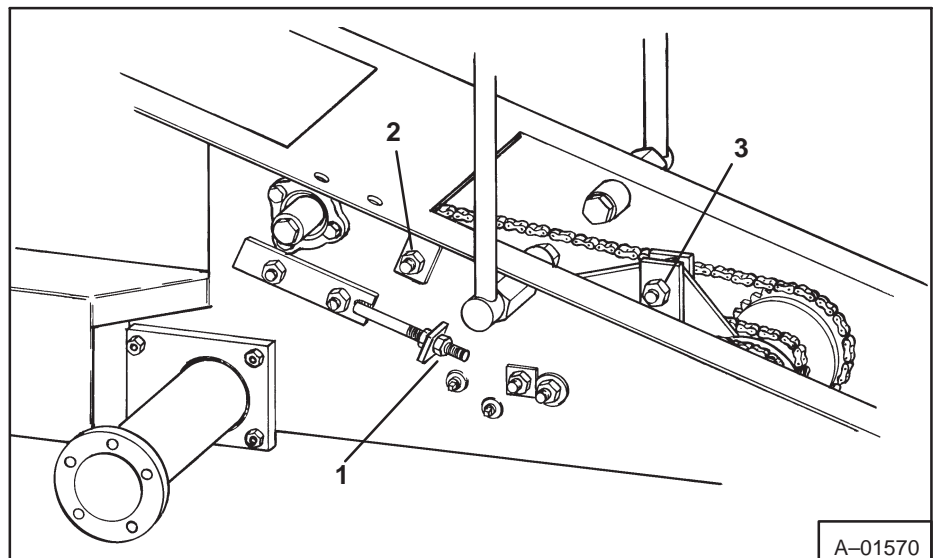


Fig. 33 Drive Train Adjustments

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