# Massey Ferguson<sup>®</sup> 9792 / 9776 Planter

# SERVICE MANUAL 4283531M1

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# **GROUND DRIVE**

#### **OPERATION**

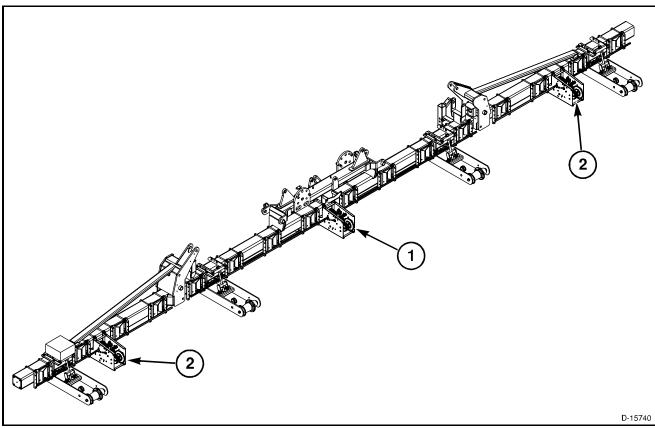


FIG. 21

**FIG. 21:** The planter row units are operated by a ground drive system or a hydraulic drive system.

The ground drive group turns the drive shaft. There are three ground drive groups located in the rear of the planter. One ground drive group (1) is in the center of the planter and the other two ground drive groups (2) are located on each wing.

#### **ROLLER CHAINS**

FIG. 22: There are two chains in the ground drive box.

The input shaft (1) turns the lower roller chain (122 links) (2), which turns the rear shaft (3).

The rear shaft (3) turns the upper roller chain (90 links) (4), which turns the output shaft (5).

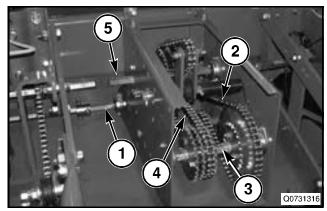


FIG. 22

#### Removal

**FIG. 23:** Push on the pulley idler (1) to reduce tension on the roller chain.

Remove roller chain from the sprockets and remove clip (2) to disconnect the roller chain.

Remove the roller chain from the ground drive assembly.

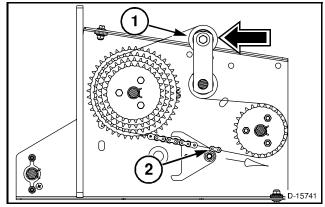


FIG. 23

**FIG. 24:** Push on the pulley idler (1) to reduce tension on the roller chain.

Remove roller chain from the sprockets and remove clip (2) to disconnect the roller chain.

Remove the roller chain from the ground drive assembly.

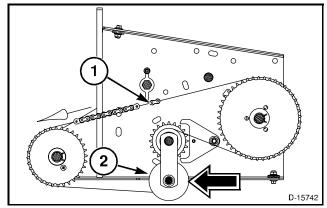


FIG. 24

#### Installation

Inspect roller chains. Replace chains as required.

To Install, place roller chain on sprockets. Connect the roller chain with the clip.

Push on pulley idler to allow the roller chain to go on the idler. Insert roller chain on idler and release idler to increase tension.

Make sure the chain is fitted on all the sprockets correctly.

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#### **OUTPUT SPROCKET ASSEMBLY**

#### Operation

**FIG. 25:** The output sprocket assembly (1) consists of four sprockets.

The speed of the row unit drive shaft is determined by which sprocket is used.

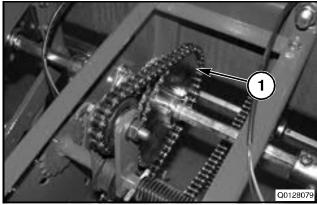


FIG. 25

#### Removal

FIG. 26: Remove roller chain.

Pull out the cotter pin (1).

Remove the driver (2).

Slide the drive shaft (3) out enough to remove the point row clutch (4) and to slide the drive shaft (5) out.

Remove the strap (6), point row clutch (4), and sleeve (7).

Disconnect the other end of the drive shaft (5) from the point row clutch, in the same manner.

