CONTENTS

Page 1

SPECIFICATIONS

Transaxle

Type. . . . . .Tuff Torq® K46 Transaxle
Travel Speed-Forward . . . . . 0 – 8.0 km/h (0 – 5.0 mph)
Travel Speed-Reverse . . . . . 0 – 4.7 km/h (0 – 2.9 mph)

Traction Drive Belt

Distance Between Plastic Caps of Compression Spring
(Belt Tensioner Assembly). . . . . 32 – 34 mm (1.26 – 1.34 in.)

Brake

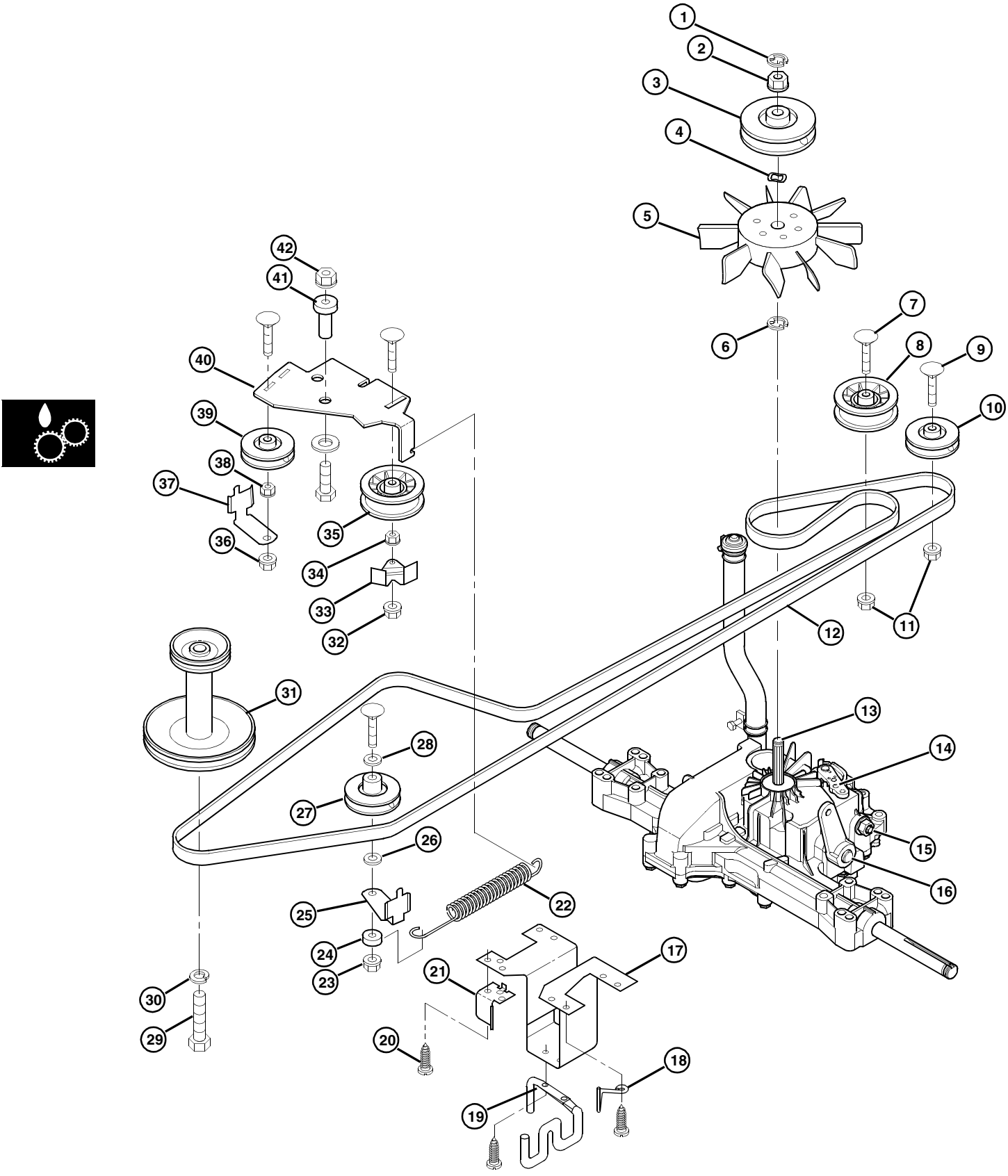
Brake Type . . . . . Wet Disk
Brake Capacity . . . . . 351.5 N•m (259 lb-ft) with 11.3 N•m (100 lb-in.) on brake arm
Brake Lever Travel (Maximum) . . . . . .30°

