



12, 15 and 20 Series Drill Small Seeds Option

Used with:

- 1200, 1210 and 1220 Drills
- 1500, 1510 and 1520 Drills
- 2000, 2010 and 2020 Drills



When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

General Information

These instructions explain how to install the small-seeds attachment. The small-seeds attachment mounts behind the main drill box and allows you to evenly seed very fine seeds.

Manual Update

Refer to the drill operator's manual for detailed information on safely operating, adjusting, troubleshooting and maintaining the small-seeds attachment. Refer to the parts manual for part identification.

- 12, 15 and 20 Series Drill Operator's Manual . . . 118-389M-A
- 12, 15 and 20 Series Drill Parts Manual. 118-389P

Definitions

Right and left as used in this manual are determined by facing the direction the drill will travel in the field.

Assembly Instructions

If drill is outfitted with optional fertilizer box, refer to *Small Seeds with Fertilizer*, page 4, for assembly instructions. If drill does not have an optional fertilizer box, follow these instructions:

Small Seeds without Fertilizer

Refer to Figure 1.

1. Remove handles (1) from back side of main drill box. Keep bolts, nuts and handles for later use. Remove and save 1/2-by-1-inch bolt (2) joining main drill box to drill frame.
2. Install left-hand mount for small-seeds box (3) using 1/2-by-1-inch bolt (2) in new hole and 1/2-by-1 1/4-inch bolt (4) supplied in small-seeds kit. Fasten top of mount (3) to rear of main drill box using handle holes. Use a new 1/2-by-1 1/4-inch bolt (5) from small-seeds kit. Reuse 1/2-inch hex-flange lock nut (6) on inside of main drill box. Leave mount nuts and bolts loose.
3. Remove four 3/8-by-1-inch hex-flange bolts (7). Save these bolts and nut for reuse in the same holes.
4. Bolt small-seeds box (8) to main drill box. At right-hand end of box, use 3/8-by-1-inch bolts (7) removed in step 3. Also add reinforcement strap (9) supplied in small-seeds kit to inside of main drill box. At other end of box, bolt small-seeds box to mount (3) using 3/8-by-1-inch hex-flange bolts, lock washer, and nuts (10) supplied in small-seeds kit.
5. On 15- and 20-foot drills, repeat steps to install right-hand small-seeds box.
6. Tighten all hardware. If you are installing a 15-foot box, check operation of flex coupler where main drill box meet. Set both boxes at 50 percent open, and make sure that the ears on couplers (11) are overlapping by about 3/8 inch (9.5 mm).

