2.4.3 Drive Frame Cover

When working with top mounted drive system models, the drive frame cover can be found on the upper rear left of the mower base. It protects the operator from several pinch points and once removed allows for adjustments to the drive assembly to be made.

2.4.3.1 Removing the Drive Frame Cover

- For this procedure, prepare the mower in the Standard Operation position.

- Blow grass and dirt out of the recessed holes to expose the heads of screw fixings.

1. Using a Phillips head screwdriver, remove the front (A) and rear (B) screws in that order which are securing the drive frame cover in place (Figure 2.4.3.1a).

Figure 2.4.3.1a

2. Lift the drive frame cover and rotate it out about the lower drive frame clips to expose the upper transmission components (Figure 2.4.3.1b).

Figure 2.4.3.1b

- Do not operate the transmission bale with the cover loose or removed as you will damage the lower drive support frame.

2.4.3.2 Refitting the Drive Frame Cover

- For this procedure, prepare the mower in the Standard Operation position.

1. Fit the brass ferrule of the clutch cable into its retaining slot within the lower drive support frame, ensuring that it retains its position while the drive frame cover is refitted (Figure 2.4.3.2a).

Figure 2.4.3.2a

2. Place the drive frame cover into position over the clutch cable until it seats properly and maintain pressure on the drive frame cover above the clutch cable (Figure 2.4.3.2b).

Figure 2.4.3.2b

- Make sure the raised ring on the brass section of the clutch cable nests into the groove of the lower drive support frame and fit the drive frame cover accurately on top before screwing down the drive frame cover.

3. Using a Phillips head screwdriver, firmly fasten the rear screw (B) above the clutch cable, followed by the front screw (A) (Figure 2.4.3.2c).

Figure 2.4.3.2c

2.4.4 Drive Belt Cover

2.4.4.1 Removing the Drive Belt Cover

Preparation Steps
Follow the directions for:
- 2.2.8 *Cutting Assembly* → 2.2.8.2 *Removing the Cutting Assembly*

- For this procedure, prepare the mower in the Lower Handle Bar Support position.

1. Using an 8mm socket piece, remove the two fasteners (A and B) securing the drive belt cover to the mower base (Figure 2.4.4.1a). Each fastener assembly consists of a bolt, shakeproof washer and flat washer. Retain the fasteners for the refitting process.

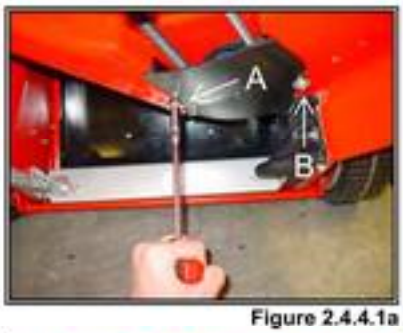

Figure 2.4.4.1a

2. Guide the drive belt cover away from the mower base to expose the belt assembly, including the transmission pulley (Figure 2.4.4.1b).


Figure 2.4.4.1b

2.4.4.2 Refitting the Drive Belt Cover

- For this procedure, prepare the mower in the Lower Handle Bar Support position.

1. Position the drive belt cover in place over the transmission pulley (Figure 2.4.4.2a). Ensure that the bolt holes through the drive belt cover align with those of the mower base.

Figure 2.4.4.2a

2. Ensure that the drive belt cover does not fall from its previous position. Secure the drive belt cover in place in the two locations (A and B) using the retained bolts, shakeproof washers and flat washers using an 8mm socket piece (Figure 2.4.4.2b).

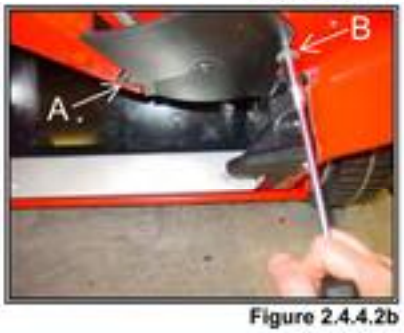

Figure 2.4.4.2b

Concluding Steps
Follow the directions for:
- 2.2.8 *Cutting Assembly* → 2.2.8.3 *Refitting the Cutting Assembly*

2.4.5 Drive Belt

2.4.5.1 Adjusting the Drive Belt

- In order to prevent damage or abnormal wear, do not over or under tension the drive belt.

Preparation Steps
Follow the directions for:
- 2.4.3 *Drive Frame Cover* → 2.4.3.1 *Removing the Drive Frame Cover*

- For this procedure, prepare the mower in the Standard Operation (Handlebars Unfolded) position.

