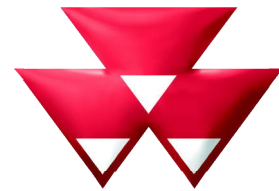


Workshop Service Manual



MASSEY FERGUSON

9812 Planter

9812

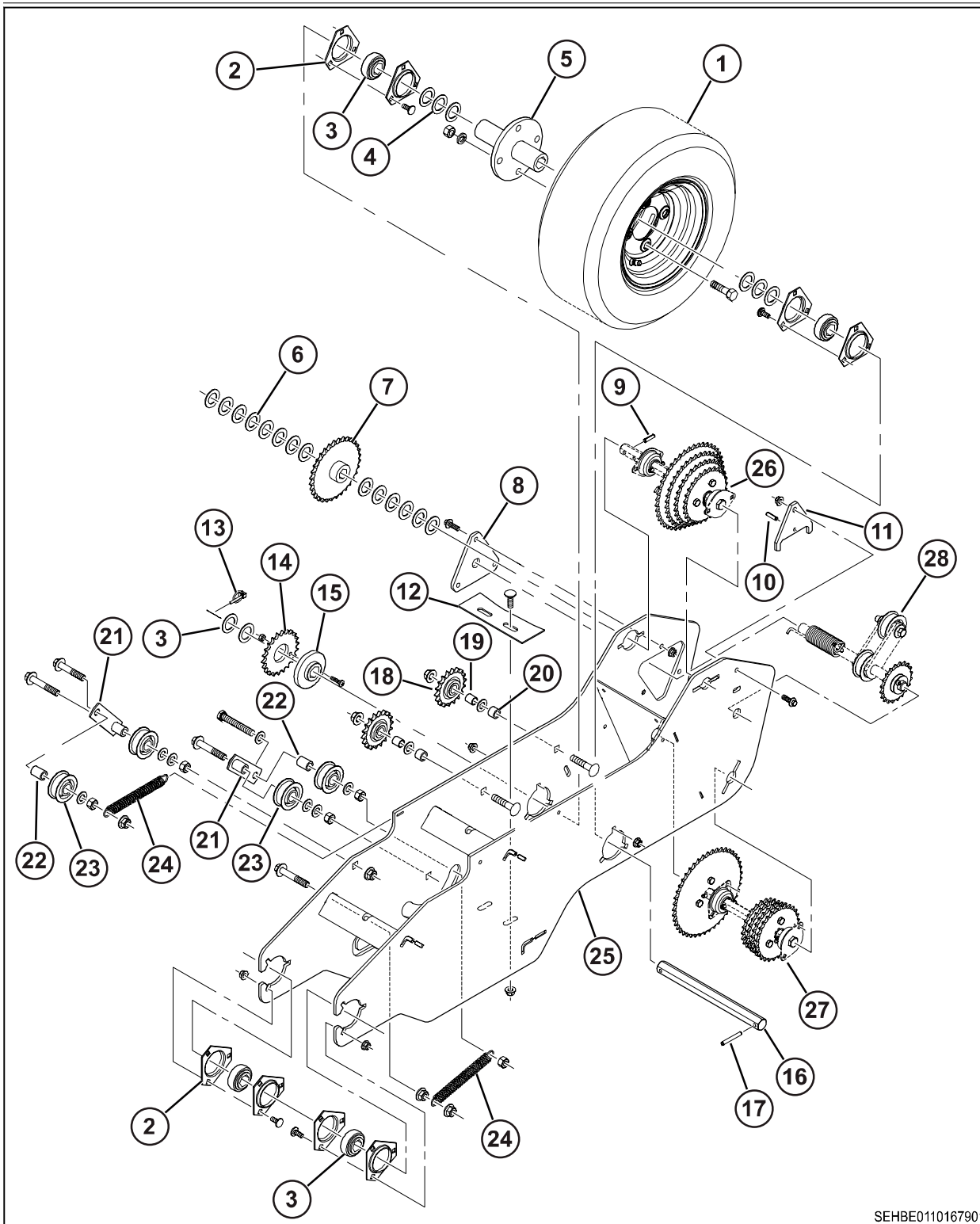
9812 VE

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3.3 Ground drive transmission

3.3.1 Ground drive transmission components



SEHBE011016790

Fig. 6

(1) Tire

(2) Bearing flange

(3) Hex bore bearing

(4) Washer

(5) Hub	17 Slotted spring pin
(6) Washer	18 Idler sprocket, 18 teeth
(7) Sprocket, 32 teeth	19 Idler sleeve bearing
(8) Plate	20 Trunnion
(9) Slotted spring pin	21 Chain tightener
(10) Slotted spring pin	22 Spacer
(11) Ratchet latch	23 Idler pulley
(12) Drive wheel scrapper	24 Extension spring
(13) Lynch pin	25 Wheel arm
(14) Sprocket, 22 teeth	26 Front sprocket assembly
(15) Shear bolt hub	27 Lower rear sprocket assembly
16 Hex shaft	28 Tightener assembly

3.3.2 Adjust the down pressure of the seed transmission

The air bag supplies the necessary down force to hold the transmission drive tire against the machine tire during operation.

Procedure

1. Park the machine on a solid, level surface.
2. Unfold the planter.
3. Lower the planter to the planting position.
4. Remove the pressure indicating cap from the air bag (1).
5. Fill air through the schrader valve on the top of the air bag.
The recommended starting pressure is 5.5 bar (80 psi). The maximum pressure is 7 bar (100 psi).
6. Put the pressure indicating cap on the schrader valve.
7. Check the tire pressure of both tires.