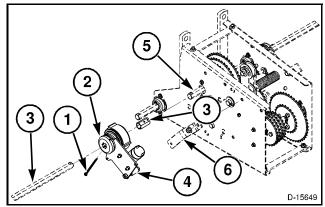


FIG. 26

**FIG. 27:** If not equipped with point row clutches, remove the coupling (1).

Remove bolts (2) and nuts (3).

Remove coupling (1) and coupling adaptors (4).

Pull out drive shaft.

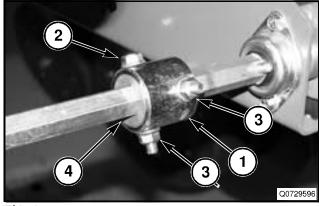


FIG. 27

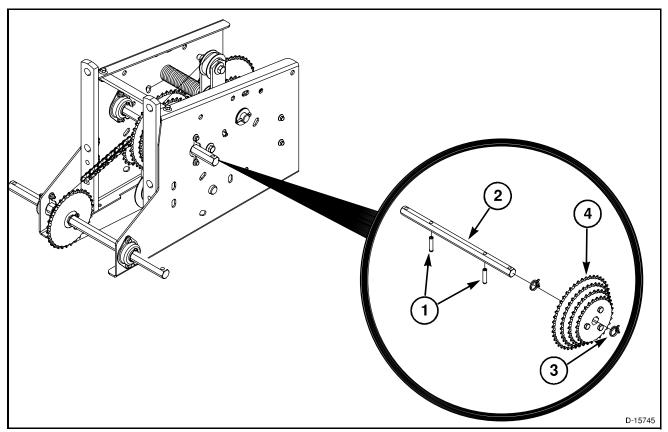


FIG. 28

FIG. 28: Pull out roll pins (1).

Slide hex shaft (2) part way out.

Slide hose clamp (3) off shaft.

Slide Sprocket Assembly (4) off of hex shaft.

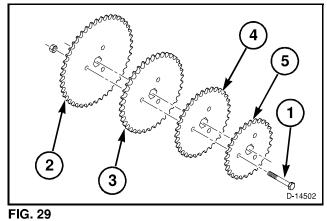
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#### **Disassembly**

**FIG. 29:** Remove the three bolts (1) and nuts from the sprocket assembly.

Replace any sprockets that are damaged.

- (2) 44 Tooth
- (3) 38 Tooth
- (4) 33 Tooth
- (5) 28 Tooth



#### FIG.

### **Assembly**

FIG. 30: Assemble the four sprockets from largest to smallest.

- (1) 44 Tooth
- (2) 38 Tooth
- (3) 33 Tooth
- (4) 28 Tooth

Make sure they are aligned so the hex shaft will slide through all four sprockets.

Apply permanent thread locker to the three bolts (5).

Tighten bolts to 14 Nm (10 lbf ft).

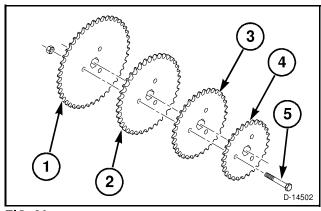


FIG. 30

#### Installation

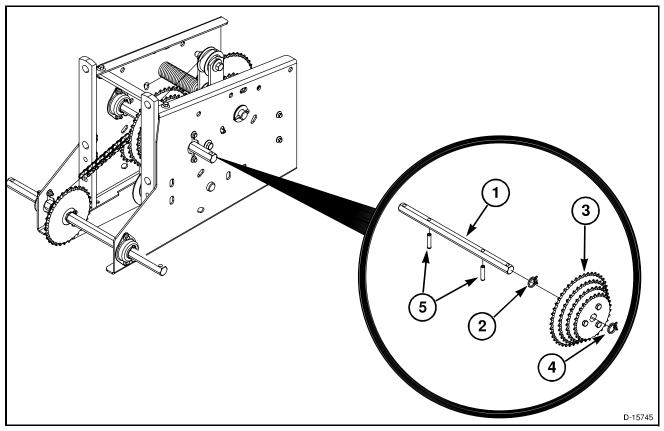


FIG. 31

FIG. 31: Insert hex shaft (1) through one end of ground drive box.

Slide hose clamp (2) onto shaft.

Slide sprocket assembly (3) onto the hex shaft.