1. Using a suitable Phillips head screw driver, tighten the adjuster screw down carefully until the spring (A) is fully compressed (Figure 2.4.5.1a).
2. Unscrew the adjuster until the correct drive belt tension has been achieved.

Figure 2.4.5.1a

3. The transmission should then move approximately 2mm under the spring load when rocked about the output shaft (Figure 2.4.5.1b).

Figure 2.4.5.1b

- Clean any clippings away from the underside of the transmission near the adjusting spring before adjusting the belt tension.
- Put a mark on one side of the screw head of the adjuster to easily identify the 2 full turns when adjusting the belt tension.

Concluding Steps
Follow the directions for:
- 2.4.3 *Drive Frame Cover* → 2.4.3.2 *Refitting the Drive Frame Cover*

2.4.5.2 Removing the Drive Belt

Preparation Steps
Follow the directions for:
- 2.4.3 *Drive Frame Cover* → 2.4.3.1 *Removing the Drive Frame Cover*
- 2.2.8 *Cutting Assembly* → 2.2.8.2 *Removing the Cutting Assembly*
- 2.4.4 *Drive Belt Cover* → 2.4.4.1 *Removing the Drive Belt Cover*

- For this procedure, prepare the mower in the Lower Handle Bar Support position.

1. Unscrew the drive belt adjustment screw until the tension spring touches the underside of the transmission housing (Figure 2.4.5.2a). This will then allow the transmission to rock about the output shaft (Figure 2.4.5.2b).

Figure 2.4.5.2a

Figure 2.4.5.2b

2. From a viewpoint of underneath the mower base, slip the drive belt from the engine pulley on one side (Figure 2.4.5.2c).

Figure 2.4.5.2c

3. Rotate the crankshaft slowly while pulling downward on the drive belt so as to release it completely from the crankshaft (Figure 2.4.5.2d).

Figure 2.4.5.2d

4. Once the drive belt has been released from the engine pulley, it will then be possible to slip the belt easily away from the transmission pulley (Figure 2.4.5.2e).

Figure 2.4.5.2e

2.4.5.3 Refitting the Drive Belt

- For this procedure, prepare the mower in the Lower Handle Bar Support position.

1. Allow the transmission to rock about the output shaft by unscrewing the drive belt adjustment screw until the tension spring is touching the underside of the transmission housing (Figure 2.4.5.3a).

Figure 2.4.5.3a

2. Loop the drive belt around the transmission pulley (Figure 2.4.5.3b).

Figure 2.4.5.3b

3. Using the slack in the drive belt provided by the transmission tension spring, slip the drive belt over one edge of the engine pulley and hold it firmly in position (Figure 2.4.5.3c).

Figure 2.4.5.3c

4. Finally, simply rotate the crankshaft in order to slip the remainder of the drive belt onto the engine pulley (Figure 2.4.5.3d).

Figure 2.4.5.3d

Concluding Steps

Follow the directions for:

- 2.4.5 *Drive Belt* → 2.4.5.1 *Adjusting the Drive Belt*
- 2.4.4 *Drive Belt Cover* → 2.4.4.2 *Refitting the Drive Belt Cover*
- 2.2.8 *Cutting Assembly* → 2.2.8.3 *Refitting the Cutting Assembly*
- 2.4.3 *Drive Frame Cover* → 2.4.3.2 *Refitting the Drive Frame Cover*
- 2.2.7 *Adjusting the Clutch Cable*

2.4.6 Clutch Cable

2.4.6.1 Removing the Clutch Cable

Preparation Steps
Follow the directions for:
- 2.4.3 *Drive Frame Cover* → 2.4.3.1 *Removing the Drive Frame Cover*

- For this procedure, prepare the mower in the Standard Operation (Handlebars Folded) position.

1. Loosen the tension along the clutch cable by rotating the clutch cable adjuster thumb wheel in a clockwise (from an operational viewpoint) direction (Figure 2.4.6.1a).

Figure 2.4.6.1a

2. Remove the clutch tension adjuster from the upper handlebar using two 7/16" spanners. Position the first spanner so as to secure the bolt head and using the second spanner, remove the inside nyloc nut (Figure 2.4.6.1b).

Figure 2.4.6.1b

3. Ensure that the drive bale is released and detach the clutch cable from its connection to the spring hook on the drive bale at the top of the upper handlebar (Figure 2.4.6.1c).