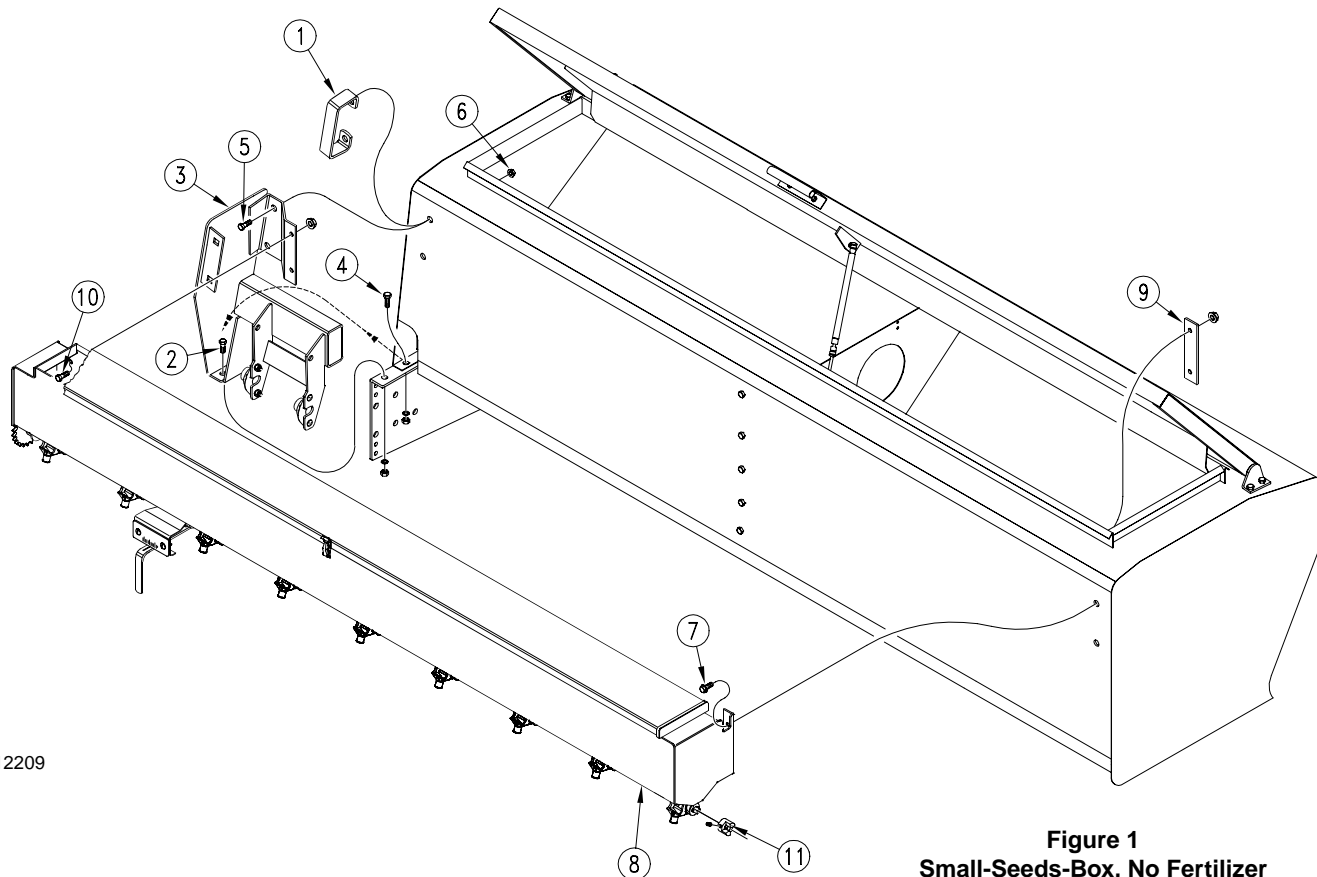
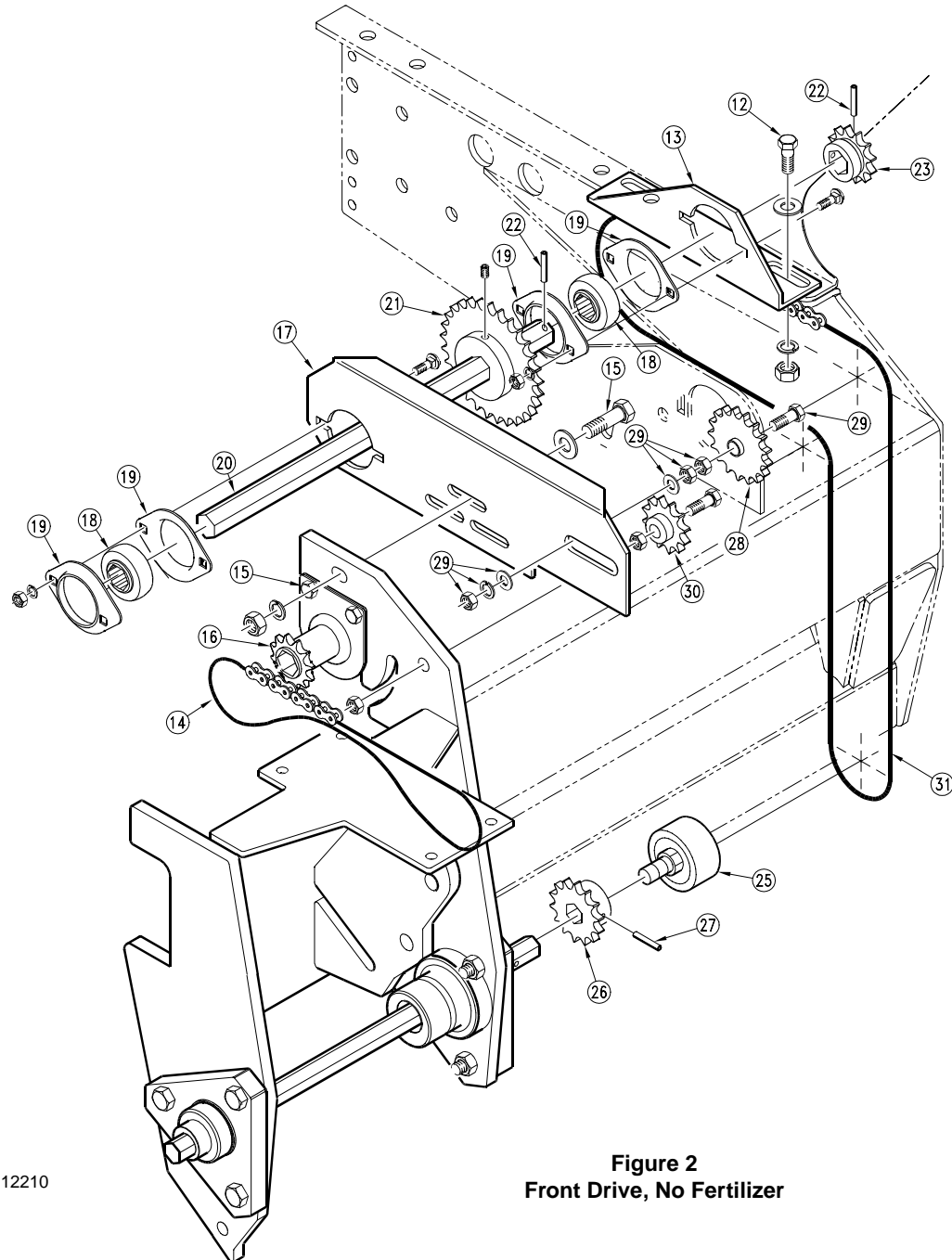