Slide hose clamp (4) onto shaft.

Insert hex shaft into the other end.

Insert the two roll pins (5) into the shaft.

IMPORTANT: Make sure sprockets are aligned with the rear sprockets and upper tightener arm.

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

Attach roller chain.

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#### **UPPER ARM TIGHTENER**

## Operation

**FIG. 32:** The tightener (1) is located in the ground drive box.

The tightener maintains the chain tension between the output and rear sprocket assemblies.

If the tightener can not maintain tension, rotate the spring hook counter clockwise one position. If the spring still will not maintain tension, the spring may need to be replaced.

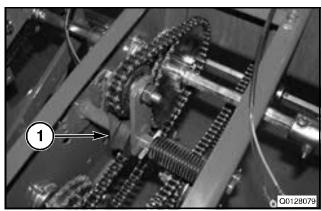


FIG. 32

#### Removal

Remove roller chain.

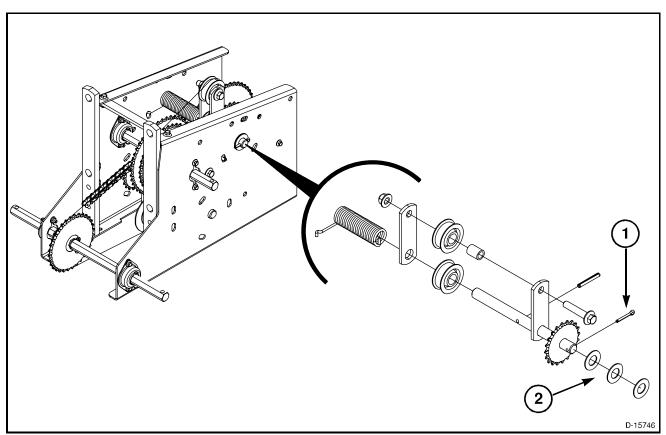


FIG. 33

**FIG. 33:** Pull out cotter pin (1) and remove washers (2). Remove tightener assembly from the ground drive box.

#### **Disassembly**

FIG. 34: Remove slotted spring pin (1).

Remove spring (2). Replace if necessary.

Remove nut and bolt (3).

Remove Idler arm (4).

Remove idler pulleys (5). Replace if necessary.

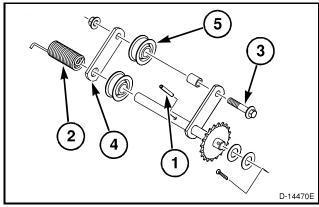


FIG. 34

#### **Assembly**

FIG. 35: Lubricate pulleys with grease.

Insert bottom idler pulley (1) on tightener.

Insert bolt (2) in tightener.

Place spacer (3) on bolt.

Place upper idler (4) pulley over spacer.

Attach idler arm (5).

Tighten nut (6) on bolt.

Slide on spring (7).

Insert slotted spring pin (8) through loop (9) on spring.

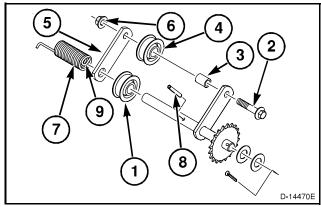


FIG. 35

#### Installation

FIG. 36: Insert tightener assembly (1) into the wheel arm

Attach washers (2) and insert cotter pin (3) into tightener assembly.

Attach roller chain.

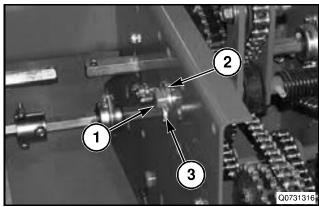


FIG. 36

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#### **Torsion Spring**

**FIG. 37:** Connect spring hook in one of three slots in transmission side plate. With the idler arm (1) straight up, connect a spring scale to the upper idler bolt (2). The force required to move the idler arm must be 4.5 to 9.0 kg (10 to 20 lb).

If the reading is not correct, adjust the hook on one or both ends of the torsion spring (3). On the inner end adjust the hook on the roll pin (4).