Figure 2.4.6.1c

4. Release the end of the clutch cable from the cam lever within the drive assembly (Figure 2.4.6.1d).

Figure 2.4.6.1d

5. Remove the clutch cable brass ferrule from its retaining slot in the lower drive support frame (Figure 2.4.6.1e).

Figure 2.4.6.1e

6. Cut the cable tie securing the clutch cable to the lower handlebar (Figure 2.4.6.1f).

Figure 2.4.6.1f

7. Slide the clutch cable from the metal eyelet guide found on the lower handlebar (Figure 2.4.6.1g).

Figure 2.4.6.1g

8. Cut the cable tie securing the clutch cable, air filter tubing and throttle cable to the upper handlebar (Figure 2.4.6.1h).

Figure 2.4.6.1h

2.4.6.2 Refitting the Clutch Cable

- For this procedure, prepare the mower in the Standard Operation (Handlebars Folded) position.

1. Rotate the clutch cable adjuster thumb wheel in order to loosen the tension along the clutch cable (Figure 2.4.6.2a).

Figure 2.4.6.2a

2. Slide the clutch cable through the metal eyelet guide found on the lower handlebar (Figure 2.4.6.2b).

Figure 2.4.6.2b

3. Place the clutch cable brass ferrule into its retaining slot in the lower drive support frame (Figure 2.4.6.1c).

Figure 2.4.6.2c

4. Attach the end of the clutch cable to the cam lever within the drive assembly (Figure 2.4.6.2d).

Figure 2.4.6.2d

5. Ensure that the drive bale is released and attach the clutch cable to its connection to the spring hook on the drive bale at the top of the upper handlebar (Figure 2.4.6.2e).

Figure 2.4.6.2e

6. Attach the clutch tension adjuster to the upper handlebar using two 7/16" spanners. Position the first spanner so as to secure the bolt head and using the second spanner, remove the inside nyloc nut (Figure 2.4.6.2f).

Figure 2.4.6.2f

7. Using cable ties, resecure the clutch cable to the lower handlebar and the air filter tubing, throttle cable and clutch cable to the upper handlebar (Figures 2.4.6.2g, 2.4.6.2h).

Figure 2.4.6.2g

Figure 2.4.6.2h

Concluding Steps
Follow the directions for:
- 2.4.3 *Drive Frame Cover* → 2.4.3.2 *Refitting the Drive Frame Cover*
- 2.2.7 *Adjusting the Clutch Cable*

2.4.14 Drive Clutch Plates (*Including Drive Clutch Plate and Drive Sprocket Plate*)

2.4.14.1 Adjusting the Drive Clutch

CAUTION

- This procedure is only necessary should section 2.2.7 *Adjusting the Clutch Cable* not assist in causing the rear wheels to drive when the drive bale is engaged. This adjustment is to allow for long term wear on the drive plates.

Preparation Steps
Follow the directions for:
- 2.4.3 *Drive Frame Cover* → 2.4.3.1 *Removing the Drive Frame Cover*
- 2.2.10 *Wheel Maintenance* → 2.2.10.1 *Removing the Wheels (rear wheels only)*
- 2.4.1 *Wheel Backing Plates* → 2.4.1.1 *Removing the Wheel Backing Plates*
- 2.2.8 *Cutting Assembly* → 2.2.8.2 *Removing the Cutting Assembly*
- 2.4.4 *Drive Belt Cover* → 2.4.4.1 *Removing the Drive Belt Cover*
- 2.4.5 *Drive Belt* → 2.4.5.2 *Removing the Drive Belt*
- 2.4.8 *Transmission Pulley* → 2.4.8.1 *Removing the Transmission Pulley*
- 2.4.9 *Rear Axle Retainer and Drive Shaft Shield* → 2.4.9.1 *Removing the Rear Axle Retainer and Drive Shaft Shield*
- 2.4.10 *Drive Chain Case* → 2.4.10.1 *Removing the Drive Chain Case*
- 2.4.11 *Drive Chain* → 2.4.11.3 *Removing the Drive Chain*
- 2.4.13 *Transmission Assembly* → 2.4.13.1 *Removing the Transmission Assembly*

1. Find a suitable, flat area to begin work on the transmission assembly itself. Firstly, using a suitable 4mm Allen key, remove the thrust cap (countersunk retainer and socket screw) from the end of the output shaft while securing the cork lined clutch plate (Figure 2.4.14.1a), followed by the outer cam thrust washer (Figure 2.4.14.1b). Note that the thrust cap is secured with a thread locking adhesive and as it is removed the clutch plates will separate due to the clutch spring that is located between them.

Figure 2.4.14.1a

Figure 2.4.14.1b

2. Slide the bearing retainer cam and cam lever from the output shaft as a single unit maintaining the orientation between them (Figure 2.4.14.1c).