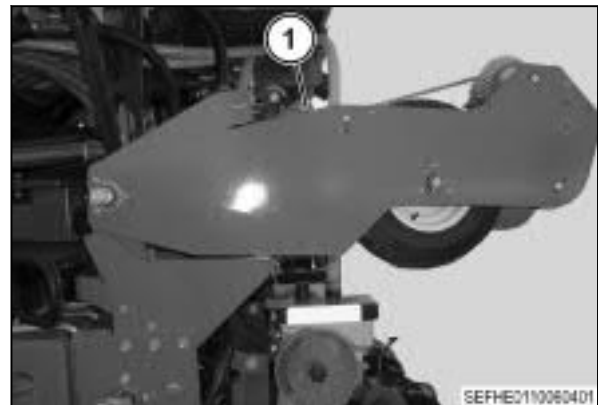


Fig. 7

3.3.3 Transmission shear bolt

A shear bolt (1) is installed through the shear hub plate and the sprocket on the drive shaft. See specifications for the correct size and grade.

IMPORTANT:

Always replace the shear bolt with the correct size and grade.



Fig. 8

3.3.4 Chain routing

When the chain is on the larger sprocket (1) of the seed transmission, the chain is on the bottom (2) of the idler.



Fig. 9

When the chain is on the smaller sprocket (1) of the seed transmission, the chain is on the top (2) of the idler.

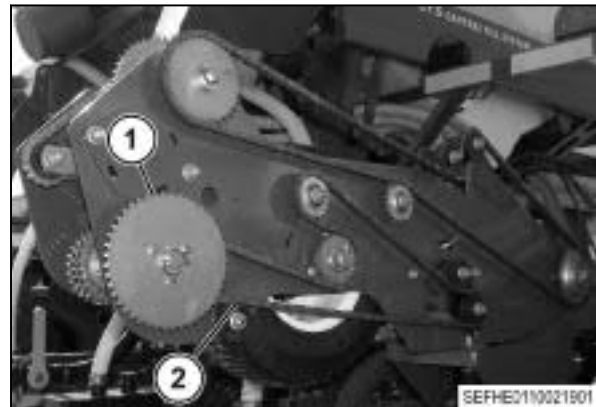


Fig. 10

The chain routing for the drive clusters.



Fig. 11

The chain routing for the seed transmission drive chains.

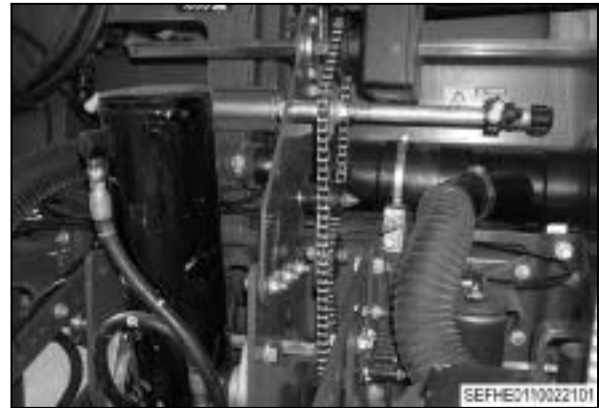


Fig. 12

3.3.5 Roller chain identification

- (1) Lower chain (154 links) - turns the lower rear sprockets
- (2) Lower rear sprockets - turns the short chain (90 links) in the wheel arm
- (3) Short chain (90 links) - turns the front sprockets
- (4) Front sprockets - turn the long chain (206 links)
- (5) Long chain (206 links) - turns the hex shaft