TORQUE SPECIFICATIONS

Flat Idler Nut On Idler Arm Assembly . . . . . 26 N•m (228 lb-in.)
Transaxle Mounting Cap Screws. . . . . 40 N•m (30 lb-ft)

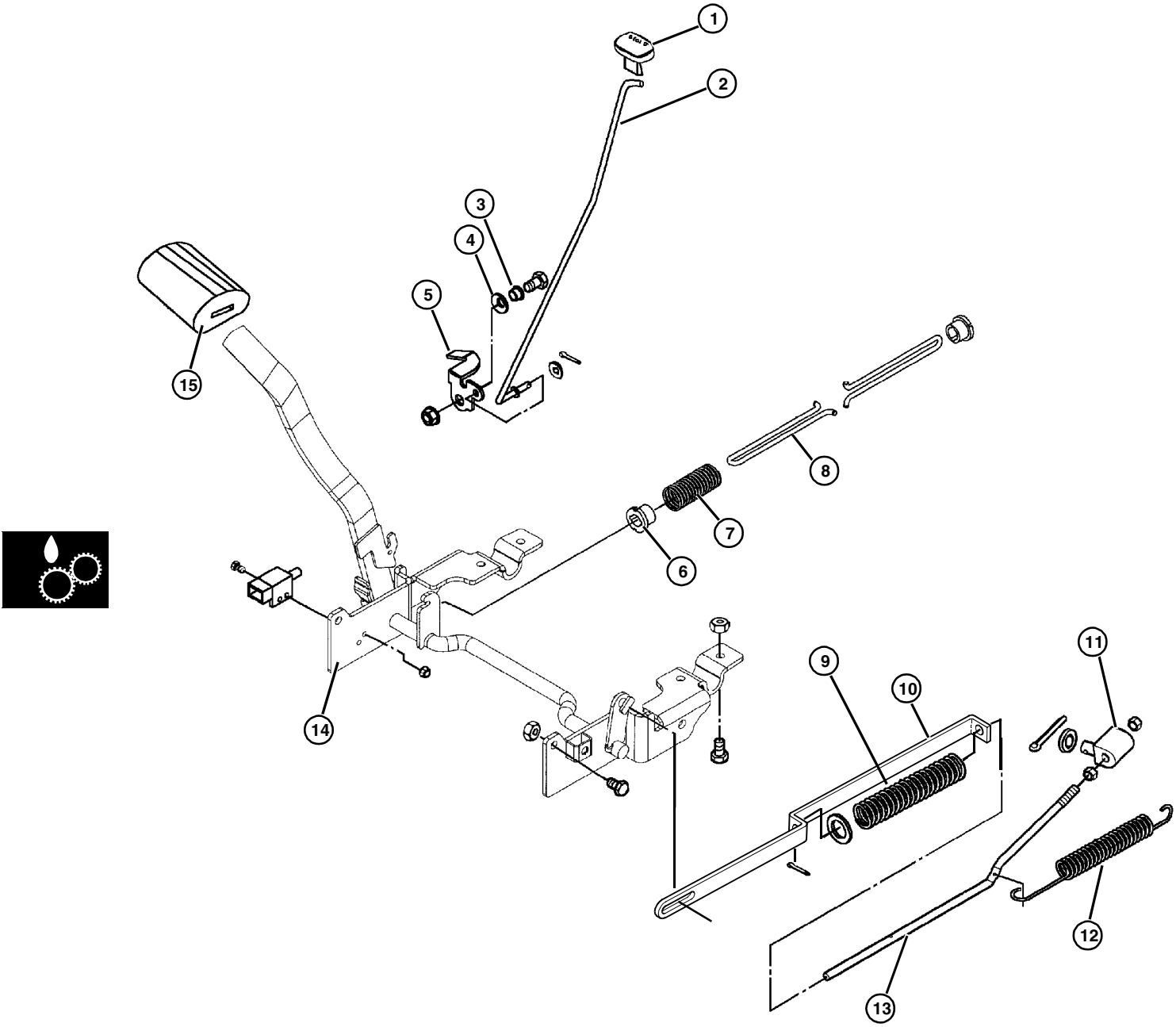
COMPONENT LOCATION

DRIVE COMPONENTS



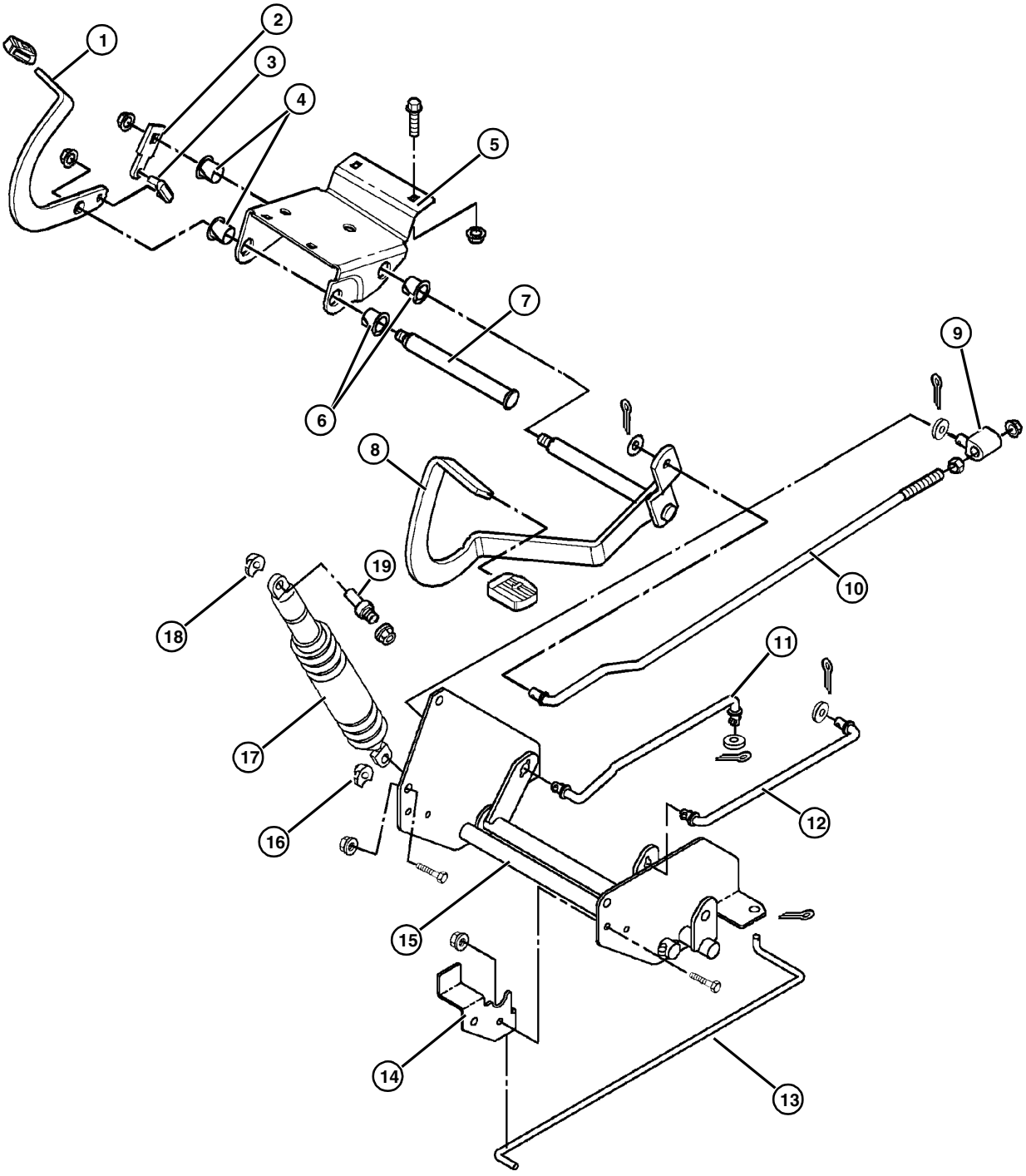
1. Snap ring
2. Lock Nut
3. Sheave
4. Spring Washer
5. Fan
6. Snap ring
7. Bolt
8. Idler
9. Bolt
10. Idler
11. Flange Nut
12. Drive Belt
13. Input Shaft
14. Freewheeling Lever
15. Eccentric Cam
16. Brake Shaft
17. Bracket
18. Belt Guide
19. Belt Guide
20. Screw
21. Guide
22. Extension spring
23. Flange Nut
24. Bushing
25. Guard
26. Spacer
27. Idler
28. Spacer
29. Bolt
30. Lock Washer
31. Drive Sheave
32. Flange Nut
33. Belt Guide
34. Flange Nut
35. Idler
36. Flange Nut
37. Belt Guide
38. Flange Nut
39. Idler
40. Arm
41. Bushing
42. Flange Nut