Figure 2.4.14.1c

3. Slide the inner cam thrust washer from the output shaft (Figure 2.4.14.1d).

Figure 2.4.14.1d

4. Take note of the orientation of the drive roll pin located through the output shaft in relation to the numbered recesses on the boss of the cork lined clutch plate. Move the drive clutch plates in an outboard direction until the cork lined drive plate is free of the drive roll pin (Figure 2.4.14.1e).

Figure 2.4.14.1e

5. Rotate the cork lined drive plate until the drive roll pin aligns with the numbered recess with one additional groove than that originally noted above. Slide the cork lined clutch plate back along the output shaft in order to lock its new orientation with the drive roll pin (Figure 2.4.14.1f).

Figure 2.4.14.1f

6. Using a suitable small clamp, compress the clutch sprocket plate and clutch spring upon the cork lined clutch plate, so as to allow the remainder of the transmission assembly to be attached (Figure 2.4.14.1g). The boss of the cork lined clutch plate must retain its position in relation to the drive roll pin during the clamping process.

Figure 2.4.14.1g

7. Slide the inner cam thrust washer onto the output shaft (Figure 2.4.14.1h).

Figure 2.4.14.1h

8. Slide the cam lever and bearing retainer cam onto the output shaft as a single unit maintaining the orientation between them (Figure 2.4.14.1i). The cam lever should be raised at approximately a 50 degree angle to the horizontal of the bearing retainer cam.

Figure 2.4.14.1i

9. Position the outer cam thrust washer upon the output shaft, and after applying a small amount of thread locker to the thread of the thrust cap, attach the thrust cap using a 4mm Allen key (Figure 2.4.14.1j). Finally remove the clamp which is retaining the clutch plates and ensure that the distance between cork lining and the inside of the clutch sprocket plate is roughly 1.0-1.7mm. Readjust the clutch plates by rotating the orientation of the drive roll pin in relation to the boss of the cork lined clutch plate if necessary.

Figure 2.4.14.1j

- The marks on the inner drive plate boss represent positions 'I', 'II' and 'III'. Setting 'I' is generally used with a new drive plate whereas position 'III' is for a worn unit.
- If the drive cable adjustment is insufficient with the inner drive plate in position 'III' the drive plates must be replaced.
- Clean off and apply new grease to the cams of the outboard output shaft bearing retainer and cam lever before reassembly.

Concluding Steps

Follow the directions for:

- 2.4.13 *Transmission Assembly* → 2.4.13.3 *Refitting the Transmission Assembly*
- 2.4.11 *Drive Chain* → 2.4.11.4 *Refitting the Drive Chain*
- 2.4.10 *Drive Chain Case* → 2.4.10.2 *Refitting the Drive Chain Case*
- 2.4.9 *Rear Axle Retainer and Drive Shaft Shield* → 2.4.9.2 *Refitting the Rear Axle Retainer and Drive Shaft Shield*
- 2.4.8 *Transmission Pulley* → 2.4.8.2 *Refitting the Transmission Pulley*
- 2.4.5 *Drive Belt* → 2.4.5.3 *Refitting the Drive Belt*
- 2.4.4 *Drive Belt Cover* → 2.4.4.2 *Refitting the Drive Belt Cover*
- 2.2.8 *Cutting Assembly* → 2.2.8.3 *Refitting the Cutting Assembly*
- 2.4.1 *Wheel Backing Plates* → 2.4.1.2 *Refitting the Wheel Backing Plates*
- 2.2.10 *Wheel Maintenance* → 2.2.10.3 *Refitting the Wheels (rear wheels only)*
- 2.4.11 *Drive Chain* → 2.4.11.2 *Adjusting the Drive Chain*
- 2.4.5 *Drive Belt* → 2.4.5.1 *Adjusting the Drive Belt*
- 2.4.3 *Drive Frame Cover* → 2.4.3.2 *Refitting the Drive Frame Cover*
- 2.2.7 *Adjusting the Clutch Cable*