Figure 1
Small-Seeds-Box, No Fertilizer

12209

Assembly



12210

Figure 2
Front Drive, No Fertilizer

Refer to Figure 2.

1. Working at front, left-hand side of drill, remove two 1/2-by-1-inch bolts (12) that join main drill box to drill frame. Install left-hand bearing bracket (13) using 1/2-by-1 1/2-inch bolts and flat washers from small-seeds kit. Leave these bolts loose.
2. Relieve tension on chain (14) that runs from gearbox-output sprocket to seed jackshaft. Remove two 3/8-by-1 1/2-inch bolts (15) that join sprocket and bearing assembly (16) to gauge-wheel bracket. Bolt long idler plate (17) to gauge-wheel bracket reusing two 3/8-by-1 1/2-inch bolts (15) plus a third from small-seeds kit. Leave these bolts loose for now.
3. Install hex-bore bearings (18) on plates (13 and 17) using flangettes (19) and hardware as shown. Be careful to place bearings on side of plates as illustrated.
4. Slide 7/8-inch hex jackshaft (20) through hex-bore bearing mounted above gauge wheel. Slip shaft through 29-tooth sprocket (21) and into hex-bore bearing near end of box. Secure shaft by driving a roll pin (22) on outside of bearing (18) and 12-tooth sprocket (23).
5. Unscrew acrometer (25) from gauge-wheel jackshaft, and install 3/4-inch hex bore, 14-tooth sprocket (26) using roll pin (27). Orient sprocket as shown. Re-install acrometer.
6. Install 17-tooth, ball-bearing idler sprocket (28) on idler plate (17) using 5/8-by-3 1/2-inch, full-thread bolt, flat washer, lock washer and jam nut (29). Install plastic 12-tooth idler sprocket (30) on gauge-wheel bracket as shown. Install but do not tighten 132 pitch, gauge-wheel-drive chain (31).

