

Technical BULLETIN

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2007: PZ50GTW/FXW/MW/VTW MODELS

2008: PZ50GTX/RTX/MTX/VTX MODELS

Shifting Difficulties to and from Reverse

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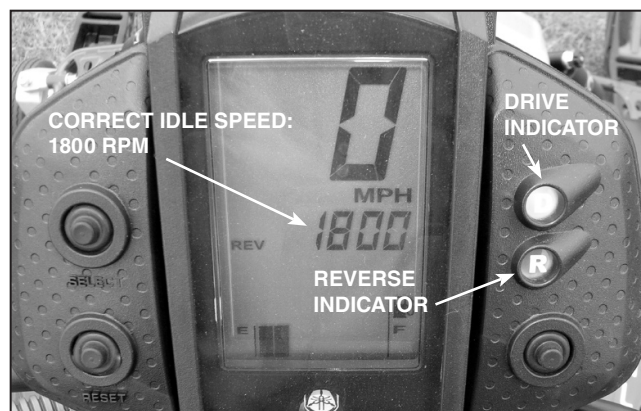
INTRODUCTION

Symptom: On some units, shifting to and from reverse may become difficult when pressing the drive select switch button.

Cause: Different conditions may contribute to difficult shifting. The following conditions have been reported as related to the situation:

- Incorrect idle rpm
- Throttle Position Sensor (TPS) failure
- Excessive drive belt drag

Remedy: Confirm correct idle speed, TPS function, and shift operation as instructed in this bulletin. If the unit still has a shifting problem, install an additional shim and a new-style drive belt per bulletin instructions (this new belt is standard on 2009 and later models).



Proper Function of Drive / Reverse Indicator Lights and Reverse Buzzer

Shifting to Reverse:

- When shifting to reverse, the reverse indicator light will flash and the reverse buzzer will beep in an uneven short/long pattern.
- When shifting is completed, the reverse indicator light will stay on constant (no flashing) and the reverse buzzer will beep evenly.

Shifting to Drive:

- When shifting to drive, the drive indicator light will flash and the reverse buzzer will stop beeping.
- When shifting is completed, the drive indicator light will stay on constant (no flashing).

If the engine is shut off while in reverse, the unit will automatically shift to drive when restarted.

NOTE: The gear engagement dogs inside the gearbox must align to allow shifting. It may be necessary to rock the machine side-to-side to help the gear dogs align so it will shift. This is normal.



DEALER ACTION SUMMARY

Sold

Units: If the unit is difficult to shift, follow the procedures in this bulletin. Check the unit first to be sure it is not already modified. See the *Identification Procedure* section on page 4.

Unsold

Units: NOT APPLICABLE. This bulletin only applies to affected units that have developed shifting difficulties to and from reverse.

Parts

Required: Yes. Order parts as outlined in the *Parts Information* section for each unit with difficult shifting.

Warranty: Normal warranty applies.



AFFECTED RANGE

2007: PZ50GTW	2008: PZ50GTX
PZ50FXW	PZ50RTX
PZ50MW	PZ50MTX
PZ50VTW	PZ50VTX



SERVICE PROCEDURES

DIAGNOSIS FOR DIFFICULT SHIFTING

1. Confirm Idle RPM

Before checking shifting, make sure the unit is fully warm and the low coolant temperature light ① has turned off. Set the idle speed to 1800 ± 100 rpm.

2. Confirm Shift Operation

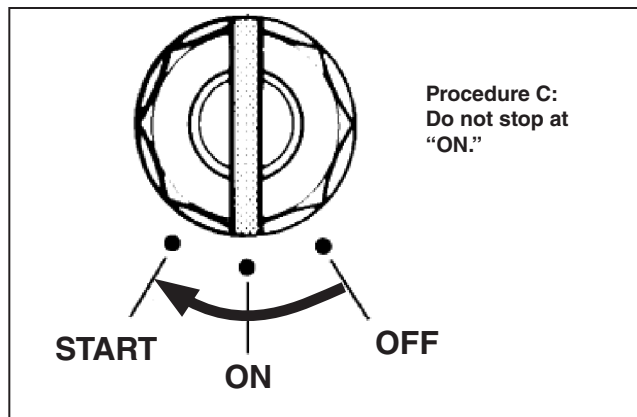
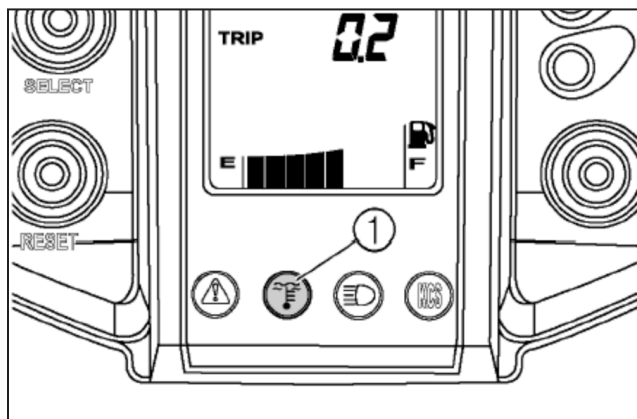
If the idle speed is correct, confirm the shifting system is operating:

- A. Remove the L/H side panel and drive belt cover and **remove the drive belt**.

CAUTION:

The drivebelt must be removed before continuing with the procedure.

- B. Lift the rear of the unit so the track is off the ground.
- C. Turn the key switch directly from OFF to START and start the engine without stopping the key at the ON position. After the engine starts, release the key to allow it to return to the ON position.



- D. While the engine is idling (with drive belt removed), press the drive select button to shift into reverse. Rotate the secondary clutch back and forth to allow the gear engagement dogs to align, and confirm that shifting has occurred.

NOTE: If the reverse system does not shift after procedures C and D, refer to the appropriate Service Manual to troubleshoot the cause.

3. Check for faulty TPS

A faulty TPS can usually be confirmed using the self-diagnostic system. However, if the TPS has an intermittent problem, the procedures below will allow detection of the faulty TPS.

With the drive belt cover and drive belt still removed and rear of the unit still off the ground:

E. Turn the key switch from OFF to ON, wait for the fuel pump to cycle on and off (approx. 3 seconds), then turn the key to START and start the engine. After the engine starts, release the key to allow it to return to the ON position.

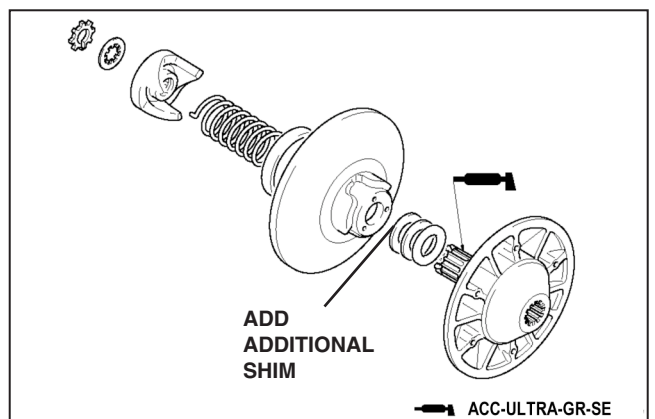
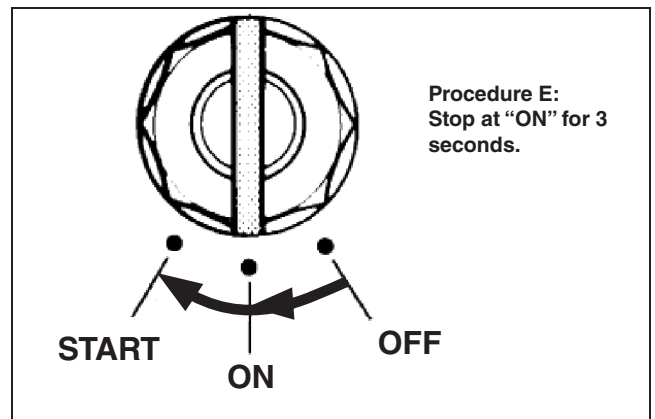
F. While the engine is idling (with drive belt removed), press the drive select button to shift into reverse. Rotate the secondary clutch back and forth to allow the gear engagement dogs to align, and confirm that shifting has occurred.