2.4.14.2 Removing the Drive Clutch Plates

Preparation Steps
Follow the directions for:
- 2.4.3 *Drive Frame Cover* → 2.4.3.1 *Removing the Drive Frame Cover*
- 2.2.10 *Wheel Maintenance* → 2.2.10.1 *Removing the Wheels (rear wheels only)*
- 2.4.1 *Wheel Backing Plates* → 2.4.1.1 *Removing the Wheel Backing Plates*
- 2.2.8 *Cutting Assembly* → 2.2.8.2 *Removing the Cutting Assembly*
- 2.4.4 *Drive Belt Cover* → 2.4.4.1 *Removing the Drive Belt Cover*
- 2.4.5 *Drive Belt* → 2.4.5.2 *Removing the Drive Belt*
- 2.4.8 *Transmission Pulley* → 2.4.8.1 *Removing the Transmission Pulley*
- 2.4.9 *Rear Axle Retainer and Drive Shaft Shield* → 2.4.9.1 *Removing the Rear Axle Retainer and Drive Shaft Shield*
- 2.4.10 *Drive Chain Case* → 2.4.10.1 *Removing the Drive Chain Case*
- 2.4.11 *Drive Chain* → 2.4.11.3 *Removing the Drive Chain*
- 2.4.13 *Transmission Assembly* → 2.4.13.1 *Removing the Transmission Assembly*

1. Once the transmission assembly has been removed from its housing within the lower drive frame, find a suitable area to begin work on the transmission assembly itself. Firstly, using a suitable 4mm Allen key, remove the thrust cap (countersunk retainer and socket screw) from the end of the output shaft while securing the cork lined clutch plate (Figure 2.4.14.2a), followed by the outer cam thrust washer (Figure 2.4.14.2b). Note that the thrust cap is secured with a thread locking adhesive and as it is removed the clutch plates will separate due to the clutch spring that is located between them.

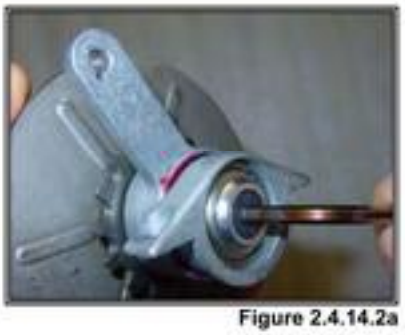
Figure 2.4.14.2a


Figure 2.4.14.2b

2. Slide the bearing retainer cam and cam lever from the output shaft as a single unit maintaining the orientation between them (Figure 2.4.14.2c).


Figure 2.4.14.2c

3. Slide the inner cam thrust washer from the output shaft (Figure 2.4.14.2d).


Figure 2.4.14.2d

4. Remove the clutch sprocket plate from the output shaft (Figure 2.4.14.2e), followed by the clutch spring (Figure 2.4.14.2f).

Figure 2.4.14.2e

Figure 2.4.14.2f

5. Finally, slide the cork lined clutch plate from the output shaft (Figure 2.4.14.2g). If the cork lined clutch plate is to be refitted, take note of the orientation of the drive roll pin located through the output shaft in relation to the numbered recesses on the boss of the cork lined clutch plate (Figure 2.4.14.2h).

Figure 2.4.14.2g

Figure 2.4.14.2h

2.4.14.3 Refitting the Drive Clutch Plates

1. Slide the cork lined clutch plate onto the output shaft, ensuring that the drive roll pin is located in the correct recess of the cork lined clutch plate boss (Figure 2.4.14.3a). There are three slots marked "I", "II" and "III" which allow for varying degrees of clutch wear. A new cork lined clutch plate should be aligned so that the drive roll pin is situated in the "I" recess of the boss. Recess "III" allows for the greatest degree of wear upon the clutch lining.

Figure 2.4.14.3a

2. Slide the clutch spring which separates each of the clutch plates onto the output shaft (Figure 2.4.14.3b), followed by the clutch sprocket plate (Figure 2.4.14.3c).

Figure 2.4.14.3b

Figure 2.4.14.3c

3. Using a suitable pair of vice grips or a small clamp, compress the clutch sprocket plate and clutch spring upon the cork lined clutch plate, so as to allow the remainder of the transmission assembly to be attached (Figure 2.4.14.3d). The boss of the cork lined clutch plate must retain its position in relation to the drive roll pin during the clamping process.

Figure 2.4.14.3d

4. Slide the inner cam thrust washer onto the output shaft (Figure 2.4.14.3e).

Figure 2.4.14.3e

5. Slide the cam lever and bearing retainer cam onto the output shaft as a single unit maintaining the orientation between them (Figure 2.4.14.3f). The cam lever should be raised at approximately a 50 degree angle to the horizontal of the bearing retainer cam.

Figure 2.4.14.3f

6. Position the outer cam thrust washer upon the output shaft, and after applying a small amount of thread locker to the thread of the thrust cap, attach the thrust cap (countersunk retainer and socket screw) using a 4mm Allen key (Figure 2.4.14.3g). Finally remove the clamp which is retaining the clutch plates and ensure that the distance between cork lining and the inside of the clutch sprocket plate is roughly 1.0-1.7mm. Readjust the clutch plates by rotating the orientation of the drive roll pin in relation to the boss of the cork lined clutch plate if necessary.