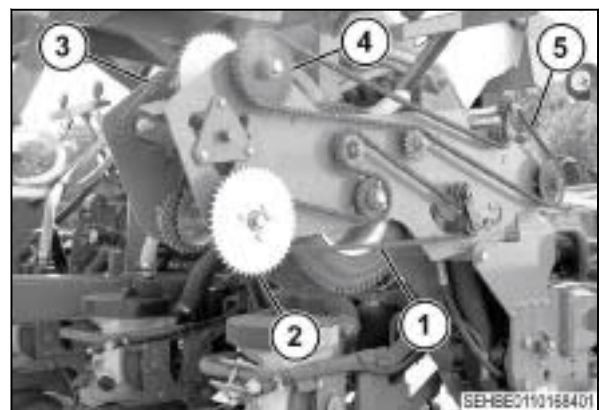


Fig. 13

3.3.6 Remove roller chains

Procedure

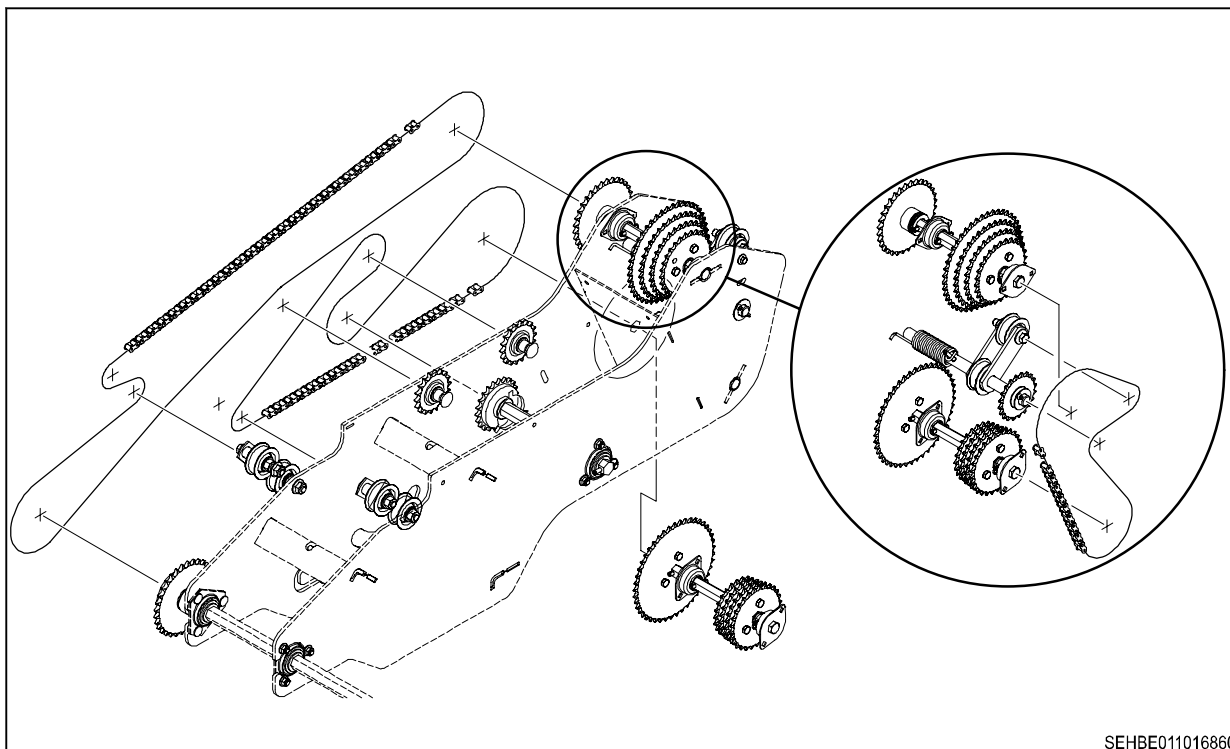


Fig. 14

1. Put the chains on the sprockets.
2. Push on the pulley idler to let the chain go onto the idler.
3. Install the chain on the idler and release idler to increase tension.
4. Make sure the chain is on all the sprockets correctly.

3.3.7 Install the roller chains

Procedure

1. Push on the pulley idlers in the direction of the arrows to decrease tension on the chain.
2. Remove the chains.
3. Replace the damaged components.

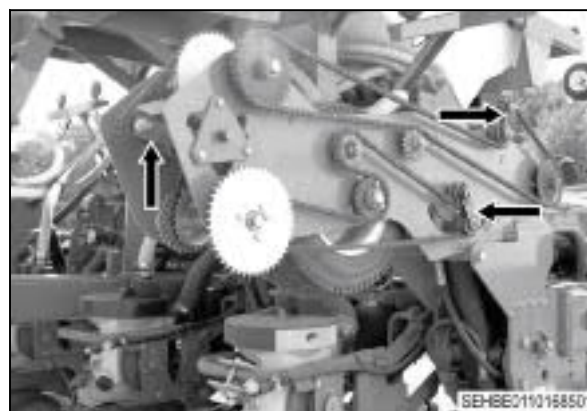


Fig. 15

3.3.8 Front sprocket assembly

The front sprocket assembly is five sprockets. Four sprockets (1) in the wheel arm and one sprocket (2) out of the wheel arm.

The speed of the drive shaft is selected by which sprocket is used.

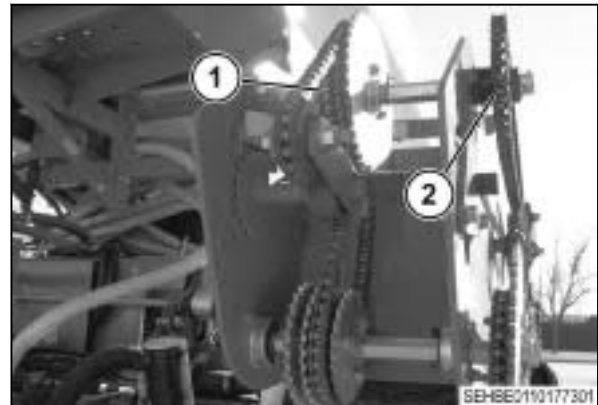


Fig. 16

3.3.9 Remove the front sprocket assembly

Procedure

1. Remove the roll pin (1).
2. Remove the washers (2) and the 32 tooth sprocket (3).
3. Remove the two roll pins (1).
4. Pull the hex shaft part way out.
5. Remove the hose clamp (2) from the shaft.
6. Pull the sprocket assembly off of the hex shaft.