Assembly

Refer to Figure 3.

7. Working at rear of drill, install two flush-mount bearings (32) on mount bracket using 5/16-by-1-inch carriage bolts (33), nuts and lock washers supplied with small-seeds kit. Install 3/4-inch round jackshaft (34) in bearings and slip two 17-tooth sprockets (35 and 36) over shaft as shown.
8. Fasten idler arm (37) to mount bracket using 1/2-by-1 1/4-inch carriage bolt (38). Place 12-tooth plastic idler sprocket (39) on idler. Hold idler in place with 1/2-inch flat washer (40) and cotter pin (41).
9. Align inner 17-tooth sprocket (35) with small-seeds-box sprocket (42). Install 61-pitch chain (43) and remove chain slack with idler sprocket.

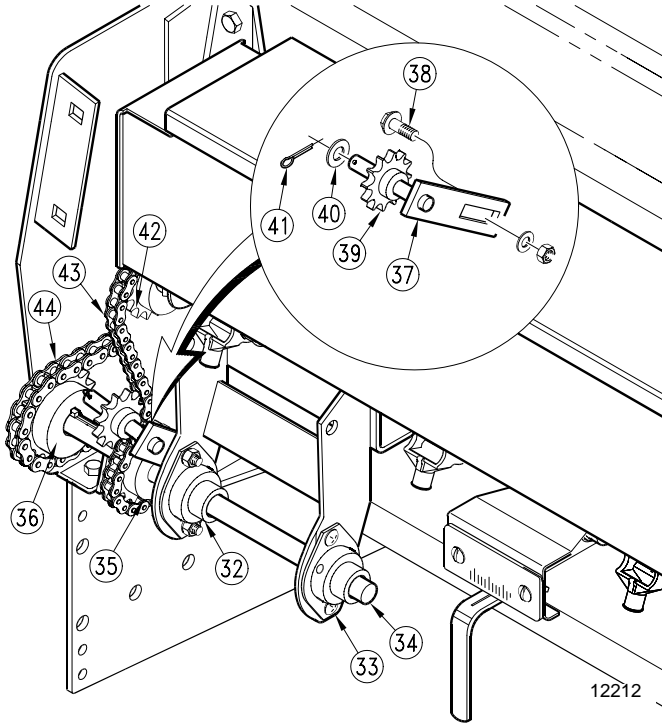


Figure 3
Rear Drive

Refer to Figure 4.

10. Thread 98-pitch chain (44) back through the cutout in box, around rear sprocket and back to front 12-tooth sprocket (45) as shown. After connecting chain, check alignment of sprocket on rear of drill with sprocket at front. Move rear sprocket if needed. To tighten this chain move 7/8-inch hex jackshaft (46) forward by using slots in bearing plates (47 and 48). After removing excess slack, tighten bolts holding both plates.
11. Tighten idler for gearbox-output chain.
12. Move 17-tooth idler sprocket (28) to remove excess slack from chain coming from gauge wheel.