Figure 2.4.14.3g

Concluding Steps

Follow the directions for:

- 2.4.13 *Transmission Assembly* → 2.4.13.3 *Refitting the Transmission Assembly*
- 2.4.11 *Drive Chain* → 2.4.11.4 *Refitting the Drive Chain*
- 2.4.10 *Drive Chain Case* → 2.4.10.2 *Refitting the Drive Chain Case*
- 2.4.9 *Rear Axle Retainer and Drive Shaft Shield* → 2.4.9.2 *Refitting the Rear Axle Retainer and Drive Shaft Shield*
- 2.4.8 *Transmission Pulley* → 2.4.8.2 *Refitting the Transmission Pulley*
- 2.4.5 *Drive Belt* → 2.4.5.3 *Refitting the Drive Belt*
- 2.4.4 *Drive Belt Cover* → 2.4.4.2 *Refitting the Drive Belt Cover*
- 2.2.8 *Cutting Assembly* → 2.2.8.3 *Refitting the Cutting Assembly*
- 2.4.1 *Wheel Backing Plates* → 2.4.1.2 *Refitting the Wheel Backing Plates*
- 2.2.10 *Wheel Maintenance* → 2.2.10.3 *Refitting the Wheels (rear wheels only)*
- 2.4.11 *Drive Chain* → 2.4.11.2 *Adjusting the Drive Chain*
- 2.4.5 *Drive Belt* → 2.4.5.1 *Adjusting the Drive Belt*
- 2.4.3 *Drive Frame Cover* → 2.4.3.2 *Refitting the Drive Frame Cover*
- 2.2.7 *Adjusting the Clutch Cable*

2.4.15 Lower Drive Frame

2.4.15.1 Removing the Lower Drive Frame

Preparation Steps
Follow the directions for:
- 2.4.3 *Drive Frame Cover* → 2.4.3.1 *Removing the Drive Frame Cover*
- 2.2.10 *Wheel Maintenance* → 2.2.10.1 *Removing the Wheels (rear wheels only)*
- 2.4.1 *Wheel Backing Plates* → 2.4.1.1 *Removing the Wheel Backing Plates*
- 2.2.8 *Cutting Assembly* → 2.2.8.2 *Removing the Cutting Assembly*
- 2.4.4 *Drive Belt Cover* → 2.4.4.1 *Removing the Drive Belt Cover*
- 2.4.5 *Drive Belt* → 2.4.5.2 *Removing the Drive Belt*
- 2.4.8 *Transmission Pulley* → 2.4.8.1 *Removing the Transmission Pulley*
- 2.4.9 *Rear Axle Retainer and Drive Shaft Shield* → 2.4.9.1 *Removing the Rear Axle Retainer and Drive Shaft Shield*
- 2.4.10 *Drive Chain Case* → 2.4.10.1 *Removing the Drive Chain Case*
- 2.4.11 *Drive Chain* → 2.4.11.3 *Removing the Drive Chain*
- 2.4.13 *Transmission Assembly* → 2.4.13.1 *Removing the Transmission Assembly*

- For this procedure, prepare the mower in the Lower Handle Bar Support position.

- If possible, resting the handle bars in a position which is away from the lower drive frame area will increase accessibility. Ensure that the handle bars are safely secured before beginning maintenance.

1. Using an 8mm socket, remove the nyloc nut securing the cam lever spring in place about the screw, which passes through the mower base and lower drive frame (Figure 2.4.15.1a). Slide the cam lever spring from the screw, noting the orientation of its hook in relation to the lower drive frame (Figure 2.4.15.1b).

Figure 2.4.15.1a

Figure 2.4.15.1b

2. From underneath the mower base, using a suitable Phillips head screwdriver, remove the cam lever spring screw securing the lower drive frame to the mower base (Figure 2.4.15.1c). Then, remove the screw located within the drive belt tunnel, which also secures the lower drive frame to the mower base (Figure 2.4.15.1d). Both screws are fastened by pressed nyloc nuts located within the lower drive frame.