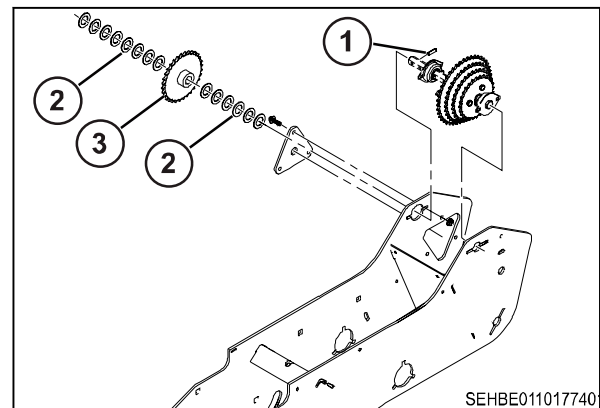


Fig. 17

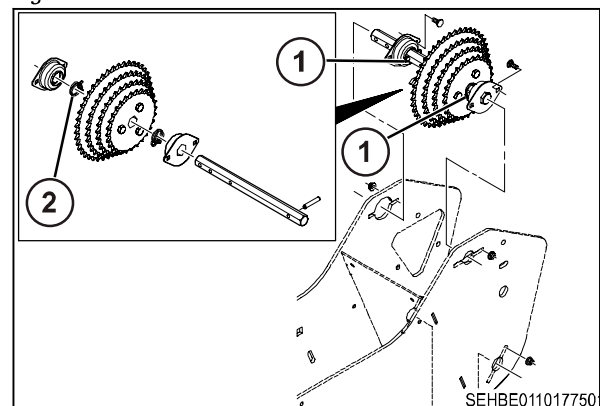


Fig. 18

3.3.10 Install the front sprocket assembly

Procedure

1. Put the sprocket assembly onto the hex shaft.
 2. Put the hose clamp (1) onto the shaft.
 3. Put the hex shaft into the other end.
 4. Install the two roll pins (2) into the shaft. Make sure the sprockets are aligned with the lower rear sprockets.
 5. Tighten the hose clamps to hold the sprockets in position.
6. Install washers (1), the 32 tooth sprocket (2), and the remaining washers.
 7. Install the roll pin (3).
 8. Use washers (1) to make sure the sprocket is aligned with the other sprockets on the wheel arm.
 9. Make sure the sprocket cluster has the large sprocket on the left side and the smallest sprocket on the right side.

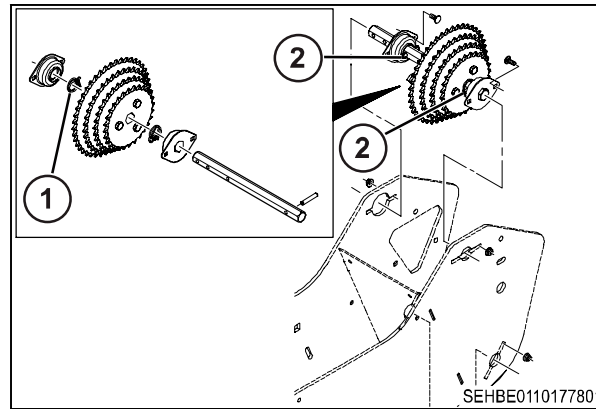


Fig. 19

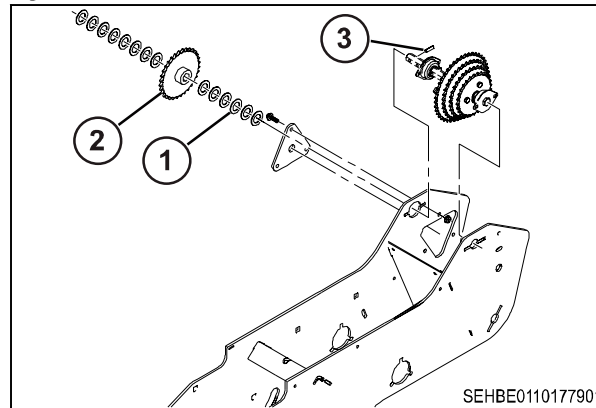


Fig. 20

3.3.11 Disassemble the front sprocket assembly

Procedure

1. Remove the three bolts (1) and nuts from the sprocket assembly.
2. Replace the damaged sprockets.
 - (2) 44 tooth sprocket
 - (3) 38 tooth sprocket
 - (4) 33 tooth sprocket
 - (5) 28 tooth sprocket

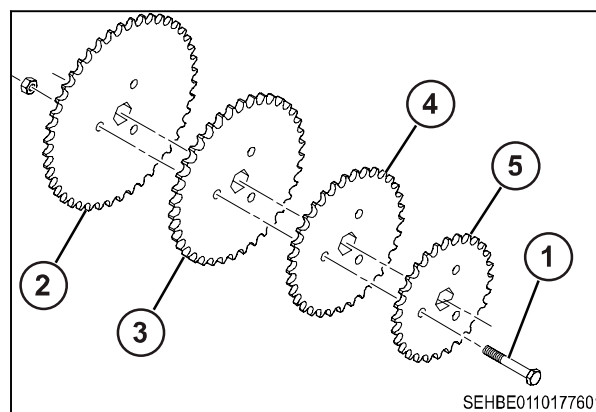


Fig. 21

3.3.12 Assemble the front sprocket assembly

Procedure

1. Assemble the four sprockets from largest to smallest.
 - (1) 44 tooth sprocket
 - (2) 38 tooth sprocket
 - (3) 33 tooth sprocket
 - 4 28 tooth sprocket
2. Make sure the sprockets are aligned so the hex shaft will fit through all four sprockets.
3. Apply permanent thread locker to the three bolts (5).
4. Tighten the bolts to 14 Nm (10 lbf-ft).

