# Manual Transmission Overhaul Task Packet

Student Name: _____
Date: _____

## Objective

Perform a complete manual transmission overhaul including diagnosis, disassembly, inspection, component replacement, reassembly, and testing.

## Safety Requirements

- ■ Safety glasses worn
- ■ Gloves used
- ■ Proper lifting procedures
- ■ Transmission secured
- ■ Correct tool usage

## Required Tools & Equipment

- ■ Transmission jack
- ■ Snap ring pliers
- ■ Dial indicator
- ■ Micrometers / calipers
- ■ Bearing puller / press
- ■ Torque wrench
- ■ Seal drivers
- ■ Cleaning tank
- ■ Service manual

## Phase 1: Diagnosis & Preparation

- ■ Review customer concern
- ■ Perform road test
- ■ Identify symptoms (noise, shifting, grinding)
- ■ Research service information
- ■ Gather tools and parts
- ■ Prepare clean workspace

Diagnosis Notes: _____

## Phase 2: Transmission Removal

- ■ Disconnect battery
- ■ Remove driveshaft/axles
- ■ Disconnect linkage and wiring
- ■ Support engine if needed
- ■ Remove transmission

## Phase 3: Disassembly

- ■ Drain fluid

- ■ Inspect fluid condition
- ■ Remove external components
- ■ Disassemble shafts and gears
- ■ Organize parts
- ■ Take photos

## Phase 4: Inspection

- ■ Inspect gears
- ■ Inspect bearings
- ■ Inspect synchronizers
- ■ Inspect shafts
- ■ Inspect case and housing

Parts to Replace: _____

## Phase 5: Cleaning & Preparation

- ■ Clean all parts
- ■ Remove gasket material
- ■ Dry components
- ■ Organize reusable parts

## Phase 6: Reassembly

- ■ Install new gaskets/seals
- ■ Lubricate components
- ■ Install gears and shafts
- ■ Verify orientation
- ■ Do not force parts

End Play Measurement: _____
Preload Verified: ■ Yes ■ No

## Phase 7: Final Assembly

- ■ Install housings
- ■ Apply sealant
- ■ Torque bolts
- ■ Reconnect sensors

## Phase 8: Function Test

- ■ Shift through gears
- ■ Check for binding
- ■ Verify smooth operation

## Phase 9: Clean-Up & Documentation

- ■ Clean workspace
- ■ Return tools
- ■ Dispose fluids
- ■ Complete documentation

## Student Reflection

Hardest Part: _____
Biggest Mistake Risk: _____
What I Learned: _____