Figure 2.4.15.1c

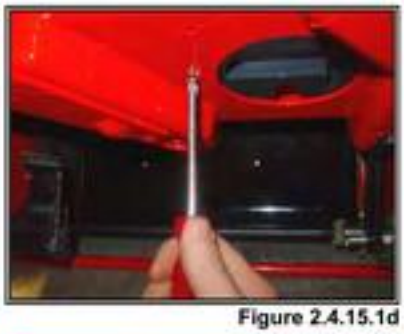

Figure 2.4.15.1d

3. Pull the lower drive frame vertically away from the mower base (Figure 2.4.15.1e). Some resistance may come from the silicon sealant which keeps dirt and debris from entering the drive frame. If required, using a suitable knife or paint scraper, remove any remaining silicon sealant (Figure 2.4.15.1f). Clean away all traces of the silicon sealant from the lower drive frame and mower base before commencing the refitting process.

Figure 2.4.15.1e

CAUTION

- Take care not to damage the lower drive frame or mower base when scraping away resistant silicon sealant.

Figure 2.4.15.1f

2.4.15.2 Refitting the Lower Drive Frame

- For this procedure, prepare the mower in the Lower Handle Bar Support position.

- If possible, resting the handle bars in a position which is away from the lower drive frame area will increase accessibility. Ensure that the handle bars are safely secured before beginning maintenance.

- Before proceeding, all remaining traces of silicon sealant, plus any dirt and debris must be cleaned from the lower drive frame, drive chain case plus the top and bottom sides of the mower base, especially in the drive frame area. After this has been completed the lower drive frame may be refitted.

1. Ensure that the nyloc nuts which secure the inner transmission bearing retainer screws are firmly in place pressed into the lower drive frame (Figure 2.4.15.2a). The nyloc nuts should have a press tight interference fit with their moulded housings to ensure they do not fall from the lower drive frame when refitting the transmission assembly.

Figure 2.4.15.2a

2. Using a suitable clear silicon sealant, run a bead around the bottom side and back face of the lower drive frame to seal the drive chain opening (white line for silicon bead path, dotted section shows bead line hidden by drive chain hole overlap, Figure 2.4.15.2b).

Figure 2.4.15.2b

3. Fit the lower drive frame to the mower base by first aligning the transmission pulley section of the lower drive frame with the corresponding hole in the mower base, then by aligning the tabbed sections of the lower drive frame, which fit into the drive chain opening in the mower base. Press the drive frame firmly into place ensuring that the silicon sealant spreads evenly (Figure 2.4.15.2c).

Figure 2.4.15.2c

4. From underneath the mower base, using a suitable Phillips head screwdriver, refit the cam lever spring screw securing the lower drive frame to the mower base (Figure 2.4.15.2d). Then, refit the screw located within the drive belt tunnel, which also secures the lower drive frame to the mower base (Figure 2.4.15.2e). Both screws are fastened by pressed nyloc nuts located within the lower drive frame.

Figure 2.4.15.2d

Figure 2.4.15.2e

5. Slide the cam lever spring onto its corresponding screw, which passes through the mower base and lower drive frame, while aligning the orientation of its hook (outboard direction) in relation to the lower drive frame (Figure 2.4.15.2f). Using an 8mm socket, refit the nyloc nut securing the cam lever spring in place about the screw (Figure 2.4.15.2g). The nyloc nut securing the cam lever spring should sit roughly 2mm from end of the retaining screw.

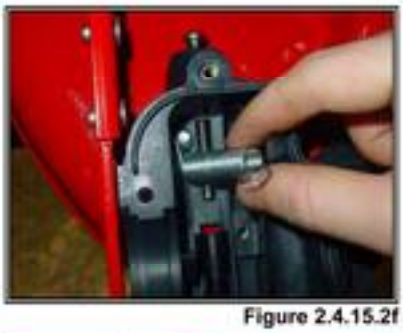

Figure 2.4.15.2f

Figure 2.4.15.2g

6. Finally, smooth the applied silicon sealant into any gapped areas between the edges of the lower drive frame and mower base, while wiping away any excess (Figure 2.4.15.2h). Follow the silicon sealants specific directions for curing times.

Figure 2.4.15.2h

- If possible, refit the remainder of the components before the silicon sealant has cured. Attaching the drive belt cover and transmission assembly will assist in forming the silicon sealant around the lower drive frame and mower base.