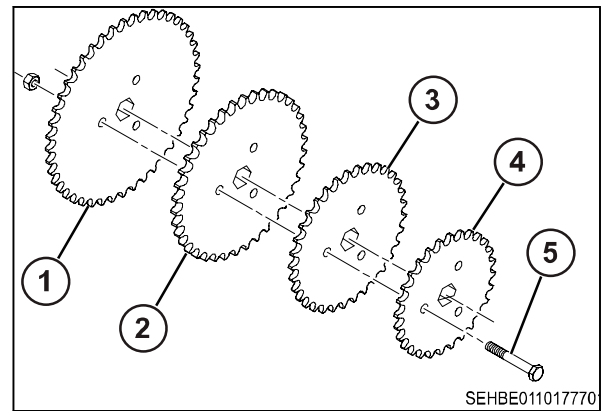


Fig. 22

3.3.13 Remove the top tensioner

Procedure

1. Remove the chain.
2. Remove the three bolts (1) from the plate (2).
3. Remove the plate.

NOTE: *The plate has tension on it from the spring.*

4. Pull out the cotter pin (1) and remove the washers (2).
5. Remove the tensioner assembly from the wheel arm.

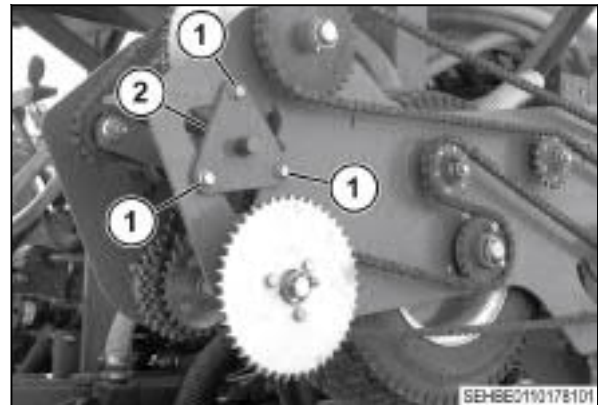


Fig. 23

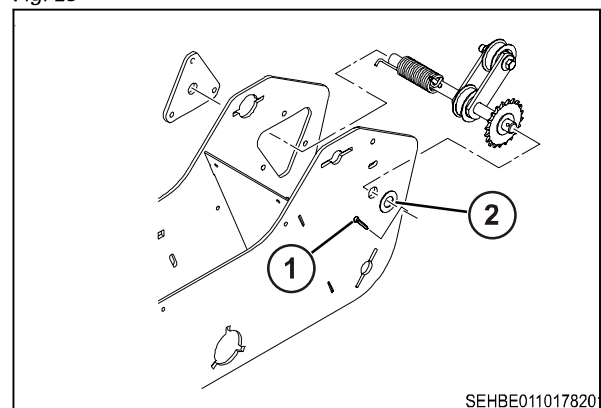


Fig. 24

3.3.14 Install the top tensioner

Procedure

1. Put the tensioner assembly into the wheel arm.
2. Attach washers (1) and install the cotter pin (2) into the tensioner assembly.

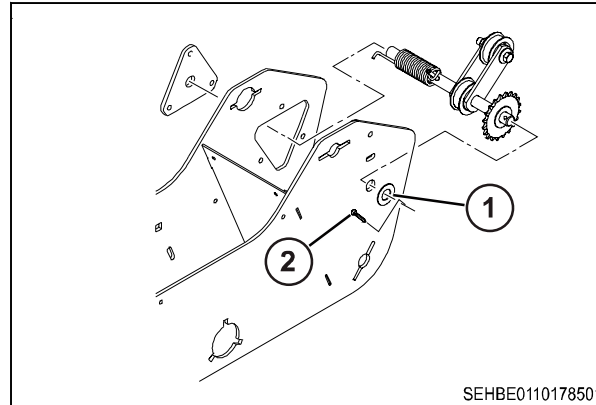


Fig. 25

3. Put the plate (1) on the tensioner assembly.
4. Install the three bolts (2) and attach the nuts to the bolts.
5. Tighten the nuts and bolts.

NOTE: *The plate has tension on it from the spring.*

6. Make sure the sprockets are aligned with the sprockets.

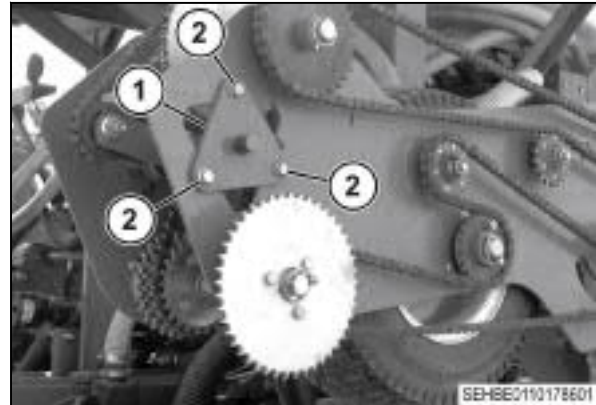


Fig. 26

3.3.15 Disassemble the top tensioner

Procedure

1. Remove the slotted spring pin (1).
2. Remove the spring (2). Replace if necessary.
3. Remove the nut and bolt (3).
4. Remove the idler arm (4).
5. Remove the idler pulleys (5). Replace if necessary.

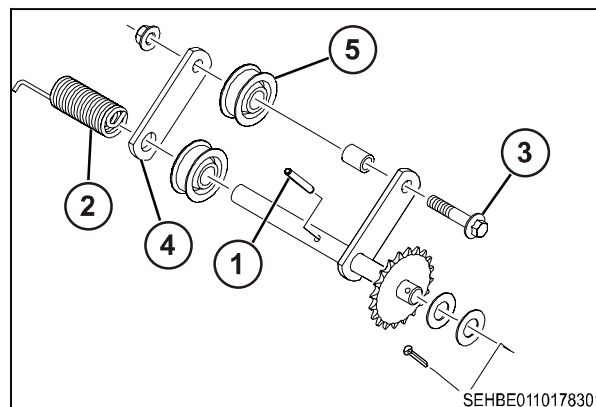


Fig. 27

3.3.16 Assemble the top tensioner

Procedure

1. Lubricate the pulleys with grease.
2. Put the bottom idler pulley (1) on the tensioner.
3. Put the bolt (2) in the tensioner.
4. Put the spacer (3) on the bolt.
5. Put the top idler pulley (4) over the spacer.
6. Attach the idler arm (5).
7. Tighten the nut (6) on the bolt.
8. Put on the spring (7).
9. Install the slotted spring pin (8) through the loop (9) on the spring.