Repeat procedures E and F several times. If the unit consistently shifts to reverse using procedures C and D but will not shift to reverse consistently using steps E and F, it indicates a faulty TPS. Replace the TPS and repeat procedures to confirm.

If the unit does shift correctly in the tests above, the unit's difficult shifting is likely caused by excess drive belt drag. Replace the drive belt and add an additional shim in the secondary clutch as described below.

ADDITIONAL SECONDARY SHIM AND NEW DRIVE BELT (IF NECESSARY)

If the symptom still occurs after all other checks, a new drive belt (P/N: 8GK-17641-10-00) has been developed to improve the shifting function.



NOTE: Refer to the appropriate Service Manual (available on YDS).

1. Ensure the ignition is OFF and the key has been removed. Apply the parking brake.
2. Remove the L/H side panel and drive belt guard.
3. Remove the drive belt.
4. Tag and hold the drive belt for 90 days from date of warranty request.
5. Remove and separate the secondary clutch assembly as per the Service Manual.
6. With the sheaves separated, add one secondary clutch shim (P/N: 90201-345G2-00) to the two already in place for a total of three shims.
7. Reassemble the secondary clutch assembly using a very light coat of Ultramatic Grease (P/N: ACC-ULTRA-GR-SE) on the secondary slide sheave bushing only. Confirm proper secondary spring location specification.
8. Install the secondary clutch assembly and tighten the bolt to specification.
9. Using Contact Cleaner (P/N: ACC-BRKCT-12-00), be sure the sheaves and post of the primary clutch are free of drive belt residue.
10. Install the new drive belt (P/N: 8GK-17641-10-00).
11. Install the belt guard and the L/H side panel.
12. Check shift function to and from reverse once the engine has reached normal operating temperature.



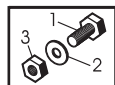
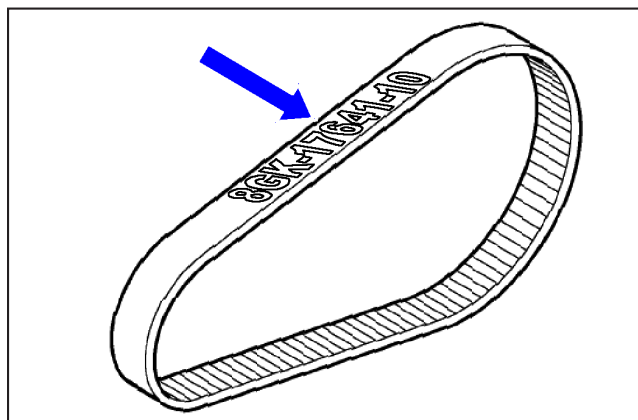
IDENTIFICATION PROCEDURE

If you encounter an unfamiliar unit and you are unsure if the unit has been modified as per this bulletin, check the drive belt part number as shown in the adjacent illustration. The old belt is “-00” and the new belt is “-10.”

You may also check the modification status of a unit on the Yamaha Dealer System (YDS). Click on the following tabs in order:

- Service
- Warranty Claims
- Unit Status

Then, enter the unit's Primary I.D. Look for a warranty claim containing the drive belt part number.



PARTS INFORMATION

Part Number	Description	Qty.	
8GK-17641-10-00	Drive Belt	1	
90201-345G2-00	Washer Plate	1	



WARRANTY INFORMATION

Normal warranty applies.