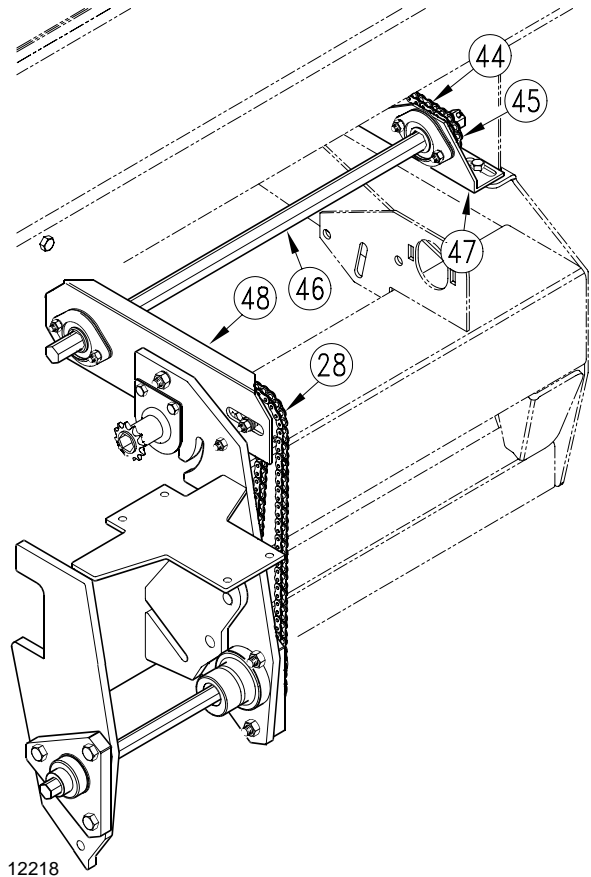


Figure 4
Chain Installation

Refer to Figure 5.

13. Place chain shield (49) over end of small-seeds box. Install handle (50) using bolt (51) removed in step 1.
14. On 20-foot drills, repeat steps to install drive for right-hand box.

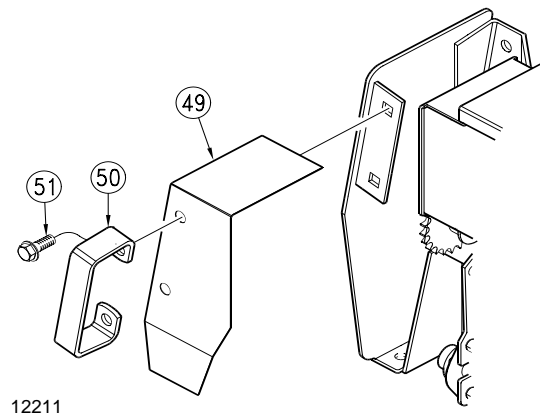


Figure 5
Handle and Cover Assembly

15. On 20-foot drills, repeat steps to install drive for right-hand box.

Assembly

Small Seeds with Fertilizer

Refer to Figure 6.

1. Working on back, left-hand side of drill, loosen round fertilizer jackshaft (1) in bearings. Slip 12-tooth sprocket (2) onto jackshaft to position shown. On 20-foot drills, repeat step for right-hand side of drill.

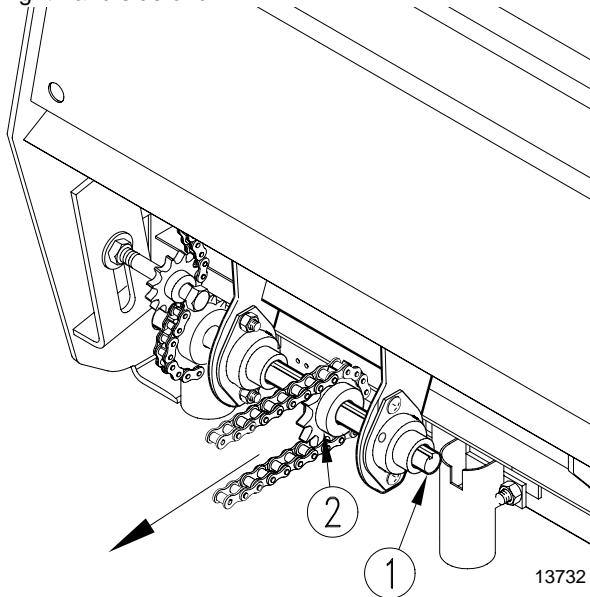


Figure 6
Assemble Sprocket on Fertilizer Jackshaft

Refer to Figure 7.

