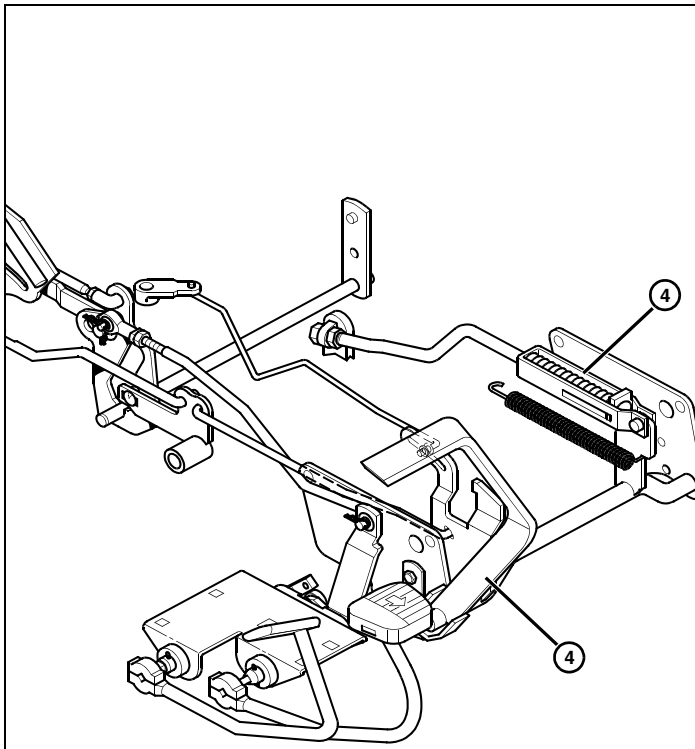
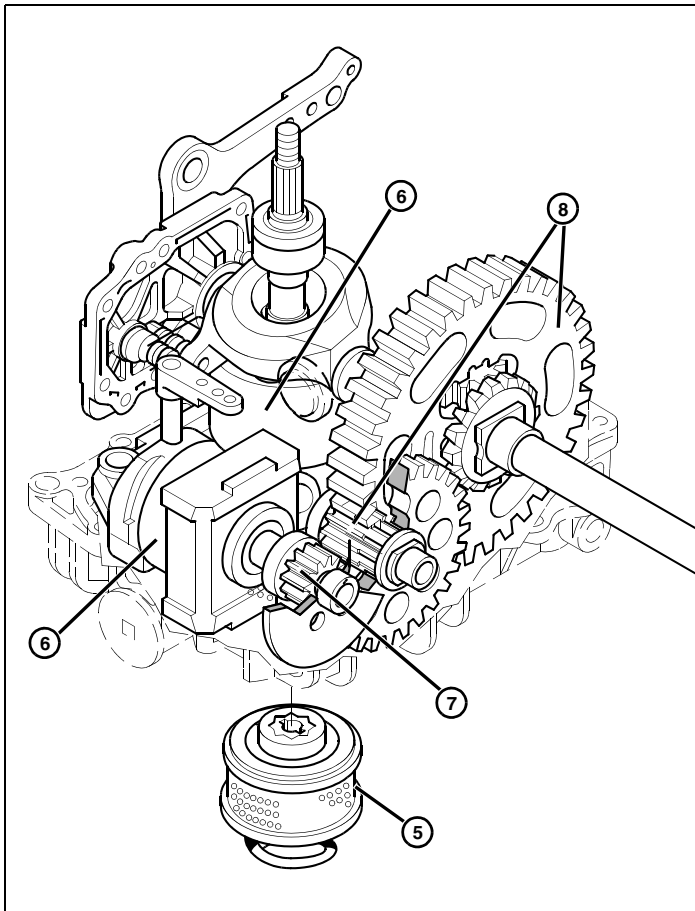


# POWER TRAIN - HYDROSTATIC DIAGNOSTICS



MIF



MIF

## Machine Does Not Achieve Full Ground Speed

### Test Conditions:

- Machine parked on level surface.
- Key switch in STOP position.
- Park brake UNLOCKED.
- Transaxle in NEUTRAL.

