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Coding Information

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**Title:** Hydraulic Clutch Adjustment for ProStar + Vehicles

**Applies To:** ProStar + Vehicles with Hydraulic Clutch

## DESCRIPTION

This article describes the procedures for :Internal and External Hydraulic Clutch Adjustment

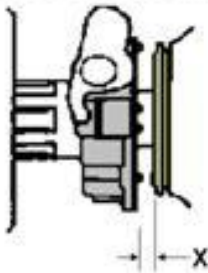
## SYMPTOMS

- Engine will not start
- Transmission grinds going into gear
- Excessive clutch pedal free travel
- No clutch pedal free travel

## CRITICAL CLUTCH DIMENSIONS

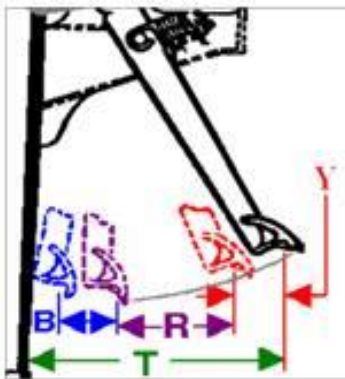
**Clutch Release Bearing Measurement:**

**X = Clutch Release Travel**



1. X, Clutch Release Bearing Travel:
  - Distance of gap between release bearing (clutch engaged position) & clutch brake.
  - Desired measurement = 0.53 inches
  - Tolerance Range = 0.49 to 0.56 inches.
2. How to Measure:
  - Ensure clutch pedal is fully released (clutch is fully engaged).
  - Use appropriate tools to determine gap distance.

**Clutch Pedal Measurement:**



1. Y, Clutch Pedal Free Play:
  - Distance the clutch pedal travels from the top position (pedal fully released and clutch fully engaged) until the master cylinder push rod contacts the master cylinder piston.
  - Desired distance = .5 inches.
  - Tolerance Range = 0.4 to 0.6 inches.
2. Reference Dimensions:
  - R = Release Pedal Travel
  - B = Brake Squeeze Travel (at pedal)
  - T = Total Clutch Pedal Travel

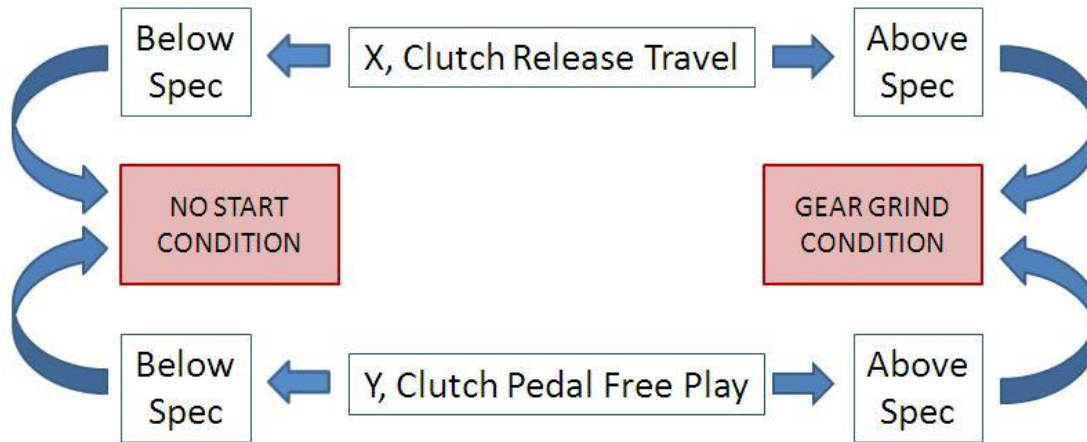
**How to Measure Clutch Free Play:**



1. Measuring Clutch Pedal Free Play:
- Choose a common reference point on the clutch pedal to measure from.
  - Choose a common reference point in the cab to measure to.
  - With clutch pedal fully released (clutch fully engaged), take first measurement.
  - Apply hand force on pedal until free play is taken up. Take second measurement.
  - Record the differences of the two measurements