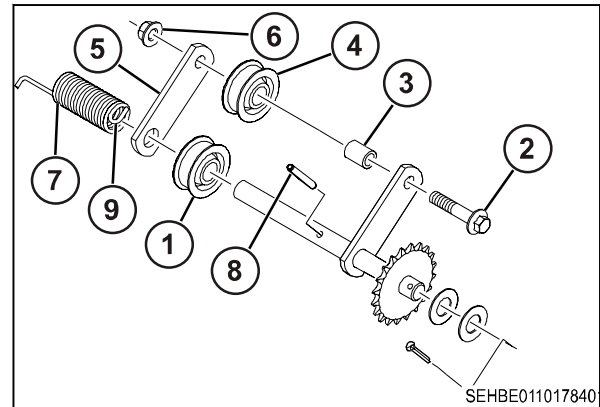


Fig. 28

3.3.17 Setting the torsion spring

Before starting the procedure

Make sure to have a spring scale when setting the torsion spring.

Procedure

1. Park the machine on a solid, level surface.
2. Apply the parking brake, stop the engine, and take the key with you.
3. Block the wheels.
4. Install the cylinder stops.
5. Use a spring scale to measure the tension of the torsion spring (1). The measurement must be 4.5 to 9 kg (10 to 20 lb).
 - a) Make sure the idler arm is at an approximate 45° angle.
 - b) Put the spring scale on the bolt (2) for the top idler.
 - c) Pull the spring scale and record the value.

Result

If the value is not correct, continue to the following steps.

6. Push the idler arm (3) forward to remove the chain (4). Remove the chain from the idler.
7. Rotate the idler arm down to release tension from the torsion spring.
8. Remove the hook from either end of the torsion spring.

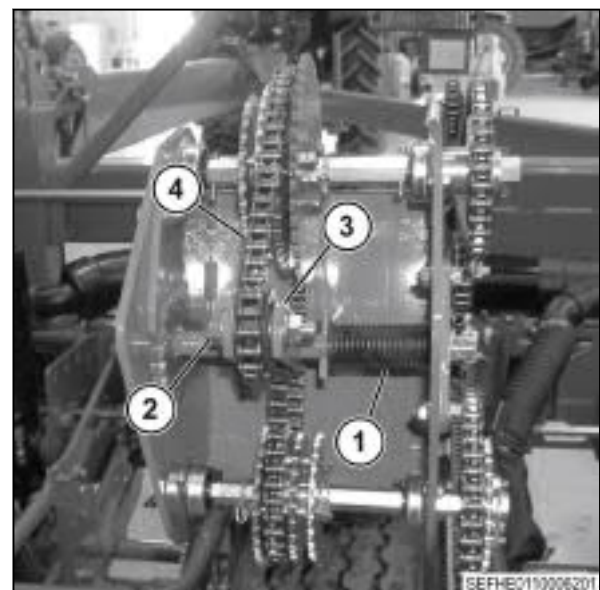


Fig. 29

3. Drive system

9. Continue to rotate the idler arm down until the hook can be put into the next setting location.

The setting locations are:

- The roll pin (1) on the shaft.
 - The notches (2) on the transmission plate.
10. Rotate the idler arm forward to install the chain. Install the chain onto the idler and rotate the idler arm down.
 11. Check the tension of the torsion spring.

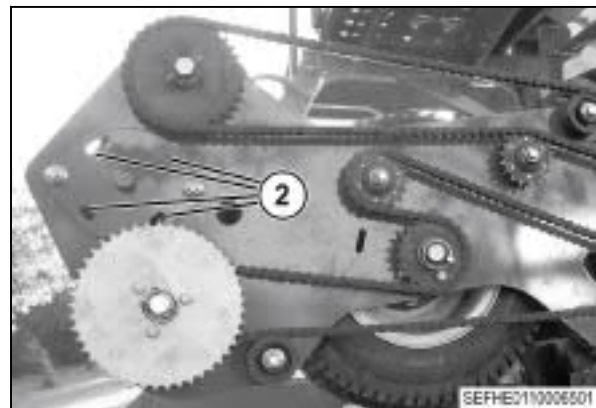
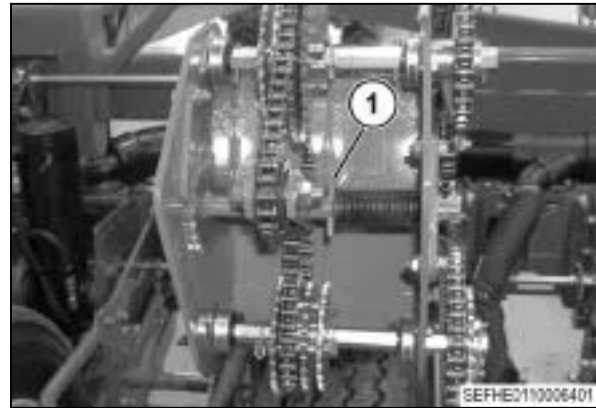


Fig. 30

3.3.18 Remove the rear sprocket assembly

Procedure

1. Pull on the spring tension to loosen the roller chain.
2. Remove the chain.
3. Pull out the lynch pin (1).
4. Remove the rear shaft sprocket assembly (2).



Fig. 31

5. Remove the two slotted spring pins (1).
6. Pull the hex shaft part way out.
7. Pull the hose clamp (2) off the shaft.
8. Pull the sprocket assembly off of the hex shaft.