2. Remove handles (1) from back side of fertilizer box. Save bolts, nuts and handles.
3. Install left-hand mount (2) for small-seeds box using 1/2-by-1-inch bolt (3) in walkboard end bracket (4). Place box spacer (5) between mount (2) and holes for fertilizer-box handles. Use 1/2-by-2 1/4-inch bolts (6) and reuse hex-flange lock nut (7) on inside of fertilizer box. Leave nuts and bolts loose.
4. Remove four 3/8-by-1-inch hex flange bolts (8).
5. At right-hand end of box, bolt small-seeds box (9) to fertilizer box using the 3/8-by-2-inch hex flange bolts (10) and box spacer (5). Add reinforcing strap (11) supplied with small-seeds kit to inside of fertilizer box.
6. On other end of box, bolt small-seeds box to mount (2) using 3/8-by-1-inch flange bolts (8) removed in step 4, and lock washer and hex nut supplied in small-seeds kit.
7. On 15- and 20-foot drills, repeat steps to install right-hand small-seeds box.
8. Tighten all nuts and bolts.
9. On 15-foot drills, check operation of flex coupler where boxes meet in center of drill. Set both boxes at 50 percent open, and make sure that the ears on couplers (12) are overlapping by about 3/8 inch (9.5 cm).

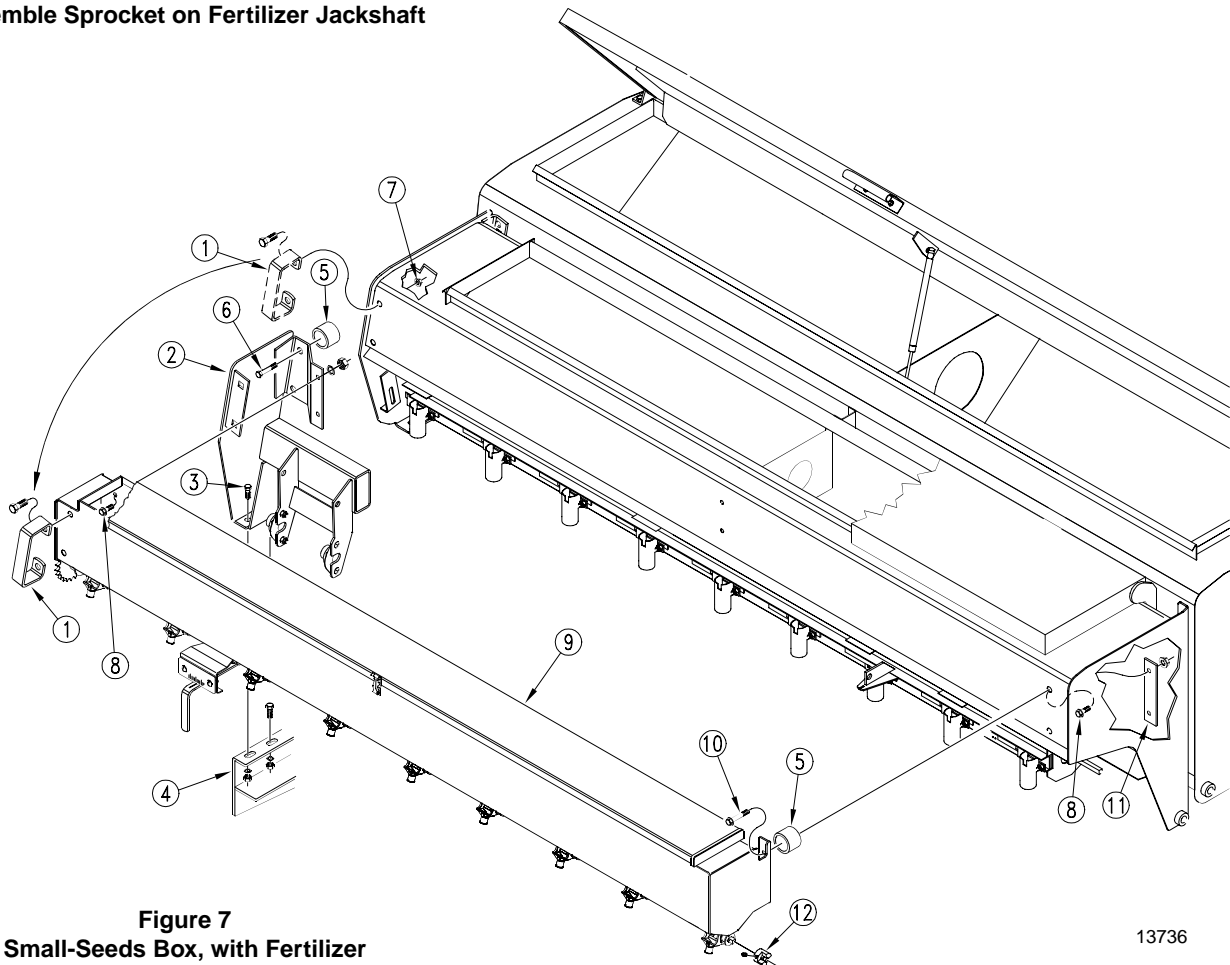


Figure 7
Small-Seeds Box, with Fertilizer

Assembly

Refer to Figure 8.

10. Working on back, left-hand side of drill, install two flush-mounted bearings (1) using 5/16-by-1-inch carriage bolts (2) in bearings. Slip two 17-tooth sprockets (3 and 4) over shaft as shown.
11. Fasten idler arms (5) to mount bracket using bolt (6). Place 12-tooth plastic idler sprocket (7) on idler. Hold idler in place with 1/2-inch flat washer (8) and cotter pin (9).
12. Align outer 17-tooth sprocket (4) with small-seeds-box sprocket (10). Install 60-pitch chain (11). Remove chain slack with idler sprocket.

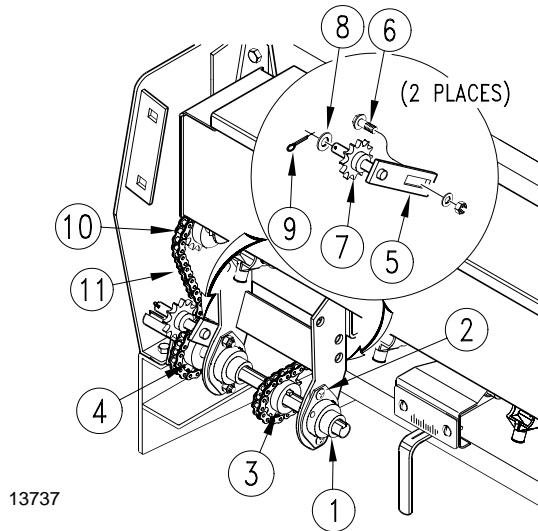


Figure 8
Rear Drive

Refer to Figure 9.

13. Place chain shield (49) over end of box. Install handle (50) using bolt (51) removed in step 2.

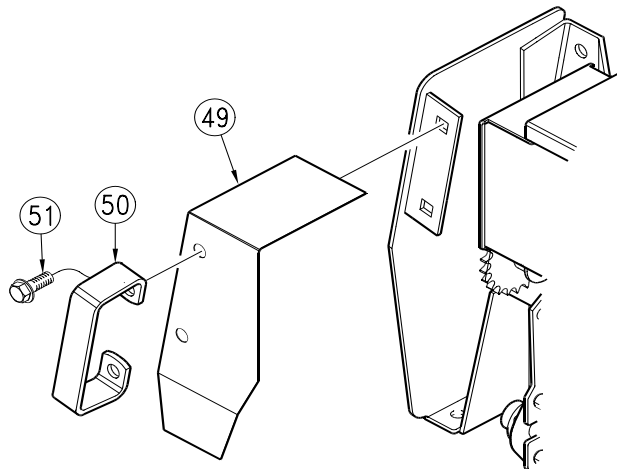


Figure 9
Handle and Cover, with Fertilizer

14. On 20-foot drills, repeat steps to install drive for right-hand box.