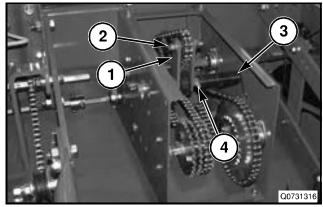


FIG. 37

#### **LOWER ARM TIGHTENER**

#### **Operation**

FIG. 38: The tightener (1) is located in the ground drive box

The tightener maintains the chain tension between the input and rear sprocket assemblies.

If the tightener can not maintain tension, rotate the spring hook counter clockwise one position. If the spring still will not maintain tension, the spring may need to be replaced.

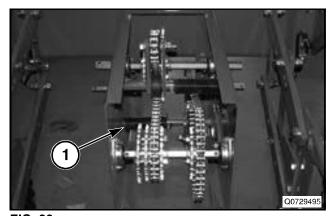


FIG. 38

#### Removal

Remove roller chain.

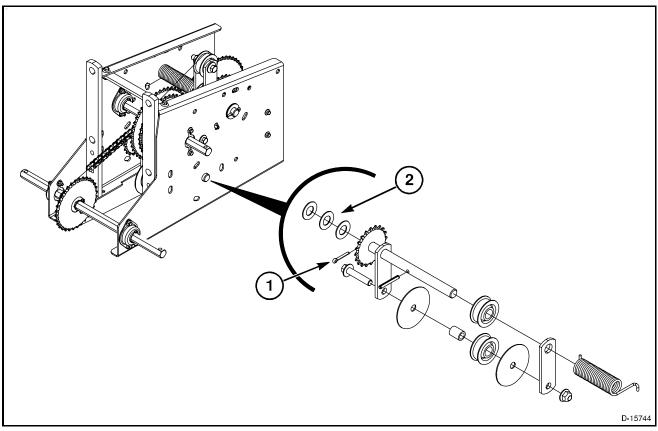


FIG. 39

**FIG. 39:** Pull out cotter pin (1) and remove washers (2). Remove tightener assembly from the ground drive box.

#### **Disassembly**

FIG. 40: Remove slotted spring pin (1).

Remove spring (2). Replace if necessary.

Remove nut and bolt (3).

Remove Idler arm (4).

Remove idler pulleys (5). Replace if necessary.

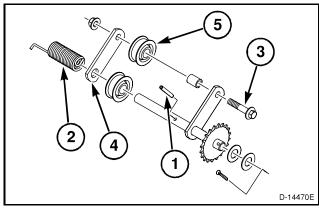


FIG. 40

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#### **Assembly**

FIG. 41: Lubricate pulleys with grease.

Insert bottom idler pulley (1) on tightener.

Insert bolt (2) in tightener.

Place spacer (3) on bolt.

Place upper idler (4) pulley over spacer.

Attach idler arm (5).

Tighten nut (6) on bolt.

Slide on spring (7).

Insert slotted spring pin (8) through loop (9) on spring.

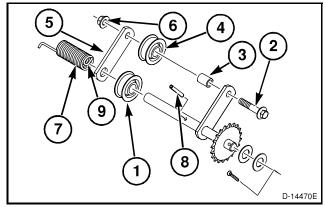


FIG. 41

#### Installation

FIG. 42: Insert tightener assembly (1) into the wheel arm.

Attach washers (2) and insert cotter pin (3) into tightener assembly.

Attach roller chain.

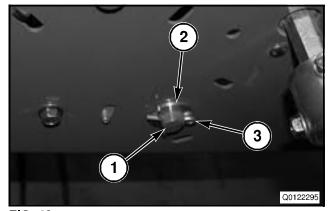


FIG. 42

#### **Torsion Spring**

**FIG. 43:** Connect spring hook in one of three slots in transmission side plate. With the idler arm (1) straight down, connect a spring scale to the idler bolt (2). The force required to move the idler arm must be 4.5 to 9.0 kg (10 to 20 lb).

If the reading is not correct, adjust the hook on one or both ends of the torsion spring (3). On the inner end adjust the hook on the roll pin (4).

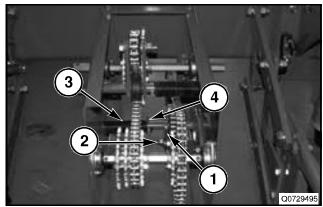


FIG. 43

## **REAR SPROCKET ASSEMBLY**

## Operation

 $\begin{tabular}{ll} \textbf{FIG. 44:} & The rear sprocket assembly (1) consists of six sprockets. \end{tabular}$ 

The speed of the drive shaft is determined by which sprockets are used, which is used to set rate of the seed meters.

