

**Subject Area:**

Technology Systems 11th-12th grade

**Title:**

Automatic Transmission Lesson Plan

**Teacher:****School:****Lesson Objective(s) & Career Cluster:**

To learn the safe and proper steps involved in changing an automatic transmission filter and fluid.

Student will read all MSDS (Material Safety Data Sheets) on all the chemicals that they will be coming in contact with.

**Activity:**

Lesson Plan for Changing a Transmission and Filter

- A. Set Parking brake and / or chalk wheels.
- B. Pull out dipstick and smell dipstick for any sign of burnt fluid.
- C. Raise vehicle on hoist or using hydraulic jack, set vehicle about 18 inches off the ground.
- D. Put safety blocks under frame to keep vehicle from falling off jack.
- E. Place a drain pan under transmission fluid pan.

Parts removal

- A. Starting at rear of pan, and working toward front, loosen bolts and allow fluid to drain.
- B. Remove pan cover.
- C. Inspect bottom of pan for metal partials or stuck to magnet. Clean pan with mineral spirits.
- D. If pan contains an excessive amount of metal filings, it is a good indication to overhaul transmission.
- E. Remove transmission filter
- F. Go to local parts supplier with information on make of vehicle, year, and engine displacement size.

Parts needed:

- A. Transmission filter and pan gasket
- B. 4 quarts of proper transmission oil according to owners manual.

Installation:

- A. Install new filter
- B. Tack new cork pan gasket by tacking with silicone adhesive to bottom of pan.

- C. Install pan.
- D. Torque pan bolts in crisscross order with 10 foot pounds of torque.
- E. Add approximately 3 quarts of fluid and start engine in neutral and allow engine to run a few minutes. Check dipstick level and continue adding fluid till it reaches the top mark on the dipstick.
- F. Check for leaks.

**Evaluation:**

Before starting, instructor will go over proper use of tools promoting safety standards.

The instructor will observe the student's working skills along the way and grade accordingly.

**Extension/Modification and/or Instructional Methodology:**

Students will work in pairs and will reinforce their knowledge in performing the task.

**SCAN Skills:**

Information, teamwork, technology, reading, writing, decision making, problem solving, reasoning, and visualization.

**Cooperative Learning Ideas, TAAS, TEKS Competencies:**

Works with a variety of technologies

- A. Selects Technology-- chooses procedures, tools or equipment including computers and related technologies
- B. Applies Technology to Task-- Understands overall intent and proper procedures for setup and operation of equipment
- C. Maintains and Troubleshoots Equipment—Prevents, identifies, or solves problems with equipment, including computers and other technologies

**Team Project, Guest Speaker, or Field Trip:**

Contact local automotive shops and arrange a guest speaker to come in and talk to the students on current tips in performing tasks, along with career information and specific job tasks that need to be learned at the high school level that will lead to employment.

**Resources:**

Automotive school textbook  
Tool vender salesmen to demonstrate new tools and diagnostic equipment.  
Domestic automatic transmission shop service manual  
Foreign car service manuals  
Computer based CD's on subject matter.  
On-line automotive subscription services.