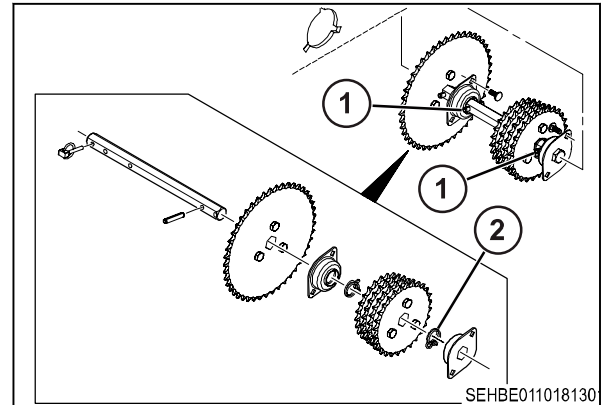


Fig. 32

3.3.19 Install the rear sprocket assembly

Procedure

1. Put the sprocket assembly onto the hex shaft.
2. Put hose clamp (1) onto the shaft.

Result

The hose clamps must be tight against the sprockets to hold them in place.

3. Install the hex shaft into the other end.
4. Install two slotted spring pins (2) into the shaft.
5. Make sure the sprockets are aligned with the front sprockets.
6. Put the sprocket cluster with the large sprocket on the right side.
7. Install the rear shaft sprocket assembly (1) tight against the slotted spring pin.
8. Insert the lynch pin (2).
9. Make sure the sprocket is aligned with the other sprockets on the wheel arm.

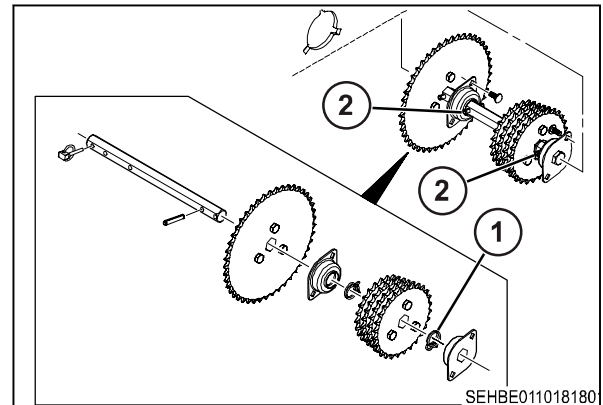


Fig. 33



Fig. 34

3.3.20 Disassemble the rear sprocket assembly

Procedure

1. Remove the three bolts (1) and nuts from the sprocket assembly.
2. Replace the damaged sprockets.
 - (2) 25 tooth sprocket
 - (3) 26 tooth sprocket
 - (4) 27 tooth sprocket
 - (5) 28 tooth sprocket

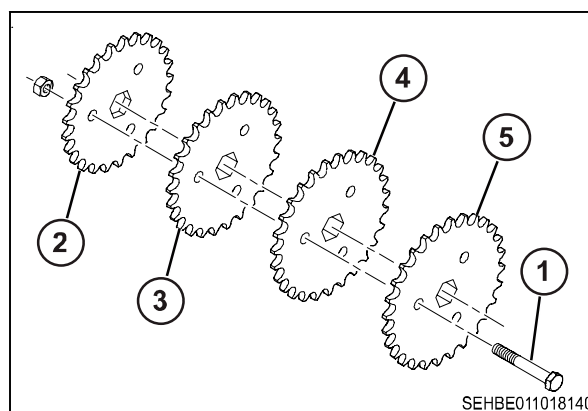


Fig. 35

3.3.21 Assemble the rear sprocket assembly

Procedure

1. Assemble the four sprockets from smallest to largest.
 - (1) 25 tooth sprocket
 - (2) 26 tooth sprocket
 - (3) 27 tooth sprocket
 - (4) 28 tooth sprocket
2. Make sure the sprockets are aligned and the hex shaft will go through all four sprockets.
3. Tighten the bolts to 14 Nm (10 lbf-ft).

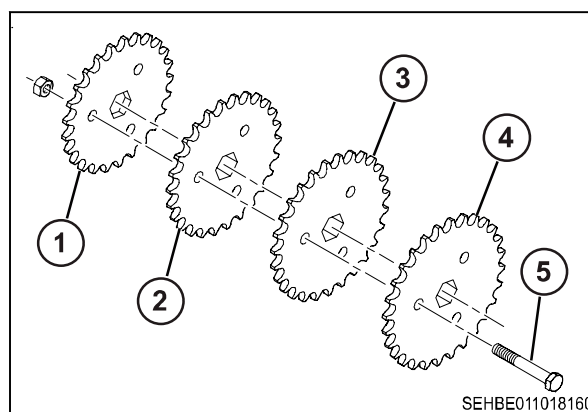


Fig. 36

3.3.22 Remove the wheel

The wheel turns the drive shaft which turns the row units and turns the seed meters. The wheel is turned by the lift tire and is in the middle of the wheel arm.

Procedure

1. Remove the chain.

2. Pull out the lynch pin (1).

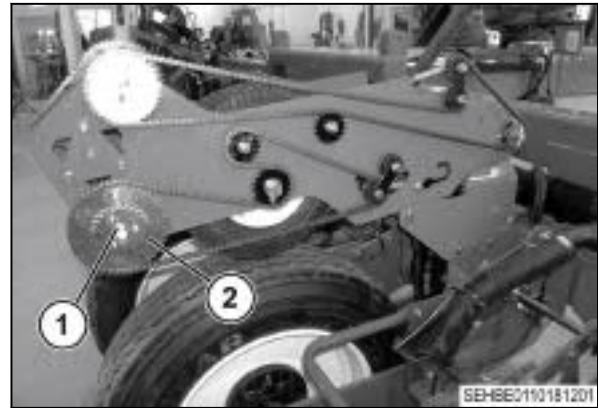


Fig. 37

3. Remove the two washers (1), sprocket (2), and shear bolt hub assembly (3).
4. Remove the shear bolt (4) to disconnect and replace the sprocket or hub if necessary. The shear bolt is 1/4-20 x 1 inch. Always replace the shear bolt with a bolt of the same size and grade.