Concluding Steps

Follow the directions for:

- 2.4.13 *Transmission Assembly* → 2.4.13.3 *Refitting the Transmission Assembly*
- 2.4.11 *Drive Chain* → 2.4.11.4 *Refitting the Drive Chain*
- 2.4.10 *Drive Chain Case* → 2.4.10.2 *Refitting the Drive Chain Case*
- 2.4.9 *Rear Axle Retainer and Drive Shaft Shield* → 2.4.9.2 *Refitting the Rear Axle Retainer and Drive Shaft Shield*
- 2.4.8 *Transmission Pulley* → 2.4.8.2 *Refitting the Transmission Pulley*
- 2.4.5 *Drive Belt* → 2.4.5.3 *Refitting the Drive Belt*
- 2.4.4 *Drive Belt Cover* → 2.4.4.2 *Refitting the Drive Belt Cover*
- 2.2.8 *Cutting Assembly* → 2.2.8.3 *Refitting the Cutting Assembly*
- 2.4.1 *Wheel Backing Plates* → 2.4.1.2 *Refitting the Wheel Backing Plates*
- 2.2.10 *Wheel Maintenance* → 2.2.10.3 *Refitting the Wheels (rear wheels only)*
- 2.4.11 *Drive Chain* → 2.4.11.2 *Adjusting the Drive Chain*
- 2.4.5 *Drive Belt* → 2.4.5.1 *Adjusting the Drive Belt*
- 2.4.3 *Drive Frame Cover* → 2.4.3.2 *Refitting the Drive Frame Cover*
- 2.2.7 *Adjusting the Clutch Cable*

2.5 MOWER TROUBLESHOOTING GUIDE

- Ensure that the engine and muffler are cold before attempting to adjust the chain to prevent burns.

- Never attempt a corrective action that is not outlined in this or other associated manuals. Refer to your nearest authorised Rover dealer.
- Always replace components with genuine Rover replacement parts.

2.5.1 General Troubleshooting

Problem	Possible Causes	Corrective Action
Engine won't start	• Fuel supply	• Fill the fuel tank* • Prime the fuel system* • Turn the fuel tap on (where fitted)* • Drain and replace, stale or contaminated fuel* • Move throttle or choke or fast position • Re-adjust throttle control cable* • Have the engine serviced by an authorised service agent
	• Air cleaner	• Clean or replace air filter*
	• Spark plug	• Clean/adjust/replace spark plug* • Refit the spark plug wire • Have the engine serviced by an authorised service agent
Uneven grass cutting	• Blades are blunt/worn/bent	• Replace blades
	• Engine speed is too slow	• Use full engine speed
	• Cut height is too low	• Raise cut height
	• Ground speed is too fast	• Slow down the ground speed
Clippings drop while grass catching	• Refer to "Uneven grass cutting" section items	• Refer to the "Uneven grass cutting section items
	• Grass catcher is full	• Empty the grass catcher
	• Grass catcher mesh/vents are dirty/blocked	• Clean the mesh/vents to allow maximum air flow
	• Grass catcher is damaged	• Replace the grass catcher

*Denotes: Refer to the engine manufacturer's manual for details and instructions.

2.5.2 Powerstart Option

Problem	Possible Causes	Corrective Action
Engine cranks slowly	• Bad electrical connection	• Reconnect connections securely • Replace faulty electrical cables
	• Faulty/flat battery	• Replace/recharge the battery
Engine won't crank	• Refer to "Engine cranks slowly" section items	• Refer to "Engine cranks slowly" section items
	• Faulty key switch	• Replace the key switch
	• Faulty starter motor on the engine	• Have the engine serviced at an authorised service dealer

2.5.3 Self Propelled Option

Problem	Possible Causes	Correction Action
Transmission slips under load	• Clutch cable damaged/disconnected/not adjusted correctly	• Replace/reconnect/adjust clutch cables
	• No adjustment left in the clutch cable	• Adjust drive clutches • Replace clutch cable
	• Drive clutches damaged or worn	• Replace drive plates
	• Slipping drive belt	• Readjust or replace the drive belts • Replace worn drive pulley • Replace broken belt tensioning spring
Transmission doesn't drive	• Refer to "Transmission slips under load" section items	• Refer to "Transmission slips under load section items
	• Gearbox is damaged or seized	• Replace gearbox
	• Clutch plate drive pin is broken	• Replace roll pin
	• Final drive sprocket roll pin is broken	• Replace roll pin
	• Broken/dislodged drive chain	• Replace/refit drive chain
	• Broken/dislodged drive belt	• Replace/refit drive belt
	• Engine drive pulley key broken	• Replace key in drive pulley
	• Gearbox pulley roll pin broken	• Replace roll pin

	• Pinion gears/pawls in the drive wheels broken/worn	• Replace broken/worn components
Mower doesn't free wheel easily when drive is in neutral	• Rear wheels jammed with foreign material	• Clean out and re-lubricate rear wheels
	• Pawls in the rear wheels are damaged or seized	• Replace or re-lubricate the pawls
	• Bearings in wheels are seized	• Replace wheels bearings