**NOTE:** Steps 12 through 15 require removal of transaxle from machine.

### Symptom: Machine Does Not Achieve Full Ground Speed

#### (1) Transaxle free of debris?

**Yes** - Go to next step.

**No** - Remove debris from transaxle.

#### (2) Cooling fan not damaged.

**Yes** - Go to next step.

**No** - Replace cooling fan.

#### (3) Hydrostatic reservoir oil at full mark, at operating temperature, clean and not foamy?

**Yes** - Go to next step.

**No** - Fill reservoir to correct level. Drain transaxle and fill to correct level with specified oil. Bleed air from system. See "Hydrostatic Transaxle Bleeding Procedure" on page 405.

#### (4) Is the traction belt worn, frayed, glazed or stretched?

**Yes** - Replace traction belt. See "Traction Drive Belt Removal and Installation" on page 442.

**No** - Go to next step.

#### (5) Is the traction belt properly tensioned?

**Yes** - Go to next step.

**No** - Check belt tensioning. See "Traction Drive Belt Tensioner Assembly" on page 444.

#### (6) Is the park brake set?

**Yes** - Release park brake.

**No** - Go to next step.

#### (7) Swash plate and control lever not bent or worn?

**Yes** - Go to next step.

**No** - Replace damaged or worn components. See "Transaxle Disassembly" on page 414.

# POWER TRAIN - HYDROSTATIC DIAGNOSTICS

## Symptom: Machine Does Not Achieve Full Ground Speed

**(8) Brake linkage adjusted properly, brake rod and lever not damaged or binding?**

**Yes** - Go to next step.

**No** - Adjust brake linkage. See "Brake Linkage Adjustment" on page 408. Eliminate binding and/or replace damaged components.

**(9) Is the forward/reverse pedal linkage properly adjusted?**

**Yes** - Go to next step.

**No** - Adjust linkage. See "Forward and Reverse Pedal Height Adjustment" on page 407.

**(10) Does the forward/reverse pedal linkage move freely?**

**Yes** - Go to next step.

**No** - Eliminate binding, replace faulty or damaged components. See "Control Pedals and Linkage" on page 445.

**(11) Is the shock absorber binding or damaged?**

**Yes** - Replace shock absorber.

**No** - Go to next step.

**(12) Hydrostatic oil filter is free of debris, not plugged?**

**Yes** - Go to next step.

**No** - Replace filter.

**(13) Pump/motor rotating groups not scoring on case/cylinder block mating surfaces, or scoring on pistons?**

**Yes** - Go to next step.

**No** - Replace rotating groups and center case. See "Transaxle Disassembly" on page 414.

**(14) Freewheel linkage and lever move freely and are not damaged?**

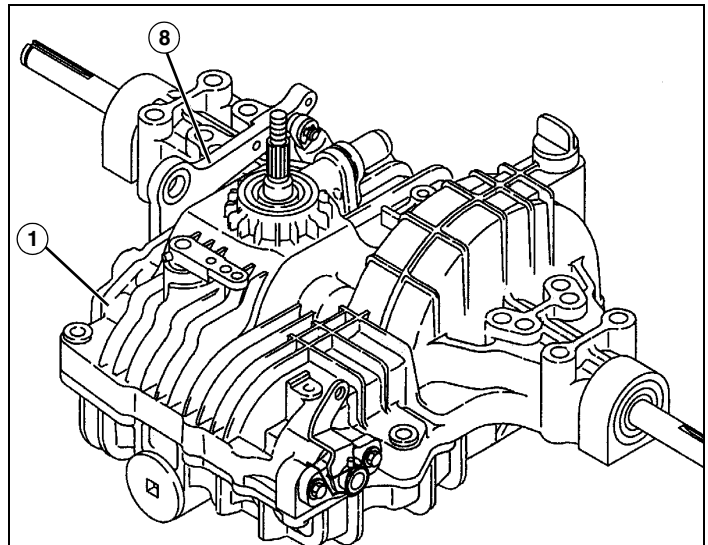
**Yes** - Go to next step.