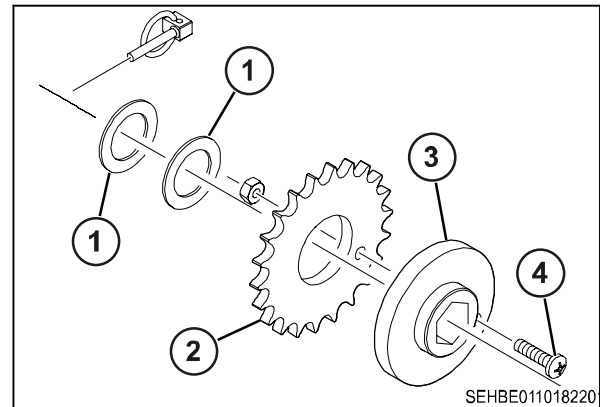


Fig. 38

5. Pull out the slotted spring pin (1) on the opposite side of the wheel arm.
6. Pull out the hex shaft (2).
7. Remove the wheel.

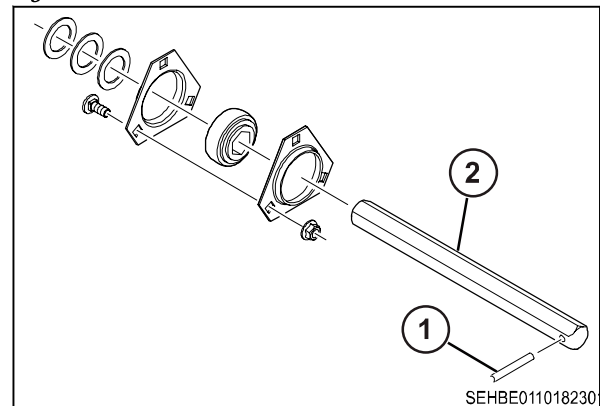


Fig. 39

3.3.23 Install the wheel

The wheel turns the drive shaft which turns the row units and turns the seed meters. The wheel is turned by the lift tire and is in the middle of the wheel arm.

Procedure

1. Put the wheel into the wheel arm.

3. Drive system

2. Install the hex shaft (1).
3. Install the slotted spring pin (2).

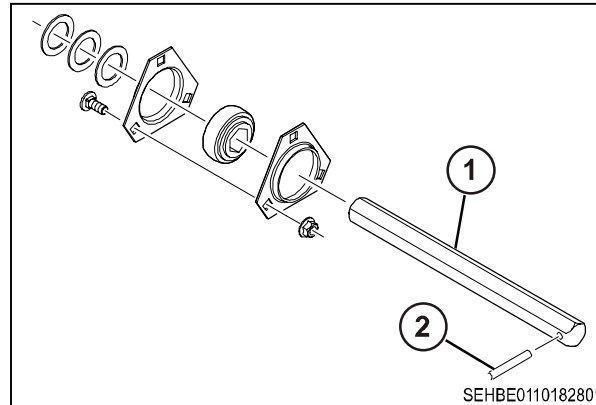


Fig. 40

4. Attach the sprocket (1) and shear bolt hub (2) together.
5. Put the sprocket and shear bolt hub assembly on the hex shaft with the sprocket out.
6. Put the two washers (3) on the shaft.
7. Make sure the sprocket is aligned with the other sprockets on the wheel arm.

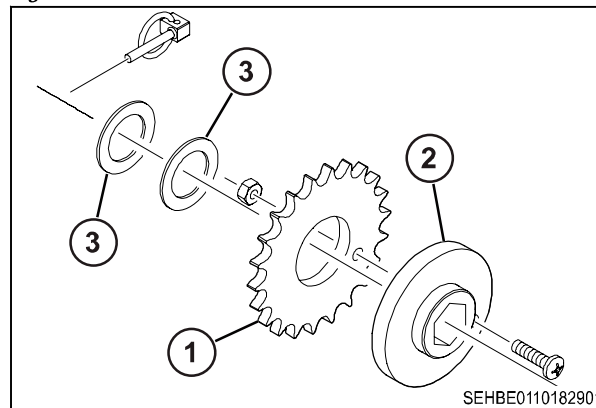


Fig. 41

8. Install the lynch pin (1).

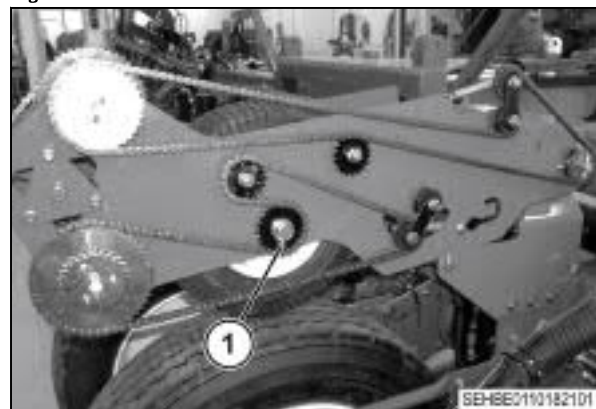


Fig. 42

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