BRAKE PEDAL AND LINKAGE



1. Park Brake Handle
2. Park Brake Rod
3. Bushing
4. Spring Washer
5. Park Brake Latch
6. Cap
7. Compression Spring
8. Link
9. Compression Spring
10. Strap
11. Rod End
12. Brake Return Spring
13. Brake Rod
14. Brake Pedal Assembly
15. Pedal Pad

FORWARD AND REVERSE PEDALS AND LINKAGE



1. Reverse Pedal	2. Reverse Arm	3. U-Shaped Link	4. Bushings
5. Pedal Bracket	6. Bushings	7. Reverse Shaft	8. Forward Pedal
9. Rod End	10. F/R Control Rod	11. Control Rod (Brake)	12. Control Rod (F/R)
13. Freewheeling Rod	14. Rod Bracket	15. Cross Shaft Assembly	16. Clip
17. Shock Absorber	18. Clip	19. Stud	

THEORY OF OPERATION

The hydrostatic power train is separated into the following systems:

- Traction Drive Belt System
- Transaxle
- Forward and Reverse Pedals
- Freewheel System
- Brake System

TRACTION DRIVE BELT SYSTEM

Function:

The traction drive belt transfers power from the engine to the input sheave of the hydrostatic transaxle.

Theory of Operation:

The traction drive belt is driven by the upper pulley of the engine drive sheave. The traction belt transmits engine power to the input sheave of the hydrostatic transaxle.

The traction drive belt is tensioned by two idler sheaves, which are mounted on a spring loaded bracket. The tension spring runs forward and hooks to the forward fixed idler sheave mounting stud.

TRANSAXLE

Function:

The function of the transaxle is to transfer power from the traction drive belt system (driven by the engine), to the rear wheels, and allow the operator to select ground speed and direction.

Theory of Operation:

The drive belt turns the transaxle input pulley, and transaxle input shaft. This, in turn drives the transaxle hydrostatic pump. When the hydrostatic drive is in neutral, the pump pistons do not move up and down in their bores, therefore, no pressure is built up in the pump. When the operator engages the forward or reverse pedals, the pedal linkage tilts a swash plate inside the transaxle. This causes the pump pistons to travel up and down in their bores. The pump pistons create hydraulic pressure which drives the hydrostatic motor. The motor drives the rear axle and wheels through a reduction gear and differential assembly.

The transaxle provides infinite ground speed selections up to 5 mph in forward and up to 2.9 mph in reverse.

FORWARD AND REVERSE PEDALS

Theory of Operation:

Neutral:

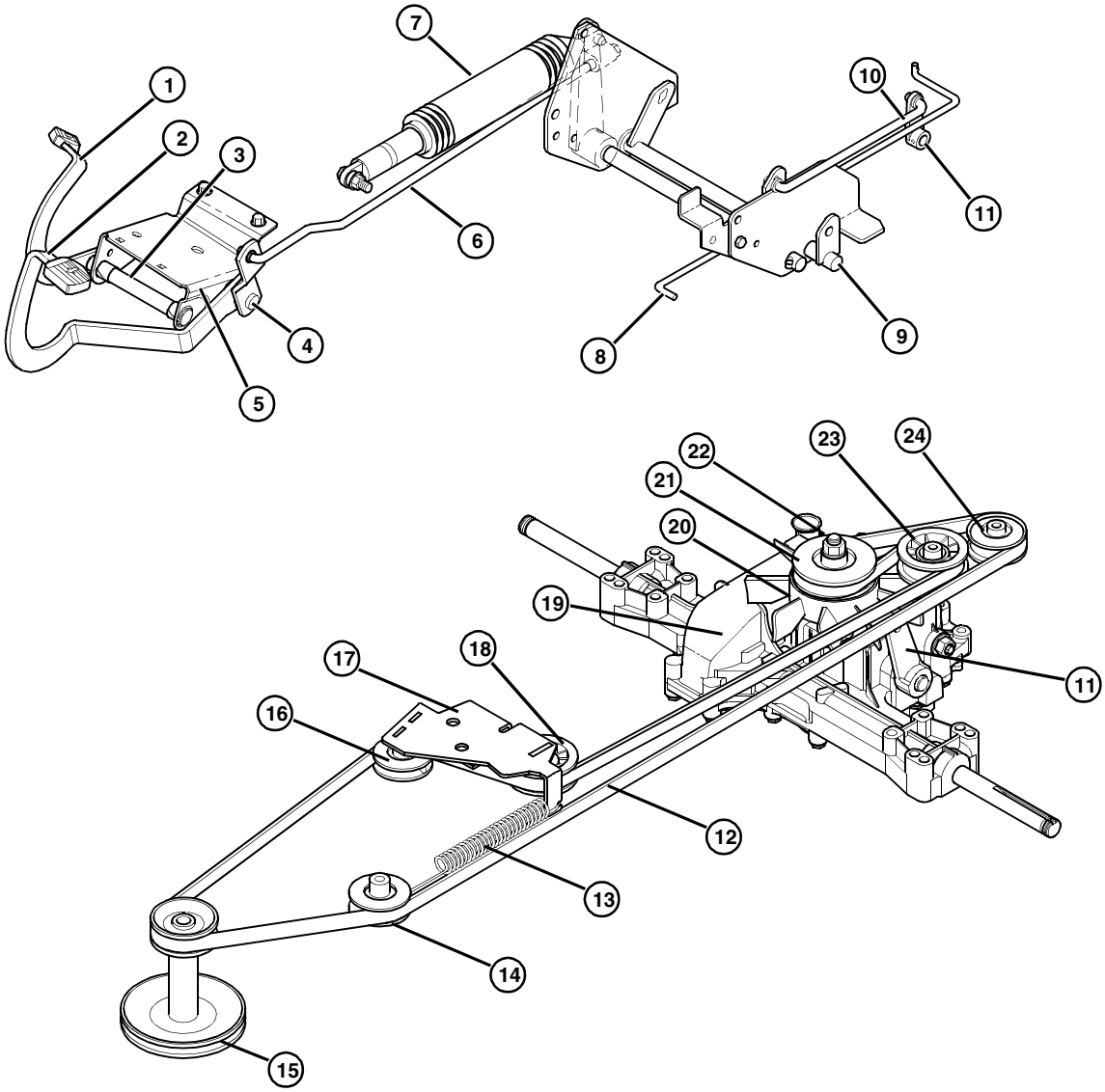
When the engine is running, the traction drive belt turns the transaxle input pulley, cooling fan, and input shaft. The input shaft turns the hydrostatic pump input shaft and pump body, inside the transaxle. When the forward/reverse pedals are not depressed, the control lever on the transaxle holds the control linkage in the NEUTRAL (centered) position, and the drive axles do not turn.

Forward:

When the forward pedal is depressed, the forward shaft is rotated, pulling the forward/reverse control rod forward, turning the cross shaft, and pulling the control rod forward. This pulls the control lever on the transaxle forward, turning the control shaft inside the transaxle, and causing the drive axles to turn in the FORWARD direction.

Reverse:

When the reverse pedal is depressed, a link on the reverse pedal engages the forward pedal shaft, raising the forward pedal. This moves the forward/reverse control rod rearward, turning the cross shaft, and pushing the control rod rearward. This pushes the control lever on the transaxle rearward, turning the control shaft inside the transaxle, and causing the drive axles to turn in the REVERSE direction.



1. Reverse Pedal
2. Forward Pedal
3. Reverse Shaft
4. Forward Shaft
5. Pedal Bracket
6. F/R Control Rod
7. Shock Absorber
8. Freewheeling Rod
9. Brake Cross Shaft
10. Control Rod
11. Control Lever
12. Traction Drive Belt
13. Idler Tension Spring
14. Fixed Idler Sheave
15. Engine Drive Sheave
16. V-Idler
17. Idler Arm Assembly
18. Flat Idler
19. Transaxle
20. Cooling Fan
21. Input Sheave
22. Input Shaft
23. Flat Idler
24. V-Idler

FREEWHEEL SYSTEM

Function:

The freewheel system allows the operator to move the tractor with the engine off and the brake released.

Theory of Operation:

When the freewheel rod is pulled forward, the freewheel rod rotates the freewheeling shaft. When the freewheeling shaft rotates, the operator is allowed to push the tractor in forward or reverse directions with the engine off and the brake released.

⚠ CAUTION

DO NOT operate freewheel valve with engine running. Damage to hydrostatic transmission can occur.

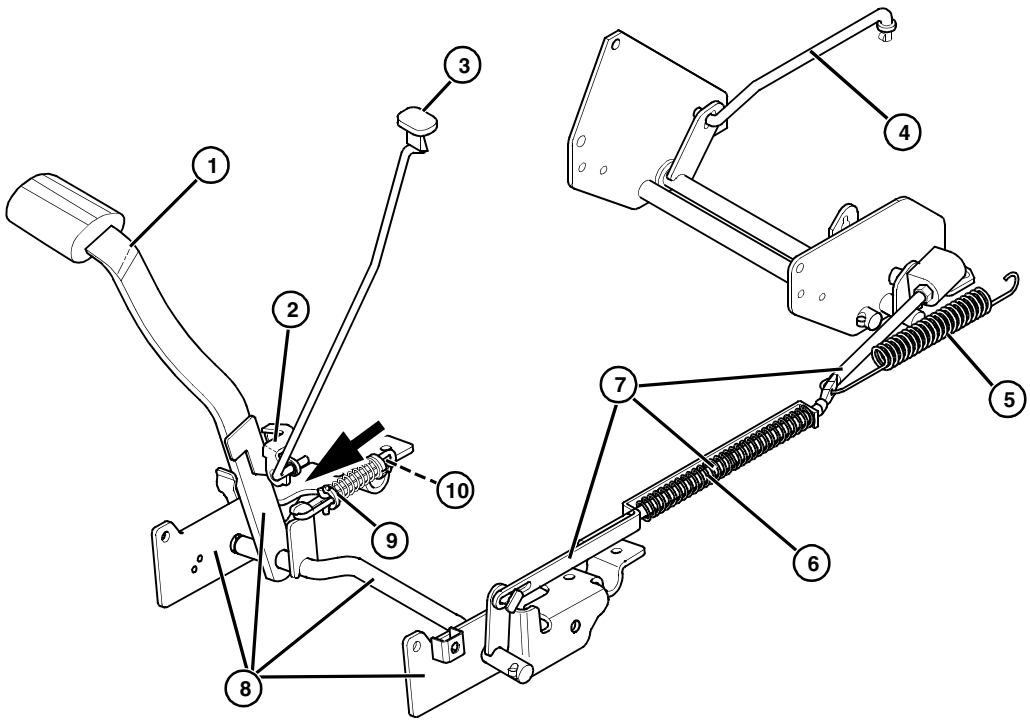
BRAKE SYSTEM

Function:

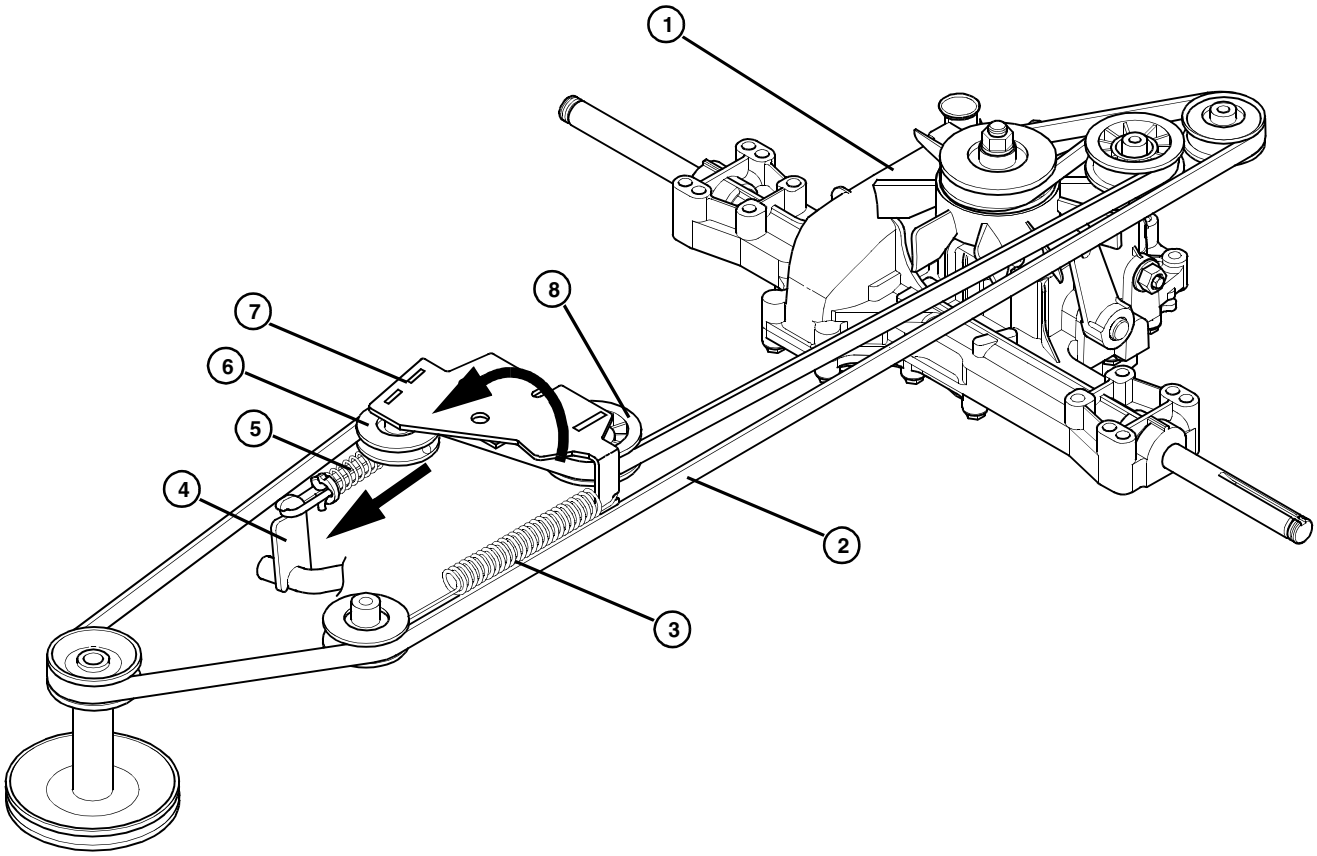
The brake system provides the operator with a method to mechanically stop the movement of the tractor. The brake system also provides a parking brake function through the use of a mechanical locking mechanism which, when engaged, holds the brake pedal in the depressed position.

Theory of Operation:

When the brake pedal is depressed, the compression spring is compressed, pulling on the idler arm assembly, removing tension from the traction drive belt. The brake also pulls on the brake rod assembly, which pulls on a lever on the cross shaft assembly. This turns the cross shaft, and pulls on the brake rod on the opposite side, turning the brake lever on the transaxle. The transaxle brake lever actuates a wet disk brake inside the transaxle which is attached to the hydrostatic motor, which is linked to the axle shafts through a reduction gear and differential assembly.



1. Brake Pedal
2. Park Brake Latch
3. Park Brake
4. Brake Rod
5. Brake Return Spring
6. Compression Spring
7. Brake Rod Assembly
8. Brake Pedal Assembly
9. Compression spring
10. Rod to Idler Arm Assembly



1. Transaxle
2. Traction Drive Belt
3. Idler Tension Spring
4. Brake Pedal Assembly
5. Compression spring
6. V-Idler
7. Idler Arm assembly
8. Flat Idler