**No** - Eliminate binding and/or replace damaged components.

**(15) Check valve spools move freely, components not damaged?**

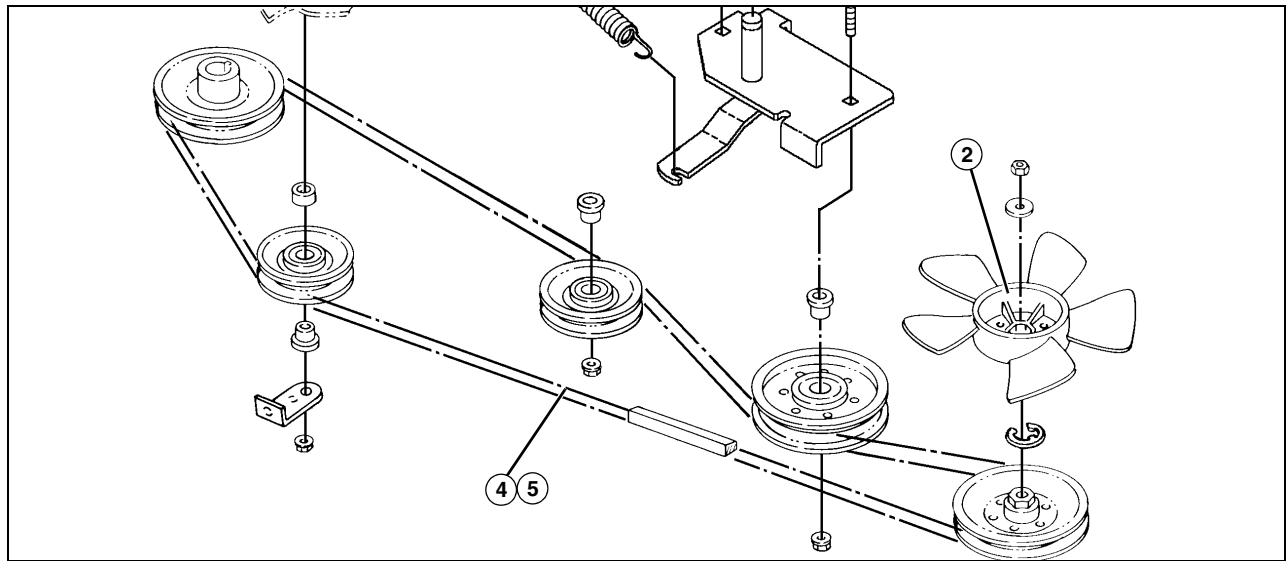
**Yes** - Go to next step.