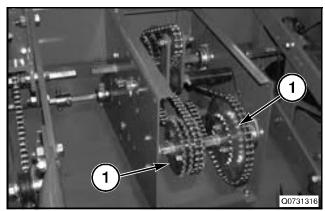


FIG. 44

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#### Removal

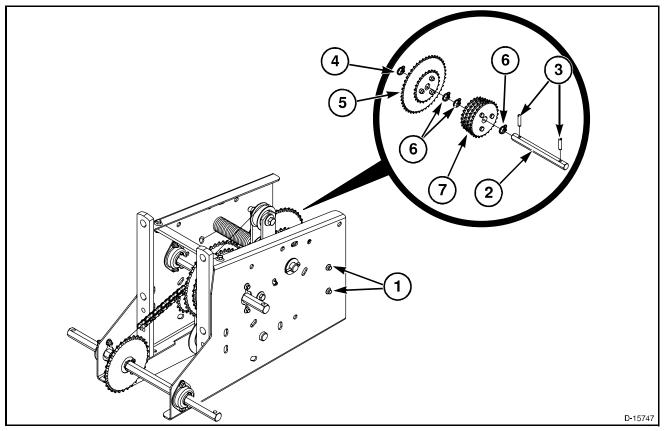


FIG. 45

**FIG. 45:** Pull on spring tension to slacken the roller chains, then remove the roller chains.

Remove the bolts (1) from the bearings and slide the rear sprocket assembly out. Remove the bearings from the ends of the hex shaft (2).

Pull out pins (3).

Slide hose clamp (4) off shaft.

Slide sprocket assembly (5) off of hex shaft.

Slide hose clamps (6) off shaft.

Slide sprocket assembly (7) off of hex shaft.

# **Disassembly**

#### **Lower Rear Cluster**

**FIG. 46:** Remove the three bolts (1) and nuts from the sprocket assembly.

Replace any sprockets that are damaged.

- (2) 25 Tooth
- (3) 26 Tooth
- (4) 27 Tooth
- (5) 28 Tooth

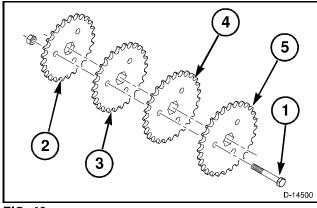


FIG. 46

#### **Rear Shaft Assembly**

**FIG. 47:** Remove the three bolts (1) and nuts from the sprocket assembly.

Replace any sprockets that are damaged.

- (2) 45 Tooth
- (3) 25 Tooth

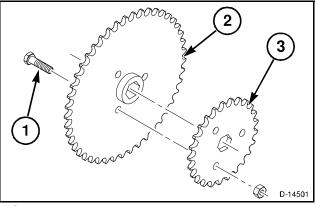


FIG. 47

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#### **Assembly**

#### **Lower Rear Cluster**

**FIG. 48:** Assemble the four sprockets from smallest to largest.

- (1) 25 Tooth
- (2) 26 Tooth
- (3) 27 Tooth
- (4) 28 Tooth

Make sure they are aligned so the hex shaft will slide through all four sprockets.

Apply permanent thread locker to the three bolts (5).

Tighten bolts to 14 Nm (10 lbf ft).

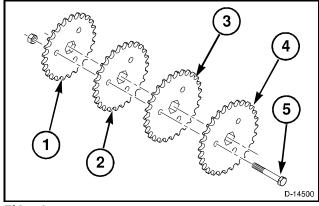


FIG. 48

#### **Rear Shaft Assembly**

FIG. 49: Assemble the two sprockets

- (1) 45 Tooth
- (2) 25 Tooth

Make sure they are aligned so the hex shaft will slide through all four sprockets.

Apply permanent thread locker to the three bolts (3).

Tighten bolts to 14 Nm (10 lbf ft).

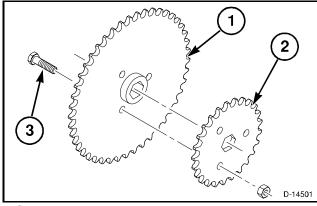


FIG. 49

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