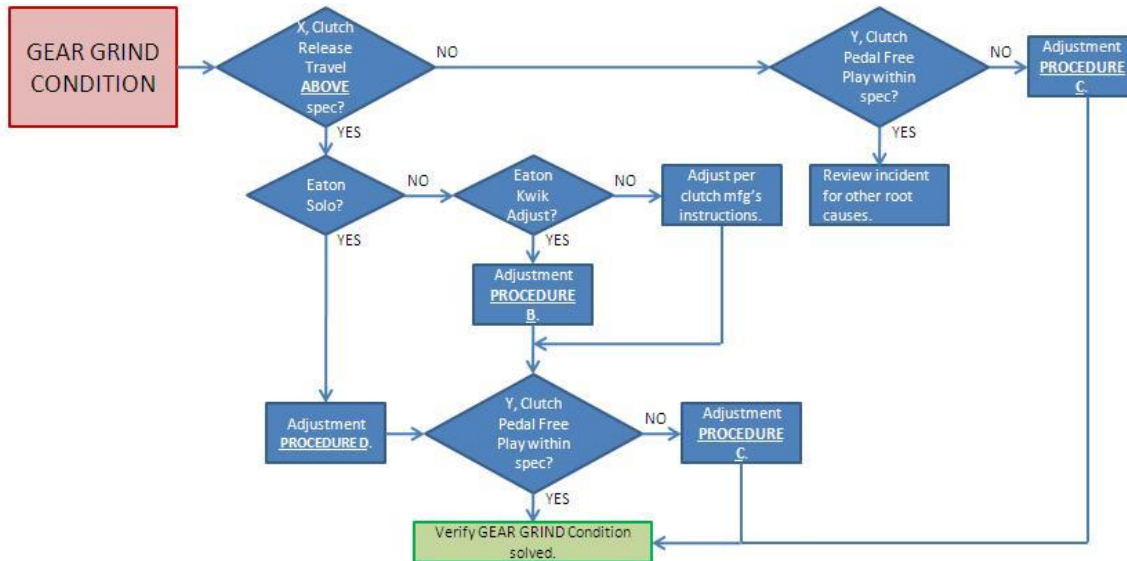
**FAILURE MODES OF INCORRECT CLUTCH ADJUSTMENT**

Reasons For Gear Grind and No Start Conditions



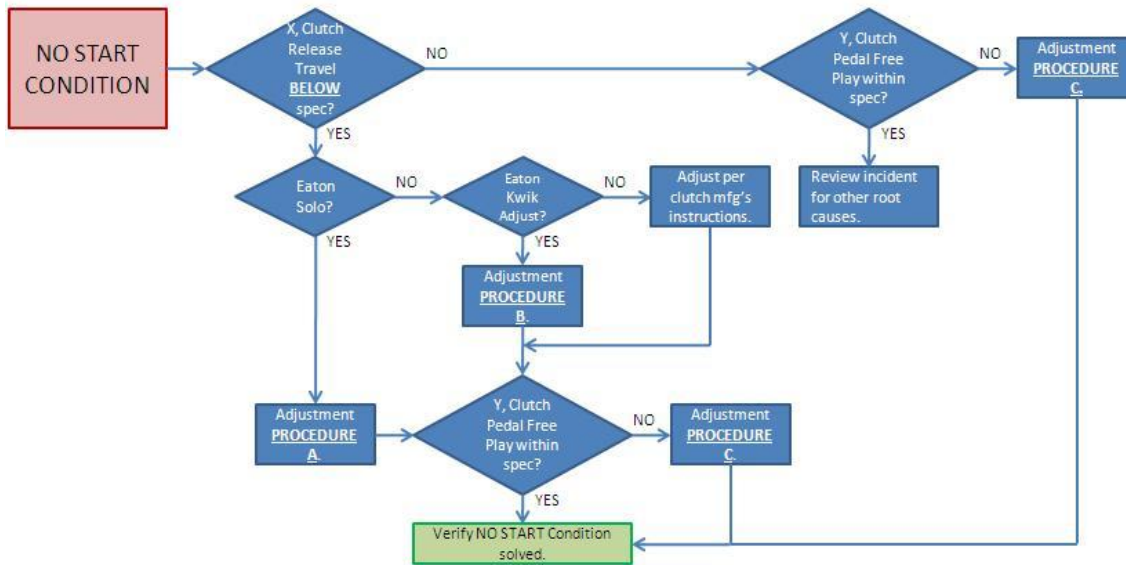
**NO START CORRECTION PROCEDURE**

Gear Grind Correction Procedure



**INTERNAL AND EXTERNAL CLUTCH ADJUSTMENT PROCEDURES**

## No Start Correction Procedure



### Adjustment PROCEDURE A

- 1) Reset Eaton Solo clutch spring loaded cams per Eaton's instructions.
- 2) Complete **PROCEDURE D**.

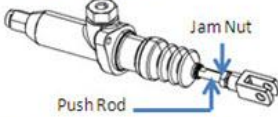
### Adjustment PROCEDURE B

- 1) Adjust Eaton **Kwik** Adjust clutch per Eaton's instructions. Adjustment can be made without disturbing master cylinder.

### Adjustment PROCEDURE C

- 1) In cab, loosen jam nut on master cylinder push rod.
- 2) Rotate master cylinder push rod to adjust free play.
- 3) Re-tighten jam nut.
- 4) Confirm **Y, Clutch Pedal Free Play** dimension is within Tolerance Range(0.4 to 0.6 inches)

### Adjustment PROCEDURE D

- 1) In cab, loosen jam nut on master cylinder push rod. 
- 2) Rotate master cylinder push rod until free play is removed from the system and re-tighten jam nut.
- 3) Actuate clutch pedal 5 times in order to set Solo clutch.
- 4) Confirm **X, Clutch Release Travel** dimension is within Tolerance Range (0.49 to 0.56 inches)
- 5) Again, loosen jam nut on master cylinder push rod.
- 6) Rotate master cylinder push rod to original position to restore free play and re-tighten jam nut.

## GEAR GRIND CORRECTION PROCEDURE

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