**No** - Clean, free up valves or replace valves. See "Transaxle Disassembly" on page 414.

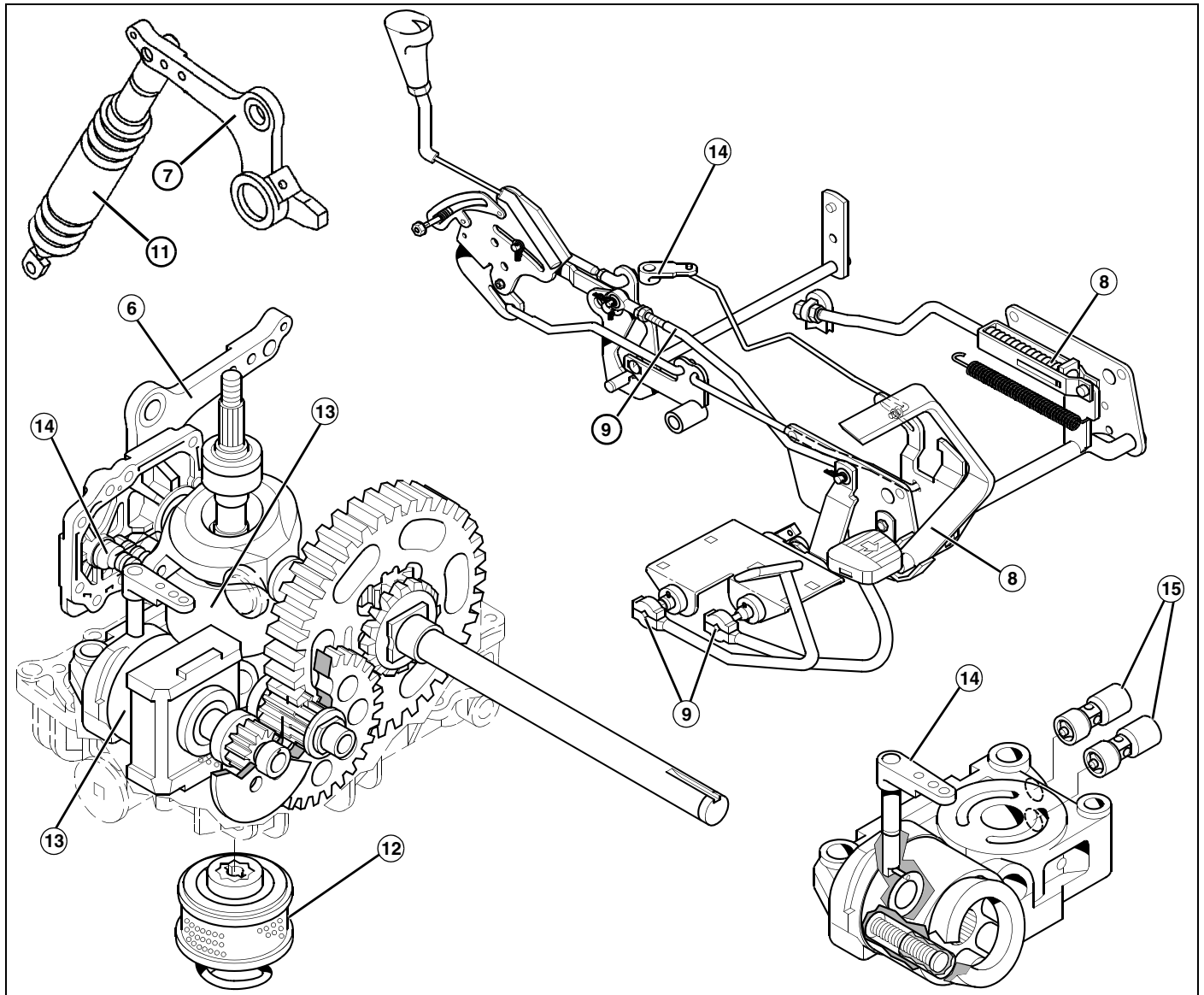


M95586

# POWER TRAIN - HYDROSTATIC DIAGNOSTICS



M95482



M99578, MIF

# POWER TRAIN - HYDROSTATIC DIAGNOSTICS

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## Park Brake Does Not Hold Machine On Hill

### Test Conditions:

- Machine parked on level surface.
- Key switch in STOP position.
- Park brake UNLOCKED.
- Transaxle in NEUTRAL.

**NOTE: Steps 12 through 15 require removal of transaxle from machine.**

---

## Symptom: Park Brake Does Not Hold Machine On Hill

### (1) Brake pedal and linkage are not damaged, worn, or binding?

**Yes** - Go to next step.

**No** - Eliminate binding and/or replace damaged components.

### (2) Park brake lever and linkage are not damaged, worn, or binding?

**Yes** - Go to next step.

**No** - Eliminate binding and/or replace damaged components.

### (3) Brake disk, shoe and brake assembly are not damaged, worn, or binding?

**Yes** - Go to next step.

**No** - Eliminate binding and/or replace damaged components. See "Transaxle Disassembly" on page 414.

### (4) Motor shaft with gear not damaged or worn.

**Yes** - Go to next step.

**No** - Replace shaft. See "Transaxle Disassembly" on page 414.

### (5) Reduction shaft and gear not worn or damaged.

**Yes** - Go to next step.

**No** - Replace damaged or worn components. See "Transaxle Disassembly" on page 414.

### (6) Final pinion and ring gear not damaged or worn?

**Yes** - Go to next step.

**No** - Replace damaged or worn components. See "Transaxle Disassembly" on page 414.

### (7) Differential gears not damaged.

---

## Symptom: Park Brake Does Not Hold Machine On Hill

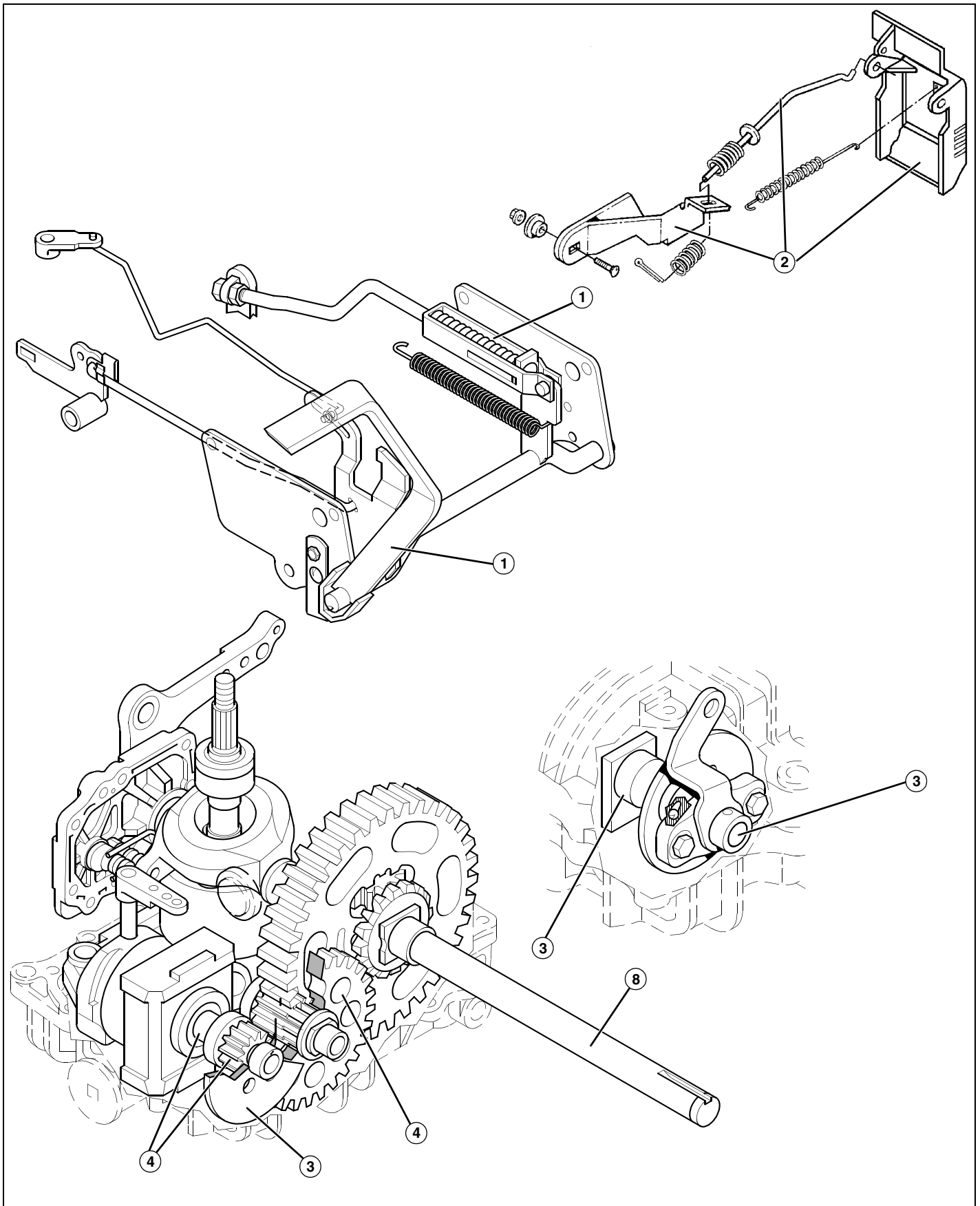
**Yes** - Go to next step.

**No** - Replace gears. See "Transaxle Disassembly" on page 414.

### (8) Axle shafts not damaged?

**No** - Replace axle shafts. See "Transaxle Disassembly" on page 414.

# POWER TRAIN - HYDROSTATIC DIAGNOSTICS



M99581, MIF

# POWER TRAIN - HYDROSTATIC DIAGNOSTICS

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## Brake Switch Will Not Engage

### Test Conditions:

- Machine parked on level surface.
- Key switch in STOP position.
- Park brake UNLOCKED.
- Transaxle in NEUTRAL.

---

### Symptom: Brake Switch Will Not Engage

#### (1) Transaxle free of debris?

**Yes** - Go to next step.

**No** - Remove debris from transaxle.

#### (2) Is the forward/reverse pedal linkage properly adjusted?

**Yes** - Go to next step.

**No** - Adjust linkage. See "Forward and Reverse Pedal Height Adjustment" on page 407.

#### (3) Does the forward/reverse pedal linkage move freely?

**Yes** - Go to next step.

**No** - Eliminate binding, replace faulty or damaged components. See "Control Pedals and Linkage" on page 445.

#### (4) Brake linkage adjusted properly, brake rod and lever not damaged or binding?

**Yes** - Go to next step.

**No** - Adjust brake linkage. See "Brake Linkage Adjustment" on page 408. Eliminate binding and/or replace damaged components.

#### (5) Does the brake switch have continuity with park brake locked?

**Yes** - Go to next step.

**No** - Test brake switch. See "Brake Switch Test" in the Electrical section. Replace switch as needed.

#### (6) Is the shock absorber binding or damaged?

**Yes** - Replace shock absorber.



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