



## **WORKSHEET 3-2**

### ***Rear-Drive Transmission—Shift Mechanism and Shaft Removal***

Vehicle:	Year/Prod. Date:	Engine	Transmission:
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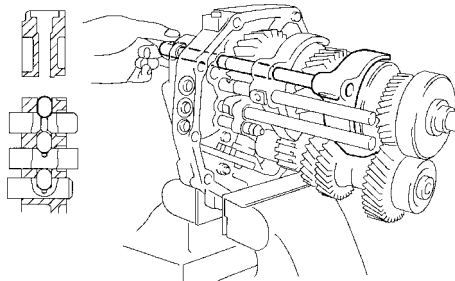
### **Worksheet Objectives**

With this worksheet and a repair manual, you will follow the disassembly of the shift mechanism and shaft removal from a rear-drive transmission using the required special tools. You will make measurements where appropriate, retrieve and apply the needed service information, retrieve and interpret service specification information from the repair manual.

### **Tools and Equipment**

- Vehicle Repair Manual
- 5th Gear Puller SST (P/N 00002-00907-01)
- Hand Tool Set
- Dial Indicator and Stand
- Micrometer, 0-1 in., 1-2 in.
- Feeler Gauge Set
- Magnet

### **Section 1: Remove Shift Mechanism**



1. Remove the shift rail snap rings, screw plugs, locking balls and springs.
2. What function do the locking balls and springs serve in the shift mechanism?  
\_\_\_\_\_
3. Remove the shift fork shafts and interlock pins from the intermediate plate.
4. What function do the interlock pins serve?  
\_\_\_\_\_

5. What function does the reverse shift fork detent ball and spring serve?

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6. What function does the reverse shift fork interlock ball have and where is it located?

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**Section 2: Measure thrust clearance and remove the rear bearing and 5th gear from the countershaft.**

1. Inspect the thrust clearance of counter 5th gear.

Measurement: \_\_\_\_\_

Specification: \_\_\_\_\_

2. Measure the thickness of the countershaft snap ring and identify the "Mark" designation from the repair manual chart.

Measurement: \_\_\_\_\_

Specification: \_\_\_\_\_

3. What is the SST number/s used to remove the 5th gear?

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4. **R150** – After pulling the 5th gear spline piece, countershaft 5th gear can be removed from the shaft by pushing out the split roller bearings so the gear clears the output shaft rear bearing.

5. **W59** – When removing the 5th gear from the countershaft be careful not to catch the output shaft rear bearing rollers with the teeth of 5th gear

**Section 3: Remove output shaft rear bearing and 5th gear.**

1. **R150** – The output shaft can be removed without removing the rear bearing and 5th gear. Removing these components can be done in a hydraulic press but may not be required by your instructor.

2. **W59** – What SST number/s should be used to remove 5th gear and reverse gear? (See SST Bulletin on page C-1 in the Tech Handbook Appendix.)

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3. Remove the bearing retainer, center bearing snap ring and then remove the gear shafts.

#### Section 4: Thrust Clearance

Inspect the following thrust clearances:

1. Output shaft 1st gear:

Measurement: \_\_\_\_\_

Specification: \_\_\_\_\_

2. Output shaft 2nd gear:

Measurement: \_\_\_\_\_

Specification: \_\_\_\_\_

3. Output shaft 3rd gear:

Measurement: \_\_\_\_\_

Specification: \_\_\_\_\_

4. If 2nd or 3rd gear thrust clearance is excessive, what additional measurement must be made to determine the cause?

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## Notes

# Rear-Drive Transmission— Shift Mechanism & Shaft Removal

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Review this sheet as you are doing the Rear-Drive Transmission—Shift Mechanism & Shaft Removal worksheet. Check each category after viewing the instructor's presentation and completing the worksheet. Ask the instructor if you have questions regarding the topics provided below. Additional space is provided under Topic for you to list any other concerns that you would like your instructor to address. The comments section is provided for your personal comments, information, questions, etc.

I have questions

I know I can

**Topic**

**Comment**

Explain the function of the locking ball and spring on the shift fork shafts.			
Explain the function of the interlock pins on the shift fork shafts.			
Explain the function of the reverse shift fork (shift head) detent ball and spring and interlock ball/pin.			
Use the proper SSTs to remove 5th gear.			
Measure thrust clearances.			
Determine the snap ring "Mark" designation using the repair manual and micrometer.